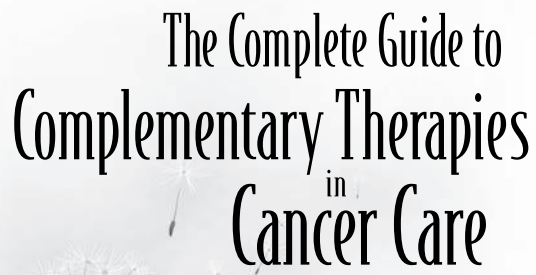
The background of the cover is a clear blue sky. In the lower-left corner, there are several dandelion seed heads. One large seed head is in the foreground, and several others are in various stages of blowing away, with their seeds drifting across the sky. The overall mood is serene and hopeful.

The Complete Guide to Complementary Therapies in Cancer Care

Essential Information for Patients,
Survivors and Health Professionals

Barrie R Cassileth

Memorial Sloan-Kettering Cancer Center, USA



The Complete Guide to
Complementary Therapies
in
Cancer Care

Essential Information for Patients,
Survivors and Health Professionals

Previous Books by the Author

Cassileth BR (Ed.). *The Cancer Patient: Social and Medical Aspects of Care*. Philadelphia: Lea & Febiger, 1979.

Cassileth BR and Cassileth PA (Eds.). *Clinical Care of the Terminal Cancer Patient*. Philadelphia: Lea & Febiger, 1982.

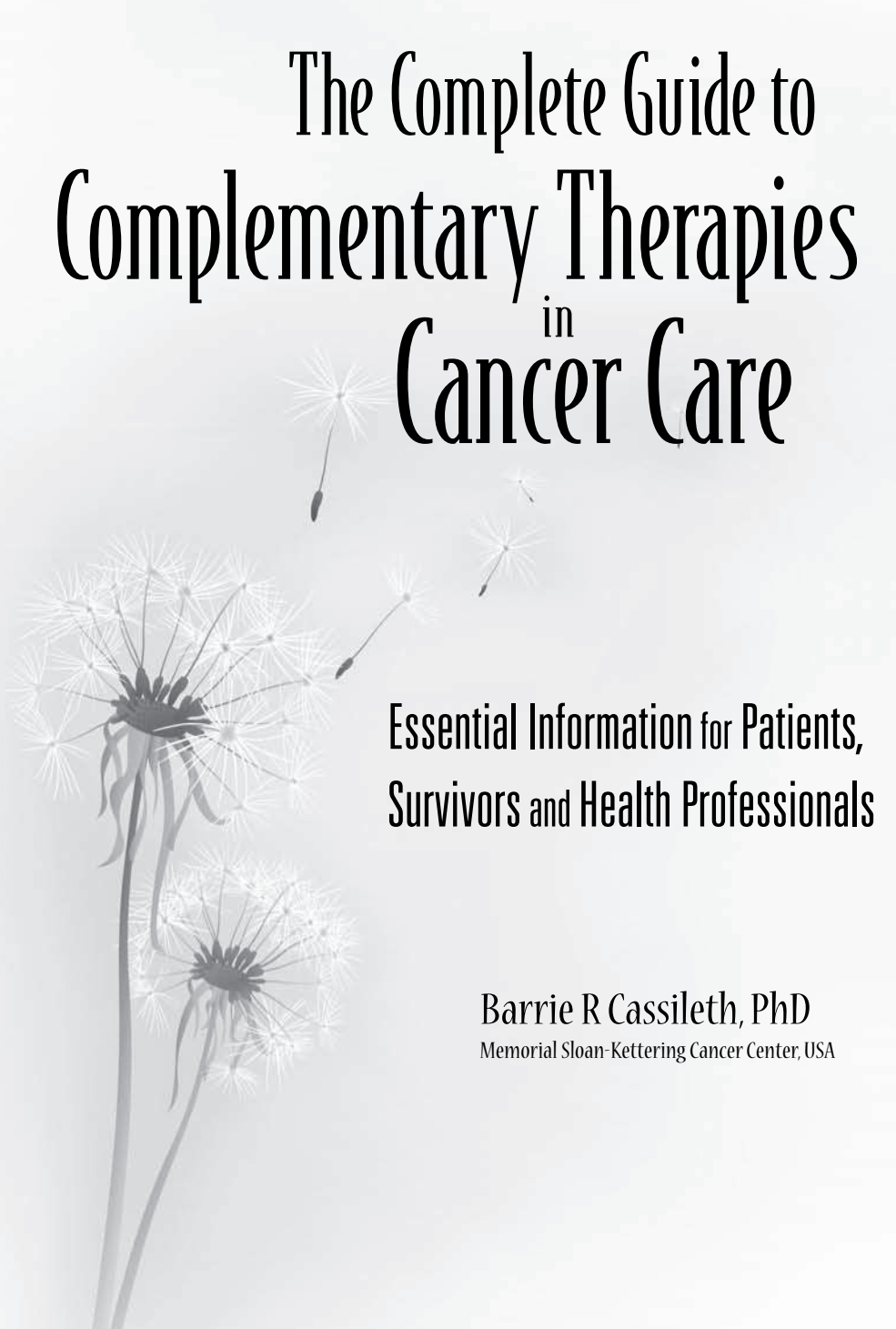
Dush DM, Cassileth BR, and Turk C (Eds.). *Psychosocial Assessment in Terminal Care*. New York: Hayworth Press, Inc., 1986.

Cassileth BR. *The Alternative Medicine Handbook: The Complete Reference Guide to Alternative and Complementary Therapies*. New York: WW Norton, 1998. Japanese version, 2001.

Bloch A, Cassileth BR, Holmes MD, and Thompson CA (Eds.). *Eating Well, Staying Well During and After Cancer*. Atlanta, Georgia: American Cancer Society, 2004.

Cassileth BR, Deng G, Vickers A, and Yeung KS. *Integrative Oncology: Complementary Therapies in Cancer Care*. Ontario, Canada: B.C. Decker, 2005. Korean version, 2007.

Cassileth BR, Yeung KS, and Gubili J. *Herb-Drug Interactions in Oncology*, 2nd Edition. Shelton, CT: People's Medical Publishing House, USA, 2010.



The Complete Guide to Complementary Therapies in Cancer Care

Essential Information for Patients,
Survivors and Health Professionals

Barrie R Cassileth, PhD

Memorial Sloan-Kettering Cancer Center, USA

 **World Scientific**

NEW JERSEY • LONDON • SINGAPORE • BEIJING • SHANGHAI • HONG KONG • TAIPEI • CHENNAI

Published by

World Scientific Publishing Co. Pte. Ltd.

5 Toh Tuck Link, Singapore 596224

USA office: 27 Warren Street, Suite 401-402, Hackensack, NJ 07601

UK office: 57 Shelton Street, Covent Garden, London WC2H 9HE

British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library.

THE COMPLETE GUIDE TO COMPLEMENTARY THERAPIES IN CANCER CARE
Essential Information for Patients, Survivors and Health Professionals

Copyright © 2011 by World Scientific Publishing Co. Pte. Ltd.

All rights reserved. This book, or parts thereof, may not be reproduced in any form or by any means, electronic or mechanical, including photocopying, recording or any information storage and retrieval system now known or to be invented, without written permission from the Publisher.

For photocopying of material in this volume, please pay a copying fee through the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA. In this case permission to photocopy is not required from the publisher.

ISBN-13 978-981-4335-16-4 (pbk)

ISBN-10 981-4335-16-9 (pbk)

Typeset by Stallion Press

Email: enquiries@stallionpress.com

Printed in Singapore.

Dedication

To my husband and my family,
who delight and inspire me.

To the patients and families,
who taught me courage and humility.

This book is for you.

This page intentionally left blank

Contents

<i>Introduction</i>	xxi
Part One: Ancient Routes to Health and Spiritual Fulfillment	1
Part One Overview	3
1 Acupuncture	5
What It Is	6
Modern Acupuncture	7
What Practitioners Say It Does	7
Beliefs on Which It Is Based	8
Meridians	8
Research Evidence to Date	10
What It Can Do for You	10
The Acupuncture Advantage	11
Where to Get It	11
2 Ayurveda	13
What It Is	13
What Practitioners Say It Does	14
Beliefs on Which It Is Based	15
Chakras	17
Research Evidence to Date	18
What It Can Do for You	18

Contents

Where to Get It 18
An Attraction of Ayurveda 19

3 Chinese Medicine, Traditional (TCM) 21
What It Is 22
What Practitioners Say It Does 22
Beliefs on Which It Is Based 24
The Importance of Balance 24
Research Evidence to Date 25
Place 26
What It Can Do for You 26
Where to Get It 26

4 Homeopathy 29
“The Like Cures Like” Basis for Homeopathic
Treatments 30
Ancient Law of Similars 30
What It Is 30
What Practitioners Say It Does 30
Beliefs on Which It Is Based 31
A Typical Homeopathic Visit 32
Research Evidence to Date 32
What It Can Do for You 33
Where to Get It 33
The British Government Report of 2010 33

5 Native American Healing 35
What It Is 35
Shamanic Practices 36
Place 37
Symbolic Healing Rituals 37
Symbolic Healing Rituals 38
What Practitioners Say It Does 38
Beliefs on Which It Is Based 38
Research Evidence to Date 39
What It Can Do for You 39
Where to Get It 40

6	Naturopathic Medicine	41
	What It Is	41
	Place	42
	What Practitioners Say It Does	44
	Beliefs on Which It Is Based	44
	Research Evidence to Date	45
	What It Can Do for You	45
	Where to Get It	45
	Part Two: Dietary and Herbal Remedies	47
	Part Two Overview	49
7	Regulatory Issues: Who's Minding the Store?	53
	The Supplement Shambles	55
8	Dietary Supplements	57
	Basic Facts about Vitamins	57
	Not as Simple as We Think (or as we would like)	58
	A Note about Some Especially Popular Vitamin Supplements	58
	What It Is	59
	What Practitioners Say It Does	60
	Beliefs on Which It Is Based	60
	Research Evidence to Date	61
	What It Can Do for You	61
	Where to Get It	62
9	Fasting and Juice Therapies	63
	What It Is	63
	What Practitioners Say It Does	64
	Beliefs on Which It Is Based	64
	Research Evidence to Date	65
	What It Can Do for You	65
10	Flower Remedies	67
	What It Is	68
	What Practitioners Say It Does	69
	Beliefs on Which It Is Based	69

Contents

- Research Evidence to Date 70
- What It Can Do for You 71
- Where to Get It 71
- 11 Herbal Medicine 73
 - What It Is 73
 - Caution 74
 - What Practitioners Say It Does 76
 - Beware Unlikely Promises! The Blue-Green Algae 76
 - Cancer Cure
 - The Story of Taxol 77
 - Beliefs on Which It Is Based 77
 - Research Evidence to Date 78
 - What It Can Do for You 78
 - Recommended References 79
 - Warning: Herbal Products with Serious Toxic Effects 88
 - Where to Get It 90
- 12 Macrobiotics 91
 - What It Is 91
 - What Practitioners Say It Does 93
 - Beliefs on Which It Is Based 93
 - Research Evidence to Date 93
 - What It Can Do for You 95
 - Where to Get It 95
- 13 Vegetarianism 97
 - What It Is 97
 - What Practitioners Say It Does 98
 - Beliefs on Which It Is Based 98
 - Research Evidence to Date 99
 - What It Can Do for You 99
 - Where to Get It 100
- Part Three: Mind-Body Therapies 101**
- Part Three Overview 103
- 14 Biofeedback 109
 - What It Is 109
 - Biofeedback or Meditation? 110

What Practitioners Say It Does	111
Research Evidence to Date	111
What It Can Do for You	112
Where to Get It	112
15 Hypnosis and Self-Hypnosis	113
Who Can Be Hypnotized?	113
What It Is	114
What Practitioners Say It Does	114
Beliefs on Which It Is Based	115
Research Evidence to Date	115
What It Can Do for You	116
Where to Get It	117
16 Imagery and Visualization	119
What It Is	119
What Practitioners Say It Does	120
Beliefs on Which It Is Based	121
Research Evidence to Date	121
What It Can Do for You	122
Where to Get It	122
17 Meditation	123
What It Is	123
What Practitioners Say It Does	124
Beliefs on Which It Is Based	125
Research Evidence to Date	125
There's Meditation and Then There's Transcendental Meditation	125
What It Can Do for You	126
Where to Get It	126
18 Placebo Effect	127
What It Is	128
What Practitioners Say It Does	128
Beliefs on Which It Is Based	129
Research Evidence to Date	130
What It Can Do for You	130

Contents

Where to Get it 131
A Note about the Next Three Chapters: Qi Gong;
Tai Chi; and Yoga 131

19 Qigong 133
What It Is 133
Place 134
What Practitioners Say It Does 134
Beliefs on Which It Is Based 135
Research Evidence to Date 135
What It Can Do for You 136
Where to Get It 136

20 Tai Chi 137
What It Is 137
What Practitioners Say It Does 138
Beliefs on Which It Is Based 138
Research Evidence to Date 139
What It Can Do for You 140
Where to Get It 140

21 Yoga 141
What It Is 141
What Practitioners Say It Does 142
Beliefs on Which It Is Based 142
Research Evidence to Date 143
What It Can Do for You 143
Where to Get It 144

Part Four: Gaining Strength Through Bodywork 145

Part Four Overview 147

22 Acupressure 151
What It Is 151
Beliefs on Which It Is Based 152
Research Evidence to Date 153
What It Can Do for You 153
Where to Get It 154

23	Alexander Technique and Pilates	155
	What It Is	156
	What Practitioners Say It Does	157
	Beliefs on Which It Is Based	157
	Research Evidence to Date	158
	What It Can Do for You	159
	Where to Get It	159
24	Hydrotherapy	161
	What It Is	161
	What Practitioners Say It Does	162
	Beliefs on Which It Is Based	163
	Research Evidence to Date	163
	What It Can Do for You	164
	Warning about Temperature Extremes	165
	Where to Get It	165
25	Massage Therapy	167
	Eastern versus Western Massage	167
	What It Is	168
	What Practitioners Say It Does	168
	Beliefs on Which It Is Based	169
	Research Evidence to Date	169
	Giving a Massage at Home	169
	What It Can Do for You	169
	Where to Get It	170
26	Physical Fitness	171
	What It Is	171
	What Practitioners Say It Does	172
	Beliefs on Which It Is Based	172
	What It Can Do for You	172
	Where to Get it	172
27	Reflexology	173
	What It Is	174
	What Practitioners Say It Does	175
	Beliefs on Which It Is Based	176

Contents

- What It Can Do for You 176
- Where to Get It 176
- 28 Rolfing 177
 - What It Is 177
 - What Practitioners Say It Does 178
 - Beliefs on Which It Is Based 178
 - Research Evidence to Date 178
 - What It Can Do for You 178
 - Where to Get It 179
- Part Five: Enhancing Well-Being Through the Senses 181**
- Part Five Overview 183
- 29 Aromatherapy 185
 - What It Is 185
 - What Practitioners Say It Does 186
 - Beliefs on Which It Is Based 187
 - Research Evidence to Date 187
 - What It Can Do for You 188
 - Where to Get It 188
- 30 Art Therapy 189
 - What It Is 189
 - What Practitioners Say It Does 190
 - Beliefs on Which It Is Based 190
 - What It Can Do for You 191
 - Where to Get It 191
- 31 Dance Therapy 193
 - What It Is 194
 - What Practitioners Say It Does 194
 - Beliefs on Which It Is Based 195
 - Research Evidence to Date 195
 - What It Can Do for You 196
 - Where to Get It 196
- 32 Humor Therapy 197
 - What It Is 198
 - What Practitioners Say It Does 198

Beliefs on Which It Is Based	199
Research Evidence to Date	199
What It Can Do for You	200
Where to Get It	200
33 Light Therapy	201
What It Is	202
What Practitioners Say It Does	203
Beliefs on Which It Is Based	203
Research Evidence to Date	203
What It Can Do for You	203
Where to Get It	204
34 Music Therapy	205
What It Is	205
What Practitioners Say It Does	207
Beliefs on Which It Is Based	208
Research Evidence to Date	208
What It Can Do for You	209
Where to Get It	210
35 Sound Therapy	211
What It Is	212
What Practitioners Say It Does	213
Beliefs on Which It Is Based	213
Research Evidence to Date	213
What It Can Do for You	214
Where to Get It	214
Part Six: “Alternative” (Unproven or Disproved) Treatments Taken Internally	215
Part Six Overview	217
36 Apitherapy	221
What It Is	222
Warning	222
What Practitioners Say It Does	223
Beliefs on Which It Is Based	223
Research Evidence to Date	223

Contents

What It Can Do for You 223
Where to Get It 224

37 Biological Cancer Treatments 225
Antineoplastons 226

38 Biological Dentistry 231
What It Is 231
What Practitioners Say It Does 233
Beliefs on Which It Is Based 233
Research Evidence to Date 233
What It Can Do for You 234
Where to Get It 234

39 Cell Therapy 235
What It Is 235
What Practitioners Say It Does 236
Beliefs on Which It Is Based 236
Research Evidence to Date 236
What It Can Do for You 237
Where to Get It 237

40 Chelation Therapy 239
What It Is 239
What Practitioners Say It Does 240
Beliefs on Which It Is Based 240
Research Evidence to Date 241
What It Can Do for You 241
Where to Get It 242

41 Colon/Detoxification Therapies 243
What It Is 244
What Practitioners Say It Does 244
Beliefs on Which It Is Based 244
Research Evidence to Date 244
What It Can Do for You 245
Where to Get It 246

42	Craniosacral Therapy	247
	What It Is	247
	What Practitioners Say It Does	248
	A Word of Warning	248
	Beliefs on Which It is Based	248
	Research Evidence to Date	249
	What It Can Do for You	249
	Where to Get It	250
43	Enzyme Therapy	251
	What It Is	252
	What Practitioners Say It Does	252
	Beliefs on Which It Is Based	252
	Research Evidence to Date	253
	What It Can Do for You	253
	Where to Get It	253
44	Metabolic Therapies	255
	What It Is	256
	What Practitioners Say It Does	256
	Beliefs on Which It Is Based	256
	Research Evidence to Date	257
	What It Can Do for You	257
	Where to Get It	257
45	Neural Therapy	259
	What It Is	260
	What Practitioners Say It Does	260
	Beliefs on Which It Is Based	260
	Research Evidence to Date	261
	What It Can Do for You	261
	Where to Get It	261
46	Oxygen Therapies	263
	What It Is	263
	What Practitioners Say It Does	264
	Beliefs on Which It Is Based	264
	Research Evidence to Date	265

Contents

What It Can Do for You	265
Where to Get It	266
47 Shark and Bovine Cartilage Therapies	267
What It Is	267
What Practitioners Say It Does	268
Beliefs on Which It Is Based	268
Research Evidence to Date	269
What It Can Do for You	269
Where to Get It	270
Part Seven: “Alternative” External Energy Therapies	271
Part Seven Overview	273
48 Chiropractic	277
What It Is	277
Warning!	278
What Practitioners Say It Does	278
Beliefs on Which It Is Based	279
Research Evidence to Date	279
What It Can Do for You	280
Where to Get It	280
49 Crystal Healing	281
What It Is	281
What Practitioners Say It Does	281
Research Evidence to Date	282
Where to Get It	283
50 Electromagnetic Therapies	285
What It Is	286
What Practitioners Say It Does	287
Beliefs on Which It Is Based	288
Research Evidence to Date	289
Where to Get It	289
51 Faith Healing	291
What It Is	292
What Practitioners Say It Does	292

Beliefs on Which It Is Based	293
Research Evidence to Date	293
What It Can Do for You	294
Where to Get It	294
52 Kirlian Photography	295
What It Is	295
Auras	296
What Practitioners Say It Does	296
Beliefs on Which It Is Based	296
Research Evidence to Date	296
What It Can Do for You	297
Where to Get It	297
53 Prayer and Spirituality	299
What It Is	299
What Practitioners Say It Does	300
Beliefs on Which It Is Based	300
Research Evidence to Date	301
The Power of Prayer	302
What It Can Do for You	303
Where to Get It	303
54 Shamanism	305
What It Is	306
What Practitioners Say It Does	307
Beliefs on Which It Is Based	307
Research Evidence to Date	307
What It Can Do for You	308
Where to Get It	308
55 Therapeutic Touch	309
What It Is	310
What Practitioners Say It Does	310
Beliefs on Which It Is Based	311
Research Evidence to Date	311
What It Can Do for You	311
Where to Get It	312

Contents

Complementary Therapies for Some Common Ailments 313
Glossary 315
Professional Degrees and Titles 331
Index 343

Introduction

Most of us grew up depending on mainstream medical care provided by MDs who were trained in university-affiliated medical schools. Today, however, many other health resources are available in the form of complementary therapies, provided not only by MD physicians, but also by other health-care professionals with different initials after their names and different training backgrounds.

What are these newer “complementary therapies?” What do we really know about these methods and their practitioners? Are they safe? Which ones help, and for what problems? Amid the claims and promises, the differences can be difficult to determine. This book will help guide the way by identifying major complementary and “alternative” medical practices and by describing their backgrounds, goals, benefits and risks. It provides clear, impartial information about each method, so that you can make educated health-care decisions.

Some discussion of terminology is helpful at this point. Both terms — alternative and complementary, along with their convenient acronym “CAM” (for Complementary and Alternative Medicine) — encompass an enormous, unrelated collection of treatments and products. They range from unproven or disproved therapies for major illnesses, literal “alternatives” promoted for use in place of mainstream care, to regimens that helpfully accompany mainstream treatment or are part of wellness programs. The “CAM” terminology is unfortunate because it lumps together “complementary” and “alternative” medicine, and says nothing about their crucial differences. Some therapies are good, helpful and noninvasive, some are unproven and harmful, some are useless time and money wasters, and still others are foolish and fraudulent.

How this Book is Organized

This book treats “complementary” and “alternative” medicine in two separate categories: “alternative” is used to describe therapies that are unproven, irrational, studied and found ineffective or promoted for use *instead* of mainstream care (and thus offered as literal, presumably viable alternatives to mainstream medicine). “Complementary” is used to describe therapies that serve a supplementary, adjunctive role. Some agents and regimens can be either alternative or complementary, depending on how they are used. Aromatherapy is an example. As a soothing fragrance in the bath or during massage, aromatherapy can be a pleasant and calming complementary therapy. However, some books and proponents claim that aromatherapy can cure disease, and as such it would be categorized as an “alternative” therapy.

“Alternative” therapies, when promoted for use instead of mainstream cancer care, can be harmful by delaying needed conventional treatment. Thus, how and when a remedy is applied, as much as what the remedy is, helps to categorize it as appropriate (complementary) or potentially dangerous (alternative). There are no viable “alternatives” to mainstream cancer treatment.

Alternative therapies tend to be unproven — if their benefits were proven, they would not be considered “alternative.” Some have been studied and found not to work. Homeopathy, for example, is not likely to be harmful when used for short-term, self-limiting problems. As with aromatherapy, however, such therapies can become dangerous if used instead of mainstream medical care for serious illnesses. Complementary therapies — those used alongside medical treatment or as part of a wellness lifestyle — represent a very different group of methods. They are generally noninvasive and helpful, pleasant and stress-reducing, and applicable during sickness and in health.

This book is a road map to help distinguish between empty promises and solid therapies.

Some Curious Background Events

In the past, before their causes were discovered, tuberculosis (TB), syphilis, schizophrenia, autism, diabetes, and many other disorders were attributed to emotional problems. A more recent example is gastric ulcers. Long believed to be the product of stress, most gastric ulcers are now known to be caused by bacteria. Many cancers represent another old example that remains with us. Although some practitioners claimed for years that cancer is caused by stress or personality style, science shows it is caused by genetic mutations. In

a small minority of cases, these mutations may be inherited. They may result from bad habits or environmental factors such as prolonged exposure to asbestos or other toxic materials. Most commonly, however, cancer results from changes in a gene that happen by chance. These gene changes in a single cell give that cell a growth advantage that allows it to replicate and grow into a cancer.

Looking at the incorrect idea that stress causes cancer, a Netherlands study of 9,705 women confirmed other solid research and showed that psychological traits do not play a role in breast cancer risk. On the other hand, research does suggest that emotional states often influence the development of heart disease. Depression and anger in particular appear to predict and contribute to the development of coronary disease.

Research tells us that, despite the closeness of the mind-body relationship, we do not always have the ability to intervene. We may be able to neutralize negative emotional states, but we cannot prevent or alter genetic mutations no matter how hard we may try to think them away. We *can* alter behavior to help prevent some illnesses, including cancer. For example, it is estimated that at least 50% of cancers are self-induced through behaviors such as smoking, fat-filled diets and a sedentary lifestyle. We can adopt lifestyles that maximize health and well-being. We can reach for complementary therapies, self-help techniques, and the best of modern medical technology to help us when serious illness strikes. But we can neither prevent nor cure all ailments, no matter how much we want to and despite the claims of those who sell false hopes in a bottle.

Why are complementary therapies so popular today? Many explanations have been offered. One is that self-care, which always has been a common practice for minor problems, is more highly valued and desired for an even broader range of ailments than in the past. Moreover, appropriate self-care is now encouraged or required by health professionals as well as physicians, workplace wellness programs, insurance carriers or by the high cost of out-of-pocket payments. The majority of people facing serious illness use complementary therapies along with their mainstream medical care. Complementary therapies reduce physical and emotional symptoms associated with cancer treatment. Ironically, many of these symptoms are caused by the very treatments that control the disease, as is discussed throughout this volume.

The mysticism and ancient beginnings of many unconventional healing practices, such as Ayurveda, Traditional Chinese Medicine, crystal healing, and others, also represent a powerful attraction. There is comfort in using customs and practices that have flourished since the beginning of history. We become an instant part of honored traditions by adopting their practices and participating in their rituals.

Alternative as well as complementary approaches often involve belief in a universal energy system. Illness often was defined as being out of balance with that spiritual force. Healing involves focusing or rechanneling one's energy, and health is said to occur when the individual is in balance both internally — body, soul, and mind — and with the universe or universal energy. It may be that some “alternative medicine” actually is “alternative religion,” and that seeking and practicing it fills a kind of spiritual hunger.

Personally, I see that we have become more interested than ever in the idea of helping ourselves stay healthy and taking control of our well-being, and that we are learning to take advantage of a broader array of preventive and healing techniques. We are also drawn to the caring and shared responsibility that typically characterize relationships with practitioners of many complementary or alternative approaches. However, most of us are wise enough not to reject the high-tech wonders of mainstream medical care when serious illness strikes, despite conventional medicine's frequent impersonality and its sometime failure to recognize the needs of the patient behind the disease.

Although the basis for many complementary modalities is indeed rooted in tradition or philosophy rather than in science, these therapies can and should be evaluated. Some avid proponents maintain that it is unnecessary to study unconventional therapies, that their longevity and popularity provide adequate “proof” of their validity. But how do we really know when a treatment works? We know only after it has been scientifically tested and found to be more effective than doing nothing and at least as effective as other therapies. Comparisons are crucial and feasible, and they also tell us whether a therapy can pose a possible danger to our health.

Anecdotal reports are not adequate. They tell us only that a few people did well, but they reveal nothing about how many people took the same treatment and died or failed to get better, or who recovered because of other therapies, or whose illness got better on its own, as do many less serious illnesses. Positive research may move some unconventional practices into the medical mainstream, or show that others produce no benefit. Until real evidence is available, read the guidelines concerning what is known as presented in this book, and see a qualified health professional for serious illnesses and for problems that don't go away in a week.

Avoid Potentially Dangerous or Worthless Remedies

Some treatment claims should sound an immediate alarm: products that promise easy, miracle cures of major illnesses (such as Alzheimer's Disease and cancer) or reversal of problems that cannot be reversed (such as

aging); pressure to use a therapy instead of mainstream treatment you are taking now for a serious disease; assertions of a medical establishment conspiracy to withhold the therapy from the public; claims that the therapy is “natural” and therefore better than prescribed medications. (“Natural” does not necessarily mean “safe!” — see Chapter 11).

Proper Research and Why it is Necessary

Happily, the burgeoning interest in alternative and complementary therapies has been accompanied by a growing interest in studying them properly. There may be unusual aspects to research in this area, but these need not reduce the need for high quality research. Standard research approaches applied, for example, to the study of new chemotherapy agents or genetic therapies, can be applied also to complementary therapies.

Research in mainstream medicine is ongoing and well supported by foundations, organizations, corporate sponsors, and most prominently by the National Institutes of Health (NIH) in the United States and other countries. In the past few decades, systematic research efforts have studied complementary and alternative methods as well. In 1992, an Office of Alternative Medicine was established at NIH. The name was later changed to the National Center for Complementary and Alternative Medicine (NCCAM), thus highlighting the important distinction between the two very different categories. Its purpose is to evaluate alternative and complementary therapies. The creation of such a body in our premier research environment signals the importance placed on the scientific study of unconventional remedies.

Solid, high quality research is virtually always possible, and in my view it is always necessary. We need and have a right to know whether healing methods, conventional as well as unconventional, fulfill proponents’ promises.

Purpose and Organization of this Book

This book does not recommend treatments. It describes unconventional techniques, their backgrounds and claims, and provides available evidence about their safety and utility. More than fifty of the most popular, enduring, and important unconventional therapies or types of therapies are included. Although it is possible to classify unconventional remedies a number of ways, I have generally used the categories most commonly applied today.

This book is divided into seven sections based on that classification. Each section addresses a major type of alternative or complementary treatment: (1) traditional healing methods, which are typically ancient approaches that

Introduction

offer remedies in the context of spiritual and lifestyle guidance; (2) dietary and herbal remedies; (3) methods that take advantage of the reciprocal relationship between the mind and the body and how they can help heal one another; (4) bodywork, involving manipulation of muscles and bones; (5) use of the senses to enhance well-being; (6) biologic and other remedies taken internally; and (7) the application of external energy therapies.

Each section contains several chapters arranged alphabetically. Each chapter includes a brief introduction, followed by a description of the therapy, claims of practitioners, and the theories or beliefs on which the therapy is based. Then, I describe available research, if any, and what the therapy can or cannot accomplish. Each chapter ends with a discussion of resources and sources of information.

I have tried to cut to the core of information that will be most useful, objective, and helpful, and to provide enough insight into alternative and complementary therapies to help guide decisions. It is important that physicians know, and that patients discuss, when they are using or planning to try an alternative or complementary remedy, and just as important that patients become informed and help take charge of their own health and well-being. I hope this book will become your guide.

The information in this book is not a substitute for consultation with your physician. Herbal and other agents taken internally should be discussed first with your health-care professional and are not recommended for use along with cancer treatment or for people on prescription medication. This website will be helpful regarding such remedies: www.MSKCC.org/AboutHerbs.

Part One



Ancient Routes to Health and Spiritual Fulfillment

Part One Overview

1. Acupuncture
2. Ayurveda
3. Chinese Medicine, Traditional (TCM)
4. Homeopathy
5. Native American Healing
6. Naturopathic Medicine

This page intentionally left blank

Part One Overview

The mainly ancient approaches reviewed in this part share many features. Instead of disease-oriented therapies, these are general routes to the maintenance and restoration of health and well-being. They involve much more than prescriptions for ailments. They provide a level of lifestyle guidance that some see as a substitute for religion. Indeed, most of these health-related theories once were, or still are, thoroughly entwined with religion and with the broader culture. And most have endured for hundreds or thousands of years.

In that distant past, medicine, magic, and religion were one and the same. No doubt the great ancient shamans, like those to follow, were both priest and physician, with the extra ability to contact and influence the supernatural forces believed to control all events, including life, death and health. The famous “Venus of Wilendorf” is one of many small fertility icons found around the world. These small carved figures were created 25,000–30,000 years ago when religion, magic and medicine were combined as one. They are still combined in some areas of today’s world.

The healing systems discussed here originated long before the time of scientific understanding of the human body and its biological mechanisms. It is not surprising, therefore, that both physical and cosmic concerns and uncertainties are reflected in these early explanations of health and illness. They are concerned not only with how the body works and how it changes when death occurs, but also with the meaning of celestial events and the relationships among humans, the environment, the spirit world, and the cosmos.

One of the central ideas shared by these approaches, common to most early efforts to understand health, illness, death, and the human relationship with the larger world, is the notion of an invisible vital energy or life force. Called prana in Ayurvedic medicine, qi or chi (both pronounced “chee”) in traditional Chinese medicine, and by many other terms, the circulation of this vital force could explain life and death. The idea also provided a way of understanding links and pathways between the human body, humankind, the spirit world, and the universe.

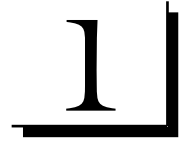
Part One: Ancient Routes to Health and Spiritual Fulfillment

It is possible that ancient efforts to improve the flow of human vital energy lie behind peculiar archaeological finds in Europe and South America. Many human skulls dating back 8,000 years have been found with a round plug of bone removed. Healed edges around the hole indicate that at least some people survived the procedure. Was this procedure, called trepanation, evidence of prehistoric cults of healing? Illness was thought to be caused by spirits; the holes may have been meant to free these evil spirits to bring about a complete cure. The precise rationale for this primitive surgical effort is unknown. Experts believe it was performed as a religious rite, as a way to create an opening for the escape of magical demons, as a healing ritual. Perhaps it was a means of improving the flow of human vital energy and bridging the connection between spiritual forces and the mind and body, or a means of draining excess energy. These combined purposes express the unity of religion, magic, and medicine that existed since earliest times.

Another feature common to early healing approaches is the effort to explain physiological events in terms of well-known contrasting pairs: hot-cold, wet-dry, light-dark, yin-yang, active-passive. These qualities were ascribed not only to all bodily components and functions, but also to emotional states, climate, and seasons, achieving the necessary integration of people, space, and time. Early humans made similar connections between body and mind, society and landscape. All were interrelated and reflected one another in a complex system of parallel associations.

Numbers, too, were important and used commonly across the various early healing systems. They provided a means of reflecting universal patterns, controlling human fate, and connecting the activities of the human body with nature's rhythms and cycles. The numbers 4 and 5 predominated as magical in the ancient world. Examples of the latter include the five elements of ancient China, the five elements of the Ayurvedic world-view, the "Five World Regions" drawn in the pre-Columbian Mexico *Codex*, and the five senses of Tibetan medicine. The broad significance of the number 4 is evident in descriptions of living creatures and plants, time, elements, ceremonial activity, and points of the sacred hoop in Native American artifacts; it also is found in the ancient Greek conception of bodily humors and the basic elements in the universe.

The healing systems discussed here are not the only or even the earliest such systems. They were selected because they are followed by many people today. Each offers guidance in caring for the body, the mind, and the spirit in an integrated fashion that seems to meet not only the need for physical healing, but also seems to fulfill a spiritual hunger that is as present today as it was in centuries and millennia past.



Acupuncture

Although acupuncture is only one component of traditional Chinese medicine, it is a major component and so deserves its own chapter. Acupuncture is a distinct entity because it has its own traditions and conceptual basis, as well as an elaborate system of understanding how the body works and how it relates to the environment. It also has achieved unprecedented wide-spread acceptance.

Probably acupuncture was a formalized outgrowth of the natural human tendency to stroke, massage, or press the body until pain is relieved. One can imagine the process becoming increasingly sophisticated over the centuries, as pressing specific points on the body, perhaps by group consensus, was found to relieve distress in particular areas of the body. Acupressure apparently gave rise to the more technological, albeit still ancient, variation: acupuncture.

Acupressure involves placing very firm finger pressure for a few minutes on specific acupoints to relieve pain and stress. Pressure can be applied by one's own or another person's fingers. Acupressure predates acupuncture and gave rise to it. Acupressure is acupuncture without the needles. It is discussed further in Chapter 22.

One of the most studied of complementary therapies, modern acupuncture is accepted by mainstream medicine for the management of various types of pain, for addiction control and for the treatment of several physical and emotional symptoms experienced by cancer patients and others. For this reason, acupuncture is a good example of the few treatments discussed in this book that sits on the cusp of mainstream medicine. It is available today in many mainstream hospitals, clinics and cancer centers.

Acupuncture was popular in ancient China, banned in 1822 by the Chinese Imperial Medical College, which prohibited disrobing as indecent, and rediscovered in the twentieth century. Today, herbal remedies (Chapter 11) and

other traditional techniques, such as tai chi and qi gong and acupressure, join acupuncture as central components of Traditional Chinese Medicine.

What It Is

Acupuncture is a medical therapy developed in China more than two thousand years ago. It involves the placement of hair-thin, disposable needles into the skin (Figure 1). Ancient acupuncture needles were made of bone, stone or metal, including silver and gold. Modern needles are made of stainless steel. The needles penetrate just deep enough into the skin to keep from falling out, and skilled practitioners accomplish virtually painless insertion. Unlike needles used to give injections, modern acupuncture needles are not hollow, and are therefore very thin, about the width of a human hair. They are sterile, disposable and safe.

Needles are placed at specific points along meridians, or channels. These channels are like rivers with tributaries that flow into increasingly narrow rivulets, mimicking nature’s flow of water to increasingly smaller streams. The twelve main meridians, like the twelve main rivers of ancient China, represent an internal system of communication and transport, just as actual waterways permit communication and transport in the outer world. The human body is viewed as a miniature model, or microcosm, of the universe.

Each channel is believed to be connected to a specific networked area or organ system of the body. By needling acupoints along a particular meridian, a problem in a distant area of the body can be treated. Acupoints are used in both acupuncture and acupressure. In modern acupuncture, more than 1,000 acupoints (some experts say more than 2,000) are recognized, but



Figure 1. Hair-thin acupuncture needles.

most treatments require needles in only ten or twelve points. Typically, needles are kept in place for less than one-half hour. Determining the exact size and placement of the needles is essential. Twirling or setting them or using “electro-acupuncture,” where a small amount of electricity goes through the needle from a source clipped to the top, enhances the result.

In classic Chinese medicine, it was believed that every problem, weakness, illness, and symptom could be corrected by acupuncture. Further, this ancient healing method was but one integral piece of a complex mosaic that explained health, disease, the cosmos, and the relationship of humankind to nature and the universe as a whole. This can be seen in the relationship between the number of months and days in a year, the human body’s twelve main meridians, and, in the original classic Chinese Medicine texts, the 365 acupoints. The individual pulsates to the rhythm of the cosmos.

Originally, acupuncture was thought to be a cure-all. It was used to treat all ailments by restoring balance within the individual, and between the individual and the universe.

Sometimes acupuncture is augmented by moxibustion, the placement of a smoldering plug of the herb mugwort on a meridian acupoint. This practice is as old as acupuncture. Cupping is another ancient Chinese and Indian remedy in which heated cups are placed on the skin, sometimes after small punctures are made at the intended location. This process produces a suction force that is thought to boost circulation and improve health. Insertion of acupuncture needles only in the outer ear is a relatively new variation, in which the ear serves as a miniature map of the entire body and its acupoints.

Modern Acupuncture

Modern versions of acupuncture use electricity, heat, laser beams, sonar rays, and other non-needle acupoint stimulators. In use since the 1930s, electroacupuncture is considered less tiring and time-consuming than the manual version. Needles are connected to a supply of weak electric power. Therapeutic reactions are said to be just as effective.

What Practitioners Say It Does

In China, acupuncture is still applied to treat ailments and cure disease, including serious illnesses such as cancer and diabetes, but careful investigations find no benefit against disease. In modern Chinese hospitals, acupuncture sometimes is used as a secondary surgical anesthetic. In Asia and in the West, acupuncture is used and has been found effective to relieve

arthritis, menstrual symptoms and chronic pain caused by other problems. It also assists withdrawal from addictions such as drug and alcohol dependency. Of greatest significance here, acupuncture effectively treats many physical and emotional symptoms associated with cancer and cancer treatment. Research supporting its effectiveness for purposes relevant to cancer patients are detailed below under the subheading, “Research Evidence to Date.”

Beliefs on Which It Is Based

Classic, traditional acupuncture is based on ancient Chinese medicine and its understanding of health. The origins of acupuncture illustrate how the earliest civilizations sought to understand the world and its various components, including seasons, nature, wellness and disease. All were seen as parts of a single whole. Each aspect of life, including health and disease, was conceptualized as a polarity, manipulated by two opposing forces in nature. These forces are the yin, or dark female force, and the yang, or light male force. Illness was said to occur when opposing yin-yang energies were not in harmony. Acupuncture and all other healing interventions, such as herbal tonics and qigong, aimed to rebalance these energies.

This deceptively simple idea is actually an extremely complex, detailed set of interactions and connections among bodily organs, forces, and pathways. A central component of the belief system is the concept of vital energy, or the life force. In classic Chinese medicine, the life force is termed chi or ch’i, or in modern transliteration qi (all pronounced “chee”).

When there is a balance of qi — not too much or too little flow of energy — there is good health. An excess or deficiency in the flow of energy, however, represents an imbalance that causes pain and illness. Acupuncture is applied to correct that imbalance. An uneven flow of qi is returned to equilibrium by the placement of acupuncture needles along or at the intersections of appropriate meridians.

Meridians

There are fourteen meridians, twelve of which are bilateral — that is, the same points exist on both sides of the body. The two remaining meridians, which are unilateral, run across the midline of the body. Meridians are the energy pathways along which qi circulates throughout the body. Many acupoints dot each meridian. The twelve main meridians traverse the body and culminate in the toes or fingertips. They connect the exterior environment to the interior of the body and link the internal organs to one another and thus to the outer

world. Each of the individual meridians relates to a particular organ and is called by that organ's name, such as the Gall Bladder and Spleen Meridians.

The Gallbladder Meridian starts at the eye, runs back and forth across the skull, goes down the shoulders, and then descends by the side of the body until it ends in the fourth toe. A yang meridian, The Gallbladder Meridian's function is balanced by its yin counterpart, the liver meridian. The Spleen Meridian runs from the armpit through the chest and abdomen, across the hip and down the leg to its conclusion in a toe. Twenty-one acupoints dot its length.

Each organ, tied to nature, the seasons, and the universe through its dominating life-force element, was also associated with the person's feelings, thoughts, and behavior. Emotions, it was believed, dwelt in and pertained to specific organs: sorrow lived in the lungs, happiness dwelt in the heart, both the soul and anger resided in the liver. It was thought that lecherous ideas led to diseases of the lung, that acting on such ideas caused heart problems, and so on. To produce a cure, the healer had to determine the objectionable behavior or mental state had changed the organ and caused the illness. When the origin of disharmony was detected, a remedy in the form of particular acupoints was designed.

Classic Chinese medicine describes six "solid," or yin, organs, such as heart and lungs, and six "hollow," or yang, organs, including stomach and intestine. Each organ is perceived to be under the control of one of the five elements, or manifestations of qi, of which all matter was thought to be composed: water, fire, wood, metal, and earth (Figure 2). (Later, in the sixth

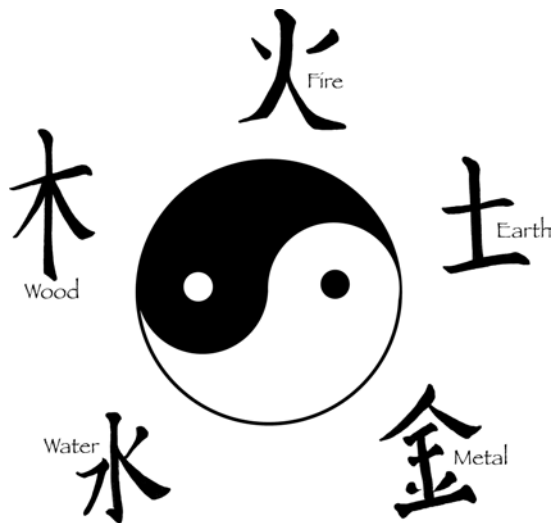


Figure 2. The Chinese names for the five elements (fire, earth, metal, water and wood) are shown here surrounding the traditional Chinese yin-yang symbol.

century B.C., a similar idea using four rather than five basic “humors” water, fire, earth, and air, was adopted in Greece).

Research Evidence to Date

Numerous publications in the medical literature support the effectiveness of Acupuncture for pain, hot flashes and other problems experienced by people regardless of any particular diagnosis. Recent research also documents its ability to reduce cancer-related problems such as muscle dysfunction, nausea, xerostomia or extreme dry mouth associated with head and neck cancer treatment, pain, anxiety and depression, constipation and fatigue. It is effective against yet other problems that patients with cancer face, including shortness of breath, chronic fatigue and neuropathy, or nerve-related distress.

Just how acupuncture works remains only partially understood. We know from modern research, including Functional Magnetic Resonance Imaging (fMRI) brain studies reported in the medical literature, that acupuncture works at least in part through the nervous system. Areas of the brain light up to show that acupuncture elicits responses in areas of the brain that are related to the treatment goal.

The existence of meridians remains unproven. The fundamental idea of a vital life force that can become unbalanced and rechanneled as it courses through the body also remains an ancient concept in which many continue to believe. However, there is no scientific evidence that supports its existence.

Although acupuncture effectively controls many symptoms, it does not cure disease. It is applied today to treat disease primarily in underdeveloped areas of the world where access to modern medicine is unavailable.

What It Can Do for You

If you have unexplained symptoms or a serious medical illness, see a conventional physician and take advantage of modern diagnostic and treatment techniques. These can catch a serious problem early when it is most treatable, rule out the existence of a serious problem, or provide the best chance of cure. Acupuncture is not a realistic alternative to modern diagnostic or therapeutic techniques.

However, if your sore knee still leaves you limping or your pain persists, acupuncture might well be your best bet. Its simplicity, lack of toxicity or complications, low cost, and frequent effectiveness make acupuncture a therapy of choice for various kinds of chronic pain (when the reason for it has been uncovered and conventional treatment is not preferred). Try it also to

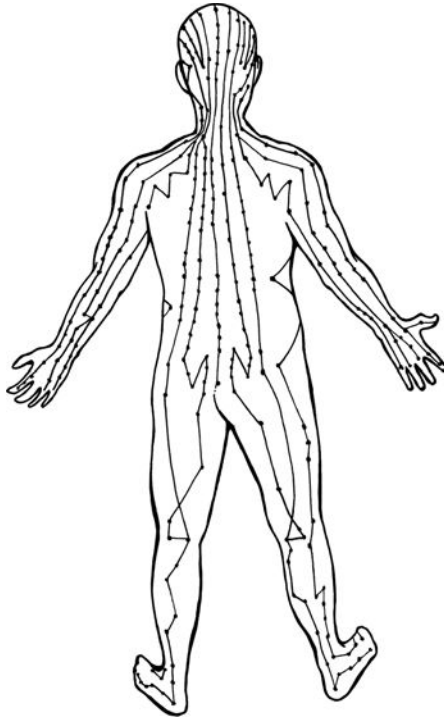


Figure 3. Hundreds of acupoints line the body's hypothesized twelve head-to-toe meridians. Pressure on a point relieves pain and stress in often distant associated areas of the body.

help relieve the difficulties of stress and anxiety, arthritis, headaches, and other problems as noted above. If it works for you, it hardly matters that we cannot find qi or that skeptics think it might be a placebo response.

The Acupuncture Advantage

It provides effective relief for pain and for many other symptoms.

It may help when conventional pain therapies do not.

Side effects are all but nonexistent.

It is virtually painless and inexpensive.

Where to Get It

There are approximately 15,000 acupuncture practitioners in the United States today. In addition to those trained primarily as acupuncturists, several thousand MDs and DOs (doctors of osteopathy) in the United States have attended courses in acupuncture and are licensed or certified to practice it.

Part One: Ancient Routes to Health and Spiritual Fulfillment

Such training programs are affiliated with major medical centers such as those at the University of California, Los Angeles, and New York University.

Many conventional physicians, cancer centers and other medical centers refer patients to well-trained and experienced acupuncturists.

Qualified acupuncturists may be recommended by the National Commission for the Certification of Acupuncture and Oriental Medicine (NCCAOM) in Washington, D.C. (www.NCCAOM.org). This non-profit organization was established in 1982 to promote standards of competence and safety in acupuncture and Oriental medicine.

Licensure and regulations regarding the practice of acupuncture vary across states in the United States. Requirements and regulations differ broadly across states and in other countries.

It is important that patients use a certified or licensed acupuncturist who is also training in the care of people with cancer. Memorial Sloan-Kettering Cancer Center offers training programs to certified or licensed Acupuncturists in the care of cancer patients.

Ayurveda

About 1500 B.C., Aryan invaders from the north of what would later become India drove the earlier inhabitants down into the Indian subcontinent. The invaders brought with them their literature, hymns, prayers, teachings and manuscripts. This body of knowledge and literature was known as the Vedas — Sanskrit for “knowledge — and it formed the basis for the subsequent development of India’s moral, religious, cultural and medical codes. Thus, Ayurvedic (“knowledge of life”) Medicine sprang from the information in the Vedas, expanded by many later commentaries and additional medical writings. As its English translation suggests, Ayurveda encompasses religion and philosophy as well as medicine and science.

What It Is

Ayurvedic medicine is one of the few ancient healing systems that remain popular today, although in greatly modified and modernized form. It is based on the idea that illness is the absence of physical, emotional and spiritual harmony. Thus, it stresses proper physical and mental self-care to ensure good health and enhance longevity. Ayurvedic medicine, therefore, encompasses prevention and health maintenance as well as diagnosis and treatment.

Many of Ayurveda’s basic principles are similar to those of Chinese medicine. Both involve concepts such as life force — the energy that sustains life; balance; the integral relationship among body, mind, environment and nature; the importance of tongue and pulse evaluation for diagnosing illness; and breathing exercises. India’s medical methodologies influenced and helped shape important aspects of Chinese healing systems.

Ayurveda, as well as other ancient systems of belief and healing, often appear strange, primitive, or irrational to those raised in modern societies where understanding the body and the world rests on scientific proof. Ancient healing systems tend to remain essentially unchanged across millennia, in contrast to modern science and medicine, which continually grow and change through constant questioning, evolution and proof. According to contemporary experts, Ayurvedic science is based not on constantly emerging research data, but on the eternal wisdom of those who received this cosmic consciousness through religious introspection and meditation.

Today's Ayurvedic practitioners claim to bring about well-being, the prevention of disease, and the harmony of body and mind. They explain that they do this by aligning patients' lifestyles with their individual constitutions and personal medical histories. The primary tools of Ayurvedic medicine include maintaining certain lifestyle habits such as diet, using natural medicines, herbs, and internal cleansing preparations, and doing various yoga and meditation exercises. Ayurvedic visual images, as seen in ancient paintings and sculpture, convey the peace and balance that Ayurveda strives to attain.

What Practitioners Say It Does

The main goal of Ayurvedic therapies is to restore the body's homeostasis, or the balance of the person's metabolic forces. This is accomplished by applying or following Ayurvedic treatments, including breathing exercises, diets, physical activity, herbal tonics, elimination therapies and other purification procedures, meditation, and massage. Each therapy is personalized according to the individual's problems and metabolic characteristics. These programs are said to maintain health and prevent disease, enhance mental health, and treat illness.

In the last few decades, a modernized, commercial version of Ayurvedic healing has emerged. Promoters offer lectures, books, audio programs, and other self-help instructional materials based on traditional Ayurvedic healing. Transcendental Meditation is emphasized. This modern movement is viewed by many with concern. The Cult Awareness Network and numerous websites deal with the shortcomings, dissatisfactions, and risks of the program marketed as Transcendental Meditation. Meditation is an essential component of Ayurvedic culture, but some authorities believe that the TM movement is drawing young people into a private and exploitative world of potential harm.

Beliefs on Which It Is Based

Under one complex and encompassing concept, Ayurveda describes an understanding of people and of the cosmos in which everything is interrelated and interdependent. Practitioners believe that there are three doshas, or basic metabolic types (Vata, Kapha and Pitta; see Figure and Table). Each is located in specific body organs, and each is associated with two of Ayurveda's five environmental elements (earth, water, fire, air and ether). In Ayurveda, each element corresponds to one of the five senses, as well as to areas of the body. It is believed that ether is related to hearing and to open spaces in the mind, air to touch, fire to sight, water to taste, and earth to smell. Color, emotions, seasons, and time of day all are seen as interrelated, as Figure 4 illustrates.

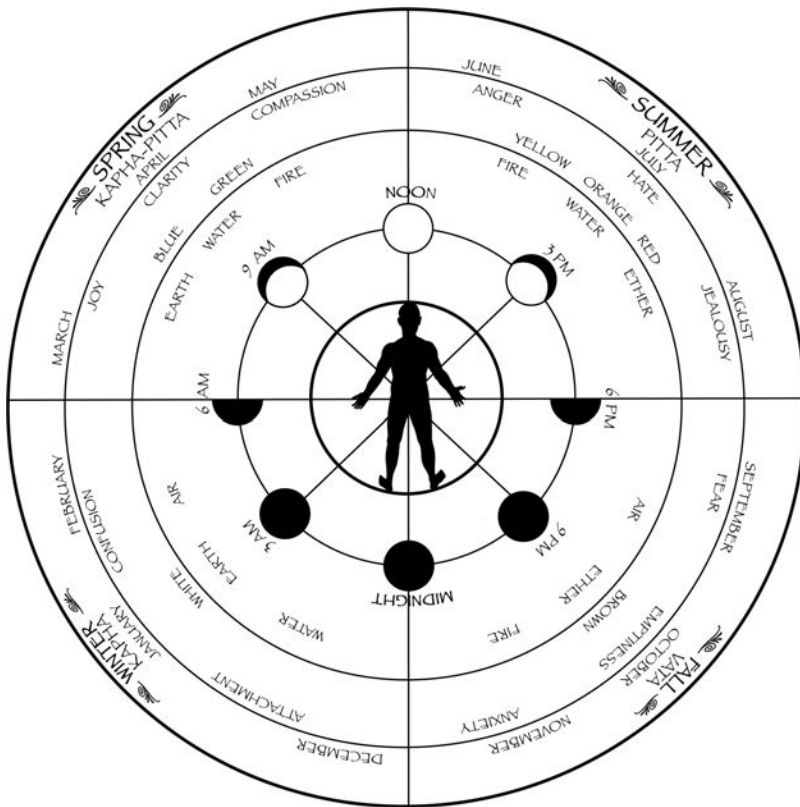


Figure 4. This mandala shows the relationship between human characteristics, seasons, the elements, and the cosmos in ancient Ayurvedic teaching.

Doshas are the bridging force among organs and internal parts of the body. They also are believed to connect the body with environmental or cosmic elements. Although each person is believed to be a combination of characteristics from all three doshas, one dosha type predominates in each individual. The predominant dosha describes the individual’s physical, metabolic and emotional characteristics, as well as his or her daily habits and lifestyle.

In addition to defining predominant body types, characteristics, and appearances, doshas provide other vital functions. Their metabolic role is to keep the body intact and functional. They also maintain a balance among internal body organs. It is believed that all bodily functions are under dosha control. The doshas, their characteristics, and associations are given in the accompanying table.

The Three Doshas, or Metabolic Types: Vata, Kapha and Pitta

	VATA	KAPHA	PITTA
Physical characteristics and style	Heavy; pale, oily skin; thick hair; slow-moving relaxed;	Ruddy skin; fair hair; medium build; loving; compulsive	Slender; cool skin; nervous; energetic; intuitive
Metabolic characteristics	Prone to obesity, high cholesterol and allergies	Prone to heartburn, ulcers, hemorrhoids, and acne	Prone to nervous disorders, anxiety, constipation, moods
Internal organ location	Lungs; chest; spinal fluid	Stomach; blood; small Intestine; skin; eyes	Large intestine; pelvic cavity; bones; ears
Associated natural elements	Water and earth	Fire and water	Air and ether
Physiological role	Nourishes, protects, and stabilizes body	Digestion; metabolism Kapha- Vata interface	Movement; breath; blood circulation

Maintaining and restoring good health requires bringing the three doshas back into balance. This process involves and is aided by reducing emotional stress, improving one’s lifestyle, and ridding the body of accumulated toxins. Diet and therapies are prescribed on the basis of the individual’s predominant dosha type.

Ayurvedic diagnostic techniques employ three main activities: inspection, palpation, and questioning. Practitioners believe it is important to observe

the tongue, nails and lips, plus each of the body's nine "doors" (two eyes, two ears, two nostrils, mouth, genitalia, and anus) and their secretions. Tapping and listening to the lungs, feeling other parts of the body, and taking the pulse reveal strengths as well as weaknesses. Taking the history includes learning details about the life and health of the patient — past, present, and intended future.

Chakras

Traversing the body from the base of the spine to the head, seven chakras, or energy centers, are believed to link to internal organs, natural elements, colors, and deities. Self-illumination is said to occur when energy reaches the topmost chakra.

As in Chinese medicine, the Ayurvedic system of pulse taking is extremely detailed and much more time-consuming than in Western medicine. Diagnoses are described in terms of organ system imbalances, which in turn are tied to imbalances of the doshas. The goal of treatment is to restore dosha balance.

Therapies address diet and lifestyle. Dietary treatments include recommendations and cautions against foods for particular doshas. Specific foods are thought to weaken or strengthen doshas. Lifestyle choices concerning waking, eating, sleeping times and sexual habits are recommended for particular doshas or to correct dosha imbalances. Medicinals include herbs, spices, metals and other natural products that are believed to be related or tied to specific ailments, body types or imbalances. Breathing exercises and yoga also are recommended, again according to ailments and dosha type.

Another aspect of traditional Ayurvedic treatment is a focus on removing toxins from the body. This process begins after diagnosis and before other treatments are begun. In India as in North America, this kind of purification is still accomplished according to ancient practice. These methods, known as panchakarma, include bloodletting (typically by applying leeches), induced vomiting and bowel purging.

It is of interest to note that in India today, traditional Ayurvedic medicine has been institutionally modified to incorporate many Western practices. A survey revealed that 75% of drugs used by Indian Ayurvedic doctors were modern medications such as antibiotics. Ayurvedic practitioners now analyze the properties of herbs prescribed in the ancient texts by electron microscopy and computers. Ironically, the older Ayurvedic practices, such as using leeches and other unattractive components typically

are discarded in modernized Ayurveda, but these are the very components toward which people in the United States and other developed countries often gravitate.

Research Evidence to Date

Many Ayurvedic practitioners believe that regimens based on doshas can be used to diagnose and treat virtually all disorders, including serious illnesses. However, there is no scientific evidence that they work for such purposes. If you have or may have a serious disease, Ayurvedic healing techniques should not be relied on to cure the illness.

Meditation, an important component of today's popular Ayurvedic medicine, has been subjected to research over the years. Meditation has been shown to reduce anxiety, help lower hypertension, and enhance general wellbeing. There is as yet no scientific research that documents the ability of herbs or other components of the Ayurvedic system to effectively treat disease, but studies of the potential benefits of Ayurvedic herbal compounds continue.

What It Can Do for You

Most people turn to Ayurvedic techniques for the sense of rejuvenation, harmony and calm that they inspire. Meditation can slow the pulse and relax the mind. Its calming effects can be very useful, and many people meditate as part of a regular health maintenance regimen.

Ayurvedic's emphasis on self-care is consistent with today's emphasis on personal responsibility for one's health. Healthy or ill, many people achieve the serenity and sense of well-being that these ancient techniques can bring. Furthermore, engaging in healing practices that predate current understanding of human physiology may have benefits in and of itself. Many enjoy the idea that their herbal teas or meditation practices were in use thousands of years ago.

Where to Get It

The International Association for Ayurvedic Healing Arts is an organization that provides accreditation to schools and training programs that conform to their training standards (www.ayurveda-association.com).

The Ayurvedic Practitioners Association is a professional association that aims to support Ayurvedic professionals in the UK and Europe (www.apa.uk.com).

The website of the Association of Ayurvedic Professionals of North America (www.aapna.org) indicates that it unites Ayurvedic health professionals, students, academic institutes and corporations in North America and internationally.

The National Ayurvedic Medical Association represents the Ayurvedic profession in The United States (www.ayurveda-nama.org). That website includes an extensive listing of Ayurvedic practitioners.

The Internet provides access to these and numerous additional Ayurvedic organizations based in many countries, regions and states.

There is no program of licensure or regulation for Ayurvedic practitioners in the United States. Those who practice Ayurvedic medicine may be physicians, chiropractors, nutritionists or other healers. The best and most responsible Ayurvedic practitioners encourage clients with serious illnesses to seek mainstream medical care from physicians.

An Attraction of Ayurveda

There is comfort in sharing experiences that are thousands of years old. Identification with ancestral roots, engaging in activities used by those who shared this earth and sky long ago, and the sense of cosmic community are all part of Ayurvedic healing.

This page intentionally left blank

Chinese Medicine, Traditional (TCM)

Lao-tzu, the sixth-century B.C. founder of T'aoism, laid the groundwork for traditional Chinese medicine. He described the necessary balance of opposite and complementary forces called yin and yang, explained the illnesses that result from any imbalance of these internal and universal forces, and described the important role of qi (pronounced "chee" and sometimes written chi or ch'i), which is believed to be the vital energy force that flows through the body.

President Nixon was accompanied on his ground-breaking visit to China in 1972 by many reporters, among them James Reston, a highly-respected writer for the New York Times. At one point, Mr. Reston suffered severe pain in his abdomen and was rushed to the Anti-Imperialist Hospital in Beijing. Surgeons removed his appendix using conventional anesthesia. All went well until the following evening, when Mr. Reston suffered further severe abdominal pain. Instead of receiving the usual pain-killing pills, however, he was treated by the hospital acupuncturist who inserted needles into his elbow and below his knees. The pain disappeared immediately and permanently. A few days later, the story of James Reston's medical experience appeared under his byline on the front page of the New York Times.

This single account contributed greatly to Americans' awareness of many aspects of Chinese culture, especially the ancient system of treatment with acupuncture. Although Westerners tend to be familiar with acupuncture (see Chapter 1), Chinese medicine encompasses other equally important techniques, and all exist within a comprehensive, alternative system of anatomy, physiology and healing.

What It Is

Chinese medicine is a complete system of health care that has been in use for approximately three millennia. It includes prevention as well as treatments for various disorders. Diagnosis, therapy, terminology, and understanding of human physiology and how the body works in traditional Chinese medicine are profoundly different from those of Western medicine. Importantly, traditional Chinese medicine has changed relatively little over the centuries. This contrasts with Western medicine, which is constantly in flux, changing as new information and data clarify understanding of health and illness, and as research evaluates the effectiveness of therapies and generates new treatments.

The cornerstone concept in Chinese medicine is qi, or energy that flows through the body along pathways known as meridians. In Chinese medicine, ailments are attributed to an imbalance of qi. Diagnostic efforts focus on determining the state of a patient's qi, including any excesses or deficiencies. Therapies, all of which aim to balance qi, include acupuncture, moxibustion, cupping, massage, herbal remedies, and the practice of meditation, concentration, and exercise known as qigong.

With the exception of moxibustion and cupping, this book contains chapters discussing each of these therapies, and all are described briefly below.

What Practitioners Say It Does

Unlike Western medicine, Chinese medicine is not disease-specific. It is concerned instead with discovering the unique underlying dysfunction that allows illness to develop in a particular individual. Like Western medicine, traditional Chinese medicine is used to treat a wide variety of ailments with several basic therapeutic tools.

Acupuncture involves the insertion of needles at specific, predetermined points on the body. Called acupuncture points or acupoints, these correspond to the meridians through which qi is believed to flow throughout the body. Acupuncture is discussed in more detail in Chapter 1.

Moxibustion involves burning a small mound of tightly bound leaves of an herb known as the Chinese mugwort, or *Artemisia vulgaris*. The leaves are burned directly on the body near qi (vital life force) meridians associated with the patient's particular ailment, or near places in the body suspected of being deficient in qi. The heat generated by moxibustion is believed to penetrate deeply into the body, restoring its internal balance and strengthening its qi.

Cupping is similar to moxibustion in that it involves directing energy to a specific part of the body. Rather than using burning leaves, cupping creates

suction above the part of the body that requires treatment. Suction is created by warming the air inside a glass jar and turning the jar over on the patient's body. The vacuum created by the heat is said to dispel dampness from the body, warm the qi, and reduce swelling. Cupping is recommended particularly for cases of bronchial congestion and chronic ailments such as arthritis and bronchitis.

Several systems of *massage* are used in traditional Chinese medicine. Two that date back to the Han dynasty (200 B.C.–A.D. 200) are an-mo and tuina. In an-mo the massage therapist uses pressing as and rubbing motions on affected areas of the body; in tuina a thrusting and rolling type of massage is applied. Chinese massage is practiced on the same points of the body used in acupuncture, and with the same aims: to detect areas of excessive, deficient, or blocked qi, to unblock those areas, and to bring qi back into balance.

Qigong is a series of activities that involve breathing, exercise, and meditation to balance and strengthen qi. Qigong literally means “manipulation of vital energy.” There are two major forms of qigong: internal and external. In internal qigong, patients perform exercises of breathing and movement to strengthen their own qi. The related system of movement and breathing known as tai chi, popular in China and in other countries, uses qigong and is considered a type of qigong exercise.

Other forms of internal qigong exist, each involving meditation and breathing. In fact, there are more than 100 schools of internal qigong in China, and well over 3,000 schools have existed historically.

External qigong involves the transfer of qi from a qigong master to the body of another individual. This may be accomplished either by the master touching areas on the other person's body, or indirectly, as the master stands nearby, consciously striving to transmit his energy to the patient. It is believed that qi masters have developed the art of causing their own energy to flow outside of their bodies to influence the health of others or to move inanimate objects. Qigong is detailed in Chapter 19, and tai chi in Chapter 20.

Herbal medicine is an ancient mainstay of traditional Chinese practice. Just as Chinese medicine's view of the body differs significantly from that of Western medicine, so does its system of administering medicine. Most drugs in Chinese medicine are time-honored herbal preparations, part of an herbal formulary developed over the centuries. In addition to its more than 3,000 herbs, the formulary also includes animal and mineral ingredients. Remedies are applied to treat a spectrum of ailments, from self-limiting illnesses and minor pains to major diseases such as cancer.

Herbs and their effects are described using the language of Chinese medicine. That is, they are classified by their effects on qi, balance, and the five

elements (fire, earth, metal, water, and wood). Often herbal medicines are combined in sophisticated ways not only to cure patients' particular ailments, but also to restore the overall balance of their systems. Herbs usually are administered in combinations, prepared typically by boiling to create an herbal tea. As a patient's condition changes, the mix of herbs prescribed is altered accordingly.

Beliefs on Which It Is Based

In addition to balance and energy, the concept of yin-yang and the idea of five elements are central to traditional Chinese medical understanding. Yin-yang refers to the interaction between opposite forces, such as male-female, active-passive, and dark-light. Imbalances of yin and yang are believed to manifest themselves in too much or too little activity in particular body organs. A yin-yang balance throughout the body must be maintained to sustain health.

Closely related to the idea of balance is the System of the five Chinese elements. Each organ and bodily system is associated with one of these elements. The elements are considered to be the essential components of the universe. Therapies are prescribed to correct excesses or deficiencies in these elements. The elements and their corresponding organs are believed to influence each other in predetermined ways. For example, fire comes from wood. Hence the function of an organ associated with fire (the heart) is influenced by an organ associated with wood (the liver).

The Importance of Balance

Balance is a basic theme throughout traditional Chinese medicine. Imbalance in the river of energy said to course through the body is believed to be the cause of disease; health is said to return when that energy flow, called qi, is brought back into a harmonious state of balance. It should be noted that qi, yin and yang, and the system of the five elements have no analogues in Western medicine. They represent an alternative way of thinking about the body and disease.

The system of the five elements is central also to traditional Chinese diagnoses. Practitioners rely heavily on the system of elements as well as on thorough pulse taking. Pulse evaluation involves not just the wrist pulse used by Western doctors, but also other, more detailed readings. Doctors typically take twelve pulses, as each pulse is believed to correspond to a different internal organ. Traditional Chinese doctors also pay close attention to the

appearance and condition of the patient's tongue, which is thought to provide clues to underlying disease.

Diagnosis and a treatment plan follow according to the Chinese concept of internal bodily relationships and the entire cosmology of traditional Chinese medicine. A patient diagnosed with pneumonia by a Western doctor, for example, might be given the traditional Chinese diagnosis of deficiency of liver qi or excess of heat in the spleen. Treatment would differ according to which of the two dysfunctions, liver or spleen, is perceived to have caused the problem, because the pneumonia is viewed as the outer manifestation of the cause of the illness. In Western medicine, all patients diagnosed with pneumonia would be treated with the same antibiotics, while to a traditional Chinese doctor, patients presenting with pneumonia could be treated with any number of therapies according to what the underlying ailment is determined to be.

Research Evidence to Date

Of the major components of traditional Chinese medicine, some have been well documented by modern research as effective therapeutic techniques. Acupuncture (see Chapter 1) can control chronic pain in many instances, and it often works effectively to relieve many other symptoms. Moxibustion and cupping are still used in Chinese hospitals, but they are used much less frequently in other settings, and they lack the documentation now associated with acupuncture.

Qigong enhances balance and muscle tone, and is especially useful for people who are frail, such as elderly persons or patients with serious debilitating ailments like cancer. The situation with herbal remedies is more complex, as each of the thousands of herbs contain several parts (root, leaf, stem, flower), and as several herbs typically are combined to produce remedies. Many herbal remedies appear to be safe and effective for some problems.

Because the Food and Drug Administration (FDA) is not required to regulate herbal preparations, manufacturers are not obliged to specify their ingredients. Therefore, consumers cannot know whether a product for sale on a store shelf contains what it says it does, whether it is pure, or whether it includes potentially dangerous elements or contaminants.

Ginseng, among the best-known Asian herbs, is a good example of the promises and problems of herbal medicine. Extolled for its virtues over many centuries, it has not yet been subjected to adequate scientific testing to document the circumstances under which it is effective and safe. Contradictory research has led to its sale to treat opposing symptoms, so that it is marketed both as a stimulant and as a depressant. Further, analyses of fifty-four ginseng

products indicated that 25% contained no ginseng at all, and 60% contained only trace amounts.

Place

As the demand for ginseng and other Chinese herbs has soared, the Chinese government issued curbs on the production of traditional herbal medicines, citing the ready availability of adulterated, fake and illegal remedies. The Chinese Ministry of Health indicated that adulterated medicines, available without a doctor's prescription, are causing disabilities and deaths. China plans to close all substandard factories and markets, as well as those trading in medicines banned by the state. However, because herbal remedies from China are still available in the West, and because American and other producers are not under these controls, be wary of any herbal remedies you wish to purchase. Other concerns, such as herb-drug interactions, are reviewed in www.mskcc.org/AboutHerbs.

What It Can Do for You

Many aspects of Chinese medicine enhance wellbeing and have other important roles in health care. In addition to acupuncture and qigong, meditation and massage have been shown to lower anxiety and increase feelings of relaxation. Many herbal remedies show potential promise, but experts caution that better research and the fuller implementation of quality control standards are still necessary, and the potential problem of herb-drug interactions is of special concern for patients receiving chemotherapy or other prescription medications.

Where to Get It

The practice and licensing of specialists in Asian (including Chinese) medicine is regulated on a state by state basis in the United States. Most practitioners in the United States specialize in either acupuncture or massage. Many states regulate the practice of acupuncture, but few regulate other aspects of Chinese medicine. California and Nevada require those licensed in acupuncture also to demonstrate knowledge of herbal medicine. New Mexico has established a profession of "oriental medicine," which both restricts others from practicing it and establishes a scope of activity for licensed practitioners similar to that of primary-care physicians.

The American Association of Acupuncture and Oriental (www.aaaomonline.org) and the National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM) provide information and contact information for practitioners. NCCAOM lists practitioners who are nationally certified in Oriental Medicine, Acupuncture, Chinese Herbology and Asian Bodywork Therapy. Those certified in Oriental Medicine have met requirements for board certification in both Acupuncture and Chinese Herbology.

People receiving conventional medical care while seeing a practitioner of Chinese medicine should inform both practitioners, so that treatment may be coordinated and the patient alerted to any interactions or conflicts between the two therapies.

For practitioners, mastering the components of traditional Chinese medicine, such as herbal medicine, requires many years of study and practice. As when evaluating the background of any health-care provider, you should determine the length of training and time in practice of a traditional Chinese medicine practitioner.

This page intentionally left blank

Homeopathy

Homeopathy and mainstream medicine approach illness from opposite ends of the problem. Homeopathy starts with the study of cures, while mainstream medicine begins with the study of disease. Mainstream science seeks to destroy the virus or other cause of sickness before the disease has a chance to develop or progress. Conversely, homeopathy begins by looking for cures through the study of symptoms.

Homeopathy was developed by Samuel Hahnemann, a German physician of the late eighteenth century. Rebelling against the harmful and barbarous practices of prescientific medicine of the time, such as bloodletting and purging, he founded a more humane approach based on the use of tiny doses of substances that produced in volunteers the same symptoms experienced by the patient.

The Law of Proving is the homeopathic principle by which substances were evaluated for their healing effect. Hahnemann, his assistants, and followers conducted many provings, ingesting plants, minerals, and other substances and carefully recording the symptoms each substance produced. When future patients displayed similar symptoms, they were treated with extremely diluted doses of that substance. This approach became the first law of homeopathy: the Law of Similars, or “like cures like.”

Eventually, volumes of descriptions were collected by Hahnemann and his volunteers. These volumes, called the Homeopathic Pharmacopoeia, have been used ever since as the basis for homeopathic remedies. When a patient describes his or her symptoms, they are compared against this huge compendium of documented symptoms until a match is found. The patient is then treated with a highly diluted version of that substance.

“The Like Cures Like” Basis for Homeopathic Treatments

A person complaining of vomiting and diarrhea, for example, might be treated with an extremely high dilution of a poisonous plant called the thorn apple, because a tiny bite of that plant causes vomiting and diarrhea. This is an example of “like cures like.”

Ancient Law of Similars

There must be something enduringly appealing about this “small doses of like cures like” concept, because it precedes even Paracelsus, the sixteenth-century Swiss alchemist and physician. Indeed, it goes back through Hippocrates, who wrote in 400 B.C. that disease is cured through “application of the like,” and back even further to Hindu physicians in the tenth century B.C. who described what is still known as the Law of Similars.

What It Is

Homeopathy was one of the original alternatives to conventional modern medicine. While translating the writings of William Cullen, a Scottish professor of medicine, Hahnemann learned of quinine as a possible cure for malaria. Testing the medicine on himself, Hahnemann noticed that tiny amounts of quinine induced the same shaking and fever brought about by the disease itself, and concluded that quinine cures malaria because the drug produces the symptoms of malaria in a healthy person. In actuality, however, quinine cures malaria by killing the mosquito-borne parasite that causes it.

The idea of homeopathy was that large doses of a substance cause a symptom, while very small doses of that same substance will cure it. During the sixteenth century, a physician named Paracelsus supposedly cured people of the plague by giving them a piece of bread containing a droplet of their own excrement. Hahnemann’s rationale was that homeopathic remedies would replace the disease with a similar, but weaker illness that the body’s “vital force” could more easily overcome.

What Practitioners Say It Does

Homeopathic remedies typically are applied today to treat chronic and transient conditions such as arthritis, asthma, colds, flu, and allergies, for which the vast majority of patients seek general medical attention. However, some practitioners, many of them not M.S., believe that homeopathic remedies can

cure any and every illness. Despite the fact that homeopathic remedies cannot substitute for insulin in diabetes or for the surgical removal of a tumor, some proponents claim that homeopathic remedies can cure these as well as other serious, potentially life-threatening diseases.

Responsible practitioners do not use homeopathic remedies to treat diabetes, heart disease, cancer, or other major illnesses, or to treat surgical emergencies, serious infections, or bad injuries.

Beliefs on Which It Is Based

The word homeopathy, coined by Hahnemann, is derived from the Greek words *homoios* (“similar”) and *pathos* (“suffering” or “sickness”). This translates roughly to “like cures like,” which remains one of the main concepts on which homeopathy is based. Another is the dilution effect: the more dilute the dose, the more powerful the remedy’s effect. This use of highly diluted substances persists as homeopathy’s most unscientific and problematic aspect.

Homeopathic remedies are made from plants, minerals, animal products, or chemicals diluted many times, usually in water sometimes in alcohol. Between each subsequent dilution the compound is shaken vigorously, perhaps 100 times. A “1-in-100 dilution,” for example, means that one drop of a plant extract is placed in ninety-nine drops of water or alcohol. After vigorous, lengthy shaking, one drop of the new solution is mixed with another ninety-nine drops of water, and the mixture is again shaken vigorously. This procedure may continue twenty, thirty, or more times. In the end, the resulting solution can be more dilute than a solution of one molecule of salt placed in an ocean. Because a molecule is the smallest possible amount of any substance, most homeopathic remedies contain less than one molecule of the original plant or mineral extract.

This makes it safe in case your baby swallows an entire bottle, but can it work?

Herein lies the dilemma of homeopathy. If there’s nothing in the remedy, how can it relieve symptoms or treat disease? The explanation most commonly offered by homeopaths is that the remedy’s water retains a “trace memory” in the form of electromagnetic frequencies of the active ingredient it once contained. The vigorous shakings between each dilution are thought to activate this chemical memory. Alternately, it is suggested that the process may release the essence, or healing life force, of the original substance.

There are two main difficulties with the homeopathy “trace memory” hypothesis. The first is that liquids are not known to have memories. The second is that even if liquids could contain trace memories of homeopathic

solutions, they also would contain trace memories of all the other substances removed by purification procedures during water recycling, including those that might negate the effects of the original substance or that might have harmful effects of their own.

A Typical Homeopathic Visit

A patient comes in feeling weak and slightly dizzy. The homeopathic practitioner studies the patient through observation and questioning. The patient has a flushed appearance suggesting fever, rapid heartbeat and difficulty sleeping. With this knowledge, the practitioner will locate a substance that produces those same symptoms in a healthy person. When the patient takes the remedy (a vastly diluted solution of the substance) as prescribed, the symptoms — weakness, fever, rapid heartbeat, and so on — are supposed to disappear promptly.

Research Evidence to Date

Homeopathy's inability to provide an explanation of how its remedies work that can be tested for reproducible results has been a perplexing problem for proponents and a major source of scientific skepticism. Some homeopaths suggest that conventional treatments such as immunization and allergy therapies work as homeopathy is said to work according to the Law of Similars, and that they both also use small amounts of a substance.

The problem here is that conventional inoculations consist of substances that are identical or similar to disease-causing agents, while homeopathic remedies typically use agents quite different from those that cause disease. In other words, homeopathy relies on the similarity between symptoms provoked by remedies and those caused by the illness, not on the sameness between disease agents and remedies. Furthermore, immunizations do not contain less than one molecule of a substance, and they work directly on the immune response.

About 95% of homeopathic remedies are sold over the counter. This means that, by law, their use is limited to conditions that typically go away without any treatment and do not require diagnosis by a physician. However, the recent rise in the popularity of homeopathy has been accompanied by increasing numbers of unsubstantiated claims for homeopathic remedies against serious and chronic illnesses. Even homeopathic organizations have decried these claims, because they could keep people from getting appropriate help promptly for serious diseases where time is crucial.

Public protection groups have urged the U.S. Congress to remove the exemptions from drug laws enjoyed by homeopathic remedies, so that homeopathic remedies, like others, must be shown to work and to be safe before they are marketed. The U.S. Food and Drug Administration website (www.FDA.gov) has information about the legislative background and inappropriate use of homeopathic remedies for illnesses that are not treatable with homeopathic remedies. The existence of electromagnetic or subtle energy of the original substance's memory is not supported by scientific study.

What It Can Do for You

Most scientists say that homeopathic remedies are essentially water and can act only as placebos, which heal indirectly through mental suggestion (see Chapter 18). However, homeopathic remedies offer the opportunity for self-care using nonaddicting products that are usually safe and have few if any side effects. If only through the power of the mind, they can be used to reduce the symptoms of self-limiting illnesses (problems such as aches and pains that will go away on their own in a week or so). Homeopathic remedies help many people get through these problems with fewer symptoms, and the treatments may shorten the length of these illnesses.

Where to Get It

Homeopathic services are widely available around the developed and developing world. The Internet displays numerous homeopathic organizations, practitioner referral sites, educational programs and services in most countries and in many local areas.

The British Government Report of 2010

In February, 2010, the British Government's House of Commons Science and Technology Committee issued a 275-page report on policies related to homeopathy. The report exposes the claims of homeopathy as false and irrational:

“The Government's position on homeopathy is confused. On the one hand, it accepts that homeopathy is a placebo treatment. This is an evidence-based view. On the other hand, it funds homeopathy on the National Health Service (NHS) without taking a view on the ethics of providing placebo treatments.... Placebos should not be routinely prescribed on the

NHS. The funding of homeopathic hospitals-hospitals that specialize in the administration of placebos-should not continue, and NHS doctors should not refer patients to homeopaths.

“It is unacceptable for the MHRA to license placebo products-in this case sugar pills-conferring upon them some of the status of medicines. Even if medical claims on labels are prohibited, the MHRA’s licensing itself lends direct credibility to a product.

“Licensing paves the way for retail in pharmacies and consequently the patient’s view of the credibility of homeopathy may be further enhanced. We conclude that it is time to break this chain . . . the MHRA should withdraw its discrete licensing schemes for homeopathic products.

“In July, the UK Department of Health issued a response which acknowledged that ‘the evidence of efficacy and the scientific basis of homeopathy is highly questionable’ but the products should remain available ‘to provide patient choice.’ Leaders of the scientific community expressed astonishment about this decision, saying, ‘Using this kind of logic, why not offer astrology on the NHS to help women decide when to induce labour? It beggars belief that a modern NHS... should fly in the face of the Science and Technology Committee, which concluded that homeopathy is nothing other than an elaborate placebo and involves deceiving the patient every time it is prescribed.’”
[Baum M. Homeopathy waives the rules. *The Lancet* 376:577, 2010]

Homeopathy does not treat cancer or any other illness.

Native American Healing

The first Americans were Eurasians who crossed the Bering Strait landbridge that linked Siberia and Alaska over 30,000 years ago. These hardy Asian souls worked their way south, and eventually settled in the Americas. Some became the Native American tribes that developed the first communities and civilizations throughout North America. Others continued the long voyage to settle South America.

Over the thousands of years during which these groups developed independently and often far from one another, they created distinct cultural and healing practices. Despite the differences, however, their common Eurasian origin provided a thread of commonality that remains to this day. Most of their practices and beliefs share important characteristics that link them not only with each other but also with the ancient healing systems that eventually became codified as Asian medicine.

These features include the merging of medicine and religion, belief in an integral relationship between the person, the environment, and the cosmos, related assumptions about the role played by spiritual forces in health and disease, herbal remedies, purging rituals, and the involvement of shamans. Shamans are trained spiritual healers — often women — who served as the focus of ancient Asian as well as Native American medicine (see Chapter 54).

What It Is

Native American medicine is a system of healing used today by many as a primary source of medical care, and by others in combination with Western medicine. As in ancient Chinese and Ayurvedic medicine (see Chapters 6 and 2), Native American healing practices not only treat disease but are also

employed to promote harmony among people in the community and between the physical environment and the spiritual world.

Native American healing has major mystical components. It does not differentiate between medicine, religion, spirituality and magic. Physical illness typically is attributed to spiritual causes. Healing involves activities that will appease the spirits, rid the individual of impurities, and restore a healthful, spiritually pure state.

The priest or leader in Native American medicine is called a Shaman. A likely source for this word is the Mongolian adaptation of the Chinese term meaning “priest doctor.” Used by northern Asian tribes, the word seems to have traveled from Siberia to describe Native American “medicine men.”

Shamanic Practices

Although herbal remedies and some other healing techniques have largely been replaced by Western medicine, shamanic rituals remain a vital part of tribal life for many Native American groups. With some variations across tribes, four predominant healing techniques are practiced by Native Americans: purifying and purging the body, the use of herbs, involvement of shamanic healers and symbolic ritual. These four techniques are described below, with the understanding that modifications and embellishments occur from tribe to tribe.

Purification or purging rituals, similar to the practices found in other early healing systems and in other forms of folk medicine, remain important aspects of Native American healing. A traditional Native American purging ritual occurs in the sweat lodge. Here, heated rocks are doused with water, producing copious amounts of steam and heat that cause profuse sweating in those seated around the rocks. The sweating is thought to purge and purify the body.

The Sweat Lodge is a Native American purification ritual not unlike the steam baths that many enjoy in contemporary spas around the world. Today in the U.S., however, is often an extreme “spa-like” experience that tests many but has killed some. A recent example occurred in late 2009, when two people died at an Arizona retreat sweat lodge. The leader faces three counts of manslaughter.

Sweat-lodge ceremonies had a physical purpose: the purification of the body. Along with their accompanying prayer, however, they were meant also to encourage spiritual practice. A person needs to live in harmony not only with the elements of the physical world, but with those of the spiritual world as well.

Southeastern tribes also pursued another type of purging. They practiced the ancient Asian and Indian tradition of induced vomiting, with the help of an herbal tea preparation called the “Black Drink.”

Place

Native Americans also developed a rich knowledge of herbal medicine. The Creek Indians, for example, learned to drink willow tea to ease aching joint pain. It is now known that willow tea contains salicin, the natural form of acetylsalicylic acid, which is the active ingredient in aspirin. Particular herbal preparations vary from tribe to tribe.

A shaman might be employed when self-medication or therapy obtained from a trained herbalist proves insufficient to cure or slow an illness. Shamans, also called “medicine men” (although many are women), are trained healers thought to embody special powers in the spirit world. Prayers and ceremonies, important components of healing, usually are led by shamans. They are thought to be capable of invoking the healing powers of the spiritual forces, and also to appease those spirits who, angered by a patient, are believed to have caused the patient’s illness.

Symbolic Healing Rituals

Native American medicine includes a variety of symbolic healing rituals. One type exemplifies the communal nature of efforts to restore health. An example is the Diné Navaho tribe’s “sing,” a community ceremony that can last from two days to more than a week. The chants are lengthy and complicated, requiring years to learn. Because learning the entire ritual of a chant is so arduous, most singers learn only a few in their lifetimes, and they tend to specialize in chants focused on interactive activities and objects directed to a particular purpose. Some singers specialize in making colorful sand paintings (Navaho), others use trances, dances, drumming or rattles to determine the cause a patient’s illness.

Once the cause is established, a singer who knows an appropriate chant is brought in to eliminate the disease. The preparation of herbal remedies and the creation of sand paintings, which are believed to promote healing, may accompany the chanting ceremony. The singer is responsible not only for the chant, but also for the preparation of herbs and paintings.

The Sioux (Lakota) have a set of seven healing ceremonies. One of the most dramatic is the Sun Dance, a four-day-long Summer festival of prayer and ceremony. Sun dancers often are pierced: two cuts are made in the chest,

and a wooden peg inserted through the cuts. This peg is tied to a tree which the dancer circles, connected to the tree by the stick threaded in his skin. The skin cuts are made by shamans, another example of the mingling of religion and medicine in Native American, as in earlier Asian cultures.

The Sioux also employ the Yuwipi, a spirit-calling ceremony often held for healing purposes. For the Yuwipi ceremony, the participant's hands are bound, and he is completely wrapped in a blanket tied around his body. The participant then implores the spirits, through prayer, to heal or perform some other task such as locating missing persons.

What Practitioners Say It Does

The communal and spiritual essence of Native American healing finds many followers today among non-Native Americans who are in search of new religious or spiritual experience. Native American healing is said to heal body and soul, appease ancestral spirits, evoke a sense of community concern for the sick individual, and help him or her as well as the entire group achieve a feeling of belonging.

Beliefs on Which It Is Based

Native American medicine rests on the core belief that all life is interconnected, and that everyone and everything has a corresponding presence in the spiritual world. Not only living things including plants and insects, but also inanimate objects such as rocks and wind, are believed to contain spirits. The web of life and the connectedness of body and spirit are fundamental to the related belief that the spirit world can influence the activities of the physical world, and thus promote health or cause illness. Shamans were and still are employed primarily to access and influence the spiritual forces that govern the physical world.

Thoughts and ideas are believed to have the power to influence events. The Navaho and other tribes, therefore, do not speak of death and dying for fear of causing it to occur. In modern times, this inhibits planning and can create other difficulties when Native Americans are hospitalized with serious or terminal illnesses.

Native American healing systems blur the line that Westerners draw between religion and medicine. For example, a common Native American practice, particularly for young men, was an exercise known as the vision quest. In the vision quest, a young man would travel away from home, out into the wilderness for several days of fasting and prayer. This ritual was assumed to encourage the spirits to provide the boy with a “vision” that would dictate the course of his life and his role in the life of the tribe. Many shamans and healers were called to their profession as the result of a vision quest.

Native American healing is characterized also by its communal nature. Many healing ceremonies are conducted in groups, and individual patients often are surrounded by chanting or praying family members when receiving treatment at home or in a hospital. This is in marked contrast to healing in many other systems, which presume a one-on-one relationship between caregiver and patient. It differs also from Western systems that encourage a high degree of confidentiality between doctor and patient.

Communal healing reflects the belief held by many Native American groups that an imbalance or disharmony in an individual is a threat to the harmony and wellbeing of the entire community. This view flows from the Native American emphasis on the interrelatedness of life and all of nature’s creations, and on the overriding importance of the tribe as a whole.

Research Evidence to Date

Probably because of its fundamentally spiritual and magical nature, there has been little scientific study of Native American healing by Native American or other scientists. As in other ethnic healing systems, there are anecdotal reports of Native American healers curing serious disease. However, these reports have not been formally investigated and are unlikely to be accurate.

What It Can Do for You

The effectiveness of Native American healing appears attributable primarily to psychological and mind-body influences. Native American ceremonies such as the sweat lodge and the vision quest may provoke insight and offer the chance for contemplation. These ceremonies are more spiritual than medical, and offer more in the way of introspection, insight, and revitalization than physical healing.

Some modern Americans, for example, whether or not of Native American heritage, have begun to study shamanism and engage in Native American spiritual practices. Typically they do this not to achieve medical healing, but to experience the communal ritual, to achieve self-understanding and spiritual rejuvenation, and to obtain guidance for future courses of action.

These ceremonies may be combined with rituals and symbols from other sources. Some create a kiva, a round Pueblo ceremonial hut outdoors, in a special room, or in the basement of their homes. For a recent multicultural celebration of the spring equinox solstice, some friends of the author sat in their kiva, one facing west and the other east, on either side of a large, centrally placed quartz stone. They decided to bring rainbow light from deep within the womb of Mother Earth through the vortex of the quartz. Meditating, they soon saw ribbons of light and energy flooding the room. They shared their interpretations of this effect and concluded the three-hour ceremony shortly before midnight, feeling a deep and comforting sense of peace and connection with the universe.

Where to Get It

More than one hundred thousand Internet sites are devoted to Native American spiritual rituals. A few are listed here, followed by samples of the many available books on the topic.

- ethnobotany.suite101.com/.../native_american_spiritual_rituals www.experiencefestival.com/native_american_rituals
www.tatonkatradingcompany.com/rituals.htm
- *The Sacred Pipe: Black Elk's Account of the Seven Rites of the Oglala Sioux*, by Joseph Epes, 1971.
- *Black Elk Speaks (firsthand recollections of an Oglala Sioux healer)*, by John Neihardt, 1972.
- *Native North American Spirituality of the Eastern Woodlands: Sacred Myths, Dreams, Visions, Speeches, Healing Formulas, Rituals and Ceremonials*, by Elizabeth Tooker, 1980.
- *Mother Earth Spirituality*, by Ed McGaa (Eagle Man), 1990.
- *The Native American Sweat Lodge*, by Joseph Bruchac, 1993.
- *The Lakota Ritual of the Sweat Lodge*, by Raymond A. Bucko, 1999.
- *Leslie Marmon Silko's Ceremony*, by Allan Richard Chavkin, 2002.

Naturopathic Medicine

Naturopathic medicine is an approach to healing practiced by naturopathic doctors (NDs), who diagnose illness with the same techniques used by conventional physicians. They treat illness with natural methods, however, generally avoiding pharmaceutical drugs and other products of modern medicine. Naturopathy was organized in the late nineteenth century. By the early 1900s, there were more than twenty schools of naturopathic medicine in the United States, and naturopathic conventions in the 1920s often attracted more than 10,000 practitioners.

Most schools of naturopathy became defunct by the 1940s, however, when standards of quality were introduced, bringing increased scrutiny to medicine and the licensing of medical schools. Interest in naturopathy waned shortly thereafter. Today, however, naturopathy is among the many forms of alternative and complementary medicine enjoying a resurgence of interest.

What It Is

Naturopathic medicine, positioned as a low-cost, more gentle alternative to conventional care, combines modern knowledge of the body and disease with a variety of healing methods not used in mainstream medicine. The naturopathic approach to disease includes the many natural methods geared to strengthen the body's own healing ability. Treatment avoids drugs and surgery. Although naturopaths are not M.D.s, they do perform minor surgical procedures.

Unlike many alternative systems of care, naturopathic medicine does not have its own view of human physiology, function, and disease apart

from that held by conventional medicine. Rather than relying on concepts such as the body types of Ayurvedic medicine or the vital life force concept of traditional Chinese medicine, naturopaths study conventional anatomy and other medical sciences. They use X rays, order laboratory tests, and apply physical examination techniques as do conventional physicians.

Naturopathic techniques and areas of care

Therapeutic nutrition

Homeopathy

Plant substances

Manipulation of muscles, bones, and spine

Natural childbirth (not in hospital)

Pre- and postnatal care

Acupuncture and other techniques of traditional Chinese medicine

Counseling

Hypnotherapy

Hydrotherapy

Minor surgery

Place

A naturopathic first

In 1996, Seattle opened the country's first state-supported naturopathic medical clinic. It featured, as do all naturopathy practices today, diet, exercise, vitamins, acupuncture, and plant-product therapies. Naturopathy and conventional medicine differ, however, in emphasis and in treatment. Naturopathy is not associated with a unique healing technology. Rather it uses a collection of natural treatment modalities such as botanical medicine, nutritional therapies, homeopathy, acupuncture, traditional Asian medicine, hydrotherapy, counseling, and physical medicine (manipulation of muscles and bones).

Homeopathy (Chapter 3) is a system of medicine involving the use of very small amounts of a symptom-causing substance to treat the condition that produces similar symptoms. Traditional Chinese medicine (Chapter 6) applies techniques developed in ancient China to treat disease, and acupuncture (see Chapter 1) involves the insertion of needles in specific points on the body to cure or treat disease. For hydrotherapy or spa therapy,

patients are sent to spas for periods of rest and rejuvenation. This is especially popular in Europe, and spa therapy is even covered by some European insurance programs.

The primary technique of physical medicine is a system of manipulating the bones and spine in a way that is similar to chiropractic and osteopathic manipulation. Physical forces such as electricity, heat, and sound also are applied to treat patients, as are various massage and exercise techniques.

Botanical medicine involves the use of whole plants and herbs as medicines, a practice with a long tradition in many cultures. Naturopathic physicians believe that botanical medicines are superior to synthetic drugs in some instances. They also claim that botanical medicines are safer, have fewer side effects, and are less costly.

Naturopaths use food as medicine, ensuring that each patient follows the optimum diet for his or her health and lifestyle. Healthful, nutritionally balanced diets are prescribed. Advocates point to increasing evidence about the role of nutrition in disease, and the extensive training in nutrition received by naturopathic doctors compared with conventional physicians.

Counseling or behavioral medicine is an important component of naturopathy, and practitioners emphasize the role played by mental and emotional health in disease. Naturopathic physicians are trained in counseling, biofeedback, stress reduction, and other means of helping improve mental and therefore overall health.

Some naturopathic physicians obtain further training in one or more of these techniques and specialize in treating patients with these methods. Naturopathic doctors may also apply other alternative or unproven techniques, such as ozone therapy for patients with cancer or AIDS.

Acceptance requirements for naturopathic medical school are similar to those for mainstream medical schools. They include a college degree and the completion of courses in physics, biology, and chemistry. The first two years of school include conventional medical science such as anatomy, physiology, and pathology. The last two years are devoted to the specific techniques of naturopathic treatment discussed above, and to seeing patients, primarily in outpatient (nonhospital) environments, under the supervision of fully trained and experienced naturopathic practitioners.

Training, however, is substantially different for N.D.s and M.D.s. While conventional physicians undergo four years of training as do naturopathic physicians, conventional physicians must also serve a minimum of three years of residency after medical school before they may practice even the most basic of medical care. The additional three years plus passing the required tests allow them to practice only general or family medicine. The practice of a

medical specialty such as cardiology, oncology or pediatrics, requires several additional years of study.

Naturopathic physicians who pass certifying exams offered by the Council on Naturopathic Medical Education are licensed and may begin practice directly after their four-year program. There are no residency or additional training requirements.

What Practitioners Say It Does

Naturopaths view naturopathic medicine as an alternative to conventional primary care, claiming to treat the same range of illnesses and referring patients to other conventional specialists as necessary. Naturopaths do not provide emergency care and they do not perform major surgery. Some naturopathic physicians practice natural childbirth in the home or at a birthing center. However naturopathic medicine claims to treat almost the entire range of illness, from self-limiting and minor problems to AIDS and cancer.

Proponents stress that naturopathic therapy has fewer side effects and lower costs than conventional medicine. Some of these differences, however, may be due to the fact that naturopaths refer complicated cases or patients requiring major treatment to conventional practitioners. For example, naturopaths are unable to handle problematic births, referring such cases to hospital-based obstetricians.

Naturopathic Remedies — Some Examples

Migraine headaches: evening primrose oil.

Chronic lower back pain: acupuncture.

Enlarged prostate: saw palmetto herb.

Menopause symptoms: botanical formula.

Beliefs on Which It Is Based

Naturopathy's overarching goal is to enlist the natural healing power of the body to fight disease. Some naturopaths equate this healing power with the "vital force" idea that underlies the traditional healing systems of several ancient cultures. A related emphasis is placed on uncovering and treating the cause of disease instead of merely alleviating symptoms.

Other naturopathic principles include avoiding drugs and surgery in favor of natural methods. Through detailed examination of the patient's lifestyle and medical history, naturopathic physicians emphasize treating the whole

person and understanding his or her overall lifestyle, environment, and interactions that can influence well-being.

Naturopathy also emphasizes preventive medicine. Patients are taught to adopt healthful diets and lifestyles in an effort to ward off the development of illness. To this end, naturopathic doctors are seen as teachers who educate patients about their own bodies and about the best ways to maintain health. Naturopathy's beliefs and methods stem from case-history observations, medical records, practitioners' experience in treating patients, clinical nutritional data, and therapies long popular in Europe, Asia, and India.

Research Evidence to Date

Naturopathic medicine uses several specific techniques that vary in their effectiveness or ability to influence health. Some naturopathic approaches, such as homeopathy, may be of little value. Others are documented and known to be effective. Examples include the importance of diet in modifying the risk of severe illnesses such as heart disease and cancer and the use of acupuncture to reduce pain and to assist withdrawal from addiction. Researchers at the University of Minnesota Medical School examined naturopathic treatments and found some supporting scientific evidence in their favor, plus the need for definitive clinical trials.

Naturopathic medicine is an excellent example of how the nature of proof can differ between conventional and alternative physicians. Most techniques used by naturopathic physicians have long traditions, and practitioners cite these traditions as evidence of effectiveness. Conventional medicine requires validation of therapies with objective proof, such as clinical trials.

What It Can Do for You

Because naturopathy uses many different techniques, it is necessary to examine them individually, just as conventional medical therapy would be evaluated. Most naturopathic remedies are considered harmless by conventional practitioners, but more study is needed before naturopathic therapies can be said to reverse disease. Naturopathic treatments generally can be helpful against minor illnesses, but using naturopathic instead of conventional therapy for major illnesses or serious conditions is not wise.

Where to Get It

There are seven accredited naturopathic medical schools in North America: Bastyr University in Seattle; Boucher Institute of Naturopathic Medicine in

Vancouver, Canada; Canadian College of Naturopathic Medicine in Toronto, Canada; National College of Natural Medicine in Portland, Oregon; National University of Health Sciences in Chicago, Illinois; Southwest College of Naturopathic Medicine in Phoenix, Arizona; and the University of Bridgeport in Bridgeport, Connecticut. All of these can be accessed on the Internet.

The American and Canadian Associations of Naturopathic Physicians provide information about naturopathic training as well as lists of licensed Naturopathic Practitioners.

Licensure for Naturopaths: As of this writing, about two dozen U.S. states and Canadian provinces license naturopathic doctors. As the distribution of schools noted above suggests, the Pacific Northwest is the stronghold of naturopathic medicine in North America. Accreditation is provided by the American Association of Naturopathic Physicians (AANP), naturopathy's national professional organization.

The AANP strongly recommends that patients verify their naturopathic physician's certification with the AANP. The AANP warns that some practitioners who advertise themselves as N.D.s obtained degrees from unaccredited schools or through the mail, rather than at accredited institutions. Most U.S. states do not license naturopaths, but many practice naturopathy without licenses and in states that do not offer licensure.

American Association of Naturopathic Physicians provides consumer information and a searchable database of members by location: www.naturopathic.org.

Many insurance companies in the United States and Canada cover naturopathic care. Some companies offer subscribers a choice between naturopathic and conventional services. These programs use naturopaths as primary-care doctors who maintain responsibility for patients' overall care and typically refer patients to mainstream medical specialists as necessary.

Part Two



Dietary and Herbal Remedies

Part Two Overview

7. Regulatory Issues: Who's Minding the Store?
8. Dietary Supplements
9. Fasting and Juice Therapies
10. Flower Remedies
11. Herbal Medicine
12. Macrobiotics
13. Vegetarianism

This page intentionally left blank

Part Two Overview

Can food be used as medicine? Hippocrates thought so. Let food be your medicine, counseled the famed fifth-century B.C. Greek physician. His dictum is followed today, not only by responsible nutrition experts seeking to change the way we eat, but also by exploiters and misguided souls who make outlandish claims for fad diets, massive doses of vitamins, and costly untested supplements. Thus, dietary supplements and food-based “cures” run the gamut from extremist nutritional “cancer cures,” such as the grape diet, to healthful living approaches also encouraged by mainstream wellness proponents.

In this section you will find evangelists — proponents of special diets who couple a faith in dietary efficacy with appeals to nature or the spirit. Advocates of macrobiotics believe that their limited fare and strictures against certain utensils lead not only to improved health but also to spiritual harmony with the world. Fasting, a practice used in a limited way across religions for millennia as a method to cleanse the soul, is thought by its advocates to cleanse and heal the body as well.

Indeed, there is a very real need for Americans and for people of all countries to improve their diets, and often the advice of special diet proponents is consistent with sound nutritional evidence. Consensus agreement among nutritionists and physicians who specialize in nutrition science focuses on low-fat, high-fiber, plant and fish-based diets that some proponents have advocated for years.

Phytochemistry, a legitimate branch of pharmaceutical study, is based on herbs and herbal derivatives and synthetics, and includes everything from pain relievers to chemotherapy. This practice merges ancient herbal traditions with modern scientific investigation. It also describes a coming together of the popular interest in “natural” healthy foods and the knowledge of modern science that supports many of those traditional beliefs.

The “alternative” recommendations noted in this section may contradict, complement, or stand outside the sphere of conventional nutrition. In some instances, various approaches contradict one another. For example, a macrobiotic diet has a vegetarian basis, but many advocates of vegetarianism find it nutritionally deficient.

Advocates of both vitamins and orthomolecular medicine (the use of extremely high doses of vitamins as therapy) claim that vitamin supplementation enhances health. However, the U.S. Dietary Guidelines Advisory Committee report issued in June, 2010 includes this statement:

“A daily multi-vitamin/mineral supplement does not offer health benefits to healthy Americans. Individual mineral/vitamin supplements can benefit some population groups with known deficiencies such as calcium and vitamin D... mineral/vitamin supplements have been associated harmful effects and should be pursued cautiously.” <http://www.cnpp.usda.gov/Publications/DietaryGuidelines/2010/DGAC/Report/A-ExecSummary.pdf>, page 5–6.

Dietary recommendations are based on three facts. First, what we eat undeniably affects our health. Studies have found that diets rich in fiber, fruits, and vegetables not only reduce obesity, but also lower the risk of heart disease and certain types of cancers. Numerous studies have shown that dietary supplements or vitamin substitutes for foods do not accomplish the same preventive and other positive goals. Conversely, diets high in calories and fat, particularly saturated fat, can lead to chronic diseases and morbidity.

Second, the diets of increasing numbers of people even in developed countries do not resemble the low-fat, high-fiber ideal. Affluence has led us to diets that contain too much fat, too little fiber, and excessive calories. All of this contributes to high rates of heart disease and record levels of obesity in the population. Obesity is also associated with cancer diagnoses.

Third, the nature of dietary advice evolves as additional scientific information is uncovered. The food recommendations put out by the U.S. Department of Agriculture (USDA) every five years reflect the latest consensus on balanced nutrition. The 2010 recommendations place more emphasis on fiber, grains, fruits, and vegetables than did in earlier government guidelines. Changes in the government’s dietary advice are made according to carefully controlled scientific studies.

The four major findings of the U.S. Dietary Guidelines Advisory Committee’s June, 2010 report are guidelines toward health-promoting nutrition and physical activity:

1. Reduce overweight and obesity by reducing overall calorie intake and increasing physical activity.
2. Shift food to a more plant-based diet that emphasizes vegetables, cooked dry beans and peas, fruits, whole grains, nuts, and seeds.

- Increase the intake of seafood and fat-free and low-fat milk and milk products and consume only moderate amounts of meat (only lean), poultry, and eggs.
3. Significantly reduce intake of foods containing added sugars and solid fats because They add excess calories and few, if any, nutrients. In addition, reduce sodium Intake and use of refined grains, especially refined grains that contain added sugar, solid fat, and/or sodium.
 4. Increase daily physical activity.

The claims made in support of dietary therapies vary widely. Some diets are said to be more in harmony with nature, or to better align one's physical and spiritual self than others, and therefore to yield spiritual benefits. Herbs and other dietary supplements often are marketed on the incorrect claim that natural products are safer and produce fewer side effects than prescription or over-the-counter (OTC) drugs. Fasting is promoted as a "natural" method for the elimination of toxins, but evidence for the existence and specifics of these toxins is nowhere in sight.

Many alternative and fad diets are either not scientifically validated or are marketed despite having been found worthless or harmful. Diets that include only one food — grapefruit or beefsteak, for example — are antithetical to two basic principles of good nutrition: moderation and variety.

Other bases for alternative diets include medical and cultural ancient tradition. It has long been known that certain foods can prevent disease. For example, eating fruits and vegetables prevents scurvy. Modern scientists discovered that scurvy is caused by a vitamin C deficiency, which eating fruits and vegetables can prevent. Advocates of high-dose vitamin regimens take the fact that vitamin deficiencies cause disease, and extrapolate to the conclusion that megadoses of vitamins prevent or cure disease.

Healthful eating keeps us in good shape and prevents many illnesses. However, aside from diseases of nutritional deficiency, there are no proven dietary cures for serious illnesses.

The inescapable fact is that how we eat influences how we feel and how well our bodies are equipped to ward off major disease. As important as diet turns out to be, the companion fact is that food does not cure serious illness. Don't be fooled into substituting a special diet for real medical treatment when it is needed to save your life.

This page intentionally left blank



Regulatory Issues: Who's Minding the Store?

When you go to the drug store for aspirin today, you can be reasonably sure that what you're buying is safe and that it contains no more or less than what the package says it contains. It was not always that way with pharmaceuticals, and it still is not that way with most health-food products and dietary supplements sold in health-food stores, supermarkets and pharmacies.

Despite continuing concern on the part of the Federal Trade Commission (FTC), Food and Drug Administration (FDA) officials and others who work in the public interest, there are still no across-the-board standards or federal laws governing the quality of food supplements, herbs, and other products marketed with claims for improving health benefits. *Caveat emptor* — let the buyer beware — is the only rule governing the purchase of many products used as health foods or dietary supplements. What you think you are buying is not necessarily what you get.

Laws and regulations regarding the manufacture, promotion, and sale of foods and drugs were needed initially in the early years of this century, when profiteering and fraud were rampant. Food was often contaminated, adulterated with harmful chemicals, and packaged under unsanitary conditions. Worthless “medicines” were sold as cure-alls by pseudodoctors and traveling “snake oil” salesmen. They were also promoted in newspaper ads and sold through the mail.

Back in the early days of the 20th century, claims of curative powers for everything from colds to cancer dominated the packaged medicine field. Practices in both the food and drug industries were dangerous as well as deplorable. In the U.S., the federal government finally took action, which

resulted in the innovative and much-needed Food and Drugs Act of 1906. Although the Act did away with misbranding and adulteration, it left intact a serious problem: the safety and effectiveness of drugs. Were they safe or harmful? Did they live up to their claims or accomplish nothing? Did they produce side effects, causing the risk to outweigh any benefit? Drug manufacturers were not obliged to report information about safety and efficacy, nor were they required even to test their products to see if they were safe and effective. Any claim could be made, and made with impunity.

It took two disasters, twenty-five years apart, before the U.S. federal government properly addressed safety concerns. The first occurred in 1937, when a Tennessee company developed a liquid form of a sulfa medicine. Called Elixir Sulfanilamide, the product was developed for those who preferred to drink their medicine. It was marketed without prior testing for toxicity. The liquid base, diethylene glycol, turned out to be poisonous, causing kidney failure and death in 105 people.

An angry public demanded better protection, and a year later the Federal Food, Drug, and Cosmetic Act was passed. This act banned false and misleading statements on labels for food, drugs, and medical devices. It also required proof of safety for drugs entering interstate commerce. However, drugs already on the market and covered by the 1906 act were grandfathered, and therefore proof of safety was not required from them. The act helped, but much stronger and broader regulation was still needed.

The thalidomide tragedy precipitated the additional needed regulation. This drug was manufactured by a German company for use as a sedative in 1953. Almost 40% of the women who took thalidomide during pregnancy, mainly in European countries where the drug was first introduced, delivered seriously malformed babies who typically lacked limbs. Pictures of the infants without arms were shown almost daily in the news media. People were aghast that so many innocent women and children paid such a high price for industry's failure to properly test the products it brought to market. (A similar tragedy occurred in the early 1970s, when the long-term effects of DES, a synthetic female hormone used to prevent likely spontaneous abortion and premature labor, were found to increase vaginal and cervical cancer in daughters born to women who took DES during pregnancy.)

The link between these terrible tragedies and the drugs that caused them became evident in the early 1960s, just as the American pharmaceutical industry was under Congressional review in an investigation headed by Senator Estes Kefauver of Tennessee. The result was passage of the Drug Amendments of 1962, also called the Kefauver-Harris Amendments.

The new requirements dealt squarely with the problem that the thalidomide and Elixir Sulfanilamide disasters had so clearly demonstrated. Before any new drug, or any drug marketed after 1938 could be sold in the United States, it had to be proven both safe and effective. The amendments also gave the FDA the power to police the industry and enforce these regulations. The National Academy of Sciences was brought in to assist with this gargantuan task. One of the seventeen panels it developed was responsible for over-the-counter (OTC) drugs, a category that includes most dietary supplements and herbal products.

Because it was impossible to study and evaluate the hundreds of thousands of existing OTC drugs in short order, the FDA attempted to regulate them immediately by permitting their sale only if the label did not claim to prevent or treat disease. Eventually, some drugs were studied and reclassified when found to be unsafe or when their effectiveness was documented or disproved.

The Supplement Shambles

Although the public needed the protection provided by accurate labeling, proof of safety and evidence of benefit, the food supplement industry effectively prevented such legislation from being passed in the U.S. Congress in 1994. It accomplished this with a successful multimillion-dollar campaign urging Americans to “Write to Congress today, or kiss your supplements good-bye!” This false message resulted in the Dietary Supplement and Health Education Act of 1994, which created a protected new category for the estimated 20,000 vitamins, herbs, minerals, and anything else that had been sold as a supplement before October 1994.

Top experts in herbal medicine and dietary supplements decried the lack of public protection. The 1994 regulations took good care of the multibillion-dollar supplements industry, but many scientific reviews concluded that they left the public in the lurch. Here's what the November 1995 issue of *Consumer Reports* said about what that law allowed: Products can be sold with no testing for efficacy or effectiveness; and supplement manufacturers do not have to prove the safety of their products already on the market.

To get around the now-illegal promise of far-reaching benefits, indirect rather than direct claims often are made. Claims are couched, for example, in comments from satisfied users who describe how the product cured their illness or produced other benefits. Such implicit claims are beyond reach of the law because they are indirect rather than explicit. The FDA is allowed to halt production of a product not when the manufacturer fails to show that it is safe

and effective, but only after the FDA itself proves the product to be dangerous to people's health.

More recently, the U.S. Government Accountability Office (GAO) conducted an investigation. The GAO 2010 report indicated that dietary supplement products often were still promoted with deceptive and unfounded disease-related claims, encouraging consumers to use the products to prevent or treat diabetes, cancer, heart disease, Alzheimer's disease, and other serious conditions. The GAO investigation also found that most of the herbal supplement products tested were contaminated with heavy metals such as lead or pesticide residues, but usually at low levels.

U.S. Government agencies that regulate dietary supplements

The FDA is one of three government agencies with the authority to regulate the marketing of products we swallow. The U.S. Postal Service may police products marketed through the mail, and in recent times it has challenged the sale of products that promise cancer cures. The Federal Trade Commission (FTC) has the authority to regulate the advertising of food, cosmetics, nonprescription products, and health-related services that are marketed across state lines.

Individual states also have some regulatory authority, through the licensing of health professionals and the enactment of consumer protection laws. State licensing boards keep an eye out for harmful medical and dental practices, but they usually take years to investigate and terminate inappropriate activity. Some states have new and amended regulations that allow physicians to use unproven treatments if the patient wants them and the physician feels they may help.

We consumers tend to believe that products sold over the counter are protected by governmental safeguards and therefore are safe for us to use. That is not the case. With current U.S. federal laws, consumer protection and enforcement agencies cannot protect against contaminated products, false indications of miracle results, and other dangers inherent in dietary and herbal supplements.

Store shelves contain many harmful and worthless products sold under false pretenses. They also offer a wide range of genuinely useful and safe products that can quicken relief of temporary ailments and improve quality of life. The challenge is to figure out which products are which. Until we are protected by better governmental regulations, consumers are obliged to read labels carefully, check with accredited nutritionists and dietitians, and use good common sense.

Dietary Supplements

Some vitamins and minerals are essential to life and health. Only milligrams — tiny, minute amounts — of each vitamin are needed by the human body, but those small amounts are absolutely essential to all of the body's biochemical processes. They are required to convert food into energy and to help the body manufacture hormones, blood cells, and nervous system chemicals.

Except for three — B5, B7 and D, which come in part from other sources — vitamins are obtained entirely from food. B5 (Pantothenic acid) and B7 (biotin) are produced by normal intestinal bacteria and also are easily obtained from food. Exposure to sunlight produces some vitamin D, as do dairy products and eating fatty fish such as salmon and tuna.

Minerals are closely related to vitamins. They originate in soil and water and are found in all plants and animals. The major (or “macro”) minerals, those needed in relatively large quantities by the body, include calcium, phosphorus, and magnesium. Trace (or micro) minerals are needed in very small amounts. Iron, fluoride, selenium, and zinc are among the eighteen essential trace minerals. Vitamins and minerals work together, influencing how well the body absorbs both.

Basic Facts about Vitamins

Vitamins come from animal or plant foods and are essential to human life and health. Four of the thirteen vitamins (A, D, E, K) are fat-soluble. Excess amounts are absorbed by body fat and stored for later use in case the body runs short of them in the future. Therefore, taking too-large amounts of A,

D, E, and K as supplements can cause excessive accumulations of these vitamins that can be toxic.

The remaining nine vitamins (C and the eight B vitamins) are water-soluble. This means they dissolve in body fluids, and the body eliminates excess amounts of them in the urine.

Not as Simple as We Think (or as we would like)

Vitamins and minerals interact in complex ways. Here are a few examples:

- The absorption of iron is enhanced by vitamin C, but too much vitamin C interferes with the body's ability to absorb copper, which is essential to body chemistry.
- Excessive amounts of B I can cause deficiencies in B2 and B6. Too much phosphorus hurts calcium absorption.
- The absorption of copper and iron is inhibited by long-term use of zinc supplements.

Bottom Line: Be wary of overdosing. Avoid supplements. Instead, focus on eating a balanced diet and, for cancer patients at risk for osteoporosis, a calcium with D supplement (D assists in getting the calcium into the body) is helpful.

A Note about Some Especially Popular Vitamin Supplements

Vitamin E, a fat soluble vitamin, is essential for the formation, growth, and repair of bones and for normal calcium absorption and immune function. It is obtained mainly through exposure to sunlight, but it also can be obtained from foods such as green leafy vegetables, nuts and seeds, and some oils. Evidence does not support the use of vitamin E supplements to prevent cancer. Further, because it acts as an antioxidant and can interfere with some chemo drugs, cancer patients should avoid taking vitamin E supplements during treatment. Research also shows that more than 400 International Units (IUs) a day may increase the risk of stroke and the risk of death.

Vitamin D has a central role in bone health, and very low levels increase the risk of fractures. The relationship between Vitamin D and cancer is extremely complex and not fully understood. A 2010 U.S. National Cancer Institute (NCI) statement indicated that higher intakes of vitamin D are associated with reduced risks of colorectal cancer, but research results overall are not consistent. Further, whether vitamin D may reduce the risk of other

cancers remains unclear. A major study conducted by a large team of senior epidemiologists from the NCI, the American Cancer Society, and others from academic medical centers found that higher levels of vitamin D in the blood were associated with increased risk of pancreatic cancer.

Single-vitamin studies over the past 25 years have looked at single-vitamin deficiency as possible cancer causes. But research shows that high levels of vitamins supplements do not produce the benefits of diets high in foods containing those vitamins. Moreover, it is now known that taking vitamins in very high doses can cause serious harm, including contributing to the development of cancer and death. Human biology is much more complicated than can be seen in simple one-vitamin studies.

What It Is

Scientific studies indicate that the necessary nutrients are provided by the average balanced diet, and that only certain groups of people require supplements: pregnant women, young children, alcoholics, those with diseases that inhibit absorption of nutrients, postmenopausal women trying to prevent osteoporosis, and people whose diets do not provide the required nutrients. Adults who do not eat healthfully (emphasizing fish, fruit and vegetables and whole grains), and older people who consume fewer calories than needed to meet daily requirements, a general vitamin supplement may help compensate.

To the dismay of the related National Institutes of Health (NIH) programs and patient advocacy groups, such as those that seek to protect patients with Alzheimer's disease, mental illness, cancer other diseases, many dietary supplements claim to reduce or cure problems such as depression, sleep disorders, diminishing memory, indigestion, arthritis and cancer. Still others promise to achieve antiaging effects, rejuvenation, and the elimination of toxins from the body. Literally thousands of dietary supplements, nutritional aids, and similar products are widely promoted and generally available to the public. Their promises are rarely substantiated in fact.

Moreover, the dietary supplement act passed in 1994 removed dietary and nutritional supplements from Food and Drug Administration (FDA) review. Therefore, supplements are not regulated. They are not evaluated for safety or purity, nor are they studied to see whether they live up to promoters' claims (see Chapter 7). Many ads for special supplements do not list ingredients, so the buyer does not always know what is contained in the capsules that promise results such as disease protection or greater stamina.

What Practitioners Say It Does

Proponents of dietary supplements believe that people in general can benefit from nutritional aids. They recommend daily doses of vitamins and other nutrients to sustain health, prevent disease, and even cure illness.

Megavitamin and orthomolecular therapy

Scientific data on problems associated with deficiencies or overdoses of nutrients are well established, and vitamin and mineral supplements are used appropriately to compensate for vitamin deficiencies. But some alternative practitioners believe that huge dosages of vitamins, sometimes hundreds of supplement pills a day, can cure disease. These individuals practice “megavitamin” or “orthomolecular therapy” (the latter adds minerals and other nutrients), but these unproven methods are considered dangerous by mainstream scientists and as shown in research studies.

In the 1950s, two psychiatrists theorized that a biochemical abnormality causes schizophrenia (it is now known that genetic defects are responsible). They administered large doses of niacin and C, creating “mega (large dose) vitamin therapy.” In 1968 the Nobel-prize-winning scientist Linus Pauling coined the term “orthomolecular” to describe the treatment of disease with large quantities of nutrients. His claims that massive doses of vitamin C could cure cancer were disproved in three clinical trials conducted at the Mayo Clinic.

Megavitamin therapists treat patients who have cancer, as well as those suffering from diabetes, schizophrenia, AIDS, pneumonia, flu, learning disabilities, depression, aging, autism, skin problems, hyperactivity, mental retardation, arthritis, and other diseases. The American Psychiatric Association and the NIH issued statements about megavitamin or orthomolecular therapies for psychiatric diseases, calling them and their unsubstantiated promotion ineffective, harmful, and deplorable.

Although megadoses of some vitamins can cause serious toxic effects, an even more serious problem is that patients with major, treatable diseases may turn to megavitamin therapy instead of mainstream care. This was shown in a U.S. television documentary, in which a young woman with treatable breast cancer rejected surgery to remove the tumor in favor of megadoses of vitamins. She died, unnecessarily.

Beliefs on Which It Is Based

Megadose advocates claim that most people require vitamins and minerals in much greater amounts than they receive through their diets, and often in very

dosages. They believe that, when it comes to vitamins and minerals, if some is good, more must be better. These beliefs are incorrect. Often they are voiced by purveyors of food supplements who also promote over-the-counter remedies for a wide range of ailments and deficiencies.

Research Evidence to Date

Research shows that people who are nutritionally deficient benefit from supplements. A daily vitamin can compensate for iron deficiency in menstruating women and for poor diets in the frail elderly. Pregnant women require at least 50% higher levels of vitamins than usual, plus extra vitamin D and folic acid. Professional advice should be sought.

As of the late 1990s, antioxidants — vitamins C, E, and beta carotene, which the body converts to vitamin A, starred as some of the most popular supplements. They were thought to provide protection against heart disease and cancer, and were widely available at health-food stores and pharmacies. The antioxidant story is a good example of why large and thorough studies are necessary before we really know if something works.

Antioxidant supplements became popular because studies showed less cancer and heart disease among people who ate more fruit and beta carotene-rich vegetables (dark leafy green, yellow, and orange vegetables) than among people who consumed fewer vegetables and fruits. That is still accurate, but antioxidant supplements turned out to be no substitute for the foods themselves. Three major studies, involving a total of 74,000 men and women, showed definitively that beta carotene supplements do not lower the risk of cancer or heart disease.

Among smokers in the studies, in fact, the beta carotene supplements increased the incidence of lung cancer. Supplements do not produce the same beneficial results seen with vegetables and fruits, probably because of currently unknown interactions with other helpful ingredients. No shortcuts here.

What It Can Do for You

A nutritionally healthy diet is essential to overall good health. Because the diets of many people are too inconsistent and too full of junk food to satisfy the body's nutritional needs, and because some people have special needs, supplements are sometimes required.

For example, despite the wide availability of folate, or folic acid, in poultry, green vegetables, citrus fruit, and other common foods (one fresh vegetable or fruit a day prevents folic acid deficiency), the diets of some pregnant

women do not contain the 400 mcg (micrograms) of folic acid needed daily by pregnant women or the 200 mcg typically recommended for others (a microgram is one millionth of a gram). Folate is also associated with reduced risk of fatal coronary artery disease. Adding small amounts in the form of supplements provides the missing amount of folic acid needed to reduce the incidence of defective pregnancies and of heart disease, according to scientific studies.

If you have or may have a serious illness or a special condition, seek professional attention. Do not attempt to treat yourself with megadoses of vitamins or minerals as suggested in popular “nutritional therapy” books.

There are important distinctions between dietary supplements in the form of the vitamin pill that many take each morning, and products aimed at treating illness. A daily vitamin tablet is unnecessary if you eat a healthful, balanced diet, but it will help those whose diets do not provide the necessary nutrients or who have special needs, such as calcium with D to protect against osteoporosis.

Megadoses of certain nutrients, especially fat-soluble supplements such as beta carotene taken to prevent illness, can be toxic, and they do not substitute for the nutrient protection obtainable directly from vegetables, fruits, garlic, fish, oat bran, soy products, and other foods associated with lower incidences of disease and longer life spans. Calcium with vitamin D is important for maintaining bone health, especially for those diagnosed with potential bone-weakening problems or osteoporosis. The ever-growing number of encapsulated promises, such as bee products to increase energy, chromium picolinate to decrease weight and increase muscle mass, “wellness” capsules with unnamed ingredient blends, and potency pills, make claims that are not substantiated. Despite the fact that they do not work, their use has created a multi-billion dollar business out of the supplement industry.

Where to Get It

U.S. National Library of Medicine and the National Institutes of Health: Medline Plus: Drugs, Supplements, and Herbal Information. <http://www.nlm.nih.gov/medlineplus/druginformation.html>

U.S. National Institutes of Health Office of Dietary Supplements: http://ods.od.nih.gov/Health_Information/ODS

U.S. Food and Drug Administration: <http://www.fda.gov/Food/DietarySupplements/default.htm>

Memorial Sloan-Kettering Cancer Center website about herbs and other botanicals, vitamins and other dietary supplements, and unproven cancer treatments: www.mskcc.org/AboutHerbs

Fasting and Juice Therapies

Fasting was practiced in many ancient cultures around the world, but usually not in efforts to enhance health. Reasons for engaging in fasts included self-deprivation, demonstration of spiritual obedience, expression of grief, the practice of cultural and religious ritual, and helping to generate hallucinations. Controlled, modified fasting under medical supervision also is used occasionally to help extremely obese people lose weight.

Fasting to achieve assumed health benefits, conversely, is a relatively recent phenomenon, practiced in prosperous Western societies. People do not practice health fasts in countries characterized by daily struggles for enough food to ward off starvation. Some view fasting for health-maintenance purposes as an affectation of affluence. Advocates say it is a route to internal cleansing and healing.

What It Is

Fasting involves restricting your dietary intake to a liquid. The liquid may be water, tea, or, most commonly today, vegetable or fruit juice. In the early 1990s, a juicing phenomenon swept the country. Juicers were marketed widely and sold everywhere for prices ranging up to \$500 and more. Juice bars were the rage, but were replaced eventually by latte and exotic coffee bars. However, juicing remains popular, and is often advocated by proponents of special diets, particularly for patients with cancer.

Proponents of fasting recommend occasional regular short fasts, lasting two to five days, as part of a general health-maintenance regimen. Advocates recommend that longer fasts for health maintenance or the healing of illness,

lasting a month or more, be conducted under supervision at a fasting spa. For fasts lasting more than one week, juiced vegetables or fruits are given to supply the nutrients needed to maintain health. Some proponents add enemas as part of the detoxification fasting regimen. Such a regimen can be especially dangerous for cancer patients,

Fresh fruit juice is healthy as well as delicious. However, juice fasts or any fast can be dangerous, especially for cancer patients. The body needs more. Also see Chapter 41, *Colon/Detoxification Therapies*.

What Practitioners Say It Does

Proponents claim that because the body is relieved of its usual chore of breaking food down into its nutrients, fasting allows the body's inner resources to focus on cleansing and healing. Cleansing is said to be accomplished through the elimination of existing toxins.

Another claim is that fasting enhances the immune system and reduces the demands placed on it. In addition to its role as part of health maintenance, some believe that fasting is an effective way to treat illnesses, including arthritis, ulcers, heart disease, asthma, and other problems.

Fasting is claimed to have spiritual results. It is said to be the most potent way to enhance the power of prayer, to bring the individual in harmony with an all powerful deity who demands humility.

Beliefs on Which It Is Based

The ancient belief that fasting purifies the soul has been extended to the current view that fasting can purify the body as well. The basic premise is that fasting maintains and restores health through physiological mechanisms. Included in these mechanisms, proponents claim, are shifting physiological effort from food conversion to the elimination of toxins, reducing the immune system's workload, releasing pesticides and other chemicals from body fat, and ridding the body of nonessential tissue.

It is helpful to look at these beliefs in terms of scientific information about the well-studied sequence of events that occurs when people start fasting.

When body weight declines, water and fat, but not toxins, are lost from cells. Toxins are left behind.

Nutrients are needed to sustain the body's disease-fighting immune system and to make antibodies and other proteins and cells. Immune system failure, not enhancement, occurs when people do not eat enough to provide

the nutrients that sustain proper immune function. Instead of reducing its workload, fasting obstructs the immune system.

Proponents explain that people feel sick when fasting because toxins are leaving the body. Actually, fasting decreases the immune system's ability to destroy and eliminate toxins. Fasting also causes a drop in blood sugar levels, which causes a breakdown of tissues needed for energy. This leads people to feel sick because the brain and other tissues fail to receive needed sugars, and the body's metabolism is forced to remove the needed nutrients from muscle and liver tissue. At the same time, the liver and kidneys are not able to do their work of handling the by-products of protein breakdown.

Fasting can harm all organs. It is extremely dangerous to health, especially for those who are malnourished by chronic illness, yet some proponents recommend fasting to treat chronic illnesses. The slimmer the individual, the more dangerous a fast will be. The longer the fast, the more life-threatening it becomes. Studies show that when people reach 56% of their appropriate body weight, death occurs. The body cannot distinguish between intentional fasting and starvation.

Research Evidence to Date

Solid scientific research does not support the claims of fasting advocates. To the contrary, it contradicts those claims and indicates the dangers of fasting, even with water or juices. Reducing the number of calories you eat while maintaining a normal, balanced diet will reduce your weight. But consuming only water, tea or juice is harmful, not helpful, to health and should be avoided especially by those who are ill.

What It Can Do for You

Proponents indicate that fasting may produce fatigue, anemia, irregular heart-beat, body aches, nausea, dizziness, and other negative effects. They refer to these as temporary problems that precede feelings of well-being, mental clarity, internal cleanliness, and other benefits.

Contrary to such advocacy claims, fasting does not and cannot heal medical conditions, assist immune or other physiological function, or play a role in health maintenance. Even the hoped-for spiritual benefits of fasting — reducing your emphasis on bodily concerns — are questionable.

The decreased supply of blood glucose leads the body to break down muscle for energy, causing weakness, depression, fatigue, and sick feelings.

Part Two: Dietary and Herbal Remedies

Depending on the individual, these reactions can begin as soon as the second day of a fast. Because the fasting individual feels weak and unwell, he or she tends to focus more attention on the body, not less.

Fasting is dangerous and should not be tried by patients with cancer, AIDS or other serious illnesses.

Flower Remedies

Who among us has not experienced the therapeutic benefits of flowers — the delight of a field of wildflowers, the calming scent of a gardenia, the comfort of a bouquet? One man saw even greater power in flowers' ability to heal, and he created medications of their distillates.

In the early 1900s, the homeopathic English physician Edward Bach (pronounced to rhyme with “hatch”) developed the theory that successful treatment of stress and negative emotions can heal physical disorders. He believed that physical treatment of the body alone can only “superficially repair” the damage caused by accident or disease. This is so, he explained, because “behind all disease lies our fears, our anxieties, our greed, our likes and dislikes.” That is, he believed that illness is caused by underlying emotional problems or disorders. If a therapy could dispel unhappiness, distress, or other such difficulties, illness would disappear and people would be well. “Flower remedies” were developed to accomplish this goal.

Bach began studying the many varieties of flowers seen on his long walks in the English meadows and woodlands, eventually compiling a list of thirty-eight different therapeutic flowers. These were the blossoms found by Bach to cure various physical illnesses indirectly by eliminating the patient's emotional strife.

Following testing, particular flowers were specified as best for dealing with the seven categories of psychological disequilibrium that Bach identified: fear, uncertainty, general disinterest, loneliness, oversensitivity, despondency, and what he termed “over-concern for others.” In addition to cures for each of these problem areas, he created a special group of five flowers to be used as a “rescue remedy” in crisis situations.



Figure 5. Flowers may not cure disease, but they elevate the spirit.

What It Is

Flower remedies are essences of flowers diluted in water and brandy. Drops of the preparation are placed directly under the tongue or in a glass of water or juice. Those who use flower remedies focus on the perceived emotional cause of disease rather than the resultant disease itself. It is believed, for example, that a person suffering from diabetes (a result) has at the same time an underlying emotional or psychological problem (the cause of the illness, in this case diabetes).

The key is to define that person's emotional dysfunction. Once it has been identified, the proper flower remedy is pursued according to Bach's listings. Presumably, the negative emotion disappears, and with it goes the physical illness, whatever it happens to be. The particular physical ailment is not relevant to the treatment.

Producing flower remedies: Bach's method

Flowers are picked in the early morning when they are in full bloom. Then they are soaked in unfiltered spring water while exposed to sunlight. After three hours, the blossoms are removed using a twig from the same flowering plant. The fragrant water is then placed in a sterile bottle and mixed with an equal amount of brandy, creating a "mother essence." This liquid is diluted

to create the remedy potion. Dilution follows homeopathic principles (see Chapter 3), meaning that very small if any amounts of the mother essence remain in the final remedy to be consumed.

What Practitioners Say It Does

The flower remedies determined by Bach to treat a full range of ills are said to produce subtle, nontoxic results in varying lengths of time, depending on the severity of the problem. The remedies stabilize emotions and promote a general sense of well-being, stimulating an internal healing process. Some practitioners believe that flower remedies used in conjunction with other approaches, such as chiropractic manipulation, produce an even greater health-enhancing effect.

Beliefs on Which It Is Based

Bach concluded that flowers create “mechanisms” that forge links between the brain and the body, enabling the resolution of emotional problems and thereby curing the physical illness. The specific flower remedy to be applied in each case is determined by an evaluation of the patient’s emotional state. Because the underlying emotional state is presumed to cause disease, the particular illness is not considered relevant when selecting the flower remedy.

Bach’s Categories of Emotional Problems and Examples of Their Flower Remedies:

1. **Fear:** Rock Rose for terror panic, fright, and nightmares; Cherry Plum for an inclination to uncontrollable rages and impulses, suicidal tendencies, or losing one’s temper; Aspen for vague fears and anxieties of unknown origin or a sense of foreboding.
2. **Uncertainty:** Cerato for doubting one’s ability to make decisions; Gentian when even small delays cause hesitation, despondency, and self-doubt; Gorse for feelings of despair hopelessness, and futility.
3. **Insufficient Interest in Present Circumstances:** Honeysuckle for nostalgia, homesickness, and dwelling too much in the past; Wild Rose for apathy or making little effort to find joy; Olive for mental and physical exhaustion and sapped vitality; Mustard for sudden deep gloom that arises for no apparent reason.
4. **Loneliness:** Water Violet for preferring to be alone, and for being aloof or reserved; Impatiens for impatience and feeling irritated by slower

others; Heather for the self-absorbed who burden others with their troubles and dislike being alone.

5. **Oversensitivity to Influences and Ideas:** Centaury for difficulty saying no and neglecting one's own interests; Walnut for stabilizing emotions during life transitions such as adolescence and menopause, for breaking past links and adjusting to new beginnings; Holly for envy suspicion, revenge, and hatred.
6. **Despair:** Pine for feeling self-reproach, guilt, and dissatisfaction with one's self; Elm for being overextended, for feeling overwhelmed with one's responsibilities; Willow for feeling life has treated one unfairly, for feeling resentful and unappreciated.
7. **Relationship Problems:** Chicory for being possessive of others, demanding, and self-pitying, for needing others to conform to one's ideals; Vine for being autocratic, dictatorial, and ruthless; Beech for desiring perfection and easily finding fault with others.

Today as in ancient times, people use flowers to symbolize sentiments, bring out emotions, and express feelings. Although we may not drink floral essences to promote healing, we often bring flowers to the ill and injured to speed their recovery. We give flowers to express and promote love and caring on special occasions such as anniversaries, graduations and birthdays.

Flowers beautify and sanctify weddings. They say hello and good-bye and help us to celebrate birth and mourn death. Particular flowers for Christmas and Easter are traditional holiday features. We honor men and women of achievement with floral bouquets. Flowers are used to celebrate victories — the Kentucky Derby is called “The Run for the Roses” — and we drape the winner of the Indianapolis 500 in a wreath of blossoms.

Research Evidence to Date

No scientific evidence supports the idea that distilled floral essences can cure disease. However, Bach and his followers collected many anecdotal reports. These success stories are published as “Professional Testimonies” and “Emergencies: Professional Use” in a paperback book entitled *Bach Flower Remedies to the Rescue* by Gregory Vlamis (Healing Arts Press, Rochester, Vt., 1990). Here, flower remedies are reported not only for humans but also for animals. Testimonies from a range of health professionals and from consumers are reported.

Almost all of those who claim flower remedies as a means of curing illness emphasize their ability to work on “underlying emotional stress.” In this

sense, Bach was a pioneer in describing the important mind-body influences known today. Scientific information about the mechanisms of mind-body interaction emerged decades after his death. Emotional states in many people can influence their physical wellbeing, although they neither cause nor cure cancer.

What It Can Do for You

Advocates suggest that the variety of flower remedies available today can help some people improve their sleep, reduce stress, calm fears, ease childbirth, reduce alcoholic tremors, and lessen skeletal and muscular aches. There are no scientific studies to support these claims, but flower remedies may evoke a placebo response. Flower remedies do not cure disease. As long as they are not used in place of needed professional care, they cause no harm and may provide a pleasant antidote to emotional stress.

Where to Get It

Flower remedies are not widely used, and therefore tend to be rarely available in health-food stores. However, Bach flower remedies are sold through the Bach Centre website: <http://www.bachcentre.com>, and through other Internet outlets. The many books about Bach flower remedies are available through www.bachflowerbooks.com.

This page intentionally left blank



Herbal Medicine

Vinca rosea, a variety of the periwinkle plant, grows bright pink on the East Indian island of Madagascar. It had long been used there as an herbal remedy for diabetes. The periwinkle was brought to North America for scientific study in the late 1940s, and researchers in Canada and the United States identified its chemical structure. When a promising component of the plant was found to destroy cancer cells in a test tube, it was subjected to further study in animals. As in the test tube, the animals' cancers were reduced. Eventually, two forms of this chemical substance, vinblastine and vincristine, were approved for use against human cancers. They are still used today in various chemotherapy regimens. Vinblastine attacks Hodgkins disease and other cancers, and vincristine helps cure childhood leukemia and is used also to treat many types of cancer in adults.

The plant has no role in the management of diabetes.

The Madagascar periwinkle plant story illustrates some of the blind alleys (diabetes) and rewards (cancer) of herbal medicine. It also clarifies the ongoing debate between herbalists who urge the medical use of plants as they grow in nature and other researchers who stress the importance of identifying and isolating their active components.

What It Is

Herbs are plants or plant parts, such as flowers, leaves, stems, bark, and roots, that are used to season foods (culinary herbs) or applied against health problems (medicinal herbs). Every culture throughout history has used plants to treat medical problems. Originally, the specific utility of herbs was assumed to be based on their shape or color. With this primitive "Doctrine of Signatures"

approach, heart-shaped leaves were used against heart problems, plants with red flowers were applied to treat bleeding disorders, and so on.

However, the biological effects of herbs are due to their chemical ingredients, not to their shape or color. Herbal remedies differ from prescribed pharmaceuticals in several ways. Typically, they include the entire herb or an entire part of the herb, such as the leaf. In contrast, pharmaceuticals, including those made from herbs, contain only the isolated and purified chemicals found to be the active ingredients, plus an inert liquid for tinctures or a binding substance for pills.

Increasing numbers of medicinal herbs are readily available. Herbs are self-prescribed: we decide on our own to buy them. In Asia and some other parts of the world, herbal medicines frequently are prescribed by doctors. In either event, according to standard definitions of the term, herbal remedies are medications, that is, substances used to treat an ailment or an illness. Herbs are much more dilute than the concentrated products we purchase in the local pharmacy, and they contain many more ingredients than do pharmaceuticals.

The best use for each medicinal herb was determined on a trial-and-error basis over time. This process of discovery no doubt caused many deaths even as it documented positive results, because many herbs contain poisonous ingredients or substances that neutralize the main ingredient for which people take it.

Today, pharmacognosy (the study of the biochemical aspects of natural products) works from the knowledge that “natural” does not necessarily mean “safe,” and that raw herbs vary greatly in strength. Pharmacognosy seeks to standardize herbal products so that they consistently include the same amounts of active ingredients and are free of any harmful components that the plant may contain.

Each herb may hold many active chemical ingredients, and a single herb may contain some helpful and some dangerous chemicals at the same time. Further, a particular chemical may be therapeutic in one amount and deadly in a slightly larger amount. This is the case with the foxglove plant from which digitalis is derived. Digitalis is an important drug used to treat heart failure. But slightly more than the therapeutic amount is fatal, as is consumption of the first-year’s leaf growth of this plant.

Caution

In the United States and some other countries, we tend not to worry or even think much about the safety of the foods and drugs we buy. Nonprescription (over-the-counter) drugs, as well as prescribed pharmaceuticals,

contain warnings, lists of possible side effects, and cautions about drug — drug interactions.

Behind these safety measures is careful evaluation by a government agency — the FDA in the United States — which requires that all foods and drugs meet safety and quality standards.

Herbal products do not fall under FDA jurisdiction. Therefore, labels on herbal products rarely include information about risks, side effects, and possible harmful interactions with other substances.

Herbal products may contain impurities, foreign objects, or highly varied quantities of the active ingredient you are paying for. Check with your doctor before using an herbal product, especially if you are taking any medications.

Select herbs from reputable companies. Of greatest importance, do not use herbs for serious or potentially serious medical problems.

More than one-fourth of conventional pharmaceuticals come from herbs. Often a chemical isolated from an herb is copied in the laboratory so that the supply of the naturally growing plant is not threatened. Pharmaceuticals typically contain one active chemical ingredient, tested and shown to be pure and effective.

Herbs are sold as dried or powdered remnants of the entire plant, the plant's active part, or as several plants mixed together. Herbal remedies usually contain many active ingredients. Herbs also can be purchased fresh, dissolved in a liquid, or in capsule form.

Medicinal herbs are not reviewed by the Food and Drug Administration (FDA) for safety and effectiveness. Legislation supported by the health-food industry, passed in 1994, took away the FDA's authority to test or pre-approve dietary supplements such as herbs and vitamins.

Prior to that date, FDA reviews of safety and efficacy resulted in the elimination of many herbal ingredients in over-the-counter medications. These products are currently available, but now they lack FDA review and approval. Such review is required for all *other* over-the-counter (OTC) remedies, which cannot be marketed until they are standardized, proven safe and effective, and accurately labeled.

Many proponents and marketers fight to maintain the status quo of their OTC herbal remedies. They are unwilling to threaten their multi-billion-dollar business with reviews of herbs for safety and effectiveness.

Others feel that the public deserves better protection as well as information about useless products or harmful side effects. Such information typically is absent from herbal remedy packaging, sometimes because the herb has not been studied, so information about its effectiveness and side effects is unavailable.

What Practitioners Say It Does

Practitioners of herbal medicine indicate that herbs can work as alternatives to OTC medications or other home remedies. The general rule, however, is that herbal remedies can be used safely and effectively for minor ailments that typically would be self-medicated. These ailments include minor aches and pains, stomach and digestive problems such as diarrhea, constipation and bloating, premenstrual syndrome (PMS), menstrual and cold cramps, colds and other respiratory ailments, some arthritic, skin, and sleep difficulties, and other problems that people generally try to deal with themselves. Herbs should not be used for possibly serious medical problems, by pregnant women, or by people taking prescription medication.

Beware Unlikely Promises! The Blue-Green Algae Cancer Cure

In the 980s, algae (a plant that lives primarily in water) from an Oregon lake was sold freeze-dried as a treatment for allergies, leprosy, arthritis, cancer and other ailments. Similar products from other companies followed.

In addition to the fact that algae, dried or wet, is not known to be effective against any illness, government laboratory analyses found numerous additional and probably unwanted items in this product: parts of and whole maggots, ants, flies, insects, water fleas, and more.

Blue-green algae is popular again and available for sale.

The potential power of herbal ingredients

In the past ten years, more than 53,000 natural products were tested by the Natural Products Branch of the National Cancer Institute, including 36,000 plants from twenty-five countries around the world, 1,500 marine (water) plants, 6,000 marine invertebrates, and 7,000 fungi and bacteria.

Botanists continue to work with local shamans to uncover potentially useful compounds, locating and screening in recent years approximately 10,000 natural compounds annually. Approximately one-third of all new cancer therapies come from a natural source. Examples include camptothecin, cytosine arabinoside, the AIDS drug AZT (azidothymidine), and Taxol.

The Story of Taxol

Since the 1950s, compounds from the bark of the Pacific yew tree have been thought beneficial:

- 1950–1960: The National Cancer Institute selects yew products for study and begins laboratory analyses.
- 1970s: The active ingredient is identified.
- 1979: The mechanism of action is uncovered.
- 1980s: Clinical trials document the chemical's safety, identify its side effects, and show its effectiveness in patients with ovarian cancer.
- Late 1980s: Problem — use with patients is hampered because the chemical from the bark does not dissolve easily in water.
- 1993: Scientists synthesize Taxol from the natural product paclitaxel. In the process, they discover Taxotere (docetaxel), a potential analog of Taxol that eliminates the need to extract the chemical from the bark of the yew tree. Previously, extractions of 10,000 kg (kilograms) of bark, which destroyed 3,000 trees, had been necessary to obtain 1 kg of Taxol, enough to treat only 500 patients.
- 1994: An effective new cancer drug is available to treat patients.

Beliefs on Which It Is Based

Herbal products contain active chemical ingredients that can have powerful effects on humans and other animals. In their natural state, herbs have been used to treat illness since antiquity, and in undeveloped areas of the globe, herbs still represent the main if not the only source of medicine. According to the World Health Organization (WHO), about 80% of people today must rely on traditional healing methods including herbal remedies, for care of illness.

Some proponents of medicinal herbs believe that a major benefit of natural herbs over manufactured pharmaceuticals is the collection of ingredients contained in medicinal herbs. Problems caused by one ingredient, they say, can be counterbalanced or neutralized by another.

This is correct in some cases but incorrect or unknown in others. Because medicinal herbs do not come with labels indicating which is which, trying an herb without investigating it first is like playing Russian roulette.

Research Evidence to Date

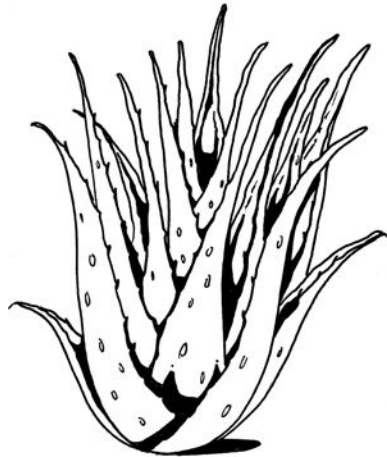
Many herbal remedies remain unstudied, and much of the research that has been conducted on medicinal herbs is not of the highest scientific quality. The herbal remedies listed below under “What It Can Do for You” represent only a small fraction of the medicinal herbs available in health-food stores, markets, and through the mail. They are included here because they are some of the safer and more popular products for self-use. Descriptions of the effectiveness and safety of these herbs is based on scientific research and commentary.

Because promotional material rarely includes information about toxicities, dangerous interactions, and other possible problems, consult your physician or an authoritative book before trying an herbal remedy. Many of the medicinal herbs described below are easily obtained or already stored in your kitchen as culinary herbs. The indications for use noted below have been scientifically substantiated. These and about 250 more herbs are detailed at www.mskcc.org/AboutHerbs.

What It Can Do for You

Caution: Many herbal remedies taken by mouth interfere with prescription medications and should NOT be used while receiving cancer treatment (chemotherapy, radiation therapy or when surgery is anticipated) or if you are on any prescription medication.

Aloe vera A soothing, healing skin gel contained in the leaf of the aloe vera plant. Many hand and body lotions and some cosmetics contain aloe. It is



Aloe vera

good for maintaining soft skin and to help heal sunburn and other minor surface burns, scrapes, and wounds. A small plant in a window of your home or office provides a fresh and ready supply: cut open a thick leaf and squeeze the liquid right onto your skin. The gel from inside the leaf should not be confused with the bitter yellow juice from the rind of the leaves. In dried form, this juice is a potent laxative. (*Note:* there is an illustration, but no title legend, for aloe vera.)

Anise Tea made from crushed seeds of this licorice-flavored plant has been sipped since early Roman times to aid digestion and reduce nausea. Cough medications often contain anise. **Arnica** Apply a cream containing chemicals from the herb arnica to treat burns and relieve acne.

Recommended References

Proponents and critics of herbal remedies alike recommend books by herb expert and professor of pharmacognosy, Dr. Varro Tyler: *The Honest Herbal: A Sensible Guide to the Use of Herbs and Related Remedies*; and *Herbs of Choice: The Therapeutic Use of Phytomedicinals* (both from Pharmaceutical Products Press, an imprint of Haworth Press, Binghamton, N.Y., 1993 and 1994). More related to cancer, see Barrie R. Cassileth, K. Simon Yeung and Jyothirmai Gubili: *Herb-Drug Interactions in Oncology*, Second Edition (PMPH-USA, 2010).

Black cohosh extract The roots of this herb have been used to prepare medication for menopausal symptoms since ancient times, but conflicting research results have not always supported its effectiveness. Liver failure has been reported as a result of its use.

Bromelain is an enzyme that reduces the kind of swelling and discoloration that can be caused, for example, by a sprain. In test-tube research, bromelain interfered with the blood clotting sequence. Bromelain can help digestion and absorption of food in patients with digestive tract cancers. Pineapples contain bromelain, but eating enough pineapple to do the job is likely to erode the inside of your mouth. Fortunately, bromelain is available in capsules, but check with your oncologist first.

Buckthorn bark A fluid extract of buckthorn bark works as a laxative. Buckthorn is a relative of cascara (not recommended; see cascara below).

Capsicum cream Apply for relief of muscle and joint aches. See cayenne — capsaicin is its active ingredient.

Cascara Over-the-counter medications for constipation contain compounds from this herb, which is used to relieve constipation. Cascara stimulates the large intestine and has a laxative effect. This herb is not recommended for long term use, as it may cause diarrhea, electrolyte imbalance and hepatitis. The U.S. Food and Drug Administration (FDA) warns that cascara is not safe as a laxative.

Cayenne The active ingredient in cayenne pepper, capsaicin, makes chili red hot. Capsaicin ointment applied to the skin relieves muscle aches and the joint pain of arthritis, and a new capsaicin product eases the inner-mouth sores caused by chemotherapy and radiation therapy. The chemicals in cayenne influence sensory nerve cells in the skin.

Chamomile Steeped for a few minutes in hot water, the daisylike flower of this plant produces a soothing tea that may aid digestion and produce a mild sedating effect.



Chamomile

Cinnamon Powdered cinnamon is used as a culinary herb, and in traditional medical systems to settle upset stomachs and relieve diarrhea, nausea and vomiting. Test-tube research shows that cinnamon has antioxidant effects, that it can reduce inflammation, and that it can modulate immune function. Clinical trials in patients with type 2 diabetes produced conflicting results. Cinnamon flavored products have caused mouth problems. Some are high in

coumarin, which can cause liver damage and may also interact with other drugs.

Cranberry Studies show that cranberry juice may slow the development of dental plaque, and help prevent urinary-tract infections by stopping bacteria from sticking to the bladder wall. Cranberry juice works only as a preventive measure- see a doctor if the infection already exists.



Cranberry

Dandelion Tea brewed from dandelion root is cited often to treat digestion as well as liver, kidney and bladder ailments. However, experts suspect that these remedies were founded in the Doctrine of Signatures (the yellow flower would be thought to treat yellow jaundice), and say there is no evidence of dandelion's usefulness for these problems. Some believe that applying dandelion juice to warts can remove them. There are no scientific studies that support the benefits of dandelion for any medical problem.

Echinacea Extracts of Echinacea are widely used in Europe and the U.S. to treat colds. Despite conflicting data from large randomized trials, a meta analysis of many human studies suggests that Echinacea can reduce the incidence and duration of common cold. In addition, data indicate that Echinacea may shorten the duration of colds.



Echinacea

Ephedra (Ma huang) Used as a medicinal herb in traditional medical systems for thousands of years, ephedra contains ephedrine and pseudoephedrine, which stimulate the central nervous system, constrict blood vessels, open air passages, and produce other effects. Even one dose of a weight loss supplement containing ephedra and caffeine increased blood pressure significantly. Ephedra caused seizures, psychosis, and deaths from heart attack and stroke. In 2003, the U.S. Food and Drug Administration (FDA) banned the sales of dietary supplements that contain ephedra, indicating that products containing ephedra pose a dangerous risk to human health.

If nothing else, the ephedra story indicates the power of herbs, which are best viewed as unrefined pharmaceuticals.

Eucalyptus oil from the leaves is found in many nasal sprays, mouthwashes, ointments, and other products made to counteract the symptoms of colds and flu.

Evening primrose oil is listed on the Internet as “essential for the nutritional treatment of...” just about every illness that afflicts humankind. While it may have some anti-inflammatory activity, and may be beneficial for patients with breast pain, diabetes, heart disease, cancer, premenstrual

syndrome, eczema or high cholesterol conditions, no data support such effects.

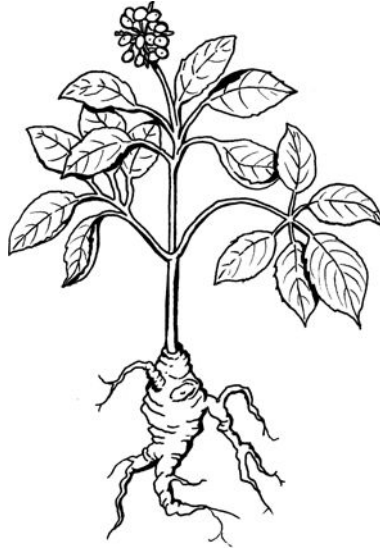
Feverfew Products that contain at least 2% parthenolide, feverfew's active ingredient, may well prevent and relieve migraine headaches. Clinical trials do not support any other use. Post-feverfew withdrawal syndrome include muscle stiffness, anxiety, headaches, nausea and vomiting, may occur when the use of this herb is stopped.

Garlic is among the best studied of all medicinal herbs. Garlic lowers cholesterol, but not in all people studied. Diets containing garlic are associated with lower risk of stomach and colorectal cancer and may also reduce blood pressure and protect against some cancers. However, there is no evidence that garlic can treat cancer. Because it has blood-thinning properties, patients on warfarin or other blood thinners should talk with their doctors before taking garlic supplements.

Ginger Ginger tea may aid digestion and soothe heartburn, and ginger capsules, tea, or candy can control nausea and vomiting without causing drowsiness. Ginger can prevent and fight heartburn by absorbing stomach acid. Fresh ginger root on the skin relieves the sting of minor burns, and a ginger compress can soothe carpal tunnel syndrome.

Ginkgo In test tube and animal studies, extracts prepared from the leaves of the Ginkgo biloba tree appeared to expand blood vessels, improve blood flow to the brain, and treat circulatory disorders. However, research showed that these effects did not translate to humans. Results of the Ginkgo Evaluation of Memory study, the largest trial of Ginkgo for dementia conducted to date, indicate that Ginkgo does not decrease the incidence of dementia or Alzheimer's disease in elderly individuals, and it does not improve cognitive decline in older adults with normal mental function or with mild cognitive impairment. Contrary to expectations, Ginkgo did not improve memory or cognitive functioning, and it failed to decrease the occurrence of dementia or Alzheimer's disease in older individuals.

Ginseng Commercial promotion has created the public image of ginseng as a wonder drug, capable of raising energy levels and modifying the effects of stress. Unfortunately clinical research did not support these claims. American ginseng is not an effective treatment for cancer or any other serious disease, and it does not improve athletic performance. The amount of ginseng



Ginseng

actually contained in commercial products available in the United States varies substantially, and some may contain no ginseng at all. An analysis of fifty-four ginseng products found that one-fourth contained none, and 60% contained only trace amounts of the herb. More information and better research are needed.

Goldenseal The Cherokees and other Native American tribes have used this herbal remedy for centuries. As a tea, it was used to treat sores of the mouth and throat, and to help calm inflammation of the digestive and urinary tracts. A tea wash with Goldenseal is a folk remedy for eye infections. The main compounds in goldenseal, berberine and hydrastine, have been studied widely. In animal studies, berberine reduced fevers, killed bacteria, fungi and protozoa, and slowed the growth of tumors. In human research, berberine treated acute diarrhea, probably because of its antibacterial properties, and improved chronic gall bladder inflammation and liver cirrhosis. Hydrastine constricted blood vessels in the arms and legs. Women who are pregnant, and people with hypertension or cardiovascular disease, should not take this herb.

Green tea and its extracts have been used to prevent and treat hypertension, hardening of the arteries and cancer. Its active ingredient is abbreviated EGCG. Studies of green tea's ability to prevent cancer were promising, but a

meta analysis found that it did not prevent gastric cancer. The FDA concluded that green tea is not likely to reduce cancer risk. More research on the effectiveness of EGCG and other green tea extracts as possible cancer treatments is underway.

Horse chestnut is used to treat circulatory disorders such as chronic venous insufficiency, a condition where veins can no longer pump blood back to the heart. This results in blood collecting in the lower limbs, which causes legs to swell. Several clinical trials support the use of horse chestnut for this purpose, but studies did not continue past three months. Because no clinical trials have tested the long-term use of this herb, ask your doctor about it before taking.

Horseradish A taste of sauce made from its root opens the sinuses, and the plant helps destroy bacteria and fungi. Although the root has beneficial properties, the plant tops contain poisons known to be fatal to livestock.

Hypericum (St. John's wort) One of the most talked about herbal remedies in the U.S., St. John's wort has long been popular in Europe as a primary treatment for mild to moderate depression. It has now been carefully studied as a treatment for many problems, and found to work against a few: randomized clinical trials show that St. John's wort effectively treats depression and reduces premenstrual syndrome (PMS). Like most herbs, St. John's wort interferes with chemotherapy and other prescription medications. People on prescription medication for cancer, depression, or any other ailment should not use hypericum without first talking with their physicians.



Hypericum (St. John's wort)

Iceland moss Tea brewed from this herb soothes the dry cough that often comes with colds and flu.

Juniper Another herb with both culinary and medicinal value, juniper is used to flavor liquor and foods such as sauerkraut. Juniper tonic was used by Native Americans to relieve upset stomachs and cold symptoms, and as a diuretic. Diuretic action, which results from the plant's irritating effect on kidney tissues, expels fluid from the body in the urine. Warning: Juniper can be toxic. Large or frequent doses of juniper cause digestive irritation, kidney failure and convulsions.

Lavender oil Add some lavender oil to a warm tub and sink in for relaxation and relief of PMS. Parsley oil may bring the same benefit.

Licorice Before it was learned that ulcers were caused by a bacterium, licorice was used to treat that condition. Licorice is used extensively in traditional Chinese medicine for many illnesses. Licorice may be helpful in treating peptic ulcers, but it has not been shown effective in treating cancer. In traditional Chinese medicine, licorice is often used in herbal formulas to harmonize the effects of other herbs. Experiments in animals and humans show licorice can mimic the effects of steroid hormones such as estrogen. It is still considered useful as an expectorant and cough suppressant, and licorice lozenges and candies are used to treat common colds. Elderly persons and those with cardiovascular disease, liver, or kidney problems should be careful, because too much licorice can cause sodium retention, potassium excretion and high blood pressure.

Milk thistle This is another promising herb. The seeds of milk thistle appear to help protect liver cells against antioxidants, but documentation is limited. Milk thistle can protect against liver damage caused by alcohol, and may even reverse its effects in some cases. There is not enough evidence to say whether it can treat any other type of liver disease. Silymarin, a compound in milk thistle, seems to stabilize the structure of the liver cells so that toxins cannot enter them as easily.

Nettle A tea made from the nettle root can help treat urinary difficulties related to benign prostatic hyperplasia (BPH), or enlarged prostate. It has minimal side effects. Clinical trials of nettle showed that it can treat urinary tract disorders and relieve difficult or urination associated with BPH.

Parsley To freshen breath, chew fresh parsley.

Peppermint A widely used digestive aid, peppermint tea is a soothing, tasty brew that calms the stomach, treats diarrhea and may act as a mild sedative. Peppermint oil is popular in Europe to relieve severe skin itching.

Plantain tea prepared with fresh or dried leaves will calm coughs and soothe the throat. It's helpful for colds and flu.

Saw palmetto Liquid extracts and tablets made from this shrub contain chemicals said to decrease the symptoms of benign prostatic hyperplasia (BPH), an enlarged but otherwise normal prostate gland. BPH commonly causes urinary-tract problems in men. Several clinical trials and meta-analyses show that saw palmetto improves urinary tract symptoms associated with BPH. It does not treat prostate cancer.

Senna This herb is a powerful natural laxative. It should not be used by anyone with chronic gastrointestinal conditions such as hemorrhoids, ulcers or colitis. Prolonged use or when taken in large amounts, senna is associated with serious side effects including nausea, diarrhea and severe cramps.

Slippery elm Consumed as a tea or in lozenges, slippery elm is used for coughs, minor throat irritations and minor gastrointestinal complaints. It should not be used to treat any serious condition.

Valerian This herb may be prepared as a tea or taken as an extract. It has calming effects. Valerian works as a minor tranquilizer and as a sleep aid. It may also relieve backache and anxiety, and reduce other problems caused by tight muscles.



Valerian

Volatile mustard oil Muscle aches and pains respond to brief application of diluted volatile mustard oil. The oil is extremely irritating and must be highly diluted to represent no more than 5% of the mustard plaster. Use in a small amount of alcohol or in a flour and water paste. Leave on skin for less than ten minutes to avoid blistering. Wintergreen oil is used in a similar fashion.

Wheat grass is promoted as a cure for cancer, AIDS, and many other illnesses. Proponents claim that the chlorophyll in the leaves increases the hemoglobin in the blood because the two molecules are similar in structure. People who sell wheat grass as a therapy also claim that its enzymes help rid the body of toxins and carcinogens. These claims are not supported by any scientific studies. This product should be avoided.

Willow bark contains chemicals that work as skin astringents and help heal rashes. Boil two teaspoons of powdered dried bark in a pint of water. Strain, cool, and apply to skin.



Willow bark

Witch hazel Applied to the skin to treat hemorrhoids, itching, and minor pain, the bottled witch hazel commonly found on drug store shelves helps bruises and swellings. The liquid also may relieve cold sores, hives, oily skin, sunburn, poison ivy and poison oak.

Warning: Herbal Products with Serious Toxic Effects

1. Products with ingredients that can produce serious harmful consequences
 - Chaparral tea, from leaves and twigs of a desert shrub called the creosote bush, is promoted as an antioxidant, a pain reliever and for other uses. It has caused liver failure requiring liver transplantation.

- Preparations such as some Indian herbal tonics that cause lead poisoning.
 - Herbs that counteract or enhance the activity of prescription medication for cardiac problems or bleeding disorder.
 - Jin Bu Huan, an ancient Chinese sedative and analgesic containing morphine-like substances, which causes hepatitis.
 - Chan su (topical aphrodisiac sold as “Stone,” “LoveStone,” etc. caused death when ingested.
 - Coltsfoot (for respiratory problems), comfrey (for arthritis, infections), and sassafras (a general tonic) caused liver problems and cancer in lab animals.
 - Kombucha tea, made from a mushroom culture, promoted as a cure-all, caused deaths from acidosis.
 - Lobelia (used for respiratory congestion) caused respiratory system paralysis, and death.
 - Pennyroyal tea made from leaves treats coughs and upset stomach, but oil is highly toxic to liver and inhibits blood clotting.
 - Yohimbe bark (used as aphrodisiac) raises blood pressure and is associated with psychotic episodes.
 - Diet pills that contain ephedra (ma huang), a potentially deadly herb.
2. Examples of the numerous products promoted as cures for illnesses they do not cure
 - Essiac or mistletoe for cancer; Pau D’Arco tea for cancer and AIDS.
 3. Herbs sold to achieve street drug “highs” that cause heart attacks, seizures, psychotic episodes and death
 - Ma huang, or ephedra, is an herbal form of the central nervous system stimulant commonly known as speed, sold with names like Herbal Ecstasy, Cloud 9, and Ultimate XPhoria.
 4. Herbal products that are fake or highly contaminated
 - In 1996, the Chinese government found widespread adulteration, contamination, illegal ingredients, and fake products in many of its herbal remedies. Illness and deaths resulted in China. The government closed most medicinal herb markets throughout China until new production guidelines could be established and enforced.
 5. Products that contain something other than what’s on the label
 - “Siberian ginseng” capsules may contain instead a weed full of male hormone-like chemicals.

6. Products based only on unverified or anecdotal evidence, sold by the promoter
 - Cat's claw, or *una de gata*, from Peru.

Where to Get It

Medicinal herbal products are available in capsule and liquid form in health-food stores and via numerous web sites. Because herbs and herbal compounds, like other drugs, can be dangerous by themselves or in certain combinations or if you are on other medication, caution is essential. This is especially important for people with cancer or other major illnesses. Consider these guidelines:

- Check with an expert in botanical medicine, preferably a source with oncology expertise. The Memorial Sloan-Kettering Cancer Center AboutHerbs was developed specifically to meet this need. It provides constantly updated data in two portals, one with more details for health professionals; another for patients and the public. Anyone may enter either portal at no cost: www.mskcc.org/AboutHerbs.
- Consult an authoritative book, such as Cassileth *et al.*, *Herb-Drug Interactions in Oncology*, second edition (based on the MSKCC website noted above) (published by PMPH-USA, 2010); Varro Tyler's *The Honest Herbal* (1992) or *Herbs of Choice* (1994) (both published by Haworth Press, New York), or Steven Foster and James Duke's *Medicinal Plants* (Houghton-Mifflin Company, Boston, 1990).
- Beware of some commercial and non-professional publications about herbal remedies. Many contain misinformation and incorrect data.

Macrobiotics

The macrobiotic diet is based in large part on the yin-yang principle of balance, a fundamental component of ancient Chinese medicine (see Chapter 6). Yin and yang are opposite forces believed to describe all components of life and the universe. Here the worldview of balance is embodied in diet, including the selection, preparation, and consumption of foods. The macrobiotic diet was popularized by George Ohsawa, a Japanese philosopher who sought to integrate traditional Asian medicine and belief with Christian teachings and some aspects of Western medicine. Starting in the 1930s, he taught a philosophy of healing through proper diet and natural medicine. He moved to Boston in 1960, where an early disciple, Michio Kushi, came to spearhead the macrobiotic way of life.

What It Is

The macrobiotic diet is more than a prescription for specific foods and their preparation. It is also a spiritual and social philosophy of living, plus a fully formed, unique concept of human physiology and disease. Because this concept was developed without benefit of professional training or knowledge of anatomy and physiology, it is fanciful and far from accurate. It states, for example, that blood cells, which actually are produced in the bone marrow, are birthed by a “mother red blood cell” in the stomach.

Macrobiotic “diagnostic techniques,” including iridology, or looking at a person’s eyes to diagnose cancer and other diseases, appear to be less commonly accepted than they were a few decades ago. This is fortunate because in the past many sick people failed to have their illnesses properly diagnosed, and they received proper treatment belatedly if at all, sometimes with fatal

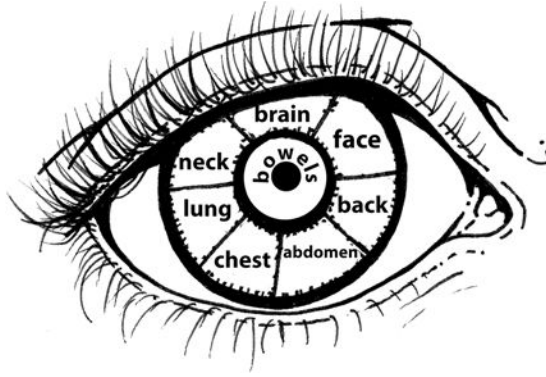


Figure 6. Iridology, a disproven diagnostic technique based on studying the iris of the eye, is used by some macrobiotic practitioners.

results. Also, some individuals were “diagnosed” with a cancer they did not really have, “cured” with macrobiotics, and presented publicly as evidence of the ability of macrobiotics to cure cancer. This kind of activity perpetuated an unfortunate cycle. Neither macrobiotics nor any other diet can cure cancer.

Foods permitted and prohibited in the macrobiotic diet

The standard macrobiotic diet of today consists of 50% to 60% organically grown whole grains, 20% to 25% locally and organically grown fruits and vegetables, and 5% to 10% soups made with vegetables, seaweed, grains, beans, and miso (a fermented soy product). Other elements may include occasional helpings of fresh white fish, nuts, seeds, pickles, Asian condiments, and non-stimulating, non-aromatic teas. Early versions of the diet excluded all animal products. Proponents still discourage dairy products, eggs, coffee, sugar, stimulant and aromatic herbs, red meat, poultry and processed foods. Some vegetables, such as potatoes, tomatoes, eggplant, peppers, asparagus, spinach, beets, zucchini, and avocados, are discouraged. The diet also advises against eating fruit that does not grow locally (for example, in most of the United States and Europe, bananas, pineapples, and other tropical fruits are to be avoided).

The macrobiotic diet also prescribes specific ways of cooking food. Pots, pans and utensils should be made only from certain materials such as wood, glass, ceramic, stainless steel, and enameled pieces. People who practice the diet do not usually cook with microwaves or electricity, nor do they consume vitamin or mineral supplements or heavily processed foods. Food is chewed

until it is fluid in order to help with digestion. Since food is thought to be sacred, it is prepared in a peaceful setting.

Setting aside the philosophy, the erroneous beliefs about how the human body functions, and the useless diagnostic techniques, aspects of the diet itself have merit if not carried to extremes. You need not ascribe to or even think about the imaginary systems behind it. Initially the macrobiotic diet consisted almost exclusively of brown rice and a very limited amount of liquid. It was nutritionally deficient, causing a few deaths from starvation.

Later enhanced, it now derives 50% to 60% of its calories from whole grains, 25% to 30% from vegetables, and the remainder from beans, seaweed, and soups. Soups made with miso, which is a product of the fermentation of soybeans, remain an important dietary component. Soybean-based foods are encouraged in general, a small amount of fish is permitted, and processed foods are to be avoided.

In-season foods are preferred, and food is to be prepared in very specific ways. Vegetables, for example, should be cooked for long periods of time (a procedure that diminishes their nutritional value). Rice must be pressure-cooked. Only gas stoves are to be used, and utensils should be constructed of wood or other natural materials, glass, ceramic, enamel, or stainless steel. Copper pots, aluminum utensils, and electric stoves are to be avoided.

What Practitioners Say It Does

Proponents of the macrobiotic diet believe that it cures cancer, that it prevents illness, and that it promotes good health and harmony with the external world. The explanations given for these effects concern energy, vibrations, and yin-yang balance, all abstract notions that cannot be measured or even detected.

Beliefs on Which It Is Based

Within the yin-yang ideology, whole-grain foods are considered ideal, not because they are low-fat, low-cholesterol, low-calorie, high-fiber foods, but because they are neutral: neither too yin (female) nor too yang (male).

Research Evidence to Date

There are three related but distinct areas of consideration regarding the macrobiotic diet: its philosophical context, the merits of the overall diet, and the value of particular ingredients. Each must be considered.

The philosophical context involves the idea of balancing foods that are yin and those that are yang, of calculating the yin or yangness of the season and of one's geographic location when selecting and preparing foods, and, for cancer patients, of balancing yin cancers with yang foods and vice versa. No research supports these mystical ideas. If eating certain foods evokes a desired closeness to nature or universal harmony, fine. But that is all one can expect from these ideas. They have no practical or therapeutic value.

A macrobiotic-type diet, however, can have value if not taken to extremes. The diet lowers fat and cholesterol in the body, reduces weight, and produces results associated with low-fat diets. These beneficial results include lower blood pressure and reduced chances of getting heart disease and certain cancers that may be related to fat intake, such as breast or colon cancer.

Caution is crucial, however, because the diet can be seriously deficient in particular nutrients. Studies of people on a macrobiotic diet have been reported in the medical literature. One concerned breast-feeding women, and the rest evaluated the diet for infants and children. The studies were conducted in Belgium, Norway, the Netherlands, Germany, and the United States.

Every study found serious deficiencies in infants and children who had been on macrobiotic diets. Problems in children included nutritional rickets with breathing abnormalities, bone deformities, vitamin B12 deficiency, growth retardation, deficiencies of protein, vitamins, calcium, and riboflavin, leading to retarded growth and slower psychomotor development. The study of lactating macrobiotic mothers mirrored these results, finding that the mothers' milk was deficient in essential vitamins. Researchers recommend that children on the macrobiotic diet receive dairy products and eggs to provide the missing nutritional components and produce a safer, balanced diet. Pregnant and breast-feeding women similarly should supplement their macrobiotic diets.

The third component of macrobiotic research concerns specific products or ingredients. Although no food products cure disease, the preventive benefits of some diets through puberty are well documented. Healthy diets may be an explanation for Asian women's lower rates of breast and other cancers compared to those of American women. Soy versus animal protein has been shown in scientific studies to decrease cholesterol. The lower fat intake through puberty associated with dietary soy products may help decrease the incidence of breast cancer.

There are lessons to be drawn from the combination of positive and negative features of macrobiotics. First, there are no magic cures or even magic diets. Second, like the pearl in the oyster, something important and

worthwhile may be hidden inside a shell of little value. Finally, the macrobiotic diet, like other vegetarian diets, requires supplementation to balance its deficiencies. A macrobiotic-type diet has benefits if it is properly enriched.

What It Can Do for You

A low-fat diet, high in grains, soup, and vegetables, supplemented with eggs, cheese, and fish to ensure adequate nutrition, plus plenty of liquid, can help prevent heart disease and some cancers and keep you slim and fit. No research has ever shown that a macrobiotic type diet, or any diet, cures cancer.

Where to Get It

Information about macrobiotics is available in health-food stores, books and on the Internet. Generally, however, proponent books and websites do not mention the cautions, potential problems and supplements needed by special groups such as infants and children, the elderly, the seriously ill, and women who are pregnant or breast feeding.

Caution

Even supplemented with the missing vitamins, calcium and proteins, macrobiotic and other diets with very low fat content may have too few calories for good health. Caloric deficiencies may be harmful to people who expend a lot of energy, to infants and children, to breast-feeding mothers and to people with serious illnesses.

This page intentionally left blank

Vegetarianism

People who eat plant products primarily or exclusively are called vegetarians. Eating only vegetables used to be considered an exotic or religious practice. The diets of Seventh-Day Adventists, Hindus (who revere and protect cows), 1960s commune enthusiasts, and most of the “underdeveloped world” do not eat meat and rely on less expensive, more-available plant-grown food. As it turns out, the less expensive, plant-based diet, with some qualifications, is much more healthful than is the typical meat-oriented diet.

Careful! Vitamin D and especially vitamin B12 deficiencies may occur with vegetarian diets.

The potential for B12 deficiency is of special concern for children and for pregnant or lactating women. B12 supplements or a daily general vitamin tablet are recommended.

What It Is

There are different types of vegetarian diets:

- Raw-food vegetarians restrict their diet to only sprouted beans and sprouted grains in addition to raw vegetables and nuts. This most extreme diet excludes added fats, oils, salt, and all other flavorings.
- Vegans, or strict vegetarians, consume only food generated by plants. These foods include vegetables, fruits, grains, beans, and nuts.
- Lactovegetarians eat plant-based foods plus dairy products, including milk, butter and cheese.
- Lacto-ovovegetarians add eggs to the lactovegetarian diet.

Many people develop their own vegetarian approach, adding fish to an otherwise vegan diet, or eating dairy products on occasion. Vegetarian diets may sound dull and dreary to people who have never tried them. Restaurants, recipes and cookbooks, however, display attractive and varied dishes that most people find tasty and satisfying. Vegetarian meals no longer are restricted to people in economic need or to cultural extremists.

What Practitioners Say It Does

Enthusiasts stress the health benefits of a balanced vegetarian diet. Balance is the important concept. Extremists can experience protein deficiencies serious enough to become a threat to health and life.

Fresh vegetables offer greater benefit than vitamin pills.

Protein is well named. It comes from a Greek word meaning “of prime importance.” Protein is necessary not only to ensure energy, but for the very maintenance of life itself. It is essential to the metabolic activity of every cell. Combinations of whole-grain products (rice, breads, and corn tortillas) and legumes (beans, peas, and chickpeas), in a two-to-one ratio favoring grains provide the needed protein.

Beliefs on Which It Is Based

Varied convictions lie behind people’s decisions to adopt full or partial vegetarian diets. Some believe that it is more natural for humankind to forego animal meats, as we lack the flesh-tearing teeth and short intestines of carnivorous animals, but share with vegetarian mammals the flat molars to grind plants and seeds and the long intestines needed to break down and absorb plant foods. Some people believe that perhaps humans did not evolve to become meat eaters.

Enough protein? Westerners are accustomed to getting their protein from meat. Some plant products, however, including vegetables, grains and fruit, also contain protein. A balanced fruit-and-vegetable diet supplies enough protein to meet daily adult requirements. Soy is high in protein, and soy products also reduce LDL (the “bad” cholesterol), lower blood pressure, and can reduce night sweats and hot flashes often associated with menopause.

Religious, cultural, or philosophical preferences to avoid animal products have propelled people in the Western world away from animal products.

Some view the slaughter of animals as cruel and immoral, as did those who founded the American Vegetarian Society in 1850. Those nineteenth-century reformers also believed that meat consumption was immoral, calling meat a “stimulant.”

Many are drawn today to the habits of early cultures that practiced a more aesthetic, vegetarian lifestyle. That such diets may have been imposed by ecological or economic necessity does not diminish their appeal.

Probably most people today who switch to diets big on vegetables and containing little or no meat do so for their health — to lose weight, to reduce cholesterol and lower the risks of coronary artery disease, and to help prevent some cancers. These are compelling reasons.

Research Evidence to Date

Scientific research has documented the relationship between vegetarian diets with no or very low cholesterol and decreased risk of heart disease, diabetes, high blood pressure, obesity, and colon cancer. Plant-based foods contain no cholesterol. Cholesterol exists only in animal products. Strict vegetarian diets are free of cholesterol, but they are not free of fat.

Very small amounts of fat are essential to meet basic nutritional needs, and fat is found in most foods, including vegetables and grains. Not the presence, but the type of fat makes the difference. Animal products produce saturated fat, which increases cholesterol levels, while the fat contained in most vegetables is unsaturated. Unsaturated fat reduces cholesterol. Exceptions include avocados, coconuts, and tropical oils, all of which contain saturated fats.

What It Can Do for You

Total or partial, a well-balanced vegetarian diet is good for your health. Even cutting back on animal meats and full-fat dairy products helps, as does increasing your intake of fresh fruits and vegetables. Vegetarian diets also are less expensive.

If you now eat like the average American and want to move toward a more vegetarian diet, start gradually. Begin by reducing meat and changing to low- or no-fat dairy products. At the same time, introduce increased amounts of fiber-containing vegetables and grains gradually, so that your system has a chance to adjust. Neither total nor extreme vegetarianism is necessary to experience health benefits.

Where to Get It

There are many Internet websites about vegetarian diets, including one produced by the U.S. National Institutes of Health: www.nlm.nih.gov/medlineplus/vegetariandiet.html

The Internet also contains many websites about nutrition generally. Numerous vegetarian cookbooks are available in libraries, health-food stores, bookstores and the Internet.

Part Three



Mind-Body Therapies

Part Three Overview

14. Biofeedback
15. Hypnosis and Self-Hypnosis
16. Imagery and Visualization
17. Meditation
18. Placebo Effect
19. Qigong
20. Tai Chi
21. Yoga

This page intentionally left blank

Part Three Overview

In the centuries before medicine emerged from its religious and mystical roots, the mind was believed to play a central role in disease. But over the past two centuries, as bacteria were discovered and other causes of disease were defined in scientific terms, the mind and body were separated in medical thinking. Today, some ancient approaches are understood to play an important role in the management of illness.

The idea that our thoughts and emotions can affect our physical status is a fundamental belief. It is found in early Greek medical practices and virtually all ancient healing systems, and it persists today in systems such as traditional Chinese medicine and Ayurvedic medicine. It has worked its way into our idioms, with phrases such as “worry yourself sick,” and “you’re going to give yourself a heart attack.” Can we really “worry ourselves sick?” Can the mind cause illness or cure it? Even short of that, can it or aggravate the course of disease or reduce its symptoms?

Modern medicine tends to downplay emotional and mental factors as causes of disease for two main reasons. First, many mind-based explanations of disease are not supported by evidence and have proven to be incorrect. We tended to attribute psychological or emotional causes to diseases of unknown origin, such as tuberculosis and diabetes, until their actual causes were discovered.

Second, advances in fields such as microbiology, pathology, and molecular biology have uncovered many physical agents of disease. These advances caused old beliefs to be replaced with new biochemical, bacteriological and genetic explanations. Gastric ulcers are a good example. Thought for decades to be caused by stress-induced excess gastric acid, most ulcers are now known to be caused by the bacterium *Helicobacter pylori*, and these can be totally eliminated with antibiotics. Stress or other emotions play no role in causing gastric ulcers. Yet even though cause by a bacterium, stress can influence the severity of symptoms.

Worry and other mental states do not cause diseases such as cancer, but state of mind can influence the experience and progression of those diseases that have major psychosomatic characteristics. Examples include

heart disease, chronic pain, diabetes, arthritis, asthma, skin problems and other conditions. Emotions influence metabolism, and thus can modify the expression and severity of many illnesses.

The mind neither causes nor cures disease, but it does influence its course and how it is experienced.

In the last few decades, modern scientific methods have been applied to old mind-body questions in efforts to understand how thoughts, expectations, and emotions influence health. This is the field of mind-body medicine, sometimes called behavioral medicine. Mind-body medicine programs have been established at the most prestigious medical centers in the United States and elsewhere. Researchers study meditation, hypnosis, biofeedback and other previously esoteric activities. They seek evidence about how the ancient wisdom linking mind and body can be documented, explained and applied within the framework of scientific knowledge and modern health care.

An early source of interest in mind-body medicine was an observation concerning new drugs to treat hypertension (high blood pressure). Doctors noted that many patients showed an opposite effect: their blood pressure increased when they returned to the doctor's office. It turned out that the stress associated with visiting the doctor caused their blood pressure to rise, a phenomenon called "white-coat hypertension." These initial insights, along with research on the physiologic effects of stress, led mind-body medicine to focus on how the body and mind respond to stressful situations, on how those responses affect our health, and on what, if anything, we can do to change our responses to what feels stressful.

Four basic questions are asked in assessing mind-body medicine. First, what is stress and what role does it play in illness? Second, what disorders can be assisted with mind-body techniques? Third, which mind-body techniques are available and usable? Finally, what are the possible pitfalls and benefits of the mind-body approach?

Stress is defined as a short-term reaction to a potentially threatening situation. Its evolutionary roots go back to the time when wild animals and other serious threats to human existence demanded immediate, powerful reactions. When confronted with a threat or a perceived threat, the autonomic nervous system (the nervous system outside of our conscious control) mobilizes a whole group of organs into action, alerting and preparing the body to flee or confront the threat. These organs release adrenaline and other hormones into the bloodstream. This reaction is known as the "fight-or-flight response."

The problem starts when we are exposed to events that we perceive, sometimes even incorrectly, to be stressful. Many researchers believe that the perception of chronic stress is what causes negative physiologic results, such as a weakened immune system or the aggravation of symptoms associated with an existing known or unknown condition. With chronic stress, the hormonal and physiologic changes caused by the fight-or-flight response become frequent and prolonged, creating an environment in which illness can more readily come to the surface.

Two main puzzles are associated with the evaluation of stress. First, life's misfortunes, from minor snubs to major tragedies such as the death of a loved one, are obvious causes of stress. But research evidence shows that seemingly positive events, such as marriage, a shift to a better job, a new baby, and so on, also can act as stressors. Indeed, the process of change in and of itself appears to induce stress. Second, the perception of stress varies markedly from one person to the next, based on temperament and genetic predisposition. Some thrive on situations that, in other people, cause serious emotional problems or paralysis of will.

Important positive events as well as life's tragedies can act as stressors. But what is stressful lies in the eyes of the beholder: some people are energized by situations that cause serious emotional distress in others.

It may seem logical on the surface that stress should or could cause disease, and this idea has found a place in our folklore. But what is the evidence that stress or emotions do play a role, if not to cause disease, then at least to aggravate or increase its symptoms?

Cancer and heart disease are two leading causes of death. There is little evidence supporting the idea that stress plays a role in the development or progression of cancer. Genetic, environmental, and life-style behaviors such as smoking, obesity and inactivity, predominate. When people with cancer become depressed to the point of avoiding needed treatments, that mental state indirectly can influence the course of disease.

Stress appears to be an important factor in bringing underlying heart disease to the fore. Many conditions that have major psychosomatic characteristics, such as chronic pain, diabetes, asthma and skin disorders, are likely to have their symptoms made worse by stress.

A rash of scientific studies show that emotional factors contribute to the expression and perception of existing, underlying disease, even before it is diagnosed. Emotional or physical stress increases heart rate, elevates blood pressure, and causes the release of stress hormones. All these produce a greater workload for the heart, which can cause a heart attack, even in people who may not know they have heart disease. Shoveling snow has

caused deaths on the spot, but it was the underlying, previously-undetected heart disease, not the snow or the shoveling, that caused the cardiac event. Excessive emotional stress may have similar consequences.

Mind-body approaches can be very helpful. If mind-body techniques can reduce perceived levels of stress, depression, anxiety, and other chronic negative reactions, the worsening of serious illnesses could be avoided. And quality of life for those who suffer from serious anxiety or depression would be greatly improved.

Theoretically, any method that could alleviate or counteract the effects of stress should improve our health. What are the mind-body approaches, and can they accomplish this goal? The predominant approaches involve efforts to train either the mind, through activities like meditation and biofeedback, or the body, through programs such as yoga and exercise. The chapters in this Part deal with the former set of efforts.

Mind-body approaches have two characteristics in common: they are systematic methods involving practice and discipline; and their physiologic effects are documented and known to increase the person's ability to manage stress. Biofeedback involves the use of a machine to monitor functions such as heart rate, muscle tension, pulse and breathing rate. By consciously seeking to alter these body functions through seeing the changes produced, one can learn to regulate physiologic activity to a degree. The other mind-body techniques discussed in this Part, such as hypnosis, imagery and the gifts from ancient China and India, accomplish the same goal — relaxation — but without the use of equipment.

Meditation is another key approach. It involves focusing attention on an object or a mental picture over a period of time. It is a foundation of mind-body medicine research, based on the discovery and analysis of the relaxation response. Researchers found that brief, fifteen to twenty minute periods of sitting still and concentrating on breathing while reciting a word or sound with each breath, lowers blood pressure, decreases heart rate, and reduces galvanic skin response (a measure of stress).

Meditation is an integral component of the world's major religions and of virtually all ancient healing systems, including qigong, tai chi and yoga. The original concepts behind early approaches to good health are rarely consistent with scientific understanding of human physiology and disease. It is possible, however, for a therapy to be effective even if ideas about how and why it works are incorrect. For example, tai chi improves balance and produces relaxation. This may not be due to its ability to improve circulation of a life force called “qi” as believed, but that does not lessen its effectiveness.

The mind-body thesis is an appealing explanation of illness, giving patients and all of us a sense of control, or allowing others to cite patients' behavior as the reason for their illnesses. Although chronic negative emotions appear to play a role in the exacerbation of some illnesses, it is not always a major role, and the underlying dysfunction or disorder was already in place. Cancer, many mental illnesses such as schizophrenia, and some forms of substance abuse that were thought to be defects of character, are now linked to complicated sets of genetic defects and imbalances in brain chemistry.

When reasoning or research shows a general relationship between a disease and a measure of mind-body health, it does not mean that a particular patient's illness was caused by improper or inadequate attitude or stress. Mind-body therapies effectively reduce stress and improve quality of life. Moreover, mind-body approaches typically are low-cost, self-administered, and free of negative side effects.

This page intentionally left blank

Biofeedback

Forty years ago the Western world discovered what had been known for a thousand years in the East: that people who can identify their own physiologic responses, such as changes in skin temperature, blood pressure and brain-wave activity, also can learn to control those responses. Controlling and changing physiologic activity is possible through mental effort, sometimes accompanied by physical activity such as regulated breathing or altered posture. Technology that illustrates the mechanisms of mind-body processes by making them visible or audible — thus providing feedback about the internal events — can make this easier for some people.

Modern awareness of the amazing human ability to control some physiologic activity, plus the development of increasingly sophisticated devices to measure and record bodily activity, produced increased scientific and public interest. Biofeedback (bio meaning “life”) came to be seen as an exciting new therapeutic tool. Applications of the biofeedback technique have been continually developed to address various physical problems.

What It Is

Biofeedback is a mind-body process that uses monitoring equipment to provide visual or audible signs of muscle and autonomic nervous system activity. These internal changes can be viewed on computer screens, or information about them can be provided by sounds that vary in pitch as physiologic changes occur. Instrument readings that measure muscle tension, skin temperature, perspiration, pulse rate, and breathing allow patients to observe the changes that result from their behavior or thought processes. In time, patients can learn to modify the targeted physiologic activity. The five most common

kinds of biofeedback are electromyographic, thermal, electrodermal, finger-pulse, and respiration.

Electromyography (EMG) measures muscle tension and is used to treat muscle stiffness, chronic muscle pain, and incontinence. It is applied also for physical rehabilitation of injured muscles.

Thermal biofeedback measures the temperature of the skin, which provides an index of blood-flow change. It can relieve hypertension, migraine headaches, anxiety, and Raynaud's disease (a circulatory condition that keeps the fingers and toes abnormally cold).

Electrodermal activity (EDA) measures changes in perspiration that are otherwise too minor to detect. Electrodermal feedback is often applied to treat anxiety.

Finger pulse feedback measures both pulse rate and amount of blood in each pulse. Hypertension and anxiety, as well as cardiac arrhythmias, can be controlled with finger-pulse measurements.

In respiration feedback, the electronic monitors measure the rate, volume, and rhythm of the patient's breathing, and determine whether the individual is using chest or abdominal breathing. These breathing measurements can help alleviate problems of hyperventilation, asthma, and anxiety. Learning breath control can contribute to enhanced relaxation in general.

Biofeedback or Meditation?

Biofeedback is a relatively modern mind-body technique that uses computers to show body functions such as heart rate. Monitoring these activities enables you to observe how and why they change and eventually to control them.

The ability to gain control over what had been considered to be involuntary or autonomic physiologic functions was documented in biofeedback studies in the 1970s. However, since ancient times practitioners of yoga and Zen Buddhism have achieved similar control using meditation without the benefit of modern monitoring equipment.

Meditation (Chapter 17) involves resting quietly and performing mental exercises to achieve a state of profound relaxation and focused concentration. Electroencephalogram (EEG) studies of yoga and meditation showed practitioners' ability to produce changes in brain-wave activity.

Research shows that, with meditation and concentration alone, people can lower their blood pressure, heartbeat and respiration, reduce oxygen consumption and blood lactate levels, and change other internal activities.

In a typical biofeedback session, electrodes leading from a monitoring machine are attached to the part of the body to be monitored, such as

muscles, head, hands, fingers or feet. The monitoring device produces a variable-pitch tone or a computer screen display, which reflects activity detected at the electrode contact points on the person's body.

A biofeedback therapist helps interpret these signals while leading the patient through physical and mental exercises. The changes in monitor readings indicate that the desired related change has occurred in the body function being measured.

Trained therapists suggest mental or physical exercises designed to help people gain more control over their bodies. Patients observe monitoring equipment, which provides feedback about physiologic changes, and helps the individual alter heart rate, skin temperature, or some other targeted state. This process is repeated as often as necessary to produce the desired result, such as reducing pain or modifying other uncomfortable symptoms. The patient learns to connect alterations in thought, breathing, posture, and muscle tension with the desired results. It becomes a case of the mind controlling the body in ways that Westerners thought were impossible only decades ago.

What Practitioners Say It Does

Biofeedback therapies were developed to treat a wide range of symptoms and problems, including stress, urinary incontinence, sleep disorders, Raynaud's disease, migraine headache, hypertension, addictions, vascular disorders, and many others. The procedure involves focusing the mind on a biological function and mentally visualizing or picturing the desired change. This might be warming the temperature of one's hands, tightening blood vessels to eliminate headaches, or inducing other physiological events to help relieve the particular disorder. According to practitioners, biofeedback creates a greater awareness of specific body parts and their functions. With training, increased awareness of physiologic functions enables the patient to regulate these functions.

Biofeedback provides a logical approach to resolving many medical problems. When patients are properly trained, they can relieve or eliminate symptoms, replace feelings of helplessness with a sense of renewed control over health, and reduce their own health-care costs.

Research Evidence to Date

It is clear that the use of monitoring devices to provide feedback about internal events is beneficial for many people. There is strong evidence that biofeedback is effective in treating alcoholism, drug abuse, and anxiety. It can

lower the physical tension associated with many illnesses and help control high blood pressure and chronic pain.

Well-controlled studies report positive effects of biofeedback in treating Raynaud's disease. Biofeedback can also help people overcome urinary incontinence by developing more effective control of their bladder muscles. It can assist the retraining of body muscles after an accident or surgery, and help train new muscles to take over the function of those that are irreparably damaged.

Not everyone is drawn to biofeedback or comfortable with using equipment. Researchers say that at least half of those who do use biofeedback for headache relief realize 50% to 80% improvement. It should be noted, however, that approximately the same proportion of patients show improvement when treated by relaxation without feedback. Biofeedback is useful also to prevent and reduce migraine headaches in some people. There are still questions about the effectiveness of hand warming as a primary biofeedback therapy for migraine headaches, as clinicians cannot predict accurately who will benefit and who will not.

What It Can Do for You

A primary objective of biofeedback is to promote relaxation. Although an individual may feel relaxed, biofeedback measuring devices may show otherwise. Because of its ability to measure and report functions of the autonomic nervous system, for some people it may be more helpful than is yoga, Zen Buddhism, or simple meditation. It is a no-risk, noninvasive procedure that is worth a try for the problems noted here.

Where to Get It

Many biofeedback therapists are trained as psychologists. The Biofeedback Certification International Alliance (BCIA), formerly the Biofeedback Certification Institute of America, recognizes therapists who are properly trained in the technique. Their website, <http://www.resourcenter.net/Scripts/4Disapi6.dll/4DCGI/resctr/search.html>, includes a BCIA Board Certified Practitioner directory. Questions may be sent to: info@bcia.org.

Many biofeedback experts specialize in particular problems. Find one who seems best prepared to meet your individual needs, and with whom you feel comfortable. Look for someone who has had success in treating patients with disorders or health problems similar to yours. Ask questions about the process. A good therapist will willingly describe the procedure, its benefits, and any potential weaknesses without hesitation.

Hypnosis and Self-Hypnosis

Like other alternative therapies, hypnosis has existed in one form or another since early recorded history, and like early alternative therapies it was often tied to magic and religion. Hypnosis was an important component of Native American healing rites, when hypnotic states typically were induced through chanting, sometimes in conjunction with hallucinogenic drugs.

Modern medical hypnosis originated with the Viennese physician Franz Mesmer. Mesmer believed that the human body contained “animal magnetism,” and that imbalances in magnetic forces were the cause of illness. The therapy he applied, termed Mesmerism, involved the use of tranquil gestures and soothing words to relax the patient and to restore balance in the patient’s magnetic forces. Although mesmerism did not find long-lasting support, the idea of using a state of altered awareness in medical treatment gradually gained wider acceptance.

Self-hypnosis is easily taught. It is often used as a complementary therapy for cancer and other patients. Self-hypnosis is a technique that anyone can use as a tool to use anytime — for sleeplessness, pain, or under stressful circumstances.

Who Can Be Hypnotized?

Roughly 90% of the general population can be hypnotized to some degree. Success depends on one’s willingness and receptivity to the idea of hypnosis. Children appear to be more easily hypnotizable than adults, primarily because using the imagination comes easily and naturally for them, and because they tend to be creative and trusting. Most people are able to learn self-hypnosis quickly. The word “hypnosis” is used here to mean “self-hypnosis” as well.

What It Is

Hypnosis/self-hypnosis is a state of focused attention or altered consciousness, a restful alertness in which distractions are blocked, allowing a person to concentrate intently on a particular subject, memory, sensation or problem. Hypnosis may be used instead of or as assist to anesthetic agents during surgical and dental procedures. It is especially helpful when allergy or some other circumstance prohibits anesthesia. It is also used to reduce stress, pain and anxiety, and to assist in removing undesired habits such as bed-wetting in children or smoking.

Hypnosis is not considered a medical procedure in and of itself. It cannot cure disease and should not be relied on to do so. Rather, it is most widely used in conjunction with mainstream medical care, and in this capacity it has achieved growing acceptance and application. Many cancer patients learn the technique and apply it as needed to help calm the body and the mind. The Integrative Medicine department at Memorial Sloan-Kettering produced a self-hypnosis CD with which patients learn the technique. There are many CDs available from other sources as well.

What Practitioners Say It Does

At the very least, proponents say, hypnosis brings about a state of increased relaxation. Claims about its efficacy expand from there. It can serve some as a remedy for addiction, including drug, alcohol, and tobacco dependency. It helps some people maintain diets, relieve stress, and reduce anxiety. It can effectively relieve or eliminate chronic migraines, arthritis, and even warts, which appear to respond to various types of mental suggestion.

There are documented instances of hypnosis analgesia used successfully under varying circumstances. A fifteen-year-old girl who was allergic to pharmacologic anesthesia, for example, completed successful heart surgery with hypnosis as the only analgesic. It enabled her to remain conscious during the four-hour procedure, without so much as an aspirin required during or after the surgery.

Those who study hypnosis explain that it has measurable physiologic effects. Beyond its analgesic functions, hypnotic suggestion is known to steady the heartbeat and blood pressure, relax muscles, and reduce bleeding during surgery. Those who have used hypnosis in this capacity report less postoperative pain and faster recovery times than patients using pharmacologic anesthesia.

Proponents of the use of hypnosis during surgery contend that its pain-relieving effects linger indefinitely after emergence from the hypnotic trance.

Consequently, they argue, hypnosis should be appropriate and effective in controlling the persistent pain often associated with chronic illnesses such as cancer and arthritis.

Not everyone can be hypnotized. For those who can, or who wish to learn self-hypnosis, it has important benefits. To achieve control over various problems, for example, hypnosis can be self-induced by patients whenever they feel the need for pain or stress relief. This can help them avoid narcotic dependency and the long-term expense and physical complications of narcotic medication, and control their own pain or stress whenever the individual wishes.

Control: In hypnosis, it is the subject, not a practitioner or a doctor, who maintains control.

Beliefs on Which It Is Based

A frequently voiced concern about hypnosis is that it involves the surrender of control, leaving the subject susceptible to the suggestion of the hypnotist. But the exact opposite is correct. Control by the subject is the most fundamental basis of hypnosis. The goal of hypnosis is for the subject to exert control — over behavior, emotions, or physiological processes. In fact, with self-hypnosis, one can use the technique whenever needed.

The self-control behind hypnosis helps people relax and become receptive to suggestion. The suggestion, geared to bring about relaxation or pain relief, or another desired result, may come from the patient or a practitioner. By placing themselves into a deep state of relaxation and focused attention, people learn to control pain or bodily functions, or to diminish situation-specific anxieties, such as fear of flying. People who are afraid to fly can hypnotize themselves and reevaluate their perceptions and attitudes about being in an airplane. They could see the plane as an extension of themselves rather than as a container of fear.

Smokers and overeaters may use hypnotic concentration to adopt healthier attitudes. Hypnotic suggestions might involve seeing the quitting of smoking or overeating as a favor or gift to the body, rather than as a deprivation of its pleasure. By quieting the conscious mind, the unconscious is more open to suggestion. The power of hypnosis is further evidenced by the fact that young hemophiliacs learn to use hypnosis to control their bleeding.

Research Evidence to Date

Because hypnosis has been used for several centuries, it has endured times of silliness and ridicule, and times of acceptance. Today the pendulum swings

toward broader acceptance, primarily because solid research now documents the effectiveness and utility of hypnosis for both children and adults. An example of such studies is Stanford University's demonstration of electrical response brain waves. Hypnotized subjects were able to suppress the brain's electrical response to a visual cue by imagining that their view of the stimulus was blocked. Previously, this kind of response was assumed to be involuntary. Hypnotized subjects in the study also were able to control their skin temperature and blood flow.

In PubMed, the U.S. government collection of all medical articles published in the medical literature world-wide, there are 1,400 citations for articles on hypnosis and pain, including 787 clinical trials or meta-analyses. Forty of the methodologically-sound clinical trials concerned cancer. Virtually all of this research found that hypnosis or self-hypnosis reduced pain, anxiety and other problems. There is an *International Journal of Clinical and Experimental Hypnosis* in which some of these articles were published, although many appear in standard journals typically read by physicians generally.

Research conducted at Stanford University, for example, evaluated the value of hypnosis in reducing pain in children undergoing treatment for leukemia. Bone marrow aspiration is a procedure during which, following a local injection of an anesthetic, a large needle is inserted through the skin and into the center of the bone. Usually the hip bone is used. An attached syringe withdraws marrow from the bone for microscopic analysis. Investigators found that hypnosis decreased the children's pain during the procedure by up to 30%.

What It Can Do for You

Hypnosis is not a cure-all for physical, emotional, or addictive disorders. It cannot reprogram the body and mind to stop smoking or drinking, for example. It cannot cure serious disease and should never be used as an alternative to conventional, mainstream medicine. It is not recommended for the treatment of psychosis, organic psychiatric conditions, or antisocial behavior.

Hypnosis has significant and meaningful documented benefits. It usually produces a state of profound relaxation. It can refocus attention away from adverse stimuli, including pain, and increase the unconscious mind's receptivity to suggestion. In turn, this can bring about physiologic changes such as decreased pulse rate, temperature reduction or increase, and reduced blood flow to specified areas of the body. Hypnosis also is useful against addiction, anxiety, depression, pain and phobias.

Where to Get It

Several organizations and their websites provide information about hypnosis. These include the American Society of Clinical Hypnosis, the <http://www.asch.net/genpubinfo.htm>. International Hypnosis Federation, the American Psychotherapy and Medical Hypnosis Association, the American Society of Clinical Hypnosis, and others. All can be found on the Internet.

There are also non-professional organizations with pseudo “Boards” which, for a price, admit members who were not formally trained in mental health or medicine and thus were not eligible for licensure. It is important to check the credentials of a hypnotherapist or any therapist before seeking care.

This page intentionally left blank

Imagery and Visualization

You are lying on the floor, or resting on a couch, eyes closed, breathing deeply. A soothing voice begins, “Imagine yourself floating, floating with no effort on a calm sea. You feel the water on your back and legs, the sun on your face and chest. You hear the gentle beating of the waves on the faraway shore.”

You have just been through an exercise in imagery, a technique, its advocates claim, that can harness our imagination, memory and senses, all to promote relaxation and improve control over life and health.

Imagery, rooted in centuries-old techniques, is based on the idea that our minds can influence the unseen processes of our bodies, such as the immune system. As do many other forms of “alternative” healing, imagery relies on the assumption of direct and powerful links between mind and body, some of which are neither proven nor real. John Milton, the great English poet, wrote that the human mind “can make a heaven of hell. . . .” It is this power that imagery and visualization seek to tap.

What It Is

Imagery is a therapeutic process in which mental pictures play the central role. Imagination and memory are used to mentally taste, smell, see, and hear the images that you or a guide want to envision. Imagery has been used for medical purposes since at least the thirteenth century, when Tibetan monks meditated on statues of the Buddha, imagining the Buddha healing illnesses. Some imagery advocates believe that the technique was practiced by the ancient Greeks, Romans and Babylonians as well.

Common imagery exercises include palming and guided imagery. In palming, you place your palms over your closed eyes. You imagine your mind's field of vision changing first to a color that you associate with stress and tension, such as red, and then to a color that you associate with calm and relaxation. Deep blue is an example of a color that many find calming. Visualization of colors that feel calming are thought to promote relaxation.

“The mind is its own place, and in itself can make a heaven of hell, a hell of heaven.” John Milton, *Paradise Lost*, 1667.

In another exercise known as guided imagery, people visualize a goal they want to achieve and then picture themselves achieving it. Guided imagery is not limited to medicine. Athletes often use it, believing that mentally rehearsing a performance increases the chances of success during actual competition. For example, a baseball player might imagine standing at bat, receiving a pitch, and making a hit. A gymnast might imagine going through a complicated routine of floor exercises, without even setting foot on the mat.

An example of guided imagery used often in medicine is the Simonton method. Developed in the early 1970s by radiation oncologist O. Carl Simonton and his wife, Stephanie Matthews-Simonton, the Simonton method involves cancer patients imagining a series of images of the body fighting tumor cells. A common exercise, which probably stems from the popular video game, is picturing the cells of the immune system as Pac-Men gobbling up and destroying cancer cells. It is important to note that the Simontons developed their method as a complementary therapy to be used along with, not instead of, mainstream cancer therapy. Their publications advise patients to continue conventional treatment.

Imagery exercises can be practiced by the individual alone or led by a health professional trained in the techniques. Most imagery sessions with a therapist last from twenty to thirty minutes. In self-guided sessions, people usually follow instructions from a book or CD.

What Practitioners Say It Does

Imagery can serve as a relaxation technique similar to other mind-body approaches such as meditation and hypnosis. Unlike the latter two, which usually involve focusing attention on one thing for a period of time, imagery often involves frequent changes in focus.

Imagery is a way to actively involve the mind in problems or challenges facing the body. Athletes practice going through a perfect routine in their minds. Patients imagine pain being drawn out of their bodies. Imagery does not cure disease, but it helps people gain control and feel better.

Advocates claim that imagery has physiologic and psychological effects. Imagery's physiologic effects are similar to those of other relaxation techniques. It can lower blood pressure, alter brain waves, and decrease heart rate. Imagery is said to provide symptom relief of physical problems such as pain, and emotional symptoms such as anxiety. It also may improve the effectiveness of pharmacologic or other therapies, as in the example of the Simonton method. If imagining a delicious platter of food evokes salivation, other mental images should have similar effects on other physiologic events.

In addition to physiological results, imagery can lead to psychological and emotional breakthroughs. There are case studies of patients with physical ailments having no apparent medical cause who were able to substantially reduce their symptoms through a program of psychotherapy and imagery.

Beliefs on Which It Is Based

At the root of imagery is a belief common to all mind-body approaches: the idea that the mind influences the health of the body. Mind-body advocates extend the evidence of mind-body techniques that produce physical changes to what they see as its logical conclusion — that these techniques can contribute to the healing of disease, working as complementary therapies to enhance the effectiveness of mainstream treatments. Mind-body efforts, advocates say, can assist conventional therapies to work in less time, with fewer side effects, and with a better chance of success.

Lacking well-documented mechanisms to explain imagery's effects, advocates speculate that the act of imagining an experience stimulates the same part of the brain as does the actual experience. For example, imagining a song and actually hearing the song both stimulate the same part of the brain. This hypothesis has been confirmed using PET (positron emission tomography) scans of the brain. Practitioners speculate that stimulation of higher brain functions leads to activation of the nervous and endocrine systems, which in turn affect body functions such as the immune system.

Research Evidence to Date

The best available research indicates that guided imagery has value as a relaxation technique and is therefore a useful complementary therapy. However, carefully designed, scientifically valid studies provide no evidence that guided imagery can help reduce disease, or even influence the effects or action of conventional treatments in serious diseases such as cancer. The Simonton

method, for example, has not been proven to increase survival time in cancer patients.

What It Can Do for You

Imagery fits the category and achieves the benefits of many other mind-body interventions. Many people find it relaxing. Some anecdotal evidence suggests that it may be able to do more than make people feel good, but scientific research has not validate imagery as a healing tool.

Where to Get It

Many therapists are trained to administer imagery techniques, and most explain, appropriately, that imagery does not cure illness. Rather, it should be used as an adjunct or complement to conventional therapy. When seeking a therapist in your area, it may be helpful to obtain references from past patients. As when engaging any professional, question the therapist about experience, areas of specialization, and professional credentials.

Imagery is inexpensive, particularly if self-taught or self-administered. It is not difficult to learn, and it is safe. There are many books, CDs, DVDs and Internet sites devoted to the use of imagery.

Meditation

Meditation is among the most accepted complementary therapies in mainstream medicine. Its origins lie in the work of Shamans, or early priests, who meditated while seeking guidance from the spiritual realm. Every major religion in the world has regarded and utilized meditation as a link to spiritual enlightenment. Hypnosis, especially self-hypnosis, may be seen as a deeper form of meditation. Both have ancient origins in magic and religion.

Meditation gained serious attention in Western cultures in the 1960s. As word spread of Eastern masters able to perform remarkable feats of bodily control and achieve altered states of consciousness, people in Western countries became increasingly fascinated by meditation. Health practitioners and researchers became interested in understanding how the mind could produce physiologic changes in the body. Meditation's purported ability to achieve physical benefits was a natural springboard for the curiosity and research activity that continues to this day.

What It Is

Meditation has been described in varying, often extreme terms. Viewed by some as a means of maintaining attention pleasantly anchored in the current moment, it has also been canonized as a catalyst for world peace. As emphasized in most Asian traditions, mental control is the foundation of meditation, and mental control also lies behind meditation's application as a complementary healing technique. Mental mastery is believed capable of producing physiologic and emotional change. The goal is to improve health in general and facilitate the healing of certain disorders.

Across its many varieties, meditation includes certain common procedures. The meditator sits or rests quietly, usually with eyes closed, in a peaceful environment devoid of distractions. Mental exercises geared to channel concentration and relax the body are performed. The aim is to stay relaxed yet alert. Typically, a point of concentration is selected. This can be an object, a word, or a sound, a mantra or action, or merely the rhythm of one's own breathing. Many practitioners also adopt a passive, receptive attitude in which fleeting thoughts are disregarded without reflection. Saint Francis of Assisi likened these thoughts to birds flying overhead that should be observed without "letting them nest in the hair."

What Practitioners Say It Does

Meditation is lauded often as a means of managing stress. Stress is now widely acknowledged as contributing to and exacerbating many health problems (see the introduction to Part Three). Therapies such as meditation have many proponents because these approaches provide effective relaxation techniques that help patients deal with stressful situations.

During meditation, people learn to redirect their attention to the present, reacting neither to memories of the past nor thoughts of the future. Preoccupation with past and future is believed to be a major source of chronic stress.

The mental training that meditation provides teaches individuals to be aware of what causes their stress, thereby giving them a sense of control. Control makes the difference between positive and detrimental stress.

The benefits of relaxation and stress reduction, in turn, can reduce levels of stress hormones, improve immune functioning, diminish chronic pain, improve mood, and even possibly enhance fertility. Quieting the conscious mind is believed also to allow the body's inner wisdom, or "internal physician," to be heard. That is, meditation promotes the body's ability to heal itself.

Further benefits attributed to meditation include enhanced immune functioning in individuals with chronic diseases such as cancer and AIDS. Practitioners also claim success with meditation included as part of the treatment of patients with hypertension and heart disease. It is also considered useful in assisting rehabilitative therapies for alcohol, drug, and other addictions.

Devotees say that, with regular, long-term meditation, they experience personal and spiritual growth. They claim richer sensory experiences, greater alertness, and increased mental efficiency, as well as the ability to access deeper levels of awareness. Some even attest to a mystical sense of oneness with God or the universe.

Beliefs on Which It Is Based

The major foundation for meditation's popularity, especially as a benefit to personal health, is the belief that the mind can cause changes in the body. Many cultures, particularly those in Asia where meditative strategies have long been included in health regimens, have relied on this idea for millennia. A more recent underlying belief is the idea that stress itself has harmful effects on the body. Because meditation emphasizes mental training and relaxation and imparts a sense of control, it is considered a potent agent against stress and anxiety. That is part of the reason that meditation has gained widespread acceptance as a valid, beneficial medical therapy.

Research Evidence to Date

Many studies have documented the correlation between meditation and the reduction of stress, anxiety, and panic states. Research documents the relaxation response produced by meditation and prayer, a response involving decreased heart and respiration rates and eased muscle tension. Meditation has been shown also to help control negative thinking and assist people in managing potentially stressful situations in a calm fashion.

Research evidence shows that meditation helps decrease chronic pain. Meditation performed regularly over an eight-week period reduced participants' pain by as much as 50%.

There's Meditation and Then There's Transcendental Meditation

During meditation's 1960s rise in popularity in the West, a version called transcendental meditation (TM) was founded by Maharishi Mahesh Yogi, a physics scholar from India. TM is based on ancient Indian practices, is it similar to other forms of meditation such as Zen, yoga, progressive relaxation, and other means of eliciting deep relaxation. Meditation is a vital component of transcendental meditation activity.

But its promotional materials claim that TM teaches mastery of the forces of nature, enabling students to become invisible, walk through walls, fly unassisted, and develop "the strength of an elephant." Devotees claim that TM is the vehicle for enlightenment and even world peace. Accepting these beliefs is not prerequisite to benefiting from the practice of TM. TM's physiologic benefits, which are shared by other types of meditation and not unique to this particular approach, are well documented. But flying through the air? Becoming invisible? Doesn't make sense to most of us.

Meditation reduced blood pressure better than did progressive muscle relaxation or instruction about healthy living habits in one study. Frequent regular meditation may reduce anxiety, depression, and pain among patients with cancer as well.

What It Can Do for You

The relaxation, stress-reduction and pain relief benefits of meditation are well documented. It has been found to reduce lactic acid in high levels, which is associated with anxiety. Mainstream medical practitioners often recommend meditation as an adjunct to conventional treatment or as a preventive health measure.

Meditation can ease muscle tension, lower oxygen consumption and heart rate, and with practice, decrease blood pressure. Therefore it is often recommended for patients with hypertension or heart disease in conjunction with dietary and other positive lifestyle changes. Regular practice of meditation can enhance one's sense of control and improve self-esteem. Meditation can also produce spiritual growth, calm and serenity.

Where to Get It

Assistance with meditation is available from practitioners, including psychiatrists and other mental health professionals, stress-reduction experts, yoga masters, and clinics at many major medical centers and local hospitals.

Many organizations offer related services and information, as well as CDs that teach meditation. A recent CD, called "The Eight Minute Meditation," was a popular success, and it worked to get many people started on a definitely helpful practice. You can teach yourself meditation with self-paced online tutorials and programs, and attend class to learn the relaxation response.

In 1975, Dr. Herbert Benson, a professor at Harvard, published a book called "The Relaxation Response" in which he used his own version of teaching and explaining meditation for relaxation and decreased stress and how to achieve it. Dr. Benson's books, lectures and classes are popular by people of all types, healthy and ill. Most have found his teaching helpful and rewarding, and for many it has been life-changing. The Benson-Henry Institute for Mind Body Medicine courses at Harvard Medical School remain an important focus of research and education.

Placebo Effect

In 1955 a classic study analyzing fifteen investigations of 1,000 medical patients was published by Dr. Henry K. Beecher, a prominent physician at Harvard's Massachusetts General Hospital. He reported that the problems of at least one in three patients were relieved by placebos, inert substances often called "sugar pills." Beecher noted that placebos were so powerful that they produced not only positive results but also a broad range of negative side effects.

Although Beecher's study was among the first to document the phenomenon of the placebo response (healing that occurs from the patients' beliefs or assumptions that a treatment is effective), doctors had known about and used this phenomenon for many decades. Most physicians practicing in the 1800s and first half of the 1900s maintained a jar of "special" (sugar) pills, which they gave patients when there was nothing else to offer. There are many stories of patients returning to a previous doctor to complain that the medicine given to them by their new doctor was not as good as the "special" pills administered by the old doctor.

Since Beecher's article opened scientists' eyes to this startling phenomenon, the placebo response has been scientifically studied and monitored closely in many clinical investigations. Scientists now believe that the placebo effect is at least twice as common as found by Beecher. A medical literature review of close to 7,000 patients who received treatments later found to be worthless, including a surgical procedure for asthma and a stomach-freezing technique for ulcers, was published. Forty percent of the patients reported "excellent" improvement, and an additional 30% described "good" results. In all, this is twice the percentage of placebo responses uncovered by Beecher, and a good example of results found routinely today.

The placebo effect is the mind in action, causing real and measurable physiologic reactions to occur. This placebo response is a fascinating and important phenomenon at the heart of mind-body medicine. Placebo comes from the Latin meaning “I shall please.” In 1785 the word was first applied as a medical term, meaning “a commonplace method or medicine.” By 1811 it had come to mean “medicine prescribed to please the patient, used when physicians had nothing more than sugar-pill promises to help the healing process.” Often the sugar pills, backed by patients’ confidence in both the physician and the medication, did a very good job indeed.

The placebo response relies heavily on the doctor-patient relationship. Expectation explains similar phenomena involving the patient alone, as occurs when one ingests exotic capsules and achieves the promised result but learns later that the pills were inert.

What It Is

The placebo effect is a striking example of mind over body, of mental processes influencing physical events. It shows us that some bodily functions are amenable to suggestion (Note: not all are). Some physical responses can be manipulated by passive beliefs or willful efforts of thought. In clinical medicine, placebos act primarily to relieve pain and other symptoms, as they are based on psychological or psychosocial response. Neither placebos nor any mind-body effort can fix fundamental biological disorders, cause missing limbs to regrow, make mutated genes that cause cancer or other major problems revert to normal, or heal shattered spinal cords so that paraplegics can walk again.

In modern clinical research, placebos are crucial to the testing of new drugs. Methodologically sound investigations require that a “control group” of randomly selected individuals receive an inert substance or a different medication instead of the actual drug under study. In double-blind studies, neither the patients nor the doctors know which group receives the placebos. Only at the study’s conclusion, when placebo assignments are revealed, does it become clear whether more patients who received the experimental drug experienced the hoped-for results than did those who received the placebo or another, non-experimental drug.

What Practitioners Say It Does

Sometimes given deliberately (when physicians had no proven medication) and sometimes by chance (when patients participate in some research studies),

placebos have worked over the centuries to treat the symptoms of many diseases and disorders. Scientists understand that, although placebos in fact are inactive, their use creates a psychologically initiated response that can reduce or relieve the body of pain and other distressing symptoms.

Numerous studies have shown that placebos provide relief from pain, including the pain of arthritis, angina pectoris (severe chest pain, usually caused by heart disease), digestive-tract discomfort, chronic back pain, cancer-related pain, anxiety and depression. Placebos also have been shown to play an important role in addiction, helping drug-dependent patients reduce reliance on the abused substance.

Placebos sometimes hinder as well as help. When a negative effect occurs, a placebo effect is called a nocebo response. Nocebos also demonstrate the power of the mind to manipulate attitudes and expectations, this time in a negative manner. A controlled study conducted by the British Stomach Cancer Group provided interesting evidence of the nocebo effect. Thirty percent of placebo-treated patients lost their hair, and 56% of the same group reported “drug-related” nausea or vomiting.

There are also documented instances of voodoo death in some cultures. Voodoo death occurs when a person believes he has been poisoned or hexed. When victims are cursed by a powerful figure in their society, some actually die soon after the event. One explanation of voodoo death holds that the victim’s strong beliefs and fears affect the autonomic nervous system that controls heartbeat, causing the heart to fail and death to occur soon thereafter.

Eventually, scientists hope to understand how our thoughts, hopes, and expectations interact with the billions of neurons in the human brain.

Beliefs on Which It Is Based

Many physicians believe that placebos can be traced back to the beginning of the doctor-patient relationship, and before that to the relationship between the individual and the priest or shaman. It is thought that placebos change the perception of pain but leave unaltered its underlying cause. The relationship between patient and physician is believed to have a profound psychological effect on the patient, because the trust, strength, optimism, and hope engendered by that relationship can be powerful catalysts for recovery.

Probably most patients bring their anxieties, fears, expectations, and hopes when they enter a doctor’s office. Doctors also have their own beliefs, attitudes, expectations, and methods of communicating. Physicians who truly believe in their treatments and relay that optimism to their patients, are more

likely to generate a positive placebo response. If enthusiasm is lacking on either side of the physician-patient relationship, a placebo effect is not likely to occur. Because the vast majority of visits to doctors are for transient problems as opposed to major diseases, the placebo response has great opportunity to influence patients' reactions and well-being.

It is likely that placebos change only perception, while underlying disease remains unaffected. Details of the relationship between mind, brain and body hold the key to the placebo effect.

Research Evidence to Date

The placebo effect is most evident in psychologically-based problems, such as weight management, pain, anxiety and depression, and some skin disorders. Contemporary research focuses on “neuropsychopharmacology.” In a 2010 journal of that name, Benedetti and colleagues published a very interesting article entitled “How Placebos Change the Patient’s Brain.” They indicate that placebos involve many mechanisms, all based in neuroscience. These include brain mechanisms of expectation, anxiety and reward, and learning phenomena such as Pavlovian conditioning.

The placebo effect is basically a psychosocial effect, so that stimuli such as words and the very procedures of medical care may change the chemistry and circuitry of the brain. Studies show that the brain mechanisms activated by placebos are the same as those activated by drugs. If prefrontal brain function (the area higher-level thinking) is impaired, as occurs in Alzheimer’s and other types of dementia, placebo responses are reduced or totally lacking. Knowledge of this kind is an example of insight that could not have been discovered by a randomized research study. It would not be ethical or possible to randomize people to get or not get something like Alzheimer’s Disease. However, this type of “accidental” or “natural” real-life experiment sometimes happens. Here we learn that a healthy prefrontal cortex, which controls executive and cognitive brain function, is required for the placebo response to occur.

What It Can Do for You

The term placebo today has acquired something of a stigma. Many view placebos as ineffective, deceitful remedies. Yet many positive results have come from placebos, including abatement of chronic pain and other symptoms. The placebo effect is intriguing, as is the fact that the mind can produce a negative, nocebo response to an inactive or nonspecific drug.

The placebo effect is most likely to produce a positive response in circumstances involving psychological openness. Placebos work best when patients are provided with a clear understanding of their illness, when family and friends are available to provide moral support, and when patients take some control and maintain hope for a positive outcome.

Where to Get it

In addition to documentation throughout the medical literature, several major texts discuss the placebo response. Yale University physician Professor Howard Spiro and Harvard professor Herbert Benson both have published books on the placebo effect. In addition, *Mind Body Medicine*, edited by D. Coleman and J. Gurin (Consumer Reports Books, Yonkers, NY, 1993) discusses the observation that the placebo response is ubiquitous in medicine, occurring in virtually every symptom and ailment. Numerous modern brain studies explore the chemistry and mechanics of the placebo response; these are accessible on the Internet.

A Note about the Next Three Chapters: Qi Gong; Tai Chi; and Yoga

(*Qi*, as in Qi Gong, and *Chi*, as in Tai Chi, are different spellings of the same word. Both are pronounced “chee”). *Qigong*, an ancient practice that originated 5000 years ago, aims to strengthen “qi,” the vital energy believed to course through all humans. *Tai Chi* is about 600 years old; it is based on martial arts. Qigong is easy to learn. Tai Chi takes longer.

Despite these differences, which may be obvious only to expert practitioners, the two are more alike than not. Both Qigong and Tai Chi improve balance, strengthen the body and clear the mind. They are equally beneficial.

Whereas *Qigong and Tai Chi* come from China, *Yoga* originated in ancient India probably around the same time that Qigong arose. *Qigong and Yoga* place primary emphasis on meditation and spiritual development. Tai Chi, the newer practice, focuses more on developing strength and balance. All three incorporate meditation, balance, strength and healing. Find your own comfort zone after looking into what each has to offer, and remember that different practitioners of the same art may suit you better than others.

This page intentionally left blank

Qigong

Most ancient cultures developed a concept of cosmic and bodily energy flow as a means of explaining the world, the body's function, and the relationship between humans and the environment. In early China, this energy was viewed as a vital life force called qi. It was believed to flow throughout the body along energy pathways called meridians. Maintaining a smooth and balanced flow of energy, or qi, was perceived as necessary to health and well-being. Manipulating qi to maintain balance and health is known as qigong, which literally means “energy work.”

Qigong is a vital part of Chinese medicine and the basis of Asian martial arts. Today it is used widely as a gentle technique to calm the mind and improve stamina. Qigong exercises involve combinations of concentrated, controlled breathing with simple, repetitive motions.

During the Cultural Revolution of the 1960s, qigong was banned in China. Today, however, it is broadly accepted, not only in China but in many parts of the world. When qigong is combined with the calculated, more active motions of ancient Chinese martial arts, it becomes tai chi (see Chapter 20), the gentle exercise regimen practiced in cities and rural areas throughout China by people of all ages, including the elderly.

What It Is

Qigong is the willful manipulation of the vital life force, or qi. There are two types of qigong: internal and external. Internal qigong is practiced alone by the individual to promote self-healing and maintain health through strengthening one's own qi. Internal qigong can be performed with little or no movement, while sitting, standing, walking, or lying down or during quiet

meditation. Its physical component may range from controlled breathing to simple repetitive exercises. The crucial activity, however, is intense concentration focused on moving one's qi throughout the body.

Place

An “Internal” Qigong Exercise said to strengthen qi with the breath, thereby to reduce the risk of illness and enhance well-being.

Stand or sit quietly with palms upward, fingertips touching, elbows out, and hands two inches above the navel.

While inhaling, raise hands up to the chest. Hold your breath for a moment, turn palms down, and exhale as you move your hands back down to a few inches above the navel.

Repeat several times.

While performing this exercise, visualize qi accumulating in the abdominal region, as that part of the body is known in traditional Chinese medicine as the seat of energy, the core from which the vital force springs.

External qigong involves a special skill developed by master therapists who are said to externalize or emit their own qi and influence the health of other people or even the motion of inanimate objects. Qigong masters are teachers, but they can also serve as therapists — “energetic healers” who use their own energy to improve a patient's qi and thereby strengthen his or her vitality.

Some qigong masters are said to perform great feats. With profound effort and concentration, they send powerful qi energy from their bodies into the bodies of others, who are then said to be healed of disease. The transfer of qi from master to patient does not require touch. In some respects external qigong is similar to psychic healing or psychotherapy, except that external qigong assumes an actual healing force or energy flow. This force is both invisible and unmeasurable.

What Practitioners Say It Does

According to ancient Chinese principles, qigong improves the flow of qi in the body, thereby reducing pain, curing disease, and promoting better health. It is believed that qigong works by breaking down energy blockages, thus enhancing energy flow throughout the body. The improved flow of energy stimulates internal organs and blood, lymph, and nerve-impulse circulation, all of which are deemed important to the maintenance and restoration of good health.

Proponents indicate that qigong lowers heart rate and blood pressure, and improves relaxation potential. Specific qigong exercises aimed at directing the flow of qi to certain areas of the body are used to help prevent tension headaches, constipation, and insomnia. Practitioners describe reports of qigong curing disease, reducing farsightedness and nearsightedness and treating sinus allergies, hemorrhoids, and problems of the prostate (all highly unlikely). Other reports indicate that qigong can lessen the pain of arthritis and migraine headaches and alleviate depression, reduce anxiety, and promote sounder sleep (very probable).

Beliefs on Which It Is Based

Qigong's basic premise is that qi, a naturally occurring healing force that exists within the body, can be mobilized by certain exercises or movements combined with meditation and controlled breathing. Another fundamental belief is that activated qi increases resistance to disease, improves and maintains overall health, and cures illnesses.

Modern proponents theorize that electrical charges, which they say are responsible for maintaining the proper functioning of organs and tissues, flow along acupuncture meridians and can be influenced by proper qigong therapies. A related explanation is that qi activates electric currents and stimulates bioelectric conductivity in the body. Others suggest that improving the flow of qi modifies brain-wave frequency, heart rate, and the functioning of body organs. It is suggested also that qigong may improve resistance to disease and infection because it eliminates toxic metabolic by-products.

Research Evidence to Date

Although qigong has been studied extensively in China, many studies were not published and others were not conducted according to international scientific standards. Therefore, they are neither readily available in Western medical literature nor accepted by Western science. Often, studies published in Chinese journals are anecdotal reports of one or a few patients, rather than controlled studies with many subjects. Scientists require rigorous evaluations involving large groups of patients before they will accept a regimen as beneficial.

Qigong proponents in the United States claim in their promotional material that patients who practice qigong have better results with conventional therapies for hypertension, heart disease, and cancer than those who do not practice qigong, but no data exist to substantiate these claims. Other

proponents say that the energy transmitted by qigong practitioners to patients can be detected. Acceptance of these claims awaits evidence from controlled studies.

What It Can Do for You

With practice, qigong can lower stress levels, reduce anxiety, and provide a feeling of increased well-being and peace of mind. Qigong improves overall physical fitness, balance, and flexibility. We do not really know exactly how qigong works, or even whether qi exists. Regardless, qigong strengthens the body, the mind, and the spirit and helps many people feel and function better.

Exactly how and what in the mind and body qigong helps is largely a matter of speculation. Qigong exercises may induce something like a “relaxation response,” the physiological activity, first described by Harvard professor Herbert Benson, MD, that underlies meditation and deep relaxation.

It is important to note that there is no evidence that qigong exercises can increase resistance to illness or cure existing disease, nor is there scientific proof that qigong masters can heal patients suffering from serious illnesses. Furthermore, the concept of a channeled flow of energy in the body has not been documented. Nonetheless, it has endured over time and across cultures.

Qigong embodies beliefs that help explain the mysteries of illness and health. Although it is not likely that it can cure serious illness, its ancient techniques can help promote relaxation, increase stamina, and bring about a sense of well-being.

Where to Get It

Qigong may be self-learned with the help of DVDs or printed training materials. These are available in libraries and book stores. The Internet contains thousands of sites where qigong exercise are available at no cost or for a fee.

Tai Chi

Are you looking for a gentle exercise program that soothes your mind as it improves your body and works even if you are ill or elderly? Follow the daily example of millions of Chinese. Tai chi is an exercise regimen that uses movement, meditation, and breathing to improve health and well-being. Tai chi (pronounced “tie chee”) probably originated as an exercise, like shadow boxing, to maintain agility among feudal warriors. It has become a daily exercise regimen for people old and young, sick and well, throughout China.

Although practiced in China for many centuries, tai chi has only recently gained popularity in the United States and other Western countries as an excellent general exercise technique, and one said to bring peace of mind. Tai chi is a more physically active form of qigong (see Chapter 19).

What It Is

Tai chi differs from the more intense and violent martial arts often depicted in films because its movements are gentle and deliberate. It relies more on technique than on physical prowess. Tai chi can be practiced by individuals of almost any age, size, or athletic ability, as proficiency does not require great strength or flexibility.

While practicing, students are reminded to pay close attention to their breathing, which should be centered in the diaphragm rather than in the chest. Proper tai chi breathing is similar to breathing exercises in qigong. Concentration is focused on a point just below the navel, that point being considered the center of qi (the life force, or life energy), and the point from which qi is believed to emanate throughout the body.

Students progress by learning a series of movements known collectively as a form. Students typically learn forms in class. Once the basics are mastered, forms can be practiced and perfected at home. Forms consist of twenty to one hundred moves practiced at a slow pace, requiring up to twenty minutes to complete.

Tai Chi Forms: Concentration, careful attention to diaphragm breathing, and deliberate, slow motions characterize tai chi forms, which are based on observations of long-lived animals such as turtles and cranes.

The individual motions that comprise tai chi forms usually have descriptive, nature-based names, such as Wave Hands Like Clouds or Grasping the Bird's Tail. When students have attained proficiency, they may progress to "push hands," an exercise performed with a partner. Students stand face to face, extending their arms and maintaining constant contact with their partners. Together they follow a prescribed series of movements, attempting to use their knowledge of the form while working with another person. Advanced practitioners may practice free-form push hands, in which a prescribed form is not used and each person attempts to upset his or her partner's balance without losing contact.

What Practitioners Say It Does

Adherents of Taoism and traditional Chinese medicine claim that the practice of tai chi, by strengthening and balancing a person's energy, can achieve both preventive and therapeutic effects. Balanced qi is believed to be central to health, a peaceful state and well-being. Therefore, bringing about a balance of one's qi is said to ward off potential illness, improve general health status, and extend life.

It is important to recall that tai chi rests on philosophical and spiritual ideas that remain essentially unchanged since their development thousands of years ago. Claims stem from this historic background. Practitioners concede that some results claimed for this art, such as strengthening one's qi and improving harmony with the universe, are not easily quantified.

Documenting the core of this belief system — the existence of an invisible energy force called qi — remains an elusive goal. Other claims made for tai chi, however, can be seen and measured. These include its ability to enhance balance, strength, and flexibility. Documenting the effects of tai chi or showing that it works is one matter; proving the stated mechanisms of action, or how it works, is quite another.

Beliefs on Which It Is Based

Tai chi, qigong, and acupuncture are components of traditional Chinese medicine, which is based on the philosophy of Taoism. Taoism is a Chinese

ideology initially expressed in the Tao-Te Ching, a book written in the sixth century B.C. Traditional Chinese medicine's most fundamental concepts include the invisible, internal energy or life force and the idea of opposing forces and balances, which are usually expressed as yin and yang.

Yin and Yang refer to the balance of forces in the universe, an idea commonly represented by opposites such as male and female or light and dark. Tai chi movements are designed to express these forces in balanced and harmonious form. Movements are conducted in pairs of opposites. For example, a motion that ultimately involves turning to the right often begins with a slight move to the left. Initial moves often are designed to absorb the energy of the opponent's attack, while the second set of moves turns that energy back against the opponent.

Tai Chi has Important Documented Benefits. It can:

- Improve balance and reduce falls in the elderly.
- Reduce stress.
- Reduce heart rate and lower blood pressure.
- Increase flexibility.

Research Evidence to Date

Hundreds of publications in the medical literature support various benefits of Tai chi. Meta-analysis (statistical analysis of many related studies) have addressed the value of Tai chi on different aspects of life, psychological as well as physical function. One large systematic review and meta-analysis conducted by Tufts University and the U.S. Institute for Clinical Research and Health Policy Studies was published in 2010. It addressed the psychological effects of Tai chi from forty studies covering 3,817 subjects. Although not all studies were of high quality, Tai chi was found to *reduce stress, anxiety, depression and mood disturbance*, and to increase self-esteem. A similar meta-analysis from France published in 2007 looked at data from 14 studies covering 829 subjects, ages 12 to 96. That review also found that Tai chi *improved overall psychological well-being* and mood.

Another "systematic review" of published research looked at the effect of tai chi on blood pressure. Twenty-two (85%) of the studies found that Tai chi *lowers blood pressure*. A separate meta-analysis also concluded that Tai chi exercise may serve as a practical, nonpharmacologic adjunct to the management of high blood pressure.

In 2007, a review of multiple studies found that Tai chi exercise may be a beneficial adjunctive therapy for patients with *cardiovascular disease*. The

practice also was a useful rehabilitation strategy for people with different forms of *arthritis*.

Numerous studies over the years document also that tai chi *improves physical balance, prevents falls* in the elderly, *increases aerobic strength* and *produces a meditation-like calm* and well-being in people of all ages and physical capacity.

What It Can Do for You

Tai chi exercises are said to produce qualities prized in Taoist philosophy: a soft and supple body thanks to a strong and unblocked flow of qi; and harmony between body and mind enabled by the balance between yin and yang forces.

The measurement of qi eludes conventional science. Therefore, it is difficult to substantiate claims that tai chi can strengthen qi and bring about greater harmony with the universe. However, there are likely benefits to tai chi practice that do not rely on Taoist beliefs. Indeed, elderly Chinese can often be found in city parks in China in the early morning practicing tai chi movements and exhibiting ability and grace not often seen in Western people of similar age, and there is little doubt that, by whatever mechanism, Tai chi has numerous important physical and psychological benefits, all documented by modern science.

Like most moderate physical activities practiced on a regular basis, tai chi can improve all aspects of fitness, including stamina, agility, muscle tone, and flexibility. The practice of tai chi breathing exercises also serve a meditative function, thereby reducing stress. Tai chi is particularly suited for older people and those who cannot practice difficult sports. Its movements are gentle, and it puts less stress on the body than do other exercises or martial arts such as judo and karate.

Where to Get It

Tai chi is popular and available in most towns and cities. It is taught in health clubs, schools, Ys, community centers and other facilities. Programs differ in their degree of emphasis on the spiritual and fitness aspects of the art.

As with any exercise program, a good way to assess a teacher or an approach is to observe a class or participate in a trial class. Tai chi class fees are approximately \$50 a month or less, although this depends on where you take the class. Books and DVDs provide tai chi instruction. Search “tai chi DVD training” on the Internet and you will find more than a million hits.

Yoga

In Sanskrit, an ancient Indian language, yoga means “union,” which captures its essence. Yoga is a disciplined activity, based on Hindu philosophy, that creates a union of mind, body and spirit. It is a method by which one strives to experience the nature of reality, the divine spirit, or whatever phrase one assigns to a meaning greater than the self.

There are many branches and schools of yoga, each with a different route by which the higher state may be reached. Hatha yoga, which uses the body to achieve the goals of union and harmony, has captured the interest and devotion of many in the Western world. It is hatha yoga that we see on television and film, that is taught in most yoga classes, and that is marketed for its health and body-sculpting value in videotapes made by celebrities and fitness experts.

It aims to cultivate fitness, relaxation, and well-being, and can play a valuable role in stress reduction as a complementary therapy. Yoga’s connections to ancient practices, Asian wisdom, and far-off lands are often part of its appeal.

What It Is

Hatha yoga is a 5,000-year-old set of exercises developed initially in India. Its three main components include proper breathing, movement, and posture. Yoga can be practiced in a group or individually. It involves completing a series of postures, such as standing on one leg while clasping the hands behind the head and holding the other leg out horizontally.

During the practice of postures, practitioners pay special attention to their breathing, exhaling while performing certain movements, and inhaling

during others. Breathing is deep and from the diaphragm. Special breathing techniques are employed. In some yoga postures, for example, one inhales through a single nostril only, and exhales through the other nostril.

Special breathing is considered important for several reasons. Deep breathing promotes relaxation, and specific breathing rhythms assist in maintaining the postures. Also, yogic practice emphasizes the cultivation of prana, or life energy, and its practitioners believe that prana can be cultivated through breathing. Prana is similar to the qi of Chinese medicine, the invisible life force said to pervade human bodies and everything else in the universe.

A typical yoga class lasts from twenty minutes to an hour. The class begins with some warm-up poses and breathing exercises, and continues with a series of postures. Each posture is held for thirty seconds to several minutes. At the end of class, students may briefly practice meditation or lie down to rest for a brief time. There are different schools of hatha yoga in the West, which vary according to the intensity of their postures and whether the emphasis is placed on rigorous or gentle exercises.

Although postures achieved by advanced yoga students sometimes appear to defy anatomical limits, the purpose of yoga is not contortion. Practice increases awareness of one's own body, and students learn both to know their own limitations and to move progressively toward more difficult postures. More simple and easily accomplished yoga positions work just as well, and are more commonly used.

What Practitioners Say It Does

Yoga was developed as part of a spiritual discipline. The purpose of yoga was to bring the practitioner to a higher state of awareness, an awareness of the divine nature and oneness of creation. By promoting disciplined focus on mind and body, yoga was developed to enable a greater consciousness of daily life and of its divine origins.

As practiced in the West, however, yoga tends to be used more as a method for physical and psychological change. Contemporary yoga proponents and teachers believe that yoga can improve strength and flexibility and increase relaxation and wellbeing.

Beliefs on Which It Is Based

Yoga is closely related to the Hindu religion. Hatha yoga is part of the yogic tradition described by the yoga master Patanjali in his Yoga Sutra

(probably written in the second century B.C.). It is thought to be the first attempt to compile the tradition and spiritual beliefs that had been passed on verbally in previous millennia. According to Hindu belief, we continue to live in a dark age of spiritual decline, as we have since prehistory, and hatha yoga is necessary to elevate the body and mind and reverse the decline.

Research Evidence to Date

A substantial amount of research has been conducted on the effects of yoga. Research shows that yoga practice can induce physiologic changes, increase skin resistance (a measure of reduced stress), cause the heart to work more efficiently, decrease respiratory rate and blood pressure, improve physical fitness, and produce brain-wave activity indicative of relaxation. Based on this body of evidence, yoga has been incorporated into complementary treatment regimens for many illnesses. It is also used independently as a fitness exercise and as a method of stress reduction.

Yoga is often used as complementary therapy for heart disease, asthma, diabetes, drug addiction, HIV/AIDS, migraine headaches, cancer, and arthritis to reduce stress and increase flexibility and strength. California cardiologist Dean Ornish includes yoga in his diet and exercise-based heart disease reversal program. Yoga techniques are documented to reduce stress and anxiety not only immediately following the activity, but also for lasting periods of time.

What It Can Do for You

People who practice yoga on a regular basis typically experience lowered levels of stress and increased feelings of relaxation and well-being. Yoga enhances physical fitness, and it helps relieve symptoms of chronic illness such as anxiety and pain. In practicing yoga for its health benefits, three caveats should be observed:

1. Yoga is a complementary therapy, not a cure for disease. Although it improves patients' feelings of wellbeing and enhances quality of life, the practice of yoga does not diminish illnesses or the need for ongoing medical treatment.
2. Yoga requires regular practice to be effective. Many people do not have the time for this commitment, which may require at least several hours each week.

3. The nature of some yoga postures can be stressful to people with particular health problems. Therefore, as when beginning any exercise program, people under medical care should consult their physicians to be sure yoga is appropriate.

Where to Get It

A good teacher can help the beginner a great deal. Classes are offered by many public schools, Ys, recreation centers, gyms, community centers, and schools dedicated specifically to yoga. When you locate a yoga teacher in your area, observe students in action or take an introductory class. Talk to students who have studied with that teacher for some time. Ask the teacher how long he or she has studied and taught yoga. Become informed and feel comfortable with that particular class before you sign up.

There are also many books, videos, magazines and on-line media resources devoted to yoga, including photographs for self-learning. In addition, international and country-specific organizations provide lists of schools, practitioners and teachers of the numerous types of yoga practice. Yoga teachers, facilities or classes are listed on the Internet in most cities.

Part Four



Gaining Strength Through Bodywork

Part Four Overview

22. Acupressure
23. Alexander Technique and Pilates
24. Hydrotherapy
25. Massage Therapy
26. Physical Fitness
27. Reflexology
28. Rolfing

This page intentionally left blank

Part Four Overview

The therapies in this section may be perceived as body-mind, as opposed to mind-body, medicine. In Part Three we saw that mind-body therapies such as hypnosis, biofeedback, and meditation claim to improve physiologic and psychological well-being through manipulating or training the mind. In contrast, the therapies described in this part share the belief that health problems can be alleviated or prevented, and well-being improved, by manipulating all or parts of the body. This is accomplished through specific exercises or manual manipulation by others.

The therapies in this Part are distinguished by the fact that they are not invasive. Some attempt to strengthen; others to relax. Some approaches focus on the body surface with the goal of providing relief by relaxing tense muscles. Yet other approaches are meant to be practiced with sustained effort to gain or regain strength.

Most therapies in this section, although not all, can be practiced on your own, following instruction from a teacher. Thus most are inexpensive, and some are free after an initial training period. Many are safe and gentle, with few side effects. All, however, must be evaluated individually, because there is potential for harm or injury from a practice performed incorrectly. Also, people with potentially precluding circumstances should check with their physicians before starting bodywork, including those with certain physical conditions such as fragile bones, infants with still pliant bones, and those with certain illnesses or open wounds. Cancer patients should seek massage and other therapies by people trained to work with cancer patients.

Physical fitness is especially important to prevent and help manage cancer. Appropriate activity — brisk walking 20 minutes a day — is strongly recommended and may produce major benefits in terms of disease outcome.

With the exception of an appropriate fitness regimen, which may actually improve health, bodywork focuses more on relieving pain and enhancing well-being than on healing illness. Legitimate bodywork techniques are correctly presented as complementary therapies designed to augment medical treatments and to increase relaxation, help reduce stress, and otherwise enhance quality of life. Massage therapy and the Alexander

Part Four: Gaining Strength Through Bodywork

technique, for example, promise to increase well-being by relieving muscle tension and altering poor habits of posture and movement, respectively. Others, such as Pilates, strengthen muscles and balance.

Where do these therapies come from? Almost all cultures throughout history have produced bodywork methods. Acupressure, hydrotherapy, massage therapy, physical exercise and reflexology have ancient beginnings in the world's earliest cultures. The ancient ideas about how they work are rarely supported by mainstream science, but they are effective nonetheless.

Over time, practitioners from some bodywork systems split into different camps, so that variations in emphasis may exist within the same therapy. Some advanced students of Rolfing, for example, split off over the years and modified, extended, and discarded aspects of the original approach, thus developing new but related bodywork method.

Some therapies begin with the hypothesis that the body has an ideal alignment, that misalignment causes discomfort or problems, and that therapy can restore ideal alignment. For example, the Alexander technique claims that the body's ideal posture involves the head, neck, and spine aligned in a specific way. Although related therapies share the principle that the body's misalignment causes problems, they differ on the issues of how and where the body becomes misaligned, and what should be manipulated to correct the problem. Rolfing attempts to realign the fascia, the tissues that cover the muscles and connect them to the skeleton.

In contrast, hydrotherapy uses established effects of heat and cold on the circulatory system to explain its benefits. It becomes "alternative," rather than complementary, when practitioners make claims that cannot be proved or explained by rational mechanisms, or when it is applied in dangerous ways, such as to treat kidney and liver problems.

There are many other systems or types of bodywork in addition to those discussed in this section. Most use some combination of hands-on work and movement exercises and share the same beliefs that lie behind most bodywork regimens: that emotional trauma can cause long-term physical tension; that bad habits of movement can be replaced with good to reduce muscular tension; and that strong muscles and better balance are important components of good health. Some additional approaches are summarized below. Most were developed in the past fifty years.

Aston Patterning: A student of Ida Rolf, Judith Aston added movement exercises and rearranging clients' environments to Rolfing's deep-tissue manipulation. Like Rolfing, Aston patterning seeks to change habits of movement and reduce muscular and skeletal pain and tension.

Bioenergetics: Developed by Alexander Lowen, MD, bioenergetics is based on the belief that repressed emotions cause muscular tension, and that a combination of bodywork and psychotherapy can relieve both muscular tension and repressed emotions.

Feldenkrais Method: This system, known as “Awareness through Movement,” is designed to make patterns of movement easier and more efficient.

Hellerwork: Developed by Joseph Heller, a former president of the Rolf Institute, Hellerwork adds movement exercises and counseling to Roling’s manual methods. Hellerwork involves eleven 90-minute sessions during which patients are taught to move more efficiently in ways that are natural to their body type.

Myotherapy: Manual pressure is applied to “trigger points,” which are said to be unique in each person’s body. Trigger points, caused by trauma, are claimed to cause muscular tension and discomfort, and these problems said to be eliminated by several sessions of myotherapy.

Polarity Therapy: Based on principles of traditional Chinese and Ayurvedic medicine, polarity therapy was developed by Randolph Stone, a chiropractor, osteopath, and naturopath. While the client lies on a massage table, the practitioner gently places both hands on the client. Their energy is said to come together and the client’s energy blockages to be relieved.

Rosen Method: Developed by physical therapist Marion Rosen, this approach is based on the idea that repressed emotions cause muscular tension. Practitioners gently massage the patient’s body, attempting to reduce muscular tension as patients’ emotions are discussed.

Rubinfeld Synergy: Ilana Rubinfeld, a former music conductor and student of the Alexander technique and the Feldenkrais method, also developed a combination of talk therapy and hands-on work. Practitioners locate and touch spots of tension on patients’ bodies while patients describe their emotional problems.

Shiatsu: An ancient Japanese system of massage, shiatsu involves gentle pressure to the meridians postulated by traditional Chinese medicine to unblock and balance qi, the body’s hypothesized flow of energy.

Trager Psychophysical Integration (Tragerwork): Developed by physician Milton Trager, the goal of Tragerwork is to change habits that limit movement ability and that cause muscular pain or tension. Using a system called “Mentastics,” it aims to make movement more pleasurable and effective.

This page intentionally left blank

Acupressure

Acupressure is finger pressure on the same acupoints used in acupuncture (see Figure 3 in Chapter 1), and for the same problems. These include the relief of pain and stress in a particular area or part of the body. Pressure can be applied by one's own or another's fingers. Acupressure probably was a formalized outgrowth of the natural human tendency to stroke, massage, or press the body until pain is relieved.

One can imagine the process becoming increasingly sophisticated over the centuries, as pressing specific points on the body was found, perhaps by group consensus, to relieve distress in particular locations. In turn, acupressure seems to have given rise to the more technological, albeit still ancient variation — acupuncture.

Although shiatsu often is assumed to be the same as acupressure, it is not. They are similar in that they both involve applying pressure to acupoints. However, shiatsu is new and focused on prevention rather than healing. It is a modern outgrowth of ancient acupressure.

What It Is

Acupressure is acupuncture without the needles. A type of massage, it involves placing very firm finger pressure for a few minutes on an acupoint, which is a specific place on the skin. More than 100 acupoints dot the lengths of hypothesized meridians (channels) that run vertically from head to toe throughout the body. The acupoint to be pressed is determined according to which energy channel is blocked and therefore believed to have caused the problem.

There are fourteen meridians, twelve of which are bilateral — that is, the same points exist on both sides of the body. The two remaining meridians, which are unilateral, run along the midline of the body. Meridians are the invisible interior channels through which qi (life force or vital energy) is believed to travel throughout the body. These pathways are not consistent with any biological systems known to Western science, such as specific nerves or blood vessels. Each acupoint is believed to control particular body organs or functions.

According to Chinese lore developed thousands of years ago, acupressure is said to remove trapped energy, assist the free flow of the life force, and dissipate problems in areas of the body associated with a particular meridian.

Claims made for acupressure vary by practitioner. Some claim that the technique successfully treats obesity, arthritis, and pain and improves blood circulation. Others believe that acupressure can function as an effective preventive measure, maintaining health through the promotion of balance in body organs and systems. The claims of others, especially those in mainstream medicine, are more modest, tending to stress acupressure's ability to relieve pain and anxiety in many people.

Beliefs on Which It Is Based

Acupressure stems from the ideas on which traditional Chinese medicine (Chapter 6) rests, and it is rooted in the beliefs and assumptions of that ancient healing system, including the flow of qi throughout the body. When qi meets no blockages and can move smoothly, balance and harmony are said to exist in the body, a state equivalent to health. Conversely, when the flow of qi is blocked, internal imbalance results, a condition that is tantamount to illness.

The fundamental belief behind acupressure, then, is that pressing certain points on the body, called acupoints, can remove energy blocks along relevant meridians, returning balance to the body and enabling healing to occur. Although it may not work in this way, it does work.

Headache? Some people obtain relief by pressing the soft area between thumb and forefinger using the thumb and forefinger of your other hand. Press hard for a few minutes. It may work, and it won't do any harm.

Anxious or feeling nauseated? Press crosswise inside the wrist, about where your watchband sits, with three fingers of the other hand for a few minutes. Then switch hands. Research shows it is as effective as drugs.

Research Evidence to Date

Studies have assessed acupressure's ability to treat several problems, including morning sickness in pregnant woman, headaches, motion sickness, backache and nausea and vomiting. In the acupressure/acupuncture system, nausea is believed to be controlled by a small area on the inside of the wrist called the P6 acupoint. Pressing that point is believed to control nausea, and research backs this belief.

A Cochrane meta-analysis was reported in 2009. It analyzed all randomized trials that compared P6 acupoint stimulation with acupuncture, acupressure or other means, versus sham treatment or drugs for post-operative nausea and vomiting. Forty trials involving a total of 4,858 adults and children were analyzed. The P6 acupoint stimulation controlled nausea and vomiting just as effectively as did antiemetic drugs. And acupressure worked just as well as acupuncture.

Many other well-conducted published studies also support the value of acupressure for nausea and vomiting as well as for anxiety and pain. One trial compared acupressure versus physical therapy for the treatment of pain, disability and functional status. Acupressure was significantly more effective in relieving all three problems, and its benefits lasted at least until the six-month follow-up evaluation. The same results were found in a study specifically looking at acupressure for low back pain or chronic backache.

In the year 2010 alone, separate controlled studies were published; each documented the value of acupressure for chemotherapy-induced nausea, menstrual cramps and pain, chronic headache pain and insomnia when compared with placebo or other therapies.

Acupressure versus other kinds of bodywork

Most bodywork involves manipulating muscle groups or the entire body. Acupressure is different. It involves pressing on a single point, which is often distant from the pain, believed related to the aching area on the basis of ancient Chinese concepts of energy flow and blockage.

What It Can Do for You

Acupressure relieves pain and reduces other problems for many people. Especially because it is easily self-administered, not invasive, and low- or no-cost, it is worth a try.

Part Four: Gaining Strength Through Bodywork

Some obvious precautions are in order. Acupressure should not be used as the only treatment for a chronic problem or for serious injury or illness. In these cases, a licensed physician should be consulted. Acupressure should be avoided near the abdominal area in pregnant women and near varicose veins, wounds, sores or bones that may be broken.

Where to Get It

Acupressure practitioners and self-help techniques for pain, nausea and many other problems are readily available on the Internet.

Alexander Technique and Pilates

There are many exercise techniques, each a variation on the theme of maintaining good muscle strength and function. The two noted here are especially popular today.

Frederick M. *Alexander* depended on one of the oldest human tools, simple self-observation, to develop his bodywork system. Alexander was an Australian actor, born in 1869. While performing on stage, he periodically suffered episodes of voice loss, and the problem threatened to end his acting career. Visits to physicians resulted in prescriptions for rest and medications, but these did not solve the problem.

Alexander began to observe himself in a mirror, and noticed that when he practiced his roles he lowered his head and tensed the muscles in his neck. He concluded that this strained his vocal cords. Over several years of observation and effort, he corrected these postural habits, and his problem cleared up. He began to help others with posture or movement problems, eventually moving to London and starting a program to teach his methods. He ran that program until his death in 1955.

Alexander developed methods to change the way his body moved when engaged in everyday activities such as standing, sitting, walking, and speaking. His technique promises those who study it increased relaxation, a greater sense of well-being, and better overall body function.

The *Pilates* method was created by Joseph Pilates in the early 1920s. He designed an exercise program aimed to increase muscle strength, endurance and flexibility while maintaining spine stabilization. Pilates exercises are performed on a mat on the floor, or with exercise equipment that uses pulleys and/or resistance from the individual's own body weight.

A commonly used Pilates invention is a ring constructed of flexible metal or rubber, approximately thirteen inches in diameter. It has small pads on both the inside and outside of either side of the ring, which is carefully pulled or pushed while standing to provide resistance exercise. The various approaches in this exercise system are said to firm and tone the body.

The core principle in Pilates is to move with great deliberation and muscle control. Full attention each step of the way is key, including attention to breath and coordination of each move.

What It Is

The goal of the *Alexander technique* is to correct bad habits of posture and movement that, over time, can lead to poor posture, excessive muscle and body strain and tension, and inefficient ways of moving. A typical individual or group session lasts 30 to 45 minutes. Alexander technique classes often are held in schools of performing arts, as the program is especially popular with actors, dancers and musicians. Certified teachers complete a 1,600-hour training program over three years.

The teacher observes the student in walking or sitting, and uses his or her hands to adjust posture and redirect muscles. Verbal instructions on muscle relaxation and proper alignment of various parts of the body are provided at the same time. The Alexander technique teacher continues the process of giving directions and manually redirecting muscles. Students are asked to keep the exercises and proper posture in mind outside of class as well.

While the Alexander technique depends on an observer who corrects poor posture, *Pilates* often is practiced by the individual on his or her own. Instruction booklets and DVDs are available. After learning the procedures one wants to follow, most people can manage without the training manuals. Pilates often is used in gym training, and classes also are popular. These are widely available through private practitioners and community center programs.

Pilates basic principles involve performing each exercise with careful concentration each step of the way. Six principles underlie the program:

1. **Centering:** Focus on the center of the body, the area considered the seat of greatest strength. It is between the lower ribs and the pubic bone. Pilates exercises are said to be sourced from that center.
2. **Concentration:** It is said that full attention to the exercise produces maximum value from each movement.
3. **Control:** Every Pilates exercise is performed with complete muscular control. No body part is left to relax.

4. **Precision:** In Pilates, awareness is maintained throughout each movement. There is a proper alignment of all body parts and how they relate to each other.
5. **Breath:** Taking very full breaths is important in these exercises. Mr. Pilates recommended thinking of the lungs as a bellows, and using them to vigorously pump the air in and out of the body. Proper use of breath is a basic aspect of Pilates exercises.
6. **Flow:** A flowing manner should be maintained. Move with fluidity and grace during each exercise. The energy of the exercise is said to connect all parts of the body.

The Pilates principles may seem somewhat difficult and complicated to follow, but those who use this method greatly admire the experience as well as the results.

What Practitioners Say It Does

According to advocates, the *Alexander technique* can correct habits of poor posture and movement that can lead to muscle strain, pain, and imbalance in the body. The Alexander technique is used by healthy people as well as by those suffering from muscular and skeletal strain, tension or chronic pain induced by problems with posture or movement.

For those in pain, the technique can help alleviate muscle strain and tension that cause or exacerbate this pain. For the healthy, the Alexander program can improve awareness of the body and enhance efficiency of movement and posture. Also, it is said to improve physical coordination, increase well-being, and promote relaxation. The goal is to teach the correct way to move the whole body, not to work with one area or part of the body. In the process of learning how to move correctly, pain relief is possible.

Claims for *Pilates* are similar. It is said to improve flexibility and strength with an exercise system that is safe and effective regardless of age or condition. It is said to provide a refreshing mind-body workout, to reduce stress and to produce lean muscles and flexibility. Good balance and strength enhance flexibility, and all of these benefits should reduce the possibility of injury.

Beliefs on Which It Is Based

Alexander believed that optimal alignment of the head, neck, torso and spine exists when posture and movement are correct. In this alignment, the head

rests comfortably at the top of the spine, and the spine is neither compressed nor incorrectly curved. When the body is perfectly aligned, its muscles are relaxed and ready for movement.

Alexander and his current followers believe that his exercises, properly practiced, enable students to unlearn those habits of movement and posture that cause difficulty, and to learn proper posture and movement that put the body back into alignment. Alexander believed that bad habits develop very slowly, starting in childhood, so they often go unnoticed until later in life.

Pilates is based on the idea that the conscious mind can coordinate the muscles. It incorporates the classical Greek ideal of the person who is equally balanced in body, mind and spirit. When he developed his exercise system in the 1920s, Joseph Pilates believed that then-modern lifestyle, bad posture and inefficient breathing were the roots of poor health. The exercises he designed were meant to correct muscular imbalance and improve posture, coordination, strength and flexibility, and also to increase breathing capacity and organ function.

Through coordinating the body, followed by repetition of the exercises, Joseph Pilates believed that the person progressively acquires the natural rhythm and coordination associated with subconscious activities. Gaining mental mastery and awareness of one's body is said to allow the conscious mind to coordinate the muscles.

Research Evidence to Date

A major randomized, controlled study of the *Alexander technique* was published in 2008. It involved 579 patients from 64 general medicine practices in England. Patients all had chronic or recurrent low back pain; 144 were randomized to normal care, 147 to massage, 144 to six Alexander technique lessons, and 144 to twenty-four Alexander technique lessons.

Results showed that exercise and lessons in the Alexander technique remained effective at one year. Six Alexander technique lessons followed by prescription exercise were nearly as effective as 24 Alexander technique lessons. A combination of six lessons in Alexander technique lessons followed by exercise was the most effective and cost effective option.

In a 1992 study, people who received twenty weekly training sessions in the Alexander technique increased their respiratory function, whereas respiratory function did not improve in a group of control subjects. The Alexander technique is a good example of an inexpensive, effective therapy with no negative side effects.

In the past four years, seven randomized, controlled studies were conducted to determine the value of *Pilates exercise*. One study explored improvement of muscle endurance, flexibility, balance and posture. Another sought to determine whether Pilates could reduce pain and improve functional status and quality of life in patients with fibromyalgia, a chronic musculoskeletal disorder. Three clinical trials addressed the problem of low back pain, one other looked at muscle strength and one studied weight reduction.

All seven research studies found that Pilates produced important improvements when compared to controls. These high-quality show that Pilates, too, is an inexpensive, effective therapy with no negative side effects.

What It Can Do for You

Both the Alexander technique and the Pilates method have prospered in terms of increased popularity in the number of teachers and students it attracts. Both techniques have been validated through research. Both are gentle and not likely to cause harm, although people with chronic pain, joint difficulties or a serious illness should consult with their primary caregivers. It is important to make certain that these or any other exercise regimens are safe given your specific condition.

With safety checked, these and other gentle strengthening exercises should provide multiple benefits, bringing pain relief, relaxation, more efficient body function and improved mood.

Where to Get It

Alexander and Pilates teachers and classes abound and can be found almost everywhere. In addition, there are numerous DVDs, websites and books that describe with words and pictures exactly to pursue these programs. Either method name, placed in an Internet search engine, produces many thousands of hits. Select whichever exercise regimen you find most appealing, and follow it for good health.

This page intentionally left blank

Hydrotherapy

Our planet and our bodies are mostly water. We cannot live for more than a few days without it. Water has been a part of medical practice from the beginning of civilization to the present day, and great healing powers have been ascribed to it, as illustrated by clichés such as the “fountain of youth” and “healing waters.”

The Romans built bathhouses across the extent of their empire. Scandinavian countries are famous for their saunas. Following practices throughout Europe, resorts in the United States were developed around the mineral waters of Hot Springs (Arkansas), Warm Springs (Georgia) — where U.S. President Franklin Roosevelt often went in the 1920s to seek relief from his polio-caused physical disabilities — as well as many other sites. Today, water-based therapies are widely used throughout mainstream and integrative medicine to treat wounds, injuries and burns, to facilitate physical rehabilitation, and to promote relaxation.

What It Is

The use of water as a medical treatment is known as hydrotherapy. Because hydrotherapy encompasses so many different approaches, any particular form should be evaluated along several dimensions.

First, is it used in rational or evidence-based ways—does the stated and desired purpose of the treatment make sense? For example, the use of hydrotherapy for relaxation purposes in spas is legitimate. Many countries have spas developed around natural springs, which historically were created in the belief that minerals in the spring water would aid the healing of disease. While that is unlikely and should not be used for that purpose, the

reduced stress and increased relaxation typically produced by spa visits are beneficial.

Second, is it applied externally or internally? Examples of external hydrotherapies include ice packs to reduce the swelling of sprained ankles, warm water to irrigate and cleanse wounds, and whirlpool baths for physical rehabilitation. Internal hydrotherapies include administering fluids to dehydrated patients. An example of an unproven and possibly dangerous hydrotherapy is colonic irrigation (see Chapter 41).

Third, what is the state or temperature of the water? It could be solid (ice), cold or hot liquid (water), or gas (steam). In Japan, Scandinavia, Turkey and other countries, public bathhouses have been an integral part of community life for centuries. At the end of the workday, people gather and soak in heated water (steam bath) or sit in a steam-filled room (sauna) for twenty minutes or so. Sometimes, periods of time in a sauna are alternated with periods of time out in the cold air or even quick dips in icy water or snow.

Fourth, what is the duration or pressure of the water used in the treatment?

Finally, is the hydrotherapy self-administered or administered by a practitioner? Home-based hydrotherapy systems, such as hot tubs, Jacuzzis (whirlpool baths), and home saunas, offer the relaxation benefits that public baths and spas can produce. They often include showerhead or handheld devices that provide water massage. Another form of useful, self-administered hydrotherapy is the sitz bath, where the pelvis is immersed in a tub of warm water. The sitz bath offers relief from pelvic-area soreness and some abdominal ailments.

What Practitioners Say It Does

Hydrotherapy has several major functions in medicine. The first is the cleaning and irrigation of wounds or burns to enable additional treatment or prevent infection. Pain relief is another important role, as in the case of cold compresses for headaches or hot water packs for muscle pain. Hydrotherapy, including the use of ice packs, is applied to ease the effects of minor injuries, such as ankle sprains. Internal body temperature can be regulated with water, both to reduce fevered body temperature or raise abnormally low temperatures caused by excessive exposure to cold.

Hydrotherapy is used also for physical rehabilitation and exercise. Conducting therapy or exercising in water can be more effective and cause less strain and trauma to the skeleton and joints than is true for land-based therapies. It is especially useful for people with physical limitations.

As a complementary therapy, hydrotherapy provides relaxation and symptom relief from many ailments. As noted in Part Six “Alternative (Unproven or Disproved) Treatments Taken Internally,” however, hydrotherapy is sometimes promoted as a potentially curative therapy. Colonic irrigation is an example. Such unproven methods may involve exposing the body to extremes of temperature through water or through internal cleansing, potentially dangerous procedures promoted to “detoxify” the body and restore health.

Beliefs on Which It Is Based

Many hydrotherapies are based on the well-known and documented physiologic effects either of water itself or of heat or cold delivered through water. Heat-based hydrotherapies rest on the fact that heat dilates (expands) blood vessels, which increases circulation in the area being heated. Increasing the blood supply to muscles with the application of heat, for example, can relieve pain.

Cold-based hydrotherapies work according to an opposite mechanism. Cold constricts blood vessels, reducing circulation to that area of the body. Application of ice or cold packs is useful to reduce swelling. Physical rehabilitation activities in swimming pools are based on the fact that water is more protective of the skeletal system and offers more resistance than air, which enables muscles to work harder while protecting bones and joints.

Research Evidence to Date

Ice packs, hot compresses, and sinking into a warm tub are good examples of tried-and-true, self-help, water-based techniques that work for many common problems. Some are described in the following section. Water immersion removes weight from joints and facilitates motion and exercise. In addition, hydrotherapy is a major component of therapy for hospitalized patients with severe burn injuries, and heat therapy is a proven method for some skin diseases. Swimming is a superb, gentle exercise routine.

Conversely, a review of the medical literature indicates that hydrotherapy for more serious and prolonged conditions is not effective. For example, hydrotherapy did not reduce pain, swelling, immobility, or other problems in careful studies of patients with osteoarthritis of the hip or rheumatoid arthritis, patients after knee- or hip-joint surgery, or following ligament, cesarean, and other gynecologic surgical procedures.

What It Can Do for You

The following self-help water remedies have been found safe and useful:

- Abdominal cramps, irritable bowel syndrome: A heating pad or hot-water bottle applied to the abdomen usually helps.
- Arthritis and bursitis: Use gel or ice packs for pain resulting from overactivity; apply heat for swollen, tender, hot joints; and take a hot shower or bath to relieve stiffness and pain.
- Alternating ice and heat, ten minutes for each application, helps bursitis.
- Breast soreness from pregnancy or menstruation, other benign discomforts: Heating pads work for some women, cool-water compresses for others, and some achieve comfort by alternating hot and cold applications. (See your physician for any new lump.)
- Carpal tunnel syndrome: For this condition, caused by long-term, repetitive motions of hands and wrists, try ice packs.
- Colds, laryngitis, sore throat: Humidity helps these and related ailments. Stand in a hot shower, use a humidifier, try a steam bath, or place your face over a bowl of steaming water with a towel draped over your head, forming a mini-steam bath.
- Headaches: Hot compresses or heating pads are the usual treatment, but some people get more relief from cold compresses applied to forehead and neck.
- Hemorrhoids: A sitz bath — sitting in warm water with knees raised — reduces pain and can help shrink swollen veins.
- Hives: Cool baths, cold compresses, or an ice cube rubbed on the hives can be helpful.
- Insomnia: A warm bath a few hours before bed can induce drowsiness.
- Insect stings: Ice cubes or an ice pack are helpful, but some people feel better with applied heat.
- Menstrual cramps and endometriosis: If a heating pad does not help, some women find relief with cold packs.
- Muscle aches and pains and swelling: Use ice packs twenty minutes on, twenty minutes off for several hours or a day.
- Stress: Soaking in a hot tub restores proper circulation, relaxes the body, and reduces stress.
- Sunburn and other minor burns, bumps, bruises, sprains: Apply ice water or ice compresses, or apply a cloth dipped in cool water.
- To strengthen muscles and lung capacity: Swimming is safe and effective.

Although hydrotherapy has many benefits and applications, some cautions are noted concerning various forms of its use:

- Cases of bacterial diseases infecting users of improperly cleaned public and private whirlpools and hot tubs have been reported in the medical literature.
- Excessively hot water can cause burns and other problems; ice applied directly to skin for more than a short time can damage tissues.
- Excessively cold water can harm people with circulatory disorders.
- Be wary of extreme or outlandish claims made for the curative value of any hydrotherapy.
- Particularly regarding internal hydrotherapies, be aware of possible side effects or harm from excessive water temperature, pressure, or amount of liquid infused.
- Colonic irrigation can cause perforation of the colon. Furthermore, serious and even fatal internal infections have been caused by this procedure in practices that fail to sterilize equipment.

Warning about Temperature Extremes

Avoid direct contact of ice on skin for more than a few minutes because it can damage skin. Instead, wrap a plastic bag of cubes or crushed ice in a dish towel, and apply that to the skin. Because ice constricts blood vessels, people with heart disease, vascular disease, diabetes, and similar problems should apply ice only with the guidance of their physicians.

Extremes of water temperature should be avoided by pregnant women and those with heart conditions, high blood pressure, vascular problems, diabetes, and any debilitating illness.

Where to Get It

Conventional practitioners often prescribe hydrotherapy as part of physical therapy and other treatment regimens. For self-administered hydrotherapies, local spas, health clubs, and Ys often have whirlpool or sauna facilities. Water therapies are often included in naturopathic approaches to healing (see Chapter 5).

This page intentionally left blank

Massage Therapy

Massage today is considered a respectable and viable complementary technique. Modern massage is used not only as a form of stress reduction and muscle relaxation, but also as an adjunctive treatment for patients in hospitals and retirement centers. It is a central component of Integrative Medicine.

The history of massage is four to five thousand years old. The renowned 2700 B.C. Chinese text, *The Yellow Emperor's Classic of Internal Medicine*, recommends that “breathing exercises, massage of the skin and flesh, and exercises of the hand and feet” be used to treat paralysis, chills, and fever. Early Egyptian tomb paintings display therapeutic massage, clearly indicating its application in that part of the ancient world as well (see Reflexology, Chapter 27).

As massage evolved, Per Henrik Ling, a nineteenth-century physician in Sweden, developed Swedish massage, considered to be the most commonly practiced massage technique today in the United States. His method was based on gymnastics, physiology, and techniques borrowed from China, Egypt, Greece and Rome.

Eastern versus Western Massage

The philosophies behind Eastern and Western massage, both of which are popular, differ importantly. Eastern thought is based on restoration of the body's energy, while Western belief focuses on the importance of relaxing muscles and tissues.

Both techniques, however share the goal of assisting the body's natural healing ability. Massage helps individuals reduce stress as well as recover from many physical problems. Massage therapy does not cure disease.

What It Is

The word massage comes from *massa*, an Arabic word meaning “to stroke.” Massage is the use of various manipulative techniques to move the muscles and soft tissues of the body. Swedish massage consists of five specific types of strokes:

1. *Effleurage* is a long gliding stroke done with the whole hand or thumb.
2. *Petrissage* involves kneading and compression motions.
3. *Friction*, the most penetrating of the movements, consists of deep circular movements made with the therapist’s thumb pads or fingertips.
4. *Vibration* involves applying a very fine, rapid shaking movement.
5. *Tapotement* consists of a series of quick movements using the hands alternately to strike or tap the muscles.

Therapists may use some or all of these techniques during a massage session depending on the area being worked, the training level of the therapist, and the preference of the client. A massage session may last from thirty to sixty minutes. Cost generally ranges from U.S.\$30 to U.S.\$100 or more.

The room in which massages usually are given contains a sheet-covered massage table, which is similar to an exam table in a doctor’s office. Typically the room is softly lit and bathed in low, soothing music. The client is partially or totally undressed and covered with a sheet or towel. The cover is moved and then replaced from each part of the body as it is massaged. In some cities, mini massage is available to fully-clothed workers during their lunch breaks, providing quick relief of stress in a brief period of time.

Massage is one of the most requested and universally beneficial complementary therapies. It is important that clients tell their therapists what they expect and what they are comfortable with. Explaining any physical ailment also is necessary. Cancer patients should seek licensed or certified massage therapists who also received additional training to work with cancer patients or survivors.

What Practitioners Say It Does

Massage has important emotional and psychological benefits. It relaxes muscles, which in turn reduces stress. Massage is helpful not only in reducing the feeling of being stressed, but also in treating problems exacerbated by muscle tension, such as insomnia, headaches and backache. Massage can also help reduce high blood pressure and reduce heart rate, arthritic and rheumatic pain, and depression.

Beliefs on Which It Is Based

In an ancient Greek text, Hippocrates described massage as an effective therapy, especially for sports and war injuries. Although historically, as with Hippocrates, massage was used as a medical treatment, it has been proven over time to be effective therapy for the mind as well as the body. Many advocates of massage refer to the relevance of “healing touch.” The physical contact of the massage therapist’s hands are said to sooth the soul and the mind.

Massage therapy is based on an understanding of its physiologic effects. When muscles are overworked, waste products such as lactic acid can accumulate in the muscles, causing soreness, stiffness, and even muscle spasm. Massage improves circulation, which increases blood flow thereby bringing fresh oxygen to body tissues. This can assist the elimination of waste products from the muscles, speed healing after injury, and produce important physical and emotional relaxation.

Research Evidence to Date

The medical community increasingly uses massage therapy as a complementary therapy for people with various illnesses and for various age groups. Research and patient self-reports indicate that massage therapy lowers anxiety levels in children, adolescents and adults. One study documented a reduction of blood pressure among elderly nursing home patients who were given back massage. Research indicates that massage therapy enhances quality of life.

Several articles in medical journals describe the relaxing benefits of massage therapy as a complementary treatment for patients with major illnesses such as cancer and heart disease. However, neither scalp nor body massage can treat cancer or any other disease, despite false claims to the contrary (see Chapter 42).

Giving a Massage at Home

1. Keep the lights low and the room warm.
2. Cover your partner with a sheet to avoid chilling.
3. A pillow under the knees or head may enhance comfort.
4. Use a pleasant, warmed oil on your hands to reduce friction.

What It Can Do for You

There is little question that people benefit both physically and mentally from massage therapy, and that massage promotes relaxation, releases muscle

tension, and reduces stress. Massage therapy is all but universally helpful. However, it should be avoided if you have fever, acute inflammation, infection, phlebitis, thrombosis or jaundice. You should not be massaged at the site of a recent injury. Individuals with chronic conditions such as arthritis, cancer, or heart disease should consult a physician before seeking massage therapy. Those who are healthy and wish to relax, reduce stress, and enhance their well-being will benefit from massage.

Where to Get It

Although not all states or countries regulate massage practices or massage therapy licensure, trained and duly qualified practitioners are widely available. There are many national and international organizations that provide information about massage and referrals to qualified therapists, including the International Massage Association (www.imagroup.com), the American Massage Therapy Association (www.amtamassage.org), and the U.S. National Certification Board for Therapeutic Massage and Bodywork (www.ncbtmb.org).

Physical Fitness

Physical activity is a fundamental component of Integrative Medicine. It is among the very most important of all complementary therapies, not only because it improves quality of life, but also because it produces a survival benefit.

Needless to say, it is unusual to find something that costs nothing, produces zero negative effects, is completely do-it-yourself, and packs the power of a major new pharmaceutical agent. But exercise does just that.

First, the studies came out about breast cancer, then colorectal cancer. They showed that exercise reduced the risk of death and cancer recurrence by 40% to 50%. Five large observational studies demonstrate that regular physical activity after cancer diagnosis produces superior survival outcomes, compared with patients who remain sedentary after a cancer diagnosis.

The relationship of fitness and obesity and death from cancer was studied for 2,585 women and 2,890 men for about 25 years. Good fitness strongly predicted cancer mortality in men, and being overweight was a strong predictor of cancer death in women. As of this writing, in 2010, there are multitudes of studies looking at physical fitness and survival in patients with many different cancer diagnoses.

Studies suggest that exercise is beneficial even for people with metastatic cancer. That is, physical activity may positively influence disease outcome even for patients with widespread cancer, just as it does for people with diabetes or cardiac disease.

What It Is

The existing research literature does not yet indicate a particular exercise that works best. However, it is clear that any exercise is good. Clinicians and

scientists recommend any kind of aerobic exercise, such as brisk walking, swimming, dancing, biking, etc.

The critical point is not so much what you do, but that you do it on a daily basis.

Clearly, part of the value of exercise is that it helps maintain lower weight, and the relationship between obesity and illness is well established. Adding physical activity, and eating less and eating better (Mediterranean-type diet with lots of vegetables, fruit and fish) are lifestyle changes essential to good health. Lifestyle changes are not easy to adopt, but staying with them will make all the difference to your health and well-being.

What Practitioners Say It Does

Physical activity, or exercise, or getting out there and moving briskly — whatever you want to call it — will reduce chances of getting, and improve chances of surviving, heart disease, diabetes, cancer and probably many other illnesses that have yet to be documented.

Beliefs on Which It Is Based

Exercise recommendations are based on solid research. Exactly how physical activity improves health and increases chances of survival even after cancer diagnosis is not fully understood. Some studies show that physical activity can reduce insulin levels in patients with diabetes or heart disease, and that may play a role. Insulin is a hormone. Modification of estrogen and other hormone levels also may benefit those disease as well as cancer.

What It Can Do for You

Physical activity improves mood and quality of life. Along with eating less and eating better, it reduces chances of getting diabetes or heart disease and appears to reduce the chance of getting breast, colon and possibly other cancers. Exercise improves survival possibilities after a cancer diagnosis. What could be better?

Where to Get it

Anywhere at all. In your home, a gym, a neighborhood center, or in your city or countryside. Brisk walking, biking, dancing, swimming or anything else that gets you up and moving for 20–30 minutes a day.

Reflexology

Reflexology uses the foot as a map of the entire body. Pressing specific parts of the foot is believed to help heal problems in a presumably related, although distant area of the body.

Reflexology is not unique in adopting the idea that the various sections of a single body part reflect particular areas of the entire body. Throughout the history of medicine, various attempts were made to use single body parts as diagnostic or treatment surrogates for the body as a whole. For example, whereas reflexology involves the feet, others use the iris of the eye. The system of “iridology” claims to diagnose disease by relating each pie-shaped segment of the colored iris of the eye to a specific organ or part of the body. Although this technique remains alive today in less medically sophisticated areas of the world, iridology has been studied scientifically and proven useless.

A nineteenth-century fad called phrenology attempted to map people’s personalities according to the contours of their heads, linking bumps or prominent points on the skull to various character traits. Both Chinese and Ayurvedic Indian medicine use the tongue as a guide to diagnosing all manner of ailments in other body parts.

The ear is used as a surrogate for the entire body in ear acupuncture. In more modern times, the colon was used as a map to other body areas, with each major illness said to reflect a disordered, perhaps too deeply creased, specific area of the colon.

Foot reflexology in the United States began with the work of William Fitzgerald, MD, who practiced in the U.S. State of Connecticut during the early years of the twentieth century. His technique was based on ancient practices that applied pressure to hands, ears, or feet to revive

energy flow and bring about homeostasis (balance). Despite his area of expertise — he was an otolaryngologist, or eye, ear, nose and throat specialist — his system uses none of these body parts, but rather the foot. He used the foot as a map of the whole body, each part relating to a specific body area.

Reflexology differs importantly from earlier attempts to use body parts as maps for the whole because it involves treatment as well as diagnosis. Fitzgerald theorized that the body is divided into ten equal zones that run from head to toe. With his system, which originally was called “zone therapy,” gentle pressure to certain points on the feet seemed to relieve pain in a particular area of the body.

In the 1930s, American nurse and physiotherapist Eunice Ingham developed detailed maps of the feet that included what she termed reflex points, which were said to link spots on each foot to specific body parts elsewhere. Trial and error seemed to show that pressing the arch of the foot, for example, affected the inner organs. She also changed the name of the practice from “zone therapy” to “reflexology.”

Reflexology spread quickly throughout the United States and Europe. Most reflexologists working in the United States today have been trained in Ingham’s method or that of another prominent reflexologist, Laura Norman. Ingham’s nephew, Dwight Byers, long-term president of the Florida-based International Institute of Reflexology, is considered the world’s leading authority on the subject.

What It Is

Reflexology is a system of applying pressure to specific areas of the foot, although sometimes hands are used instead. It is not massage. Instead, the practitioner’s thumb, fingers, and palms apply pressure to specific reflex points on the foot. Reflexologists believe that each part of the foot relates to its own part of the body (Figure 7). By applying pressure to a reflex point, the corresponding body organ or area is affected.

Reflex points are on the soles, tops, and sides of the feet. The points on the right foot correspond to the right half of the body, and those on left foot correspond to the left half of the body.

Although people can perform reflexology on themselves after learning about the reflex points and pressure techniques, it usually is performed by a trained reflexologist. In a typical session, the patient lies on a massage-type table while the reflexologist gently massages each foot, and then begins treatment by systematically applying pressure to its reflex points.

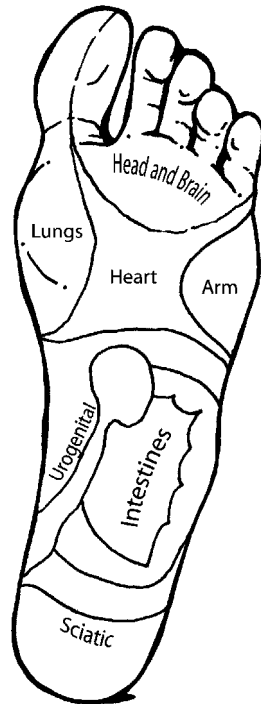


Figure 7. Reflexology uses the foot as a map of the body. The common basis of acupuncture and acupressure is apparent. Reflexology is not painful.

Treatments last from thirty minutes to an hour. According to practitioners, patients may experience tingling sensations in areas of the body that correspond to reflex points as those points on the foot are pressed.

What Practitioners Say It Does

Reflexology advocates believe that this approach can increase energy flow to the organs that correspond to the reflex points, and increase the vitality of those organs. By increasing the vitality of the internal organs, practitioners believe they can improve patients' health. They claim that reflexology can reduce stress and tension, improve circulation, eliminate toxins, and bring the body into a state of balance conducive to good health. These beliefs echo the vital-force concept that dominated the earliest ideas about health, illness, and physiological function.

Reflexology is recommended by proponents as a means of alleviating the symptoms of some chronic ailments, such as headaches, asthma, and bowel problems. It does not claim to cure illnesses.

Beliefs on Which It Is Based

There are two linked beliefs on which reflexology is based. One is that reflex points exist on the foot, and that these reflex points can influence health in distant organ systems and parts of the body to which they are linked. The second is that the body contains an invisible life force, or subtle energy, similar to the concept of qi (chi) in Chinese medicine and acupuncture (Chapters 6 and 1), or prana in Ayurvedic or Indian medicine (Chapter 2). Reflexologists believe that, by stimulating reflex points on the foot, they can unblock and increase the flow of this energy throughout the body.

Research on reflexology in the medical literature is scant. The best research evidence available does not demonstrate that reflexology is an effective treatment for any medical condition. None of the beliefs and concepts on which reflexology is based, such as the idea of subtle energy, has been proven. The major underlying hypothesis — that pressure applied to the foot improves health — is not documented.

What It Can Do for You

Reflexology's claims to restore vitality and improve health, or to alleviate or control disease, must be considered unproven. As is true of various forms of bodywork, reflexology can promote relaxation and feelings of well-being. Although reflexology is not a proven method of treating disease, its potential relaxation benefits are obtained inexpensively and easily, especially because the technique can be self-administered. Also of great importance, reflexology is a gentle, noninvasive technique, free of side effects. It does not affect medical problems, but it works well as a foot massage to reduce stress and provide a pleasant, relaxing experience.

Where to Get It

The International Institute of Reflexology in St. Petersburg, Florida (www.reflexology-uk.net) and in Sheffield, England (www.reflexology-uk.net) provides information and sells resources devoted to the technique, trains teachers, and keeps lists of reflexologists by geographic area.

Rolfing

Structural Integration, or Rolfing, is a trademarked system of bodywork invented by Ida Rolf (1896–1979). Rolf held a PhD in biochemistry and physiology. In the late 1920s, the piano teacher of one of Rolf’s children sustained a hand injury, which Rolf attempted to alleviate by giving the woman yoga exercises. This led to her interest in the relationship between body structure and function. After years of investigating body-oriented techniques such as yoga (Chapter 21), the Alexander technique (Chapter 23), and osteopathy, Ida Rolf developed a technique that she called “Structural Integration.” By the 1950s she was teaching the method. In 1970 the Rolf Institute was founded, and soon thereafter Rolf published books on the subject.

What It Is

Rolfing is an effort to align the body properly so that all segments — head, torso, legs, and so on — are correctly related to one another and aligned with gravity. This is accomplished by applying deep pressure to the fascia, which are the tissues that cover muscle fibers and internal organs, and help connect muscle to bone. Fascia play a key role in posture and overall support of the bones and skeleton. Rolfers, as they are called, believe that fascia become too solid and rigidly adhered, reducing the body’s ability to execute smooth and full motion. Rolf believed that your emotional status reflects your structural imbalances.

Certified Rolfers use their fingers, thumbs, knuckles, and sometimes elbows and knees to press and thus manipulate fascia in all areas of the body. Rolfers aim to loosen the fascia so that its hold on muscle and bone will be released. Clients also execute a series of exercises geared to move their bodies

more efficiently. People typically attend Rolfing sessions once a week for ten or more weeks. Each session lasts sixty to ninety minutes. Manipulation of the fascia is deepened at each successive session. Rolfing can be painful.

What Practitioners Say It Does

According to advocates, Rolfing can bring the body into balance and alignment. As motion becomes easier, improved posture should result along with increased mobility, easier breathing, less stress, and more energy. Rolfing is said also to help reduce chronic pain, particularly resulting from problems such as lower back injury. Rolfing is not advocated as a curative treatment for disease. It is, however, claimed to enhance one's general sense of well-being.

Beliefs on Which It Is Based

Structural Integration is based on two key premises. One is that the fascia can harden and thicken over time, throwing the body out of alignment with gravity. The other is the belief that a body out of alignment with gravity requires more effort and energy to move.

According to Rolf, the body ideally should be organized so that the centers of gravity of the head, shoulders, torso, and legs form a straight vertical line. When the fascia are relaxed and able to move, she believed, they can support this kind of structure. Over time according to Rolfers, however, poor posture, physical trauma, stress, emotional trauma, and disease can lead to the hardening and thickening of the fascia, causing the body to fall out of alignment. This is said to be shown in drooping of head and shoulders, excess spinal curvature, and other posture defects. Structural Integration is said to manipulate the fascia so that they loosen and relax, restoring the body to its proper alignment.

Research Evidence to Date

Controlled studies of Rolfing compared with other therapies or with no treatment are limited, and the claims made by Rolfing advocates are neither proven nor systematically examined.

What It Can Do for You

Whether Rolfing changes the body's alignment and whether realignment improves the efficiency of movement or helps in other ways has not been

formally studied, nor has the claim that Rolfing can improve well-being and quality of life.

On the other hand, Rolfing advocates do not claim to cure disease, and it is possible that the Rolfing massage by itself, despite any associated discomfort or pain, may release tension, convey a sense of well-being, and/or bring other physical and emotional benefits associated with massage therapy in general (see Chapter 25). Patients under treatment for cancer or other serious illnesses should avoid deep body pressure such as that in the Rolfing technique.

Where to Get It

The Rolf Institute of Structural Integration offers training classes and workshops, research and media information on the subject, and a searchable database of practitioners. www.rolf.org.

This page intentionally left blank

Part Five



Enhancing Well-Being Through the Senses

Part Five Overview

- 29. Aromatherapy
- 30. Art Therapy
- 31. Dance Therapy
- 32. Humor Therapy
- 33. Light Therapy
- 34. Music Therapy
- 35. Sound Therapy

This page intentionally left blank

Part Five Overview

We have all experienced the satisfaction of drawing or painting, playing or listening to a favorite piece of music, telling or hearing a good joke or a funny story. These impulses toward creativity and joy may be used not just for aesthetic satisfaction, but also for healing. That is what the practitioners and clients of the therapies described in this part believe.

Most of these therapies share several broad concepts and purposes. They appeal to and engage one or more of the senses; they involve creating or experiencing a work of art; and they require that patients take an active role in their own care. The application of sound and light may require less from the patient and may be less artistically expressive, but advocates of these regimens also claim clinical benefits.

It is important here as with other types of treatments to separate therapies that claim to cure disease (unproven or alternative therapies) from those used as adjuncts to mainstream medical treatment or to enhance wellbeing (complementary therapies). Most of the methods in this part are used appropriately as complementary techniques. They can decrease anxiety, promote relaxation, and create distraction for patients with major illness such as cancer, AIDS, and Alzheimer's disease.

However, almost every therapy in this part, as well as those elsewhere in the book, has a few fringe advocates who claim miracle cures. A few advocates of light therapy, for example, promote it as a cure for cancer, a promise as dangerous as it is untrue.

Despite some unproven claims for light and sound therapies, both light and sound are used in conventional medicine. Light therapy successfully treats seasonal affective disorder (SAD), a psychiatric syndrome of depression caused by reduced natural light in winter months. Sound is used in conventional medicine for both diagnosis and treatment in the form of ultrasound, or high-frequency (outside of human hearing range) sound waves. Ultrasound used for diagnostic purposes explores the heart, checks fetal development, and examines other areas of the body, all painlessly and easily. In one treatment, ultrasonic waves are sent through water to painlessly enter the body and destroy kidney stones.

Therapies that use the senses typically are inexpensive and free of side effects. They can be practiced easily alone or with others, with or without a professional therapist, on an outpatient basis or by patients who are hospitalized.

Most of the therapies in this part are relatively new, having been organized only several decades ago. Music therapy formally began in the 1950s, and a professional organization for dance therapy was established only in 1966. At the same time, most of these approaches spring from roots that extend back to the beginning of civilization. Visual arts, dance, humor, aromatherapy, chanting, and music have been intrinsic components of human culture for thousands of years.

Practitioners of these therapies often began as performers or students of the art, and then became interested in its medical applications. Dance therapy emerged when modern dance instructors saw the positive results of dance on their students and perceived its healing potential. The fine art therapies share the common belief that creativity is inherently therapeutic.

Art, music, and dance therapists are facilitators. They provide patients with the tools, advice, and emotional support to use their creative energies. Some effects are emotional, others help the body, and a few accomplish both. Because these activities involve listening to music, producing art, dancing, and creating and responding to humor, they seem more like prescriptions for a balanced existence rather than medical interventions — as indeed they are. These fulfilling activities also are part of wellness programs that also include maintaining good nutrition, exercise, and healthy relationships.

These primarily noninvasive therapies aim to engage the senses. Such activities are pleasant and rewarding, but they may also distract or focus attention away from the emotional and physical pain of illness. Finally, these therapies are active; they help patients interact with their environment through their perceptions and reactions to the world. Most require that patients do something, rather than have something done for or to them, as is more typical during illness. They often can provide a sense of control that is lacking during serious illness. Enabling a child or adult with cancer to draw gives that person an active means of expression, a tool with which fears and feelings about their disease can be communicated.

A few scientific studies have evaluated the merits of therapies involving the senses. Research indicates that certain sounds and aromas can promote relaxation, and that listening to Mozart can enhance some mental tasks. The therapies in this chapter do not cure disease. There is evidence, however, that they produce physiologic as well as psychological benefits. They can increase wellness and quality of life regardless of one's health status.

Aromatherapy

A combination of folk wisdom and accident merged to become the modern practice of aromatherapy. Aromatherapy involves the use of oils distilled from plants for therapeutic purposes. It has a long history of use in ancient Egypt, China and India. The distillation method used to extract essential oils was invented by an Arab physician in the tenth century AD.

Modern aromatherapy in the West began with a French chemist, René Gattefosse. Working one day in the laboratory at his family's perfume company, he burned his hand. He quickly doused his hand with some readily available lavender oil. The burn healed quickly and left no scar, perking his interest in the possible curative effects of plant oils. He began to study them, coining the term "aromatherapy" in the 1930s to describe this new field.

What It Is

Aromatherapy is the use of essential oils, which are natural, high-quality, pure oils derived from the distillation of plants. The oils are named for the plant from which they are derived, such as lavender, rose, eucalyptus. They are highly concentrated: between fifty and several thousand pounds of plant material is required to make one pound of essential oil, depending on the plant. At least forty essential oils are used in aromatherapy. Each is categorized according to its effects on the body, mind, and diseases it is said to treat. Oils from various plants may be used individually or in combinations.

Aromatherapy is delivered to patients in several ways. Oils can be applied directly to the skin through massage or as a liniment. For skin application, the oils are combined with a carrier medium, usually a vegetable oil, because the amount of essential oil required is so small.

The oils also may be inhaled with steaming water containing a few drops of an essence, or by using diffusers to spread oil-containing steam throughout a room. Because they are highly concentrated, essential oils are potentially toxic and should not be taken internally.

Aromatherapy can be self-administered or received from a practitioner. Several organizations in Europe and North America train and certify aromatherapists. Aromatherapists sometimes combine knowledge of aromatherapy with other practices, such as traditional Chinese healing or herbal medicine.

What Practitioners Say It Does

Aromatherapy has three main functions. The first is stress reduction, which is achieved primarily through the personal use of aromatic oils in one's workplace or home, or by combining aromatherapy with other stress reduction activities, such as soaking in a hot bath treated with scented oil or receiving a massage accompanied by aromatherapy.

The second function is preventive. According to some advocates, aromatherapy can balance and increase the well-being of both body and mind, thus decreasing the likelihood that disease will develop. The third function is therapeutic. Aromatherapy is used to treat physical and mental ailments. Lavender, for example, is used to treat anxiety, mild depression, and insomnia.

Some Popular Aromatherapies and Results Claimed for Them

Plant	Effects Claimed
Lemon	Detoxifies; stimulates immune system and liver
Vetivert	Regulates hormones, stimulates glands and nervous system
Rosemary	Relieves pain; relaxes muscles
Peppermint	Provides pain and digestive relief, decreases inflammation
Camomile	Serves as sedative, relaxant, and antiallergen
Eucalyptus	Eliminates infection
Rose	Regulates female hormones
Lavender	Calms, sedates, relaxes; lowers blood pressure

Conditions that practitioners believe to be aided by aromatherapy include acne, anxiety, cold and flu, skin disorders, headaches, indigestion, premenstrual syndrome, muscle tension, and pain. Some aromatherapy advocates use body applications (massages and liniments) to treat physical problems, and inhalation methods to treat emotional problems.

Beliefs on Which It Is Based

Aromatherapy rests on two central principles, one well known to science and the other as yet unproven. The first is that aromatherapy is based on the sense of smell, which is extremely acute in humans and other animals. Very small amounts of a scent trigger the sense of smell by activating receptors in the nasal cavity. These receptors are neurons, or nerve cells, which translate the odor into nerve impulses, enabling them to travel instantly to the olfactory bulb, which is part of the limbic system, the area of the brain that scientists have identified with memory and emotion. The sense of smell has been studied extensively for its role in communication and memory.

The second, but unproven, belief on which aromatherapy is based is that essential oils, through the sense of smell or by absorption through the skin, can affect the body's health.

Research Evidence to Date

Substantial research evidence exists about the olfactory system (the sense of smell). For example, a single waft of an odor can trigger memories from decades back. This was captured in Marcel Proust's famous passage in his novel, "Remembrance of Things Past," when the author was flooded with childhood memories as he bit into a madeleine, a French tea cake made for him as a child.

In addition, scientists have found substances called pheromones in almost all creatures. These chemicals are emitted by the body and sensed by the olfactory system. In mammals, pheromones play a role in sexual attraction and mating. In other organisms, they facilitate not only mating, but also the attraction of prey and forms of communication. Pheromones are responsible for a phenomenon called menstrual synchrony, where the menstrual cycles of women who live in close proximity, such as in a college dorm, often become similar, or synchronize with one another.

Some studies implicate the sense of smell in illness and relaxation. One researcher found that certain odors could trigger migraines in some individuals and, alternatively, that the fragrance of green apples may heighten feelings of relaxation.

However, although smell and the olfactory system have multiple functions, there is no scientific evidence indicating that aromatherapy can aid in preventing or alleviating disease. The medical literature contains no research on the effects of aromatherapy as a medical treatment.

What It Can Do for You

Like other complementary methods, aromatherapy may reduce stress, enhance pleasure, and improve quality of life for those to whom it appeals. However, no evidence in the medical literature supports claims by proponents that aromatherapy can help prevent or heal disease. Evidence is lacking even in the case of minor and self-limiting conditions, such as headaches and colds, that advocates say can be alleviated or abbreviated by aromatherapy.

Used as a strictly complementary technique, however, aromatherapy is a pleasant addition to baths and massages. Scented candles or aroma sprays, for those who enjoy the fragrance, contribute to a sense of relaxation and help create a calming atmosphere.

A few caveats: The essential oils of aromatherapy never should be swallowed or taken into the body through other routes. Also, prolonged, extensive exposure to essential oils should be avoided, as reports in the medical literature indicate that such use has produced allergic reactions in some people.

Where to Get It

More than six million web sites promote aromatherapy and sell related products. Books are also readily available, as are organizations that will locate sources of essential oils and aromatherapists in your area.

Art Therapy

Art that results from the creative process is an end in and of itself. Art therapy, by contrast, is a means to an end. It uses creative activity as a vehicle for rehabilitation, a means of helping the sick or disabled.

Art therapists believe that everyone is an artist, or can be when left to create freely and without external constraints of judgment or criticism. The very process of creating a painting, sculpture, or any other type of art, including written art such as poetry or stories, can help develop self-awareness and self-esteem. The release of creative energy generates internal activity that helps produce physical, mental, and spiritual healing. For those who cannot themselves create, the opportunity to experience the art of others can produce similar benefits.

Many people, including patients under treatment for physical or emotional illnesses, have difficulty verbalizing their fears. The resulting repressed feelings exacerbate tension and unease. Visual art, followed perhaps by pondering its apparent and symbolic meaning, can be cathartic and rewarding.

What It Is

Visual art therapy is based on the belief that the creative process is intrinsically therapeutic. Therapists provide relevant equipment and tools, technical advice, and emotional support. Patients are free to draw, paint, sculpt, or involve themselves in other forms of visual artistic expression or appreciation as they prefer and are able. Art therapy can occur in people's homes, in art studios, or in hospital beds. It is used as a means of expressing sometimes hidden emotions, and to gain benefits provided by the act of creation.

What Practitioners Say It Does

Some art therapists view the act of creating as the primary goal. In particular circumstances, however, creativity may be less important than gaining insight or expressing feelings. Images are mental constructs, personal messages sent by individuals to themselves. The expression of those images through art offers an opportunity to contact oneself through the senses, and to create a tangible record of sensations, perceptions, and feelings.

Art therapy is said to support self-esteem, foster development of a sense of identity, and promote healing through the maturation of creativity. Feelings expressed by patients' interactions with clay or paint can be translated into words more readily than can feelings kept inside.

In addition to helping the patient, art therapy can also be helpful to those who work with patients. The visual images the patient creates provide a tangible, permanent record of the patient's state of mind at that time and allow the therapist, artist, nurse, or educator to access the patient's emotions. Art therapy can create order out of chaos by giving form to images and emotions, and it encourages a silent dialogue between the patient's inner sensations and external realities. Viewing or producing paintings, drawings, and other forms of art can help keep patients from remaining passive recipients during treatment for chronic or psychiatric diseases.

Beliefs on Which It Is Based

Art therapy is based on the belief that the act of creating or viewing a visible product enables patients to express and communicate inner emotions, which is thought to be helpful to the healing process.

Research shows that infants, children, and adults during times of severe stress or life-threatening circumstances typically encode memory visually and through sensory channels, bypassing the conscious or verbal memory systems. Art therapy allows such nonverbal memories and feelings to surface so that they can be confronted and hopefully managed.

Another belief on which art therapy is based is that the beauty of creative works is intrinsically uplifting and refreshing. The timeless nature of great works of art that continue to elicit powerful feelings from people all over the world in all walks of life is testament to the power of art. Part of that power is distraction, the ability of art as we view it to remove us mentally from the constraints and problems of our physical or emotional pain. This, too, can contribute to healing by reducing stress and enhancing well-being.

Art therapy was found to support children and parents during painful procedures for leukemia treatment. It had a lasting positive effect on women dealing with breast cancer and its therapy, and another study showed that it decreased depression and fatigue in women undergoing chemotherapy. Several studies show that art therapy improves mental state and behavior in psychiatric patients, those suffering chronic stress, disabled people in rehabilitation programs, and Alzheimer's patients.

Many medical centers and some cancer centers hold art exhibits of patients' work, and such work has been published in full-color catalogs by several institutions. The walls of some hospitals display professional works of art. Often, these are rotating exhibits donated by local artists or galleries. Professional artists conduct workshops to teach patients, families, and hospital staff how to use art as therapy.

Projects and activities of this kind are believed to foster physical, mental, and spiritual healing, and to contribute to the well-being not only of patients but their caregivers and families as well. They are thought to enhance self-awareness, self-esteem, and creative energy and to improve mood and reduce feelings of distress, loneliness, and anxiety.

What It Can Do for You

Art therapy allows patients to express hidden emotions, a process that may encourage or assist the healing process. Art therapy does not cure disease; it is a supplement to medical practice and a complementary therapy. Some patients can manage only a passive form of art therapy involving viewing displays of art. Other patients may actively create. Either way, art therapy appears to improve well-being, enhance quality of life, and provide distractions during times of difficulty. Creative energy — one's own or another's — may assist healing and help patients cope with or overcome physical and mental distress.

Where to Get It

Many hospitals and other inpatient facilities have recreation areas or someone on staff who can arrange an art program.

There are numerous Internet resources, including ANZATA, the professional association for registered arts therapists in Australia, New Zealand and Singapore. It publishes the *Australian and New Zealand Journal of Art Therapy* (www.anzata.org).

Part Five: Enhancing Well-Being Through the Senses

The International Expressive Arts Therapy Association (IEATA) supports artists, educators, consultants and therapists using multi-modal expressive arts. www.ieata.org.

The American Art Therapy Association provides similar information and services. www.arttherapy.org.

Dance Therapy

The use of dance as a therapeutic tool may be as old as dance itself. For early humankind, dance was an outlet for expression, a means of communicating feelings, and a way to commune with nature. Dance rituals almost always accompanied rites of passage, ceremonies by which individuals were admitted into adulthood or integrated into the community. In the earliest civilizations, dance was part of that entwined combination of religion, medicine and magic. The ritual dance of the priest or shaman (medicine man), was central to the oldest forms of communal activity. Dance also provided a socially accepted means of releasing tension and improving physical and mental well-being.

The great anthropologist Sir James George Frazer had a tremendous impact on the modern dance movement. In his book, “*The Golden Bough: A Study in Magic and Religion*” (1890), he examined the role of ritual dance in primitive cultures. His insights provided new information about the anthropologic importance of dance that broadened understanding of its meaning and value, and this led eventually to the emergence of dance therapy. The original purposes of dance — expressing magic, religion and spirituality — were revived and integrated into modern dance and, shortly thereafter, into dance therapy.

The roots of modern dance therapy extend back to the early 1900s. Most major dance therapy pioneers began their careers as accomplished modern dancers. Their broad experience in teaching and performing led naturally to an appreciation of the therapeutic value of dance. The modern dance movement was a reaction to the social and intellectual climate of the time, a rebellion against established forms of art, and part of the broader effort to liberate the individual from society’s constraints.

What It Is

Dance therapy uses dance movement to assist healing or enhance well-being. For decades, dance therapy was viewed as the province of individuals with unique skills rather than as a profession. Dance therapy took its first steps toward professional recognition in 1966 when the American Dance Therapy Association (ADTA) was established.

A formal definition of dance therapy was developed regardless of individuals' capacities and revised in 1972 to read: "Dance therapy is the psychotherapeutic use of movement as a process which furthers the emotional and physical integration of the individual."

Dance Applies to All: The goals of dance therapy are believed to be equally effective regardless of individuals' capacities and needs.

What Practitioners Say It Does

Dance therapists believe that their work assists patients in every aspect of their selves. On an emotional level, dance therapy is used to promote body image and encourage self-expression. It may also assist in exploring and resolving emotional issues such as anger, frustration, and loss.

Intellectual improvement is another goal of dance therapy. Levels of awareness appear to sharpen for some patients, and cognition, motivation, and memory may improve.

Dance therapy also can assist physical coordination and motor skills. The use of repetition and the rhythm of the music provide a structure that helps people organize movement and clarify thought processes. Both enhance functional and recreational skills.

The abilities to socialize and communicate are improved with dance therapy. The self-expression that dance requires increases the individual's self-confidence and self-awareness. Dance therapy has even helped severely disturbed psychiatric patients, sometimes assisting them to communicate for the first time.

Dance therapy has been tried with the physically handicapped. Self-confidence and well-being can be promoted while expanding the individual's perception of movement. In the last few decades, dance therapists have branched into many new areas, expanding therapeutic dance into new communities. These include troubled families, people with eating disorders, sexually abused children, and patients with traumatic brain injuries.

Dance therapy began with Marian Chase (1896–1970), who studied dance in New York City before establishing her own studio in Washington,

D.C. in the 1930s. She discovered that some students, although awkward and slow, persisted in attending dance classes. Chase was initially frustrated by their inabilities but puzzled by their interest. Rather than removing them from classes, she learned to work with them. Chase came to find major rewards in the progress of these students, and began to perceive the importance of this new use of dance.

By the mid-1940s, Chase was giving lectures and demonstrations. She worked with psychiatric patients, using dance movement for self-expression and communication, often bringing patients out of psychotic isolation. This novel therapeutic approach was extended to people with other mental and physical disabilities. Additional professional dancers followed Chase's lead, and dance therapy was born.

Beliefs on Which It Is Based

Advocates believe that the body and mind are inseparable, and that body movement reflects our inner emotional states. Physical motion provides the benefits of exercise, and it is believed also to encourage positive thoughts and emotions that will help promote health and growth. Dance therapy is based on the belief that people can regain a sense of completeness by experiencing a unity of body, mind, and spirit through dance.

Research Evidence to Date

The medical literature contains articles on the benefits of dance therapy with adolescent and adult psychiatric patients, the elderly, children with learning disabilities, deaf people, mentally handicapped children and adults, and people in nursing homes.

Dance therapy with the elderly was one of the earliest efforts. Problems common to the elderly typically include physical limitations, dependency on others, social isolation, loneliness, loss of self-esteem, death of peers and fear of one's own death. These problems add stress to individuals who may have few if any outlets for releasing tension.

Dance therapy can provide such an outlet. It emphasizes interpersonal interaction, sharing, and support, and it addresses the individual's need for physical exercise and expression. It is a way to express emotions and to enhance feelings of self-worth and well-being. Dancing can make your spirits soar.

Blind or visually impaired patients have a hard time at first with dance therapy, because they tend to be frightened of moving. Once they feel safe

and believe they are in a secure environment, they become willing to explore creative movement, eventually increasing their range, scope, and depth of motion in dance. Dance therapy also is effective with individuals who are partially or totally deaf.

What It Can Do for You

The dance experience for disabled individuals helps reduce feelings of isolation, and motivates social relationships in a group setting. This is especially important for deaf and blind individuals, because they can withdraw and become socially isolated if they find communication too difficult to pursue. Physical education or physical therapy often is not available for them, and their muscular capacity may deteriorate as a result. This problem is due to the social isolation that can occur, not to any inherent physical weakness.

Dance is also excellent physical exercise, improving muscle strength, balance and aerobic capacity. Dance therapy provides the opportunity to express feelings and release tension by moving freely. It can be relaxing, exhilarating, empowering — an act of creative expression with important personal rewards regardless of physical or emotional abilities or limitations.

Where to Get It

Many dance therapy associations in various countries around the world are readily found on the Internet. They provide information, referrals and advice.

Humor Therapy

On his return flight home from a trip to Moscow in the mid-1960s, Norman Cousins, then editor of the *Saturday Review*, became rapidly ill. Within two days of landing in the United States, he was hospitalized with high fever, severe pain, and difficulty moving his arms and legs. After two weeks of hospitalization, his condition slowly worsened while his physicians struggled to treat a debilitating problem that eluded specific diagnosis.

In a now famous story, Cousins checked himself out of the hospital and into a nearby hotel. He began a self-invented regimen of laughter and massive doses of vitamin C. A film projector was brought to the hotel room, and each day Mr. Cousins watched Marx Brothers films and episodes of *Candid Camera*. These were his favorite comedy routines, and they elicited continual laughter despite the pain.

In fact, the pain began to decrease as the sessions of laughter continued. The illness relented, eventually disappearing entirely. It never recurred. Cousins' doctors could not explain his recovery in medical terms. Cousins later published an article in the *New England Journal of Medicine* and popularized this experience in a book, *Anatomy of an Illness*. His works set off a wave of interest in the potential therapeutic benefits of laughter and humor, and Cousins himself was appointed as a faculty member of the Medical School dean's office at the University of California, Los Angeles, where he worked on mind-body issues.

Although Cousins' problem may well have been self-limiting, and recovery cannot be attributed with any certainty to the humor and laughter he experienced. However, laughter may well have contributed to it. Furthermore, it no doubt enhanced the quality of his life, as it does for a wide variety of patients.

What It Is

Humor or laughter therapy is the deliberate use of humor as a complementary therapy for people suffering from physical or emotional disorders. In medical facilities, laughter therapy may be available in a special room in the hospital or ambulatory care facility. These are rooms where patients can go to relax and get away temporarily from the institutional environment. Often they contain small libraries that include humorous books, videos, toys, and other amusing objects.

Some hospitals have volunteers who wheel carts filled with books, toys, audio and videotapes, and other objects to patients' rooms. Trained laughter therapists are available in some towns, and patients or family members often try humor therapy on their own. Hospitals or sections of hospitals devoted to children often have people dressed as clowns, who try to brighten the days of hospitalized children.

A hospital in Charlotte, North Carolina set up a "Laughmobile" containing video and audiotapes, PlayDoh, coloring books, puzzles and games. It was used with great success for adults and children hospitalized for cancer treatment. In other states, volunteers have established transportable humor and laughter programs, consisting of cartons of materials that they bring to inpatient facilities when invited. The materials may include items such as rubber chickens and water pistols, which patients apparently use to everyone's amusement along with their physicians and dietary staff.

Humor may also involve one-on-one interactions between patients and caregivers. Of course, anyone can follow Norman Cousins's example of reading, listening to, or viewing whatever they find amusing. Because people differ with regard to what makes them laugh, laughter therapy is individualized.

What Practitioners Say It Does

Of course laughter is not promoted as a cure for disease, but as a complementary therapy, it is recognized as helpful for patients in many medical circumstances. Advocates do not claim that humor or laughter treats illness.

Humor therapy is brought to cancer patients, sick children, people under treatment for depression, the elderly in nursing homes, cardiac patients, and other groups. The therapeutic goal is to improve quality of life, provide symptom relief by distracting the patient from constant awareness of pain, and improve emotional and psychological health by

encouraging relaxation and stress reduction. As part of support programs for patients, humor can provide a means of communication between patients and their caregivers and loved ones.

Ancient Wisdom: Proverbs 17:22, “a merry heart doeth good like a medicine,” and an old Irish saying says “a good laugh and a long sleep are the best cures in the doctor’s book.”

Laughter is, indeed, good medicine with many therapeutic benefits. Often it does this by serving as an icebreaker, allowing patients to convey ideas or feelings that are difficult or awkward to express in other ways.

Beliefs on Which It Is Based

Although common sense would seem to be the rationale for including laughter and humor in patient care settings, laughter has a long history in medical practice. Laughter was used as an “anesthetic” to distract patients during procedures in the thirteenth century, and other references to it appear in ancient medical literature. Accounts of the physiologic benefits of laughter are also found in the American medical literature from the early years of the twentieth century.

The physiologic effects of laughter include an increase in heart rate, breathing rate, and oxygen consumption, which in turn stimulate the circulatory system. Laughter also massages and exercises the muscles and organs involved in breathing, as well as causing the release of endorphins, which are the body’s natural morphine-like compounds that help control pain. These physiological effects, advocates believe, explain the therapeutic benefits of laughter and humor.

Research Evidence to Date

Research documents the physiologic effects of laughter, and anecdotal reports describe patients’ appreciation and positive experiences with humor and laughter.

University-based research found that laughing lowers blood pressure and increases muscle flexibility in addition to releasing endorphins. Endorphins not only reduce pain; they also induce a degree of euphoria, and therefore may further enhance the positive effects of laughter. There is also evidence indicating that laughter increases immune activity, and that it can reduce levels of cortisol, a stress hormone associated with suppressing the immune system.

What It Can Do for You

Laughter and humor are distracting and uplifting. Humor helps people cope with stress and illness, and it creates an environment that is relaxing. Being able to laugh easily with friends seems to enhance quality of life for people generally.

Despite its clear virtues, humor is not a replacement for conventional medical treatment. Even Norman Cousins, whose diagnosis and cure were uncertain, cautioned in his writings and in later work at the UCLA Medical School against trying to use humor instead of medical treatment for any ailment.

Where to Get It

If you are hospitalized, ask what facilities or programs exist for relaxation and humor. You may ask the hospital or visitors for CDs or DVDs, or ask visitors to bring you humorous books. Beyond that, life itself is a good source of humor. Humor is an individual response, and what sends you into gales of laughter may leave another blank-eyed and unmoved. Yet humor is one of the easiest therapies to incorporate in your life, whether you are ill or well.

Light Therapy

All living things respond to daily and seasonal cycles of light and dark. Circadian rhythm, also called the body's inner clock, is the term applied to the regular repetition of light cycles in humans and other living organisms. Chronobiology is the scientific study of the cyclic effects of time on living systems.

There are numerous and varied examples of how light influences the behavior of plants and animals. Some flowers open wide at first light in the morning and close their petals at night. World travelers suffer from jet lag, which is due at least in part to the interruption of habitual day-night light cycles. Depression is more prevalent among people in northern latitudes where daylight in winter months is substantially shortened or nonexistent. Similarly, depression in North America is more common during winter months when there are fewer hours of sunlight. Bright white light, much more intense than typical workplace lighting, is used in some offices and factories to increase work efficiency and reduce drowsiness, particularly for night-shift workers.

Cycles of night and day, or darkness and light, can change body temperature, vary hormone production, and alter the length of time that people sleep. This occurs because light enters the body through the eyes and is transmitted as electrical impulses along the optic nerve to the brain, where it affects the body's physiological functions and health.

The effects of light are not uniformly positive. Ultraviolet (UV) light from the sun, for example, is a primary cause of skin cancer, yet the full spectrum of light emanating from the sun, taken in moderation, is healthful and major source of vitamin D.

What It Is

Light therapy, in the form of light boxes that shine bright light into the room during darker winter days, is used by psychiatrists to treat seasonal affective disorder (SAD), a type of depression that occurs during seasons when days have many dark and few sunlight hours. Research substantiates the ability of this treatment to reduce depression. (Light boxes prescribed to treat depression should not be confused with tanning booths. The latter are dangerous because they can cause skin cancer and premature wrinkling due to the release of large amounts of UV radiation, whereas light boxes have too little UV radiation to produce a tan.) Light boxes for SAD are not “alternative” forms of treatment. They are accepted, proven mainstream treatments.

However, many claims are made for light therapy as an alternative healing method for conditions other than seasonal affective disorder (SAD). In “alternative light therapy,” various types of light from different sources are prescribed inappropriately to treat many diagnoses. Types of light include full-spectrum or natural sunlight, bright-light therapy, UV light, colored-light therapy, and various laser therapies. Advocates claim they can treat many maladies, including bulimia, psoriasis, symptoms of AIDS, and even breast, rectal and colon cancers. These claims are false; they do not even appear to be logical. Light therapy should never be used instead of mainstream treatment for these or any other medical illness. Examples of these therapies and their false claims are described below.

UV light therapy applies different wavelengths of ultraviolet light, identified as UV-A, UV-B, and UV-C. The UV-B wavelength is the most damaging to skin. These and other types of light are used as alternatives to mainstream care to “treat” autoimmune disorders, to attack bacteria and body toxins, and to treat pigmentation problems and other disorders. They have no value but can be harmful.

Colored-light therapy using red, blue, violet, white, and occasionally other colors, sometimes with flashing patterns, are falsely claimed to treat sleep disorders, shoulder pain, diabetes, impotence, allergies, and many other symptoms.

Photodynamic therapy is a variation of colored-light therapy. Dyes injected directly into skin cancer tumors are claimed to absorb different colors of light and kill the cancer cells. A process called “syntonic optometry” (a process not found in standard medical dictionaries or texts) directs colored lights into the eyes to “influence” brain functions. This is called quackery.

Despite claims, no scientific data support the usefulness or safety of light therapy for treating cancer, arthritis, hyperactivity in children, headaches,

tooth decay, hair loss, Alzheimer's disease, or for helping to regulate sexual function, the immune system, breathing or digestion, or any other problem or illness.

What Practitioners Say It Does

The accepted benefits of light include that it is a source of vitamin D, it can optimize working conditions and maintain normal circadian rhythm function. Natural light may help treat jaundice in newborns.

Beliefs on Which It Is Based

The accepted uses of light therapy noted above are based on research. However, practitioners of “alternative light therapy” make claims based on no known facts. A California osteopathic physician, for example, says that visually perceived light can affect the parts of the brain that control learning, memory and motor skills, thereby enhancing these capacities. Too much artificial light without enough natural light, another advocate states, interferes with the body's ability to absorb nutrients, a condition that advocates term “mal-illumination.” An acupuncturist in California combines cold lasers with acupuncture in the belief that this helps wound healing and balances energy flow in the acupuncture meridians.

A system labeled “chromatherapy” is based on a false belief that shining colored lights on the body will have a beneficial effect on cancer. Proponents claim that red light benefits the blood, yellow light the liver, and so on. Other similar approaches exist, claiming that various colors of light will cure all diseases. They do not.

Research Evidence to Date

Problems in sleep, function or psychiatric disorders may be improved with light therapy, but research is not conclusive even there. No scientific research supports the use of any “alternative” light therapies.

What It Can Do for You

Proper amounts of exposure to natural sunlight can contribute to one's good health by promoting a consistent circadian rhythm and exposure to vitamin D, which is required for maintaining healthy teeth and bones and for absorbing calcium. Working in adequately lighted workspaces usually reduces eyestrain

and fatigue, and promotes more normal sleep habits. Adding artificial light in the form of light boxes helps reduce the depression that often occurs with inadequate exposure to natural sunlight. Light boxes may also help reduce depression and some skin conditions.

It is what light therapy cannot do for you that must be carefully examined. There is no acceptable evidence that light therapy in any of its manifestations will cure cancer, arthritis, menstrual difficulties, tooth decay, hair loss, Alzheimer's disease, or any of the other diseases and conditions it promises to treat.

Where to Get It

The best and only reliable source of accurate information about the appropriate use of light therapy is a dermatologist for acne and other skin problems, or a psychiatrist or other mental health worker for depression.

Music Therapy

Listen to a few bars of a song on the radio, and our immediate surroundings melt away, the melody carrying us back to where we heard it first. We link music to the milestones of life, both joyous and sorrowful. Sports arenas blast pounding rock music to arouse crowds. Colleges have “fight songs” for the same end.

Business offices, factories, and retail stores long ago learned the value of piped-in music to provide more beneficial environments in which to work or sell more goods. In fact, the idea of background or “elevator music” as a benefit to business created an entire new industry, developed by the Muzak system and marketed throughout commerce and industry.

We all have experienced the pleasing sounds of music that can lull us to sleep, develop a romantic mood, or stir us to tap in time to the beat. Music is used in hospital birthing rooms, newborn nurseries, and operating suites to help patients and staff. Can the undeniable power of music to arouse our emotions and change our mood be used in medicine?

From *The Art of Preserving Health*, Book IV, by John Armstrong, 1709–1779:

“Music exalts each Joy, allays each Grief, expels Diseases, softens every Pain, subdues the rage of Poison and the Plague.”

What It Is

Music therapy is the use of music to encourage healing and promote a general sense of well-being. Patients listen to or perform music under the guidance of a professionally trained and certified music therapist. Music therapists perform, listen to music with patients, analyze their lyrics, write

songs, and join in music improvisation. Patients can play or listen to music, based on their previous experience and current condition. After assessing a patient's condition, the music therapist selects the type of music therapy most appropriate for that particular patient.



Figure 8. Music Therapy in an isolation unit of Memorial Sloan-Kettering Cancer Center. Photo by K. Simon Yeung.

Sometimes music therapy is conducted on a group basis, where patients listen to or play music with groups of friends and loved ones or with other patients with the same condition. The music therapist may select music with the patient's active input, finding songs and melodies that have special meaning or ability to relax that individual.

The formal discipline of music therapy in the United States can be traced back to the granting of degrees in music therapy in the late 1940s and the use of music therapy with disabled soldiers in Veterans Administration hospitals. Today over music therapists work in clinical settings throughout the world.

Music as therapy, however, has deeper roots. Early Egyptian tomb paintings display musicians accompanying the deceased to enhance the afterlife (Figure 8). Ancient Greek thinkers, such as Aristotle and Pythagoras, believed that music could facilitate healing. "Singing" is a part of Native American healing rituals that are hundreds of years old (Chapter 4). Incantations and chants are part of many shamanic traditions, and are included in the oldest references to medical practices.

Music therapy is used as a complementary therapy for many diseases in a wide variety of clinical settings, including hospitals, rehabilitation centers, and nursing homes. Music therapists work with all patient groups, including premature infants, the terminally ill, and patients with substance abuse



Figure 9. The enduring importance of music is illustrated in this copy of an Egyptian tomb painting.

problems, mental illness, chronic pain, physical disabilities, brain injuries, Alzheimer's disease and other forms of dementia, childhood developmental disabilities such as mental retardation and autism, cancer and patients with other serious illnesses.

What Practitioners Say It Does

Music therapy has several purposes. It can alleviate pain and ease the psychological discomfort associated with many medical conditions. It helps improve physical and mental functioning of people with neurologic or developmental disorders.

Therapists say that music therapy can help terminally ill patients decrease anxiety, depression, and pain, and improve ability to sleep and enhance overall quality of life. It helps reduce the need for medication among patients and during childbirth, and distracts dental patients from the pain of root canal. It can improve the ability of mentally handicapped and autistic children to learn, to interact with other people, and to relate to their environments. It enhances the well-being of elderly patients in nursing homes, including those suffering dementia.

Music therapy is practiced in many forms, including actively playing instruments and listening to recordings.

Apollo, one of the great Greek gods of Olympus and son of Jupiter, was the god of both music and medicine.

Beliefs on Which It Is Based

There is no single theory to explain how music therapy works in various clinical situations. Instead, clinical therapists offer hypotheses for different settings. In addition, despite substantial research therapy, the mechanisms by which it works and precisely how the brain receives music and produces positive effects are not well understood.

In reducing pain, music therapy may act as the relaxation response does in meditation (see Chapter 17). Soothing music has been shown to reduce blood pressure, breathing rates, and other aspects of physiologic functions. Altering brain and other physiologic activity may provide distraction from pain and also promote relaxation.

Music therapy for stroke victims and patients with other neurological deficits may work through what is called “entrainment.” As patients listen to music that has a consistent beat, their muscle movements come to synchronize with the beat. Motions become increasingly efficient and regular, which in turn improves the ability to walk and develop other motor skills. In essence, it is believed that practicing motor skills to a rhythm improves those skills and makes them more efficient.

Research Evidence to Date

Music therapy has been subjected to a great deal of research during the past three decades, and several professional journals are devoted to music therapy. Although many published articles consist of descriptions and anecdotal evidence, larger, more organized studies have also been conducted. These studies indicate that music therapy can be an effective complementary technique to reduce stress and other symptoms for patients with various medical conditions.

Premature babies exposed to music in intensive-care units gain weight more quickly and are discharged more quickly than babies who do not hear music. Music therapy also has been shown to reduce anxiety levels in children undergoing surgical and medical procedures. Research supports the ability of music therapy to increase motor skills developmentally disabled children and assist their capacity to learn math and other subjects. It has been used successfully to strengthen coordination and walking skills among children with muscular or skeletal disorders, to improve the speech of hearing-impaired students, and to lessen the isolation of autism.

Studies of music therapy with Alzheimer's patients and other victims of dementia reveal that musical cues increase patients' attention and ability to focus on their surroundings. Music therapy also reduces the agitation that often accompanies Alzheimer's disease. Working with Alzheimer's patients in nursing homes, music therapists help patients perform simple group exercises such as beating a drum in time with the rest of the group, or they may work one-on-one with patients, playing songs that have been significant in the patients' lives. In both group and individual activities, patients who are not normally responsive to speech or who do not recognize friends and relatives can become responsive for a time and connect with their immediate surroundings.

Music reduces the amount of anesthesia required during labor, and it is the practice in some hospitals for pregnant women to select music to accompany their labor. They often choose different music for each stage, using a remote control to regulate volume.

Music therapy also reduces self-reported levels of dental and postoperative pain. It assists the physical rehabilitation of patients with stroke and Parkinson's disease, improving the rate at which patients learn to walk when compared with no-music-therapy control patients. Stroke victims receiving music therapy also have reported lower levels of anxiety and higher scores on measures of psychological health when compared with control groups. Several small studies have shown that music therapy can improve speech among those with traumatic brain injuries. Researchers at the University of California at Irvine produced evidence that listening to Mozart produced short-term enhancement of spatial-temporal reasoning abilities in college students.

Government-supported initiatives in music therapy include a focus on patients with brain injuries and on the elderly. In 1992, Congress passed an act that provided U.S.\$1 million in annual funding for music therapy research and education with elderly patients.

What It Can Do for You

Music therapy is a documented, effective complementary therapy for many conditions and problems. It is not a curative treatment, nor is it promoted, as are some other complementary therapies, as a cure for serious diseases. As do the best of complementary treatments, however, it can improve well-being and quality of life, reduce symptoms, and enhance the effectiveness of primary treatment and rehabilitation therapy.

Music therapy is especially desirable because, for most people, it is an intrinsically pleasant, soothing experience. Furthermore, it is noninvasive, free

of danger or side effects, usable in almost any setting and with any other treatment, and inexpensive. Music therapy appears to be an underutilized, extremely helpful complementary technique.

If you think you or a member of your family have a problem that may benefit from music therapy, ask your primary caregiver if they know of music therapists who work with that condition, or contact an organization listed in the following section.

Where to Get It

The World Federation of Music Therapy (WFMT) is an international organization bringing together music therapy associations and individuals (www.musictherapyworld.de).

European Music Therapy Confederation (www.musictherapy2010.com); the Canadian Association for Music Therapy (www.voices.no); Australian Music Therapy Association (www.austmta.org.au/); The U.S. National Association for Music Therapy (<http://www.namt.com/namt>) and the American Association for Music Therapy plan to merge in the near future.

Most of these organizations provide general information about music therapy, about universities with music therapy programs in your area, and about qualified music therapists near your home. Often, music therapists specialize in specific patient groups, working, for example, with palliative care teams to help terminally ill patients, or treating developmentally challenged children.

Sound Therapy

There appear to be two distinct categories of sound therapy. One category includes the broadly recognized, commonsensical notion that pleasant sounds make us feel calm, while jarring sounds startle us into unpleasant moods. “Therapeutic” sound, therefore, would be peaceful, unobtrusive, and pleasant.

The second category includes broader and more serious promises for sound, including claims that it can influence and heal internal organs. This is a New Age combination of largely ancient mysticism and sacred healing incantations. Many claims are made, but none are proven or even discussed in the medical or scientific literature, and most are simply not rational.

From a scientist’s perspective, sound is created by the vibration, which causes the air to move in waves. Individual sounds have different frequencies, and frequencies determine the sound’s pitch (the greater the frequency, the higher the pitch). Intensity or volume are other qualities of sound. The often pleasing sound of a bird chirping creates sound waves that are close together, which increases their frequency and produces high-pitched sounds, while the sound of a frightening thunderclap, with great intensity, creates waves of a much lower frequency and therefore deeper sound. Sound enters the body not only through the auditory system, beginning with the ear, but also as vibrations on other parts of the body such as the skull.

Sound tapes are created to produce special responses in listeners. The sounds of a spring rainstorm or ocean waves lapping against a beach are marketed in the form of audiocassettes and CDs to provide a pleasing, relaxing background that can reduce stress and promote relaxation. “White sound” machines obliterate other sounds and neutralize the auditory environment. Many people use them to aid sleep.

Proponents of sound therapy believe that various types of sound produce specific therapeutic effects on the mind and body. Based on the known physiologic impact of sound waves, or vibrations, sound therapists have devised methods for focusing these vibrations on particular areas of the body and on specific organs for therapeutic purposes.

What It Is

Sound therapy uses sound from a variety of human-made sources to improve emotional or physical status. Several different approaches promote these beneficial effects. Toning, for example, is a technique in which the subject produces elongated vowel sounds in an effort to eliminate stress. This technique also is said to improve the speaking and singing voice. It is thought helpful because vowel-sound vibrations are assumed to resonate therapeutically through the entire body.

A trademarked process called “Biosonic Repatterning” uses cymatics — defined as the science of wave phenomena — in combination with toning and healing mantras (sacred incantations) to activate “elemental energy qualities.” This combination is said to re-establish healthy resonance in tissues. Tuning forks, because of their perfect pitch and vibrations, may also be involved in this New Age amalgam of sound-wave phenomena and ancient, unprovable concepts of vital internal energy.

Pain management through the use of a sound-producing instrument called the Infratonic QGM, invented by a Chinese scientist to replicate secondary sound waves created by masters of qigong, is another and related application of sound therapy. Similarly, a process called Sonopuncture involves combining ultrasound with acupoints. (“Ultrasound” is a modern, proven diagnostic device that uses sound waves to study internal body structures and organs.) Sonopuncture sometimes is applied along with vibration devices, toning, Biosonic Repatterning, and other alternative therapies.

Alfred A. Tomatis, a Paris physician and teacher, developed an instrument called the electronic ear, which is said to modify sound frequencies and train the ear to hear a broader range of frequencies. Sound therapists use this device to teach patients how to focus on sounds and listen more effectively.

Another French physician, Guy Berard, believed that behavioral and cognitive problems can be resolved through application of contortions in certain sound frequencies. He developed a device known as EERS, an acronym for Ears Education and Retraining System, that would filter and modify aberrant frequencies to correct sound-related disorders. This is not known to work.

Sound can have a major impact on how we feel. It can calm, invigorate, frighten, or incite to action.

What Practitioners Say It Does

Soothing sounds can promote deep relaxation and meditation. Sometimes unusual techniques are applied. For example, ethereal sounds are said to be produced by thirty-five crystal bowls played on an “armonica,” a contemporary instrument claimed to be created from an extinct invention of Benjamin Franklin.

Instruments that transmit sounds through the skin (cymatic therapy) are promoted to stimulate natural regulatory and immunologic systems. Practitioners claim that sound therapy in the form of “rapid acoustic stimuli” helps children with dyslexia. It is also claimed to help those with attention deficit disorder and other learning dysfunctions. The effectiveness of sound therapy is said to increase when used in conjunction with acupuncture.

All of these claims are supported only by anecdotal reports. They remain unproven examples of the vast human capacity for invention, even though many such inventions are fanciful and useless.

Beliefs on Which It Is Based

Proponents of sound therapy believe that rhythms of the heart, brain, and other organs are synchronous, and that illness occurs when these rhythms are disturbed. They also believe that external rhythmic stimuli can override the natural rhythm of heartbeats and cause the heart to beat in time with that external rhythm. There is no documentation of these beliefs.

The proven kernel of scientific accuracy is that soothing music, an external rhythmic stimulus, can reduce heart rate and relax the body, just as loud, jarring sounds can induce a startle reaction and increase heart rate. Sound therapy concepts, other than those related to music, have not been tested scientifically and are not discussed in the medical literature.

Research Evidence to Date

Although some small studies have been conducted, they lack the necessary scientific rigor to supply any verification. Virtually none of these studies has been published in medical or scientific journals. Like so many other quasi-medical claims, there is no evidence that sound therapies can cure any illness.

What It Can Do for You

The use of pleasing sounds as a background for work or relaxation, and in stressful environments such as dental offices can produce the positive results that most of us have experienced. Waves lapping on a beach, wind gently rustling leaves, soft rain, forest bird calls — these are examples of soothing sounds. When pleasing sounds help us relax, our heart rate slows and we feel better. Exposure to noise or harsh sound, on the other hand, causes unwanted stress.

Claims that sound therapy can cure disease are unfounded.

Where to Get It

There are a number of books about sound therapy, such as *The Roar of Silence*, by Don Campbell (Theosophical Publishing House, Wheaton, Ill., 1989); *The Conscious Ear*, by Alfred Tomatis (Staton Hill Books, Tarrytown, N.Y., 1991); and *Sound Health*, by Steven Halpern (Harper Collins Publishers, New York, 1985).

Beware of programs that claim to treat illnesses.

Part Six



“Alternative” (Unproven or Disproved) Treatments Taken Internally

Part Six Overview

36. Apitherapy
37. Biological Cancer Treatments
38. Biological Dentistry
39. Cell Therapy
40. Chelation Therapy
41. Colon/Detoxification Therapies
42. Craniosacral Therapy
43. Enzyme Therapy
44. Metabolic Therapies
45. Neural Therapy
46. Oxygen Therapies
47. Shark and Bovine Cartilage Therapies

This page intentionally left blank

Part Six Overview

Man's unbounded imagination is sometimes tied to his unbridled capacity for foolishness or greed. The result is a very long list of completely worthless and often harmful "cures" for serious illnesses such as cancer. As of this writing, for example, the U.S. FDA and Health Canada warn against drinking a "mineral solution" claimed to cure major diseases. This liquid product, called "Miracle Mineral Solution" or MMS" produces an industrial bleach that has no health benefits whatsoever, but that can produce serious harm.

MMS is distributed on Web sites by multiple independent distributors, with claims that it has cured thousands of people of malaria and other serious diseases. The product contains a 28% solution of sodium chlorite which is supposed to be mixed with an acid such as citrus juice. This mixture produces chlorine dioxide, a potent bleach used for stripping textiles and industrial water treatment. High oral doses, such as those recommended on the label, can cause nausea, vomiting, diarrhea, and severe dehydration and worse.

The FDA ordered a distributor to stop making illegal health claims for MMS. As a result, manufacturers changed the product label to say that MMS is sold for water purification. However, it is still widely claimed to be effective against HIV, hepatitis, the H1N1 flu virus, common colds, acne, cancer, and other conditions.

This fake product is mentioned not only because it is widely promoted today, but also because it is an example of the numerous fake and dangerous "therapies" sold for centuries. Typically they reflect some aspect of mainstream science or medicine by including an active chemical substance. They are invasive, involving the introduction of pharmacologic substances into the body, and they can have powerful physiologic effects.

Unlike mainstream therapies, however, "alternative" biological therapies lack scientific evidence of safety and efficacy. That means they are not safe and they do not work. Also unlike conventional medicine, alternative biological treatments claim to cure not just one illness; instead, typically they claim to cure all or most of the most current major causes

of death. Today such diseases include AIDS, cancer, heart disease, arthritis, mental illness, chronic pain, and Alzheimer’s disease. Of course, such promises cannot be fulfilled. Alternative biological therapists rarely try to compete with mainstream medicine against serious diseases for which conventional cures exist: there are few alternative therapies for curable diseases.

Alternative biological treatments are fundamentally different from the natural, noninvasive, and gentle holistic care that many of us want. Because they are typically promoted for use *instead* of mainstream therapy, biological alternatives differ importantly from complementary techniques, which are used in conjunction with mainstream medical care or as routes to well-being by the healthy. Biological alternatives tend to be applied against life-threatening medical illnesses, whereas complementary techniques are used to control symptoms or enhance quality of life.

Although the mechanisms proposed for alternative biological cancer “cures” differ across therapies, most are based on explanations of human physiology and disease that are inconsistent with or unsupported by conventional science. Colon therapy, for example, is based on the idea that high-fat, Western diets lead to an accumulation of a thick, glue-like substance in the colon, which in turn produces disease-causing toxins. The belief in disease-causing toxic material in the body is common in alternative medicine. The idea is not supported by scientific evidence of how the body works, and no mainstream science or research supports the idea.

Biological therapies tend to be sold as treatments for many different illnesses. This is possible because most proponents of biological alternatives believe that a single underlying problem causes all diseases. Proponents of oxygen therapy believe that too little oxygen in body tissues causes the spread of microorganisms, which, in turn, cause a wide range of diseases. Thus, restoring the oxygen supply in body tissues with oxygen therapy is said to avoid development of these diseases.

In other cases, proponents of alternative biologicals take a therapy used in conventional medicine and extend it to conditions for which it has not been proven effective. Chelation therapy, for example, is an accepted treatment for lead poisoning, but not for heart disease or autism as it is promoted by alternative therapists. Moreover, the mechanism of action proposed for chelation therapy by its advocates is inconsistent with current scientific understanding of heart disease.

Advocates of many biological treatments define their goal as stimulating the immune system so that the body will be able to heal itself.

Promoters of enzyme therapy, metabolic therapies, and most other treatments developed in recent decades claim that their techniques stimulate immune system activity. But there is no evidence that it stops or cures cancer or any other illness.

Biological alternatives, like conventional pharmaceuticals, have strong effects on the body. Unlike pharmaceuticals, which must be proven safe and effective before they can be marketed, the treatments in this chapter either have not been evaluated or are disproved. In addition, several are associated with serious harm.

Anesthetics used in neural therapy, for example, can provoke serious reactions in people allergic to them. Importing cell therapy to the United States was banned in 1985 because it caused infections and allergic reactions in some patients. EDTA, the active ingredient in chelation therapy, can cause serious kidney damage and death in cardiac patients. Biological dentistry, which involves removing tooth fillings because of their alleged toxicity, has been deemed unethical by the American Dental Association. Studies of bee pollen treatment, oxygen therapies, cell therapies, and the alternative cancer treatment Essiac have found all of these therapies to be ineffective in the treatment of disease.

Because they are promoted as treatments for serious illnesses, biological alternatives pose an additional threat: patients may delay or bypass potentially helpful mainstream treatment, allowing disease to spread and worsen. Anecdotal reports of cures for the major illnesses dot the promotional material of virtually each and every biological alternative, not only those described in this section. If only a fraction of these reports were valid, humankind would be free of major illness. But anecdotal reports are not equivalent to careful investigations and scientific evidence, so each report should be understood as simply one person's alleged story.

In addition to any harm they may bring, directly or indirectly, biological treatments often are complex, time-consuming, and expensive. Some are not widely available and may involve distant travel to a special clinic dedicated to them. Other biological alternatives, such as chelation and cell therapy, can cost thousands of dollars, usually not covered by standard private or government health insurance.

Some examples of today's popular biological alternatives are presented here. Because those who use or contemplate using biological alternatives typically have been diagnosed with a major illness, it is important to understand that these treatments remain unproven or have been disproved. People should learn exactly what the biological alternative of

Part Six: “Alternative” (Unproven or Disproved) Treatments Taken Internally

interest can and cannot accomplish, and potential users should consult with a physician about possible complications or side effects.

It is also important to remember that the few worthless or harmful “alternative” cures described here represent a small fraction of the many thousands of such “therapies” promoted to patients with cancer and other serious illnesses.

Apitherapy

Apitherapy's roots go back to biblical times and ancient Egypt. Hippocrates, the famous Greek physician of antiquity to whom the Hippocratic oath is attributed, used bee venom to treat his patients' arthritis and other joint problems. Some famous rulers throughout history received beestings as a medical treatment, including Charlemagne, Ivan the Terrible, and Charles the Great of England. This long history is continued by practitioners of apitherapy today.

Proponents claim that bee and other insect venom can treat chronic pain, rheumatoid arthritis, multiple sclerosis, lower back pain, migraines, and some dermatologic conditions. Bee pollen consumed internally is also claimed to increase one's energy, endurance, and overall performance. Although practitioner and client testimonials praise bee-product therapies, no studies document the ability of bee products to cure any ailment or to increase endurance or energy.

Bee products are advertised and distributed through apiary society publications, magazines, grocery and health-food stores, and on the Internet. The most commonly promoted bee products are royal jelly, propolis, bee pollen, and raw honey. Royal jelly is made by the worker bees and then fed to an ordinary female bee along with the workers' secretions. That female bee then becomes the queen.

The royal jelly increases her life span from three months to five years, and she develops the ability to produce twice her weight in eggs. The growth and productivity of the queen bee is due to both the large amount of honey ingested plus the enzymes and hormones in the workers' secretions, which the queen bee receives along with the honey. Propolis is the waxy material collected by bees from the buds of trees and used to fill cracks in their hives. It has no demonstrated health value.

Promoters claim that bee pollen contains twenty-two nutrients required by the human body, and that it contains much more protein than beef. A typical dosage of 32 grams, in fact, contains about 20% protein, or approximately six grams — an extremely small amount. These products have little in the way of nutritional value, but the products sold as pollen do contain protein — in the form of insects, their feces and eggs, rodent debris, and other ingredients.

Promoters also say that raw honey builds energy with minerals and seven vitamins from the B-complex group. It actually contains crude sugars — fructose and glucose plus a small amount of sucrose. It is similar to table sugar, which contains pure sucrose. Some bee-product distributors sell each of these items individually, but the ingredients also are combined and sold as a single product.

Advocates of apitherapy apply bee products in various forms. The two most popular, pills and injections, are used depending on the specific illness. Pills are given for a variety of problems such as lack of energy, poor eyesight, memory loss, premenstrual syndrome (PMS), hair loss, and migraine headaches. Injections are typically applied to combat joint pain and arthritis.

What It Is

Pollen is gathered from flowers by bees and brought back to their hive. Harvesters of bee pollen place devices in the hives that strip the pollen from the bees. Because bee pollen comes from many different flowers, its nutritional value varies. Advocates note that the composition of pollen varies according to the geographic region it comes from and the time of year. Despite any variation, however, pollen is composed of sugar, protein, fat, water, vitamins, and minerals. These ingredients may sound healthy, but please note that bee pollen also contains (sometimes sterilized) insect feces and eggs, rodent debris, fungi, and bacteria.

The potential dangers of using products containing bee pollen or venom include severe allergic reactions, and people who postpone potentially beneficial mainstream treatment to try such remedies may waste precious time.

Warning

Bee product therapies are not harmless. Some people have extreme allergic reactions to beestings that require emergency treatment. Bee venom therapy is promoted as a cure for joint problems, including rheumatoid arthritis.

Apitherapy is not a proven form of treatment, nor is it recommended as a therapy for joint diseases or for any other illness.

What Practitioners Say It Does

A 2010 issue of the *Journal of the American Apitherapy Society* provides anecdotal reports about how apitherapy has treated or cured a wide array of illnesses. This group and supporters internationally claim that apitherapy, including bee stings and pollen-based potions and pills, provide effective alternative treatments for many problems, such as arthritis, joint pain, back pain, multiple sclerosis, PMS, bladder control difficulties and cancer. It is also claimed to enhance immune function.

Beliefs on Which It Is Based

Belief in apitherapy is based on ancient history and folk medicine. Information spread by supporters has continued to encourage belief in this form of treatment, although the information they present consists of anecdotal reports rather than scientific research.

Research Evidence to Date

Studies produced by proponents consist of personal accounts rather than controlled experiments. In contrast, a bee pollen study completed at Louisiana State University involving members of the swim team found no measurable differences in performance between members of the team who used the bee pollen and swimmers who did not. This same study, when repeated with high school swimmers and cross-country runners, produced the same results: no difference in performance was found.

The Medical Journal of Australia reported nine instances of asthmatic attacks and the death of a young asthmatic girl following the use of royal jelly.

What It Can Do for You

Although supporters of apitherapy believe it can increase energy levels, and relieve the symptoms of various illnesses such as arthritis, gout, joint pain, and multiple sclerosis, there is no scientific evidence to support these claims.

Where to Get It

Despite the absence of evidence in support of proponent claims, bee products are widely available. They may be found in pharmacies, in health-food stores, and even in shops that specialize in bee products.

For more information regarding proven treatments for rheumatoid arthritis or other joint problems (major ailments for which bee products are recommended), contact your local arthritis foundation.

For information about treatment for asthma — another ailment for which bee products are promoted — contact the American Lung Association or the Lung Association of your country.

Biological Cancer Treatments

It is challenging to select unproven biological remedies for this chapter because they are so many to choose from. Many of the hundreds available have been around in one form or another for decades. Others are more recent, often reflecting some minor aspect or language associated with a legitimate scientific advance.

The Gerson regimen is an example of an old “alternative” cancer treatment that remains popular today. Developed by Max Gerson in the 1930s, it involves eating raw fruit and vegetable juices, eliminating salt from the diet, taking many supplements such as potassium, vitamin B12, thyroid hormone and pancreatic enzymes, and using coffee enemas to detoxify the liver and stimulate metabolism. Scientific research does not support any of these ideas.

Moreover, despite proponents’ claims of recovery rates as high as 70% to 90%, case reviews by the U.S. National Cancer Institute (NCI) and the New York County Medical Society found no evidence of usefulness for this regimen. An NCI-sponsored study of Gonzalez therapy, which is similar to the Gerson diet and popular today, showed that patients with inoperable pancreatic cancer who underwent standard gemcitabine chemotherapy survived three times longer and had better quality of life than those who chose Gerson-type therapy with pancreatic enzymes, nutritional supplements, detoxification, and an organic diet. This study was reported in the *Journal of Clinical Oncology* in April 2010.

People who are diagnosed with cancer or suspect that they may have cancer should immediately seek qualified care. The National Cancer Institute designates top “Comprehensive Cancer Centers” that are within reach of every person in the United States, and similar systems exist in other countries

with major cancer centers. A visit to confirm diagnoses and treatment plans that can be implemented in your local hospital is important.

This chapter briefly describes small sampling of additional popular biological cancer treatments, presented in alphabetical order. They all have two things in common: they are not proven to work; and they are potentially dangerous because they are taken into the body, where they can do harm. The other chapters in this section describe additional alternative treatments often applied to treat cancer as well as other illnesses.

Antineoplastons

Stanislaw Burzynski, MD, PhD, emigrated to the United States from Poland in 1970 and became an assistant professor at the Baylor School of Medicine. He isolated a series of peptides (the main component of proteins) that he termed “antineoplastons.” He believes that antineoplastons convert cancer cells into normal cells and are deficient in patients with cancer

Burzynski then developed a cancer treatment aimed at replenishing insufficient antineoplastons. Initially, antineoplastons were isolated from human urine. Later they were synthesized in the laboratory. A main ingredient of antineoplaston therapy is phenylacetate, a fatty acid found in the human body. It is metabolized by the liver and then excreted.

Burzynski left Baylor to establish his own clinic and research institute in Houston. Both remain open and surrounded by controversy. Burzynski and his proponents claim success in curing and bringing about remissions in cancer patients, but others question his credibility as well as his results. Antineoplaston therapy, given only in the Burzynski clinic, is given orally or by injection into a vein. The treatments, which last from eight to twelve months cost \$30,000 to \$60,000 a year, depending on the type of treatment and number of consultations.

Although many articles have been published and dozens of clinical trials against many types of cancer have been ongoing at Dr. Burzynski’s clinic for several years, there have been no randomized controlled trials — the type of study that is required for new anticancer drugs to be approved by the FDA and recommended by conventional oncologists.

Although some proponents of antineoplaston therapy have suggested that the reviews of this treatment by conventional cancer specialists are biased by mistrust of alternative therapies, even some prominent figures in the field of “alternative medicine” have expressed reservations. According to Dr. Andrew Weil, “Over the years, Dr. Burzynski claims to have treated more than 8,000 patients, but his success rates are unknown. His website states only that he has

helped ‘many’ people. If antineoplaston therapy works, we should have scientific studies showing what percentage of patients treated have survived and for how long, as well as evidence showing how Dr. Burzynski’s method stacks up against conventional cancer treatment.... Until we have credible scientific evidence showing what antineoplastons are, how they act in the body, and what realistic expectations of treatment with them might be, I see no reason for any cancer patient to take this route.”

Cancell

Cancell, a dark brown liquid, is another well-known biological remedy. It is especially popular in the Midwest and in parts of Florida. Also called Entelev, Formula JS 114, Jim’s Juice, Crocinic Acid, and Sheridan’s Formula, Cancell was created in 1936 by James Sheridan, a chemist. The idea came to him in a dream that he said was inspired by God.

Proponents believe that Cancell returns cancer cells to their “primitive state,” where the Cancell digests them and renders them inert. However, FDA analyses revealed that Cancell is composed of common chemicals (sulfuric acid, nitric acid, potassium hydroxide, sodium sulfite) and that no basis for its claimed effectiveness against cancer exists. There is no evidence that Cancell works against cancer or any other disease.

DMSO

Dimethyl sulfoxide (DMSO) is an industrial solvent, similar to turpentine. A by-product of paper manufacturing, it was first synthesized in 1866. As medication, DMSO was used initially in the early 1960s. Following FDA approval for experimental use, it was applied in topical form to relieve pain, reduce swelling, heal injuries such as muscle strains and sprains and treat arthritis.

Today, DMSO is approved only to treat interstitial cystitis (a bladder disorder) and as veterinary therapy to reduce swelling in horses and dogs. It is under study for conditions including arthritis, sprains, and a skin disorder known as scleroderma. DMSO is also used to deliver drugs through the skin and to preserve living cells when they are frozen.

DMSO has been proposed as a cancer treatment, although evidence for its efficacy as a cancer treatment is virtually nonexistent. DMSO is considered an unproven and ineffective method of treating cancer. DMSO can be obtained in health-food stores and other retail and mail-order outlets. In its commonly sold forms, DMSO can have unpleasant side effects, including burning and itching, and it can cause a powerful, garlic like odor in the breath

and skin lasting for several days. It may also contain impurities. Probably the most serious potential danger associated with DMSO is that patients may avoid or delay receipt of medical care in a timely fashion.

Essiac

First popularized in the early 1920s by Renée Caisse (Essiac is Caisse spelled backward). A Canadian nurse, Caisse claimed that she received the formula from a woman who used it to cure her own breast cancer. This woman, in turn, is said to have been given the unnamed product by a Native American healer living in Ontario, Canada. Caisse first produced Essiac in the form of a tea. Since her death in 1978, several companies started manufacturing Essiac, and their products still compete, each claiming to be the original formula.

Essiac is comprised of four herbs: Indian rhubarb, slippery elm, sorrel, and burdock. Some newer products have added additional herbs. Caisse believed that Essiac worked by attacking the tumor directly, first hardening it, then causing it to soften and break up, and finally discharging the tumor from the body. However, scientific investigation has failed to confirm these claims.

A 1982 study by the Canadian government of cancer patients taking Essiac found that patients did not benefit from it, and laboratory research conducted by the U.S. National Cancer Institute found no merit to the product. Despite the lack of available scientific evidence, Essiac and more than 40 Essiac-like products remain popular among cancer patients. A year 2000 survey found that almost 15% of Canadian women with breast cancer were using Essiac. It has also become popular in patients with HIV and diabetes, and in healthy individuals for its purported immune-enhancing properties, although there is no scientific research supporting its use.

Related products are available in North America, Europe, and Australia. Flor-Essence® includes the original four herbs plus others added later added as “potentiators” (blessed thistle, red clover, kelp, watercress). Virginias Herbal E-Tonic™ contains the four original herbs along with echinacea and black walnut. Other commercial formulations may include additional ingredients, such as cat’s claw (*Uncaria tomentosa*).

Hydrazine sulfate

Hydrazine sulfate came to prominence as a cancer therapy around 1970, promoted by Joseph Gold, MD, a cancer researcher in Syracuse, New York.

Hydrazine sulfate is an industrial chemical, used as rocket fuel during World War II. Through a series of studies, Gold developed the idea that hydrazine sulfate could slow the weight loss and wasting of the body, known as cachexia, that often accompanies advanced stages of cancer. He also believed that hydrazine sulfate could enhance the effectiveness of other drugs.

Working initially with terminally ill patients in the 1970s, Gold and other researchers in the United States and Russia found that hydrazine sulfate appeared to inhibit both cachexia and tumor progression when compared with other methods. However, investigations conducted at the Memorial Sloan-Kettering Cancer Center in New York, also in the early 1970s, found no positive effect for hydrazine sulfate in treating cancer patients.

In 1994 three methodologically sound studies involving a combined total of 636 cancer patients were published. Each of the three found no positive effect for hydrazine sulfate, which is now considered a disproved and ineffective treatment for cancer.

Oxygen therapies

Oxygen therapies have been promoted for decades as cures for cancer and other diseases. Based on the belief that cancer is caused by a build-up of toxins from pollution, processed foods and other factors, infusing oxygen into the body was said to detoxify the organs and kill cancer cells. No studies support these ideas. In fact, laboratory studies show that cancer cells actually grow more rapidly when supplied with high levels of oxygen, and that low levels of oxygen do not cause the formation of new cancer cells.

Moreover, compared to the amount of oxygen in human blood, the oxygen delivered by hydrogen peroxide, ozone, or “oxygenated water” is minor. Although hydrogen peroxide and ozone kill bacteria and viruses outside of the body, as when pouring hydrogen peroxide on a wound to clean it, animal and human studies show that neither hydrogen peroxide nor ozone kill bacteria and viruses in the human bloodstream.

No scientific evidence supports the value of oxygen therapies for cancer or any other disease.

714-X

714-X is the name given to an alternative product developed by Gaston Naessens, a French microbiologist in Quebec, Canada. Naessens invented the “somatoscope,” a microscope he said made it possible to see otherwise invisible blood particles that he called “somatids.” He used the

Part Six: "Alternative" (Unproven or Disproved) Treatments Taken Internally

somatoscope to determine whether treatment with 714-X, a mixture of nitrogen and camphor (to deliver the nitrogen), was working for each particular patient. Naessens theorized that cancer cells are deficient in nitrogen, and that injecting 714-X into the lymph system would convert them to normal cells. There is no scientific evidence whatsoever that supports the value of this method.

Biological Dentistry

Biological dentistry is the replacement of dental fillings with nonmetallic material. It is based on the belief that materials currently used in fillings, such as mercury, tin, copper, silver, and sometimes zinc, contain toxins that cause hidden dental infections, which pose serious health risks to the body's organs and physiologic systems. Advocates of biological dentistry believe that accepted forms of dental treatment may harm not only the teeth and mouth, but also the health of the entire body. They also believe that physical problems in the body manifest themselves in the mouth.

Biological dentists believe that the material used to fill cavities causes cancer, Alzheimer's disease, and almost all other chronic illnesses.

What It Is

Biological dentistry is the use of "alternative" (unproven) treatments for problems of the teeth, gums, jaws, and mouth as well as disorders throughout the body. Biological dentists believe that treating the mouth is a method of treating the body and curing its diseases.

Examples of illnesses and problems that biological dentists aim to cure, in addition to cancer, include tinnitus (a ringing noise in the ear), vertigo, epilepsy, hearing loss, eye problems, sinusitis, joint pain, kidney problems, digestive disorders and heart disease.

Along with mouth and dental work, biological dentists also use additional alternative treatments such as "neural therapy," urging patients to avoid fluoridated water, oral acupuncture, cold laser surgery, homeopathy, and other unproven, unconventional techniques. These are briefly described below.

“*Neural Therapy*”. This is based on the belief that “biological energy” flows throughout the body, but can become imbalanced or short-circuited. Biological dentists apply “to restore that balance by injecting a local anesthetic around the tooth thought to correspond to a particular body organ. That is said to remove the block and restore energy flow. This idea is similar to the concepts behind Traditional Chinese Medicine and other ancient beliefs described in Part One.

Fluoridation. A Communist plot? Fluoride is an essential element that occurs in all natural water supplies. One part per million reduces dental cavities. Fluoride is added to water supplies that are too low in this natural element. When introduced in the mid 1940s in the United States, fluoridation was attacked by some groups as a Communist plot. Despite a substantial history of successful, nontoxic use of fluoridated water in former Communist countries and elsewhere, biological dentists and some other groups continue to believe that fluoridated water is toxic. Global evidence does not support this notion.

Oral Acupuncture. This procedure involves the injection of salt water, weakened local anesthetics, or homeopathic remedies into acupuncture points in the mouth (see Chapter 1). Oral acupuncture injections are used to relieve pain during dental procedures and treat sinusitis, allergies, digestive problems, and neuralgia (pain from damaged nerves).

Cold Laser Surgery. This alternative form of acupuncture is much like oral acupuncture, but without the injections. It involves the use of a laser light beam aimed at an acupoint. Proponents claim that cold laser therapy kills bacteria associated with dental work, aids in wound healing, and reduces swelling. It is also applied to treat TMJ (temporomandibular joint syndrome).

Homeopathic Remedies (see Chapter 3). These are used to relieve pain associated with teeth, gum, jaw, or other mouth problems. It is used typically as a temporary remedy until proper dental treatment can be obtained.

Mouth Balancing. This procedure includes analyzing the muscles of the mouth and the skull, and creating orthopedic braces for the mouth to realign the jaw and alleviate problems such as TMJ, headaches, eye problems, and over- or underbite. Although aspects of mouth balancing sound similar to methods used in the branch of conventional dentistry called orthodontics, mouth balancing is not used in mainstream dentistry, because its procedures and ideas goals are not considered acceptable.

Nutrition Biological Dentistry. This includes the use of nutritional supplements such as magnesium, selenium, vitamins C and E, folic acid, and digestive enzymes. These are used to treat the presumed mercury toxicity, which is believed to be caused by traditional cavity fillings. The supplements are thought to help the body get rid of mercury and to encourage healing of presumably damaged tissues throughout the body.

What Practitioners Say It Does

Proponents of biological dentistry believe that conventional dentistry causes most of the dental and medical problems that people experience. They say that alternative biological dentistry can cure these problems.

Beliefs on Which It Is Based

Biological dentistry is based on alternative beliefs concerning the cause of disease. Problems treated by biological dentists and their understanding of what causes these problems have no basis in scientific fact.

The basic beliefs the idea include that bacteria and other toxins from previous dental procedures leak from the conventional filling material and harm the immune system, weakening the body and resulting in disease. Another belief is that each tooth relates to a particular body organ, much in the way that acupoints are believed related to distant body parts. An infected tooth means that the corresponding organ also is infected; treating the infected tooth is believed to treat its corresponding diseased organ at the same time.

Root-canal procedures are said to be the cause of serious illnesses, and dental fillings are believed to release mercury, tin, copper, silver and zinc into the body, where they break up into charged atoms and create the illnesses and allergies. Therefore, biological dentists recommend replacing all metal fillings with “natural, nontoxic, biocompatible” material. Another example of these unfounded beliefs is that electricity is created by dental fillings, which may cause lack of concentration, memory loss, insomnia, psychological problems, tinnitus, vertigo, epilepsy, hearing loss, and eye disorders.

Research Evidence to Date

Testimonials are presented by proponents because no scientific data support their claims. Scientific research has disproved the claims of biological dentistry. In 1987, the American Dental Association amended its code, declaring

the removal of clinically serviceable mercury amalgams to be unethical. Dentists who remove serviceable fillings may have their licenses removed.

Several scientific studies have shown, contrary to the claims of biological dentistry, that dental amalgam is well accepted physiologically and does not hinder wound healing following dental work. Moreover, the National Institutes of Health (NIH) held a conference in 1991 on “The Effects and Side Effects of Dental Restorative Materials.” These national experts, following study and discussion, concluded that there is no evidence to support the idea that dental fillings cause problems.

What It Can Do for You

Advocates claim that biological dentistry is a healthier alternative to conventional dentistry. Having one’s dental fillings removed and replaced may cause pain in the mouth as well as the pocketbook, but research shows that it does not help dental or medical problems.

It is important to note that toxicity is a function of amount. Tiny fractions of many minerals are required by the body, but ingesting large amounts of those same minerals can be poisonous (see Chapter 8). The amount of minerals released by dental fillings, if any, is too small to have any impact on body function.

Where to Get It

For information about modern dentistry, contact the American Dental Association or the Dental Association of your country on the Internet. A copy of the U.S. National Institutes of Health report, “Effects and Side Effects of Dental Restorative Materials” is available on the Internet: <http://consensus.nih.gov/1991/1991DentalRestorativeMaterialsta009html.htm>.

Cell Therapy

Sometimes called live cell therapy, cellular therapy, or fresh cell therapy, cell therapy is not approved for use in the United States. This practice of injecting live or freeze-dried cells from animals' organs, fetuses, or embryos to promote healing and youthfulness in humans is used extensively in Europe. It was banned in the United States in 1985 because it lacked proven benefit and caused serious infections and allergic reactions.

What It Is

In 1931, the Swiss physician Paul Niehans developed cell therapy during a medical crisis to help a patient with damaged parathyroid glands. He injected a saline solution containing ground-up parathyroid cells from a steer calf. Niehans attributed the patient's recovery to the parathyroid cell injection.

Niehans was motivated by that success to apply cell therapy to other problems. He developed an extensive cell therapy program to treat degenerative diseases and promote youthfulness generally. Therapy consisted of injections of cells taken from fetal lambs still in the womb of freshly killed mother sheep. Niehans's therapy, delivered in his costly Swiss spa, achieved great popularity and attracted the famous and wealthy.

Because the useful life of animal cells for transplantation is extremely short, and because cell rejection may occur in the recipient and can create problems, a method to freeze-dry cells was developed in 1949. This procedure reduced but did not eliminate side effects such as the immune rejection reaction, a problem associated with all types of organ transplants and cell therapies. Later, a different type of cell therapy was developed. It employs

animal cell extracts in conjunction with animal antibodies, and proponents say it is free of side effects.

Some practitioners today rely on live animal cells harvested from specific organs of sheep or pigs to treat human patients. Others prefer freeze-dried cells, which sometimes are filtered to remove components most likely to create immune rejection reactions.

What Practitioners Say It Does

Proponents claim that injected animal cells can stimulate the immune system, which protects against disease and enhances overall health. They further believe that, through improved health brought about by cell therapy, patients with serious illnesses such as cancer may be better able to face the rigors of traditional cancer-fighting treatment.

Cells injected into the body are believed to seek out the targeted weak or damaged organ and stimulate a healing process. The cells of a particular animal organ are believed to enter that organ in the patient, helping it to recover or thrive. Injected animal kidney cells, for example, are said to migrate to the human kidney, and animal liver cells to the human liver.

Some proponents believe that cell therapy increases vitality, stamina, skin tone, blood supply, and a general sense of well-being. Enhanced sexual function and reversal of male impotence also have been claimed. Many other successes in treating various diseases are noted, ranging from cancer to Down's syndrome. Finally, as is true of almost all alternative therapies, some proponents speak of cell therapy's value in treating AIDS.

Beliefs on Which It Is Based

Even proponents of cell therapy are not certain why or how the therapy might work. A few theories are suggested, among them that it enhances the immune system, targets organ-to-organ healing, and restores youth and vitality by donating young cells.

Cell therapy advocates believe that animal organ cells migrate to comparable human organs. Thus, they claim that specific organ cell therapy can strengthen the recipient organ and promote organ healing and regeneration.

Research Evidence to Date

Claims about cell therapy are based primarily on anecdotal reports, with success stories publicized by physicians in Mexico, the Bahamas, England and

Germany. Niehans claimed that he successfully treated 30,000 patients, but no research supports that contention. The famed South African heart surgeon, Christiaan Barnard, developed a special interest in cell therapy, and in 1988 promised that the following year would bring corroborating research evidence of cell therapy's viability. To date, no such research has been reported.

One study that did appear in a scientific publication, the journal *Pediatrics*, tested the long-claimed benefits of cell therapy in children with Down's syndrome. Children who received cell therapy were compared with those who did not. The study found no evidence that the cell therapy was effective. No improvement in IQ motor, language, social skills, memory or growth was found for children receiving cell therapy.

In 1990, an Australian physician reported that cell therapy had failed to help a 34-year-old woman who had become quadriplegic after a horseback accident. Blood tests found no evidence that the woman had formed antibodies to animal cells. In 1998, a malpractice suit was filed against a homeopathic doctor who treated a man with cellular therapy, giving him injections of "bovine adrenal fluid." The man developed and died from a *Clostridium perfringens* infection (gas gangrene) caused by the injected fluid.

In 2003, the FDA ordered a California to stop making illegal claims that its "Live Cell Growth Factors," which were derived from sheep or cattle embryo cells, "have the potential to adapt and heal organs or body tissue in need of repair." The FDA also warned that biologic products cannot be legally marketed without a license indicating that the product is safe and effective for its intended use. No cell therapy has ever been shown to be safe or effective.

What It Can Do for You

The basic value of cell therapy, according to proponents, is its ability to help prevent or fight disease, postpone aging and strengthen health. After many decades of use, however, the ability of cell therapy to cure disease, promote rejuvenation, or provide any health benefit remains undocumented.

Where to Get It

Cell therapy is not legally available in the United States. Clinics in Mexico, the Bahamas and Europe offer it. Before considering its use, you should discuss

Part Six: “Alternative” (Unproven or Disproved) Treatments Taken Internally

the subject with a physician who knows your medical history and is familiar with the promises and dangers of cell therapy.

Prior consultation with your financial advisor also is recommended. Cell therapy treatments for “restoration of youth” at European spas cost approximately ten thousand dollars for each treatment, and they have not been proven to slow the effects of aging, cure disease or prolong life.

Chelation Therapy

It is referred to by some practitioners and clients as the human “tune-up.” Chelation comes from the Greek word Therapy “chele” for “claw.” When chelation chemicals are introduced into the bloodstream, they bind (claw) to iron in the blood and are later excreted from the system.

Chelation therapy has been a proven treatment for lead and other heavy-metal poisoning for half a century. Injected into the bloodstream, chelation chemicals extract harmful overdoses of minerals, enabling their eventual excretion. Chelation is still used today as an approved treatment for heavy-metal toxicity. The danger of potentially fatal kidney damage from chelation is outweighed in these cases by the even more serious toxicity of the metal poisoning.

Some practitioners, however, claim that chelation can treat illnesses and problems other than metal toxicity. Coronary artery disease is primary among these illnesses. Based on the idea that chelation chemicals may remove harmful plaque from the arteries, it is promoted as an alternative to coronary bypass surgery and angioplasty. Chelation is advertised also as a treatment for thyroid disorders, multiple sclerosis, muscular dystrophy, high cholesterol, psoriasis, hypercalcemia, hardening of the arteries, cancer, Alzheimer’s disease, and many other disorders.

The rationale for these claims is not clear. Scientific data do not yet support the value of chelation therapy for these problems or for any disorders other than heavy-metal poisoning. This chapter concerns chelation only for these unproven applications.

What It Is

Chelation therapy involves intravenous injection of a solution of ethylene diamine tetraacetic acid (EDTA), also called edetic acid, into the bloodstream.

The solution may contain other vitamins and supplements at the practitioner's discretion. In the bloodstream, the EDTA is said to attach itself to coronary plaque or other unwanted materials, and then it is excreted in the urine within forty-eight hours.

The procedure requires a clinic visit of approximately three hours. Depending on the doctor's recommendation, three or more visits each week may be prescribed. Many patients receive forty or more treatments, with an average total cost of U.S.\$4,000 or more. The 2007 National Health Interview Survey, conducted by the U.S. Centers for Disease Control and Prevention, found that 111,000 adults 18 years of age and older had used chelation therapy in the previous year.

What Practitioners Say It Does

Proponents claim that EDTA, when used to treat hardening of the arteries, extracts calcium from cells in the walls of the arteries, thereby reducing arterial blockages. Advocates claim that chelation is a safe, economical and effective alternative to angioplasty or bypass surgery. Proponents also claim that EDTA is an effective therapy for many other diseases, such as those listed above.

Beliefs on Which It Is Based

In the 1950s, a doctor practicing in Detroit, Michigan, noticed that patients who received chelation therapy for lead poisoning also experienced relief from angina (chest pain due to inadequate oxygen in the heart muscle). From this he theorized that the chelation might remove calcium, thereby reversing the problem and causing the pain to abate. His work and that of others resulted in the belief among some that chelation therapy is a viable alternative for the treatment of heart and circulatory problems. The rationale for the use of EDTA to treat other diseases has not been provided. Practitioners base their claims on reports of their own experience or that of others.

Chelation therapists have reported various positive results in their patients, including relief from angina and arthritis, diminishing of gangrene, improved memory, sight, hearing and smell, and increased energy. However, negative effects have also been reported by mainstream medicine, the American Heart Association, and physician groups. These include bone marrow damage, kidney failure, irregular heart rhythm, severe inflammation of EDTA intravenous sites, anemia, and death from the procedure.

Research Evidence to Date

The positive results reported by proponents of chelation therapy have been criticized because they were based on selected, inadequate studies reported in proponents' books rather than in the scientific literature. In 1993 a review was conducted of all chelation therapy studies reported during the previous thirty-seven years. It concluded that scientific data did not support claims of chelation as an effective treatment for heart problems. Both a Danish investigation and a 1994 double-blind investigation of chelation therapy in patients with intermittent claudication (a condition in which circulation to the legs is impaired) found no significant differences between EDTA and a placebo (an inert substance with no active ingredient; see Chapter 18).

The National Heart, Lung, and Blood Institute, and the National Center for Complementary and Alternative Medicine, both components of the U.S. National Institutes of Health (NIH), are now sponsoring the "Trial to Assess Chelation Therapy." This is the first large, multicenter study to determine the safety and efficacy of EDTA chelation therapy for people with coronary artery disease. As of this writing, the study has completed enrollment. Participants will continue to be followed through 2011, and the results will be analyzed in 2012.

What It Can Do for You

Research does not support chelation therapy as a viable method of treatment for illness other than toxic metal poisoning. It also produces toxic effects, including kidney and bone marrow damage, irregular heart rhythm, severe inflammation of the veins, and even death.

Because chelation therapy is widely promoted for the treatment of heart disease as well as cancer and other serious illnesses, more than 100,000 Americans seek chelation treatment for heart disease. Similar numbers may apply to other countries as well.

These large numbers alone point to the urgent need for further scientific investigation. For that reason and because coronary artery disease is a leading cause of death among men and women in the United States and in other developed countries, research scientists from the U.S. National Institutes of Health Center for Complementary and Alternative Medicine, and the National Heart, Lung and Blood Institute saw a public health need and together designed a proper trial.

This study is ongoing. It is the first large-scale, multicenter, well-designed clinical trial that should accurately determine whether EDTA chelation therapy

Part Six: "Alternative" (Unproven or Disproved) Treatments Taken Internally

is effective and safe as an alternative for the treatment of coronary artery disease. The study enrollment is completed. Participants will continue to be followed through 2011, and the results will be analyzed in 2012.

Where to Get It

Chelation therapy appears to have no role in the treatment of cancer. It is wise to await results of the NIH study results before trying it for heart disease. Those results will be widely reported, and also will be available on www.NIH.gov when the analyses conclude in 2012.

Colon/Detoxification Therapies

References to colon therapy appear in historic accounts dating back to ancient Egypt and Greece. For centuries, physicians have administered enemas as internal body baths. Although the technology of colon therapy has changed over time, the basic premise — internal cleansing and purification — remains the same.

Introduced to the United States in the 1890s, colon therapy rapidly gained wide popularity. People, healthy and sick, flocked to health spas to be cleansed and rejuvenated. Colon therapy was used to treat heart disease, high blood pressure, arthritis, depression, and various infections. With the development of antibiotics in the 1940s, colon therapy lost its appeal and faded, albeit temporarily, into the background.

Today, colon therapies are readily available in spas, specialty clinics, and other settings, and colonic irrigation is a fundamental component of naturopathic therapy and a popular treatment for constipation and “health maintenance.” The procedure is said to detoxify the large intestine and establish a healthier, better functioning colon. Proponents call detoxification an integral part of staying healthy and preventing illness. It is estimated that tens of thousands of people in the United States seek colon therapy. This therapy has many names, including colonic irrigation, high colonic, detoxification therapy, colon hydrotherapy, coffee enemas, enema irrigation, hydro-colon therapy, high enema therapy.

Available scientific evidence does not support claims that colon therapy is effective in treating cancer or any other disease. Colon therapy can be dangerous and can cause infection or death.

What It Is

Colon therapy is the cleansing of the large intestine (colon) through the administration of water, herbal solutions, enzymes or other substances such as coffee. It is said to cleanse the large intestine by flushing out “built-up waste.” This is accomplished with water or herbal solutions administered rectally. The colonic practitioner, also called a colonic hygienist or colon therapist, helps the client insert plastic tubes into the rectum.

Filtered water, sometimes containing herbs, enzymes, or other substances, is then pumped in by a machine or with the help of gravity through a tube until the colon, which is about five feet in length, is full. The therapist then massages the colon through the abdomen. After an allotted amount of time, the water is eliminated through another tube. This procedure is repeated, using more than a total of twenty gallons of water per session. The average session requires forty-five to sixty minutes.

What Practitioners Say It Does

Advocates refer to colonic irrigation as a “detoxification procedure.” It is said to loosen and remove accumulated waste from the folds of the colon. Because proponents believe that colon therapy helps detoxify the body, allowing natural healing to occur more efficiently, colon therapy can be applied as a primary form of treatment. It is also used as a complementary therapy, a preventive measure, and as an aspect of hygienic routine.

Beliefs on Which It Is Based

Proponents believe that the typical diet in contemporary America consists of high “mucoïd-forming foods” such as meat and other fat-containing products, and that it is too low in fiber. They claim that this nutritional imbalance causes matter to remain in the colon. As it accumulates, this matter is said to become a thick, glue-like substance that remains stuck inside the colon walls. The buildup of this substance eventually causes a condition that proponents term “auto-intoxication.” Auto-intoxication is a process in which toxins produced by the gluey substance are absorbed into the bloodstream. Proponents believe that through this route they may poison the body and cause illness.

Research Evidence to Date

There are no data that support the claims or beliefs on which colon therapy is based. Research, however, does dispute these claims, and mainstream medicine

warns against using this procedure. When the resurgence of colon therapy occurred in the early 1980s, some practitioners failed to maintain sanitary conditions. Illness and death resulted. The *Journal of the American Medical Association* in 1980 reported the deaths of two women as the result of receiving coffee enemas from an alternative clinic. In 1981, the Colorado Morbidity and Mortality Weekly Report noted that ten people contracted amebic dysentery following colonic irrigation; seven eventually died.

According to the American Colon Therapy Association, today's conditions are sanitary and greatly improved. This should reduce the major health risks of infection and death that can occur under nonsterile treatment conditions. However, other problems may result from colonic irrigation, including enzyme imbalance, perforation of the colon, and general weakening of the body, a special concern for patients with cancer and other serious illnesses.

The ideology on which colonic irrigation is based — that dried food and toxins remain stuck inside the walls of the colon — is not physiologically accurate. According to scientists, toxic material does not remain and putrify in the colon, ready to cause bodily toxification. A 1987 report published by the American Medical Association's Council on Scientific Affairs summarized data that debunked the notion of autointoxication. Today's trained physicians do not believe in the idea of autointoxication.

What It Can Do for You

Proponents recommend colon therapy as a preventive measure for healthy people and also to help cure disease. There are exceptions: advocates do not recommend colon therapy for individuals with ulcerative colitis, diverticulitis, Crohn's disease, hemorrhoids or intestinal tumors. Colonic irrigation is not used in mainstream medicine. However, enemas, which do not reach up into the colon, are used to relieve some cases of constipation and to enable some radiologic evaluations (the barium enema is an example).

Those who seek colon therapy should check on the cleanliness of the office and the equipment. If the equipment is not properly sterilized, or if disposable applicators are not used, the very real danger of infection exists. If you want to try colon therapy, discuss it first with your physician in case there are medical or other contraindications.

Colon therapy received widespread publicity when tabloids revealed that a British princess received it two or three times a week (much too frequently, says the American Colon Therapy Association, which recommends twice yearly as a maintenance regimen). However, it is not used in mainstream medicine.

Where to Get It

The International Association for Colon Hydrotherapy (I-ACT) provides information. Colon therapists are licensed in some states. Reputable clinics state that they use food equipment approved by the Drug Administration (FDA) and disposable applicators. Appointments are recommended twice yearly, or when changes in one's diet occur.

The American Cancer Society (www.cancer.org), Memorial Sloan-Kettering Cancer Center (www.mskcc.org/AboutHerbs), and many other reputable sites alert patients to the problems associated with colon therapy.

Craniosacral Therapy

Many if not most alternative therapies have come from ancient cultures in distant parts of the world. Craniosacral therapy is different because it is relatively new and it was developed in the United States. This therapy relies on some basic ideas that are not proven by or consistent with what is known scientifically. Moreover, pediatricians writing in medical journals have expressed concern about the harmful effects of craniosacral therapy on children and infants.

Craniosacral therapy was created in the early 1900s by William G. Sutherland, who trained in Kirksville, Missouri at the first school of osteopathy. An expanded version of craniosacral therapy was developed in the 1970s by the osteopathic doctor John Upledger at the Upledger Institute in Florida. He and the thousands of health-care professionals who attend his training programs annually focus on releasing stresses in the skull and the membranes surrounding the brain.

What It Is

Craniosacral therapy is a spin-off of chiropractic and osteopathic medicine. Unlike those broader fields, however, it applies a lighter touch with its hands-on therapy and focuses only on the craniosacral system — the bones of the head, spine and pelvis and the surrounding cerebrospinal fluid.

This approach differs from chiropractic also because its goal is not to adjust the relationship between the musculoskeletal and nervous systems, but rather to increase the flow of cerebrospinal fluid. Gentle massage is applied to eliminate obstacles to the free flow of cerebrospinal fluid. The practitioner may also emit no-touch “healing energy” to the client. Each craniosacral massage session can last from thirty minutes to an hour or more.

What Practitioners Say It Does

Craniosacral therapists believe that their treatment normalizes, balances, and eliminates obstructions in the central nervous system, the immune system and other systems throughout the body. Relieving obstructions to the normal rhythm of cerebrospinal fluid flow is said to allow the central nervous system and the entire body to function properly and healthfully.

Therapy is recommended for infants and children as well as adults. Craniosacral therapists believe that the difficulties and stresses of the birth process can distort growing cranial tissues, so they attempt to align the cartilage and membranes of the skull. They claim success for a broad variety of childhood problems, including hyperactivity, cerebral palsy and earache. In the adult, craniosacral therapy is said to cure brain and spinal injury, seizures, menstrual dysfunction, chronic pain, autism and many other ailments.

Recently, a leading craniosacral therapist reported curing a woman of breast cancer. Needless to say, manipulation of the skull does not cure breast or any other cancer, and patients should not be lured into trying a useless method instead of seeking proper care.

A Word of Warning

The skull bones of infants and very young children are not yet solidly bound to one another. It makes sense to avoid manipulating the delicate bone plates that surround and protect your infant’s brain. Children with medical problems require the attention of a trained pediatrician, and adults with medical illnesses should be seen first by a relevant specialist.

Beliefs on Which It is Based

Craniosacral practitioners believe that they can restore health by manipulating the patient’s skull (cranium), the spine down to its tail end (the sacral area), and the pelvic bones. The “craniosacral system” also includes the membranes that surround these bones and the cerebrospinal fluid that bathes the brain and spinal cord.

Like many alternative therapies, craniosacral therapy is built on the view that illness is caused by blocked channels of energy or bodily fluids. Treatment, therefore, aims to release blockages and restore free flow. Proponents believe that the bones of the skull move in rhythmic patterns. However, the idea that the bones of the adult skull move at all, let alone in patterns, is not consistent with any scientific understanding of human anatomy. Skull bones are fused not long after birth and cannot be moved.

Research Evidence to Date

Research on craniosacral therapy has produced mixed results. No definitive evidence is available to document its effectiveness or even to support the basic premises on which the approach is based. Those who practice this type of therapy claim many successes. But according to Upledger and colleagues in a report to the NIH Office of Alternative Medicine, successes have not been documented in formal studies. Anecdotal reports and personal histories are offered instead.

Important questions about how and whether craniosacral therapy works remain to be answered. Proponents say it is possible to measure craniosacral rhythms and changes in these rhythms. They also claim that craniosacral abnormalities are closely related to disease. However, medical researchers find that craniosacral rhythms are difficult to measure reliably, calling into question the notion that rhythms actually exist.

The basic concepts behind craniosacral therapy — that moving the bone plates of the skull will result in better health and elimination of some disorders — is not consistent with what is taught in medical schools around the world. According to scientific understanding of skeletal anatomy, the bones of the skull fuse together firmly by the time a child reaches age two, and cannot be moved by hands pressing the head.

Therefore, if anatomical science is correct, it is impossible to influence underlying membranes or cerebrospinal fluid pressure by moving bones of the skull, because these bones do not move (although craniosacral proponents believe they do). Furthermore, mainstream specialists explain that merely lying down on your back produces more change in the pressure of cerebrospinal fluid than does the manipulation of craniosacral bones.

What It Can Do for You

Even if craniosacral therapy does none of the things it claims to do, some people may still find it helpful because it can decrease stress and release muscle tension, just as does any massage therapy. Prolonged hands-on attention, the opportunity to rest comfortably in a relaxed position while someone ministers to your body, the benefits of human touch for up to an hour or more — these and other aspects of the therapy are heart-warming, muscle-relaxing, and beneficial, even if there is no evidence that the procedure cures illness.

However, serious problems may result from using this procedure with babies and very young children whose skull bones are not yet fused. And people who have been diagnosed with a serious illness should not believe that this kind of therapy will help cure it.

Where to Get It

Most practitioners of craniosacral therapy are osteopathic or chiropractic doctors with additional training in the craniosacral method. These doctors as well as their professional associations can provide referrals for those who want an especially costly scalp massage that does not treat any illness.

Enzyme Therapy

Enzymes are protein molecules that are essential to the numerous chemical reactions that continually occur in the body. Specialized enzymes play a major role in digestion by breaking food down into chemical components that can be absorbed and used by the body. Digestive enzymes are produced by the salivary glands in the mouth and by the stomach, pancreas and small intestine.

Enzyme supplements are used in mainstream medicine to treat people with serious illnesses such as cystic fibrosis, Gaucher's disease, and celiac disease — rare illnesses with strong genetic components that typically arise early in life and interfere with the normal digestive process. Healthy individuals do not require additional enzymes for normal digestion. The body's digestive system, as well as enzyme-containing plants consumed in the diet, provide all the enzymes needed.

Proponents of enzyme therapy, however, believe that digestive enzyme supplements play a broader role than just digesting food, and that food digestion is part of treating illnesses, even illnesses that are unrelated to the digestive process. Proponents claim that enzyme supplements can be used specifically to fight illness. By aiding digestion, they say, supplements help the body restore health and well-being.

Advocates claim that supplemental pancreatic enzymes help the immune system fight disease. This idea stems from the work of a Dr. Edward Howell in the 1920s, who believed that consuming large amounts of enzyme-containing raw foods would allow the body to use less and “store up” more of its own enzymes. He believed that this would enable the body to digest more efficiently and to absorb more nutrients.

What It Is

Enzyme therapy involves the consumption of enzyme supplements, available in health-food stores. They consist of enzymes extracted from plants and from animal organs, including protease (which digests protein), amylase (which digests carbohydrates), lipase (for fats), and cellulase (which digests fiber). Usually the supplements are sold as capsules.

No scientific support

The lack of consistency between enzyme therapy and scientific understanding of digestion and enzyme activity has not stopped people from promoting enzyme therapy to maintain general wellbeing and to treat many different illnesses.

Pancreatic enzymes were first applied as cancer treatment in 1902 by John Beard, an English embryologist. Later, German researchers used enzymes to treat patients with multiple sclerosis, cancer and viral infections. Beard and the German researchers claimed therapeutic successes, although neither they nor anyone else has conducted scientific studies or produced research data that support their claims.

Advocates recommend consumption of supplemental enzymes between meals, claiming that at this time the enzymes can be absorbed directly into the bloodstream to assist the immune system to clear viruses and other infections instead of remaining in the intestinal track to aid digestion.

What Practitioners Say It Does

Proponents claim that enzyme supplements, while aiding digestion and healing digestive ailments, also can cure sore throats, hay fever, ulcers, and viral illnesses. The use of pancreatic enzymes to treat cancer remains unproven and controversial, but enzyme supplements are promoted as an alternative form of cancer treatment.

Beliefs on Which It Is Based

Enzyme therapy is based on the belief that “more is better.” The human body naturally produces enzymes that aid digestion and assist absorption of nutrients into the bloodstream. Proponents of enzyme therapy recommend increasing the amount of enzymes above the level produced by the body.

Research Evidence to Date

Aside from personal reports printed and promoted by manufacturers of enzyme supplements, there is no scientific evidence to substantiate proponent claims for enzyme therapy. Enzyme products have been reviewed by consumer groups and by the Food and Drug Administration (FDA).

In 1985, Consumer Reports published an article stating that numerous companies promoting enzyme therapy were violating federal laws with false advertising and distributing false information. Later that same year, the FDA launched its own investigation. One company, Enzymatic Therapy, was ordered to stop producing its “Research Bulletins,” because the publications contained false information. In 1991, after six years of inspection, the FDA began injunction proceedings because the company continued to make false claims about the nonexistent “healing power” of enzyme supplements. In late 1992, a court order banning promotional material with unproven claims was issued.

As of this writing in 2010, thousands of marketers promote sales of various enzymes, and results from a study of patients with inoperable pancreatic cancer showed a decrease in overall survival and poorer quality of life with proteolytic enzymes compared to standard gemcitabine-based chemotherapy.

What It Can Do for You

Enzyme therapy consists of bogus products with nonexistent benefits. Enzyme supplements are broken down by the body just as other proteins are, and enzymes are changed into chemical substances that the body can absorb.

Where to Get It

Information about digestive disorders and treatment are available from the American Dietetic Association, the Digestive Disease National Coalition in Washington, DC, the National Digestive Diseases Information Clearinghouse in Bethesda, MD, and from similar organizations, health websites and government agencies around the world.

This page intentionally left blank

Metabolic Therapies

Metabolic therapy is based on the theory that disease is caused by accumulations of toxic substances in the body. Accordingly, treatment aims to eliminate the toxins. It is believed that this will enhance immune function, which in turn will assist the body to restore itself to health. Metabolic therapies vary from practitioner to practitioner, but typically include the same basic components: a special diet; high-dose vitamins, minerals and other dietary supplements; and detoxification with coffee enemas or irrigation of the colon (see Chapter 41).

The development of metabolic therapy is attributed to Max Gerson, a physician who emigrated from Germany to the United States in 1936. After successfully treating patients with lesser illnesses, he expanded metabolic regimens to patients with cancer. Today cancer is the most common illness treated with metabolic therapy.

The Gerson Clinic, along with many others specializing in metabolic therapies, is still active in Tijuana, Mexico. Tijuana is close enough to the United States to draw patients who can afford the fees, and it is outside of U.S. borders to avoid potential problems such as the use of unproven products. At least seven metabolic clinics or hospitals dot the hills around Tijuana, which remains a hub of activity in metabolic therapy. Metabolic clinics run by physicians also have opened recently in the United States.

Variations on Gerson's method were developed by several followers in the past, such as William Donald Kelley, an orthodontist by training; biologist Harold Manner, PhD; Ernesto Contreras, MD and others. All had clinics in Tijuana. Nicholas Gonzalez, MD, practices his own version of metabolic therapy in New York City, where research to evaluate the potential benefits of his regimen recently concluded (patients did worse clinically and in terms of quality of life on his regimen than on standard chemotherapy).

What It Is

Metabolic treatment typically is initiated in the clinic, where patients remain on an inpatient basis. A diagnosis is made using conventional blood tests as well as unscientific tests such as hair, urine and blood crystallization analysis. Because all diseases are believed to result from the same underlying disorders, treatment is similar regardless of diagnosis.

As an example of a metabolic regimen, the Gerson diet is essentially vegetarian. Raw-liver juice, formerly part of the therapy, was abandoned by contemporary Gerson therapists in 1989 because of contaminants found in commercially available liver. Each patient is given about twenty pounds of fruit and vegetables a day, typically consumed in the form of pure carrot and apple juices.

Detoxification, another major component of metabolic therapy, consists of coffee enemas every four hours. The enemas are claimed to stimulate the excretion of bile from the liver and rid the body of toxins. Meals with predominantly natural and organically grown foods, plus nutritional supplements, are eaten to strengthen the immune system. Meditation, prayer, and additional alternative therapies such as bioelectric stimulation may be used to aid the fight against cancer and other illnesses.

What Practitioners Say It Does

Proponents of metabolic therapy take the position that they address the underlying cause of disease, which they say is a buildup of (unspecified) toxins. They fault mainstream medicine for treating only “symptoms.” Advocates believe that cancer and other illnesses stem from toxicity-induced disruption of the immune system, which creates an internal environment susceptible to the development of disease. The toxins are said to come from chemicals in food, water, and air pollutants. Eliminating the internal toxins is believed essential to rejuvenating the body’s immune system, which in turn is thought to allow self-healing from cancer and other illnesses to occur.

Beliefs on Which It Is Based

Gerson’s therapy was based on the view that malignant growths result from metabolic dysfunction within cells. This was to be countered by diet and detoxification. The use of coffee enemas was based on German medical tradition in the 1920s, when rectally induced caffeine was found to stimulate the production of liver bile in laboratory animals. Gerson believed also that an imbalance between sodium and potassium in each cell also contributed to

the development of cancer. Therefore, his therapeutic diet excludes sodium and provides abundant potassium (see Chapter 8).

Metabolic therapy is based on the idea that disease is caused by an accumulation of toxins in the body. Although there is no scientific basis for this view, many people are drawn to the idea and to the clinics that offer this type of treatment.

Research Evidence to Date

Contemporary research does not substantiate the beliefs and practices of metabolic therapy. The American Cancer Society strongly urges people diagnosed with cancer not to seek metabolic treatment unless and until data indicate that it is safe and effective. As noted in Chapter 37, a National Cancer Institute-sponsored study of Gonzalez therapy, which is similar to the Gerson diet and popular today, found that patients with inoperable pancreatic cancer who underwent standard gemcitabine chemotherapy survived three times longer and had better quality of life than those who chose the pancreatic enzyme-based therapy with nutritional supplements, detoxification and an organic diet. This study was reported in the *Journal of Clinical Oncology* in April 2010.

What It Can Do for You

Electing metabolic therapy or any unproven treatment over mainstream medicine may cause patients to lose valuable time in receiving treatment with proven benefits. The discomforts and financial costs of receiving an unproven treatment far from home are substantial, especially when there is no evidence that the therapy may be beneficial.

Some components of metabolic therapy may pose serious health risks. Continued use of enemas, for example, will cause the colon's normal function to weaken, worsening problems with constipation. Coffee enemas remove potassium from the body and could cause potentially fatal electrolyte imbalances. Some metabolic clinic diets, used in combination with enemas, risk dehydration.

Where to Get It

For information regarding cancer and mainstream cancer treatment, as well as information about unproven or disproved methods, contact the American Cancer Society at www.Cancer.org.

This page intentionally left blank

Neural Therapy

When your dentist numbs an area of your mouth before drilling to fix a cavity, he or she uses an anesthetic injection such as Novocain. Anesthetic injections also are used to control severe localized pain. “Neural therapists” also inject anesthetics like Novocain or lidocaine in various parts of the body, but they do so for different reasons.

They believe that such numbing injections remove blockages that inhibit the body’s electrical energy flow, and that the anesthetic travels throughout the body to heal illnesses. The initial conceptual basis for neural therapy was provided by the Russian physiologist Ivan Petrov. He theorized in 1883 that the nervous system influences all organic functions.

His beliefs seemed to explain a situation that occurred in 1940, when a physician named Ferdinand Huneke injected Novocain into the shoulder of a patient suffering from “frozen shoulder,” a condition involving a stiff and painful shoulder unable to be moved normally. The patient’s shoulder did not respond to the medication, but an old scar from a previous leg injury began to itch. On a hunch, the doctor injected the scar with Novocain. The patient’s shoulder healed immediately.

Although this reaction is not recorded in the annals of science, it is known in alternative medicine as the Huneke phenomenon, where it is assumed to indicate that the scar had become an “interference field,” a blockage of energy flow that caused the frozen shoulder.

Combining inferred energy interference and local injections of anesthetics, Huneke and his associates established a new treatment process they called neural therapy.

What It Is

Neural therapy is the injection of anesthetics into various sites such as nerves, acupuncture points, glands, scars, and trigger points (points that produce a sharp pain when pressed). The injections are said to remove blockages, or so-called “interference fields,” thus restoring electrical conductivity throughout the body and enabling healing to occur.

Proponents of neural therapy claim they can cure dozens of illnesses, including glaucoma, heart disease, hemorrhoids, infertility, kidney and liver disease, migraine, prostate diseases, and many other problems.

Practitioners locate “interference fields” by charting the patient’s health history. The history includes past illnesses, injuries and treatments, as well as symptoms of current problems. Evaluation of this information enables development of a treatment plan, and the injections begin. Some patients may receive only one injection; others may require a series of several.

What Practitioners Say It Does

Although neural therapy is all but unknown in America, it is commonly used by physicians in German-speaking countries. Local injections of anesthetics are given for pain control or to stimulate adaptive physiologic functions. Proponents make it clear that neural therapy can treat many medical conditions. It is applied most commonly, however, to treat chronic pain.

Beliefs on Which It Is Based

Proponents believe that most illnesses are caused by interruptions in the body’s electrical system. They say that somewhere there is a breakdown of communications between cells. When communication is impeded, what they call an “interference field” develops. Any previous illness or injury may create an interference field, which causes disturbances in the electrical (communication) system at the trauma site and anywhere else in the body.

It is believed that anesthetic injections allow the body’s electrical system to regain its normal energy flow, thus restoring health. Proponents admit they do not fully understand how this occurs or how neural therapy works. Various theories have been proposed. One theory suggests that injecting the anesthetic into the interference site allows “blocked” cells to regain lost energy and resume communications. In turn, this alleviates the medical problem currently experienced by the patient.

Research Evidence to Date

Other than proponent literature, there is no scientific evidence to support neural therapy and its concepts. Researchers in Germany indicate that anesthetic injections do effectively reduce pain, but the mechanisms behind the remaining claims for neural therapy await investigation.

What It Can Do for You

Proponents of neural therapy do not recommend it for genetic diseases, nutritional deficiencies, mental conditions (other than depression), or end-stage chronic diseases. Clearly, neural therapy should be avoided by anyone allergic to anesthetics. Neural therapy cannot be recommended for any medical condition. There is no scientific evidence that neural therapy is effective in treating cancer or any other disease.

Where to Get It

For more information regarding the treatment of chronic pain, contact a local or your country's government agency, pain management organizations or pain treatment centers. Chronic pain, or pain associated with cancer, can be managed by experts in major pain and cancer centers around the world.

This page intentionally left blank

Oxygen Therapies

Oxygen. Without it we cannot live for more than a few minutes. We breathe it in from the air, and our red blood cells carry it through the bloodstream to nourish organs and tissues. Can oxygen, as produced by ozone and hydrogen peroxide — two oxygen-rich chemicals — cure serious diseases such as cancer and AIDS? Advocates of a group of therapies known variously as hyperoxygenation, bio-oxidative therapy, oxidative therapy, oxymedicine, and ozone therapy, claim that it can.

What It Is

By whatever name, oxygen therapies involve administering ozone or hydrogen peroxide into the body for the purpose of treating disease. Most oxygen molecules in the atmosphere are composed of two atoms. When this oxygen, known as O_2 , collides with single atoms of oxygen under the right conditions, a three-atom molecule of oxygen, known as ozone, or O_3 , is created.

Ozone is not an accepted or proven medical therapy. However, advocates promote it for use in several ways. It is administered intravenously, through injection into muscle or skin, or by infusion into the rectum or vagina. Some practitioners draw small amounts of blood from the body, place the blood in a machine that infuses ozone into it, and then pump the ozone-rich blood back into the patient. Other ozone therapies include hydrogen peroxide by intravenous infusion, colonic administration, or soaking in hydrogen peroxide solution; ozone autohemotherapy, in which blood is bubbled with ozone and reinjected; hyperbaric oxygen chambers; and “oxygenated” water, pills and solutions.

Hydrogen peroxide (H_2O_2) is composed of two atoms of oxygen and two atoms of hydrogen. It is formed when water reacts with a single atom of oxygen. Hydrogen peroxide, used in mainstream medicine for wound cleansing and disinfection, is appropriately applied to the skin only. In contrast, advocates of oxygen therapy promote regimens that involve internal delivery of hydrogen peroxide. Most ozone or hydrogen peroxide treatments involve injection of diluted solutions of ozone and hydrogen peroxide. Doses are given over a period of one to several weeks.

What Practitioners Say It Does

Advocates of oxygen therapies claim that it treats and can cure many diseases. One contemporary advocate lists over thirty illnesses that hydrogen peroxide and ozone therapy are said to treat effectively. This list includes such serious conditions as asthma, emphysema, AIDS, chronic fatigue syndrome, Alzheimer's disease and some cancers.

Ozone and hydrogen peroxide produce oxygen atoms easily. Ozone is unstable and splits into two atoms: one stable oxygen molecule and one atom of oxygen. Hydrogen peroxide also will split into a molecule of water (which consists of two hydrogen atoms plus an oxygen atom) and one atom of oxygen. These single oxygen atoms, according to oxygen therapy advocates, provide oxygen that the body uses both to prevent diseases from starting and to fight diseases already present in the body.

Beliefs on Which It Is Based

Advocates of oxygen therapy believe that disease is caused by microorganisms that thrive in low-oxygen environments. The bad microorganisms are said to blossom because they are less complex in terms of evolutionary development than are normal body cells, and therefore they require less oxygen. Lacking adequate oxygen, microorganisms in body tissues are thought to be able to spread and cause disease.

These microorganisms are said to produce heart disease, cancer and arthritis, among other illnesses. According to oxymedicine advocates, our bodies can become depleted of oxygen by pollutants, poor diet, stress, and other causes. When ozone therapy is administered, oxygen levels are raised. Increasing one's oxygen levels is believed to destroy the disease-causing toxins and microorganisms.

A major theoretical foundation for oxygen therapy is the work of Otto Warburg, MD, winner of the Nobel Prize for medicine in 1931 for describing

the chemistry of cell respiration. Warburg observed that cancer cells have lower respiration rates than normal cells. He postulated that cancer cells therefore grow better in a low-oxygen environment, and that introducing higher oxygen levels could slow their growth or kill them.

However, researchers now understand that cancer cells have lower-than-normal respiration because the tissue surrounding cancer cells receives less oxygen, as it has fewer blood vessels feeding it. Ozone and other oxygen therapies have not been found useful against cancer and are not used as mainstream cancer treatments.

Research Evidence to Date

No scientific evidence supports the idea that oxygen prevents or slows cancer growth. Moreover, tumors grow rapidly in tissues that are well supplied with oxygen, contrary to proponent claims. Also, oxygen is not absorbed through the gastrointestinal tract. Swallowing or use of hydrogen peroxide enemas can cause lethal gas embolisms, serious infection and gangrene. Intravenous injection of oxygen has led to acute crisis and death. Transmission of blood-borne viruses such as hepatitis C and HIV has occurred. Oxygen radicals released by ozone and hydrogen peroxide may cause cancer.

Despite promotional claims, cancer patients should avoid treatment with hydrogen peroxide, ozone therapy and all other “hyperoxygenation” therapies. They have no value and are dangerous.

What It Can Do for You

Potential medical uses of both ozone and hydrogen peroxide have been explored for over a century. In the 1920s, hydrogen peroxide was used to treat the flu. In the 1940s it was studied in animal tests for possible use against carbon monoxide poisoning. Hydrogen peroxide was shown to be ineffective. Hydrogen currently is applied in medicine only to cleanse and disinfect wounds and in dentistry as an irrigating agent in treating root canal problems and gum disease.

Warning! Some individuals, acting on their own without care or supervision, have become seriously ill and others have died from drinking hydrogen peroxide.

Similarly, ozone has been studied for its potential medical benefits since the nineteenth century. In recent times it has been investigated for possible use against AIDS. Ozone showed an ability to inactivate the HIV virus in blood and serum in laboratory experiments. However, follow-up studies in

Part Six: "Alternative" (Unproven or Disproved) Treatments Taken Internally

people with AIDS have been disappointing, failing to show that ozone had an effect against the disease. Treatments that appear promising in the laboratory are not always effective in humans.

As of this writing, hydrogen peroxide and ozone are not accepted as useful therapies for serious disease. Hydrogen peroxide can be harmful, causing toxic reactions if taken internally in excessive amounts or as an undiluted preparation.

Where to Get It

Patients with AIDS, cancer or any other illness should not consider oxygen therapies. They are useless and most are dangerous and harmful.

The latest information about treatment for cancer, AIDS and other illnesses is available from the National Cancer Institute or the National Institute of Infectious Diseases and Allergy at the National Institutes of Health (NIH) at <http://nih.gov>, from the World Health Organization at <http://www.who.int/en/> or from the major cancer institutes and government health agencies in countries around the world.

Shark and Bovine Cartilage Therapies

In the early part of this century, as sanitation improved and medicine and microbiology advanced, infectious diseases, which had been a major cause of common early death, dwindled as threats to public health. More people lived to increasingly older ages. This meant that more people became old enough to develop chronic illnesses such as heart disease and cancer. Indeed, the incidence of such illnesses increased as ever larger numbers of people reached older ages when chronic conditions become common.

Despite impressive gains in the treatment and understanding of cancer and its genetic underpinnings, cancer remains a major killer. The absence of a cure for all cancers led some people outside of mainstream medicine to develop alternate explanations of cancer's cause along with treatments based on those explanations. Such treatments are unproven and alternative. Shark and bovine (cow) cartilage therapies are examples. They are promoted not only as cancer therapies, but also to treat disorders such as osteoporosis and other bone and joint problems. They remain unproven but under investigation as potentially promising agents against cancer.

What It Is

Cartilage is the part of the skeletal system composed of elastic, translucent tissue, most of which converts to bone as animals grow to adulthood. However, some cartilage remains in areas such as the ears, nose, and knees. Because sharks have no bones, cartilage is the primary component of their skeletal

system. Cows, of course, do have bones, but their skeletal system also contains cartilage.

What Practitioners Say It Does

Advocates claim that shark and bovine cartilage can reduce tumor size, slow or stop the growth of cancer, and help reverse bone diseases such as osteoporosis. The public popularity of shark cartilage can be traced back to a 1992 book entitled *Sharks Don't Get Cancer*, by I. William Lane, PhD. (Sharks do, by the way, get cancer, including cartilage cancer, but the incidence of cancer in sharks is low.) In his book, Lane claims that sharks avoid cancer because of substances in their cartilage. In 1993, a popular U.S. television program featured a small study conducted in Cuba suggesting that shark cartilage shows promise as a cancer treatment. The promotion of shark cartilage for bone diseases began shortly after new U.S. government regulations allowed food supplements to be promoted without FDA review and without proof of efficacy (Chapter 7).

Beliefs on Which It Is Based

Antiangiogenesis

A tumor, like all body cells and tissues, requires a blood supply to survive. Cutting off that blood supply (antiangiogenesis) is an important area of cancer research around the world today.

Scientists are working to find a way to stop the blood supply to cancer cells while maintaining blood flow to healthy cells alone. This would kill the tumor but not hurt other cells.

The idea that bovine or shark cartilage may have an effect in cancer treatment actually is based on one of the most exciting areas of contemporary cancer research: angiogenesis. Angiogenesis refers to a process necessary to the growth of tumors. In order to remain alive, tumors, like all cells and body parts, require fresh supplies of blood and oxygen. If a tumor has no blood vessels to “feed it,” it will not continue to grow, and it will die. Scientists are now working to discover effective ways of halting the blood supply to tumor cells.

There is a protein in cartilage that can inhibit angiogenesis in test-tube laboratory research. However, this does not mean that cartilage can fight tumors in the human body. In addition to the difficulties involved in translating lab results into research on live patients, cartilage has other potential problems.

The most serious problem is that the active ingredient in shark cartilage dietary supplements is too large to be absorbed into the blood stream from the digestive tract, and therefore is excreted from the body before it can actually perform any function. This is what happens to the shark cartilage available in health food stores and promoted for human use.

Bovine cartilage molecules are small enough to be absorbed into the body. Advocates believe that bovine cartilage may work by inhibiting the growth of tumors or by boosting the immune system. It is believed that substances in bovine cartilage, known as polysaccharides, work to stimulate the immune system. This scientific belief is based on the fact that other polysaccharide compounds have both immune-stimulating and anticancer activity in humans.

Research Evidence to Date

Since the early 1970s, at least a dozen clinical studies of cartilage as a treatment for cancer have been supported by the U.S. National Cancer Institute, which is part of the National Institutes of Health. However, the results of only six studies have been published in peer-reviewed scientific journals, and only one of those was a randomized trial.

In that randomized trial, 83 incurable breast cancer and colorectal cancer patients all received standard care. In addition, they were randomly assigned to receive either shark cartilage or placebo. The study found no difference in survival or quality of life between those receiving shark cartilage and those who received placebo. The evidence does not show that shark or bovine (cow) cartilage is an effective cancer treatment.

Important! Patients who decide to use shark or bovine cartilage or any other biologically active preparation should tell their oncologists, because such preparations may affect physiologic function or interfere with cancer treatments.

What It Can Do for You

There is no evidence that cartilage treatment is effective against cancer. There is no evidence that cartilage supplements can treat osteoporosis or any bone disease.

In fact, the sponsor of an Internet cancer information service who himself used bovine cartilage as a cancer patient strongly cautions against taking bovine cartilage instead of conventional cancer treatment.

Where to Get It

Both bovine and shark cartilage, available through mail-order catalogs and health-food stores, are sold in capsule or powder form under many trade marked brand names. These products are not regulated by the FDA and have not been approved or inspected for effectiveness or safety.

Patients should not try to use such products to treat cancer, because they are not effective.

Part Seven



“Alternative” External Energy Therapies

Part Seven Overview

- 48. Chiropractic
- 49. Crystal Healing
- 50. Electromagnetic Therapies
- 51. Faith Healing
- 52. Kirlian Photography
- 53. Prayer and Spirituality
- 54. Shamanism
- 55. Therapeutic Touch

This page intentionally left blank

Part Seven Overview

Belief in the existence of an external energy force that we can not only capture, but control for our own purposes, is as old as human history itself. Spirits, magic, deities, and other all-powerful forces were once thought to control the universe and its components. In fact, the space around us is filled with electromagnetic energy, forms of external energy that the ancients could not have imagined. Modern science also has shown that cells of the human body, like all matter, emit electrical charges, although they are extremely small charges.

Many previously inexplicable natural events, such as birth, the waning moon or the eruption of volcanoes, are now understood and much more predictable than they were thousands of years ago. When answers to questions about illness elude us, however, it is not surprising that we turn again to the old spiritual, physical, or even magical external forces to search for cause and cure, and sometimes to the more recently understood wonders of electromagnetic energy fields.

Although the several alternative and complementary approaches discussed in this part differ profoundly from one another in significant ways, their practitioners share the belief that external energy forces, whether from the human body, from electromagnetic fields, or from the energy of faith and spirituality, contain important healing capacity.

Chiropractic care revolves around spinal manipulation, or “spinal adjustment.” The practitioner uses his or her hands to manipulate and adjust the spine and related areas. Chiropractic care addresses disorders of the musculoskeletal system and the nervous system, and the effects of these disorders on general health. The American Chiropractic Association website says that “...the normal transmission and expression of nerve energy are essential to the restoration and maintenance of health.” On the basis of that belief, some patients with cancer and other serious illnesses seek chiropractic manipulation. However, although a few cancer programs include chiropractic care, many recommend against it, as strokes and other serious negative consequences have occurred.

Crystal healing is a New Age version of the ancient belief that stones harbor magical healing energy. Stones of different colors are thought to

produce particular results or attack specific ailments. Lovely and simple to use (you just hold them or place them on your body or around the room), they are the most whimsical of the “external healing forces” included in this section. Perhaps because they refract light in what originally must have been inexplicable ways, crystals were assumed to hold special energy. Ironically, quartz, a common crystal long imbued with imaginary curative powers, is now a source of power in the form of silicon dioxide chips, the energy-transmitting heart of computer technology.

The history of electromagnetic therapies parallels the discovery of electricity and its use in modern society. When it was understood that different frequencies operating at varying levels of power produced different effects, opportunists and entrepreneurs in substantial numbers found ways to apply those variations to the “diagnosis” and “treatment” of illness and other problems. As products failed to produce benefits (such as the electric hairbrush sold to eliminate baldness), they were dropped, quickly to be replaced by yet other products that relied on the newly discovered miracle of electric power.

Today, electric energy is used in important diagnostic and treatment technologies, such as X-rays to diagnose illness, to restart stopped hearts, and to help repair broken bones. Some alternative practitioners use weak electromagnetic fields as therapy for cancer and other major ailments, but these applications remain unproven.

In a very different application of external energy for healing purposes, some advocates use their own energy to heal others. They claim to send their internal healing energy into the body of another by passing their hands several inches over that person in what is called “therapeutic touch.” Healers try to influence the patient’s own internal energy and health, applying “energy therapy” in the process.

Kirlian photography practitioners believe that people radiate luminous energy fields. These fields, they say, can be analyzed to provide insight into mental, physical and emotional states. What is actually recorded in the photographs, however, is due to pressure, humidity and temperature photography plates, which create different colors and “halo” effects.

Probably the most frequently called upon system of healing energy is prayer and spirituality. Although prayer and spirituality could be discussed in many contexts in addition to that of external energy forces, they do involve reaching out beyond the self to a greater force for help in times of illness and despair. Prayers have been used by mankind for thousands of years, directed at various magical powers and deities. Modern prayers

around the world today are often directed toward a single, all powerful deity, typically asking for assistance to bring about a healthier or better life for the supplicant. Beyond belief in all-powerful external beings, the basis of prayer rests on the belief that a deity is able and potentially willing to intervene, to respond to requests for assistance, and to cure disease.

Once prayer became an established practice, faith healers came forth to proclaim their unique ability to communicate with God and to use their special powers to cure disease and illness. Faith healers have existed in cultures around the world and throughout history. Some take advantage of their constituents, using fakery and deceit. Nevertheless, people continue to seek them out. This happens often when mainstream medicine cannot cure a problem. Sometimes, however, people go to faith healers instead of seeking medical care that is readily available and could probably cure their disease. Some faith healers use television pulpits. Others preach their gospel in tent revival meetings, traveling from city to city.

Shamans, religious leaders, or priests of earlier times were revered by their communities for their mystical abilities to cure the sick. Shamanism began as early as 20,000 to 40,000 years ago, when medicine, magic, and religion were inextricably combined. Shamans were believed able to communicate with ancestral spirits and gods, beings who remained unseen and unheard by ordinary people. Shamans used their external power to heal the ailments of individuals, reverse the inequities of nature, and manage the problems of the community.

Contemporary shamans work in today's Native American and other indigenous cultures. Often, however, their repertoire of curative powers now includes some modern and conventional medical practices, and they may collaborate with mainstream physicians.

Perhaps one day science will provide all the answers to pressing questions about disease prevention, diagnosis, and cure that continue to plague humankind. That level of knowledge would profoundly change some of the approaches discussed in this section. However, it is likely that some approaches — such as spirituality, the enjoyment of nature's crystalline beauty, and increasingly advanced applications of electromagnetism — will remain integral components of human civilization.

A basic rule of nature is that energy is produced by the crystal breakdown of matter. Fire is a good example. It produces heat and light as its fuel is consumed. Minerals, including healing crystals and gems, produce no energy except for those few that are radioactive. Radioactive minerals break down and their own substance is changed into inert minerals.

Part Seven: “Alternative” External Energy Therapies

Quartz crystal is not radioactive. Inert and chemically stable, it neither produces energy nor vibrates. It just sits there, looking beautiful, mysterious, and inscrutable.

Silicon chips used in computers transmit energy only because energy is put through them. They serve as a vehicle for externally infused energy. Quartz is silicon dioxide, and ground-up quartz is sand. Both quartz and sand are abundant and common on this earth. Quartz is a hexagonal (six-sided) crystal. Despite its abundance, quartz is the most popular of New Age stones, and despite its total absence of energy or magnetism, New Agers believe it has these and other characteristics. Crystal healing is based on the incorrect idea that crystals contain energy that can restore health, promote growth, provide protection, and guide people to the “spiritual” world of the soul.

Chiropractic

Chiropractic is a commonly used alternative therapy in the United States, Canada and Australia. Some chiropractors are called “mixers” because they combine chiropractic with exercise, nutritional supplements and other therapies. Those who depend only on chiropractic manipulation are identified as “straight” practitioners. Now in the minority, they emphasize vitalism and spinal adjustments, and consider subluxations to be the leading cause of all disease.

Founded in the 1890s by a grocer and mystic healer in Davenport, Iowa, the movement got its start when D. D. Palmer believed he had restored a patient’s hearing by thrusting his hand on the patient’s lung area where he believed the cause of the deafness was located. Palmer subsequently opened the first school for chiropractic training, which he based on the idea that the spine plays a major role in health and disease.

Although originally developed to treat a rather narrow spectrum of problems, primarily low back pain, some practitioners today believe that chiropractic can cure cancer and other diseases. Although modern colleges of chiropractic have broadened their training to include clinical sciences, laboratory experience and clinical practice, there is potential danger when chiropractors use manipulation to treat patients with illnesses they are not trained to understand.

What It Is

Chiropractic (from the Greek meaning “done by hand”) is a belief system that depends primarily on manipulation of the spine to correct medical problems. The chiropractor analyzes the condition of the spine through X-rays

and palpation, looks for irregularities or misaligned vertebrae that may interfere with the bundle of nerves inside the vertebrae, and attempts to manually readjust vertebrae that cause nerve interference and pain. The specific medical diagnosis usually is not important to chiropractors, who focus instead on correcting the cause of the imperfect function and rely on the body’s greater intelligence to repair the disease.

Warning!

Chiropractic treatment may be appropriate for some musculoskeletal problems, but it is unwise to rely on a chiropractor to treat serious illness or disease. Chiropractic training is not equivalent to medical school education and residency, and chiropractors do not have the many years of training required of medical specialists.

Typically, practitioners take a medical history and perform a physical examination. They focus on muscle strengths and weaknesses, range of spinal motion, structural abnormalities and variations in posture. Some practitioners also may examine electrical activity of the nerves and muscles. Frequently (too often, according to some physicians), X-rays of the spine are taken to look for irregularities. Chiropractors also seek to identify the seat of illness through manual procedures.

Chiropractors treat by manipulating the spine by hand, using high-speed, low-force recoiling thrusts, or rotational thrusts with hands or elbows. They apply pressure to the spinal area identified as the source of pain or disease. Spinal manipulation is not a new idea in medicine. It was practiced by priest-healers of ancient Egypt, and for centuries in one form or another by Asian healers. Throughout the Middle Ages in Europe, it was used along with herbal medicines to treat patients. In more modern times, osteopathic medicine began to grow in popularity at about the same time Palmer was developing his concepts of chiropractic. Osteopathy initially relied on spinal manipulation similar to that of chiropractic.

What Practitioners Say It Does

Back pain is one of the most frequently reported health problems. It ranks second only to the common cold as a reason for doctor’s office visits in the U.S. Low back pain is the most common problem brought to chiropractors, although headache, shoulder pain, neck pain, sports and workplace injuries, tension, and carpal tunnel syndrome (pain, weakness, numbness, or tingling in the arm or hand) also are frequently treated by chiropractors.

Today, chiropractors do not necessarily limit their work to musculoskeletal problems. Most believe they are able to successfully treat ailments no matter where they occur in the body or what their cause. Thus, many chiropractors treat heart disease, prostate and impotency problems, allergies, and epilepsy. Some seek to establish primary-care practices in family medicine or pediatrics. They believe that these efforts are appropriate because the chiropractic belief system credits the spine with a major role in virtually all problems of health and disease.

It should be noted that, although chiropractors focus their therapies on the spine, not all critical nerve systems are accessible for manipulation along the spine. Cranial nerves, which affect the face, including the eyes, ears, tongue and throat, bypass the spine because they are contained within the skull and are not accessible to manual manipulation.

Beliefs on Which It Is Based

Chiropractors are taught that the human body has an innate ability to heal itself, and that it seeks to maintain a state of homeostasis, or balance, among all body systems and organs. The nervous system influences all other systems in the body; therefore, it is viewed as the proper target to treat all health problems. Because the brain sends energy to all parts of the body through nerves contained in the spinal cord, it is reasoned that displaced or dislocated bones in the spine could interrupt energy flow along the nervous system, causing a physical blockage of neural transmissions, a condition Palmer labeled subluxation.

Proper therapy for correcting subluxations is thought to involve quick thrusts or “adjustments” to the spine, plus various types of manual manipulations to correct the alignment of bone and nerve. Uncorrected, subluxations are thought to allow disease and bodily malfunctions to occur.

Research Evidence to Date

Chiropractic has been controversial throughout its history. Chiropractic’s basic concept of “subluxation” is not supported by science. The American Medical Association called chiropractic an “unscientific cult.” Systematic reviews of chiropractic research have not shown spinal manipulation to be effective, except possibly for the treatment of back pain.

Chiropractic care is generally safe when appropriately used, but spinal manipulation often causes problems, including some serious and fatal

complications. A systematic review of chiropractic research studies in 2010 found twenty-six deaths following chiropractic manipulations, and found no substantial benefits. The risks of spinal manipulation, especially for seriously ill patients with fragile bones, outweigh the benefits.

What It Can Do for You

Manipulation of the spine by a chiropractor often makes people feel better. Manipulation may correct a dislocation and solve the problem of chronic lower back pain. Chiropractic therapy may improve posture, relieve headaches and tension, and successfully address other discomforts eased by manipulation or massage. Similar benefits may be obtained by treatments given by physical therapists.

Because their training is often at odds with modern medical understanding, particularly in anatomy and physiology, using a chiropractor as a family physician or to treat illness or disease probably is not a good idea. Research evidence does not support chiropractic claims that cancer or other diseases can be cured with spinal manipulation.

Where to Get It

There are many thousands of chiropractors currently practicing in North America and in Australia. Many advertise on television, magazines and on the Internet. There are several national and international chiropractic associations, all of which are easily found with a quick Internet search.

As of this writing, a major U.S. insurance company, Kaiser Permanente, has declared neck manipulation a non-covered service. Their new policy says: “Chiropractic manipulation of the cervical spine is associated with vertebral artery dissection and stroke. The incidence is estimated at 1.3–5 events per 100,000 manipulations. Given the paucity of data related to beneficial effects of chiropractic manipulation of the cervical spine and the real potential for catastrophic adverse events, it was decided to exclude chiropractic manipulation of the cervical spine from coverage.”

The American Chiropractic Association and World Chiropractic Alliance have protested.

Crystal Healing

The belief behind crystal healing is that stones of different colors have specific therapeutic value. Red-orange agate, for example, is thought to energize, amethyst is said to calm the conscious and subconscious mind, and bloodstone (or heliotrope) is believed to purify the blood. The popular violet amethyst is said to calm the mind.

What It Is

Crystal healing involves very simple procedures, such as placing particular stones around one's home, carrying them in a pocket, wearing them around the neck or elsewhere as ornaments, and touching them as the urge arises. In more formal types of crystal healing, a healer places various colored stones on different parts of the body while the individual is laying down. Often these are the body spots identified as meridians in Traditional Chinese Medicine (Chapter 6) and known as chakras in ancient India's Ayurvedic Medicine (Chapter 2).

The type of crystals used is said to play a role in the healing process for particular problems. Malachite is thought to help uncover emotional traumas associated with the heart chakra, while smoky quartz helps generate vibrations at the top of the head (the "crown chakra" in Ayurvedic medicine). The patterns, colors, and type of a given crystal, along with incantations and other rituals, also are used to influence healing.

What Practitioners Say It Does

Most crystal healers do not make direct health claims, such as "malachite cures heart disease." Rather, they claim that crystals cure the underlying

defects in thoughts and emotions, of which physical disease is a symptom. Physical illness is perceived as an important sign that one’s mental, emotional or physical status is not in alignment with “the light,” the divine energy that is believed to underlie all creation, and that places the user in touch with universal consciousness. By bringing the body back into alignment with the light, illness is said to be cured.

Many claims made for crystals are not related to physical health at all, but instead concern such features as auras, “human energy field” wisdom, and past lives. The mythology of crystals includes their ability to foretell the future and reveal the past. Some people believe that crystals connect us with almost forgotten sources of ancient wisdom, kindly left for our eventual enlightenment by alien beings now departed from our world.

The idea behind crystal healing is simply that crystals have powers. The notion is ancient and enduring. However, the magical powers attributed to crystals by the ancients are known to be physical phenomena that can be explained by the basic laws of physics or that have been discarded by science as properties that simply do not exist.

Many ancient cultures, including the Greeks, Egyptians, Babylonians and Asians, believed that crystals have powers or that they serve as homes for spirits. Crystals were thought to house angels, demons or fairies. At one point in the Old Testament, God is said to dwell in a stone. In Sanskrit terminology, spirits inside crystals were known as devas, or gods.

In ancient times, people believed that crystals gave off light. The ancient Hindus thought that the underworld was illuminated by huge gems, acting as minor suns. The Greeks had similar beliefs. According to medieval legend, the very top of the Church of the Holy Grail held a huge light-emitting ruby, serving as a beacon to guide the Grail knights.

Research Evidence to Date

Belief in the light-emitting powers of crystals is understandable but wrong. Fluorescent or phosphorescent minerals appear to give off light. However, the source of the light is outside the crystals themselves. Fluorescent crystals reflect ultraviolet light that is invisible to the naked eye, while phosphorescent crystals retain and reemit light for a period of time after the original light source has ended.

No formal research on the healing powers of crystals has been conducted. The absence of scientific studies is appropriate given the fanciful nature and lack of rationale for these beliefs. The idea that crystals and other stones hold special powers is a part of ancient mythology, resurrected in the West in

recent years. Even ardent alternative-healing proponents do not take crystal “healing” seriously.

The mythical superstitions associated with crystal healing — the auras, nonphysical planes of existence, magical energy, past lives, and so on — are not real and therefore have no effect on health and illness. Crystals do not heal. With that understanding, and so long as one maintains a recreational spirit, collecting stones has rewards and benefits. For some, stroking stones or lying comfortably with them, especially when accompanied by meditation, feels relaxing and helps reduce stress.

Many are delighted by the beauty and agelessness of crystals. And of course, collecting stones can be a rewarding, enlightening and interesting hobby. Perhaps those who benefit most from people’s interest in crystal healing are the shopkeepers who sell “magic” crystals, which are sold at much higher prices than nonmagic crystals. However, the two types are identical in every respect.

Where to Get It

Occult shops, some health-food stores and Internet sources sell magic stones. But the same stones are available at far less expense from hobby and mineral shops.

This page intentionally left blank

Electromagnetic Therapies

The biological effects of magnetism, and of what eventually was identified as electricity, have been studied since the time of early Greek and Roman civilizations. It is believed that lodestones, pieces of naturally occurring minerals with magnetic properties, were found thousands of years ago, when people literally stumbled upon them.

By the eleventh and twelfth centuries, lodestones were thought to have curative powers and were used to treat gout, arthritis, baldness and other ailments, as described by medieval writers. Scholars of the time also believed that magnets could cause and cure melancholy. Aphrodisiac powers were attributed to lodestones probably because of their “magnetic” ability to attract.

Along with the magical ideas, magnets were applied to solve practical problems such as locating shattered knife blades and other iron objects in wounded people. A century later, the Swiss physician Paracelsus studied magnets as a possible treatment for epilepsy.

Franz Mesmer, an eighteenth-century Viennese physician, developed a theory of “animal magnetism,” which he believed to be a basic biophysical force similar to gravity and capable of producing profound neuropsychiatric and physical effects. His first scientific writing on this topic, “On the Medicinal Uses of the Magnet,” was published in 1775. Although he credited his successful treatment of a woman with numerous complaints to a magnet’s ability to realign polarity in her internal organs, it soon became clear that he had discovered hypnotism instead. That is the source of the word “mesmerize.” “Animal magnetism” later was shown to be not a biophysical force, but a reaction to the power of suggestion. (For the use of hypnosis in reducing stress, see Chapter 15.)

Interest in the therapeutic potential of both electricity and magnets persisted throughout history, with most ideas and products eventually deemed pure quackery. The nineteenth century, called by medical historians the “golden age of medical electricity,” was also known as the “electromagnetic era of medical quackery.” A popular and typical electromagnetic device called the I-ON-A-CO was sold in the late 1920s by Gaylord Wilshire, for whom Hollywood’s Wilshire Boulevard was named. It was shaped like a large horse collar and worn over the shoulders to cure any ailment that might arise. It didn’t work.

Electromagnetic therapy is called by many names: bioelectricity, electronic devices, electromagnetism, biomagnetism, magnetobiology (in the former USSR), electromagnetic or magnetic field therapy, and magnetic healing. As science learned more about electricity, entrepreneurs created a variety of “black boxes” connected to electrical sources. These were promoted as “energy-healing” devices, or as “vibrational medicine.” Less than a century ago, advertisements touting electronic cure-alls were prevalent in U.S. newspapers and magazines.

A broad variety of electric and magnetic instruments were marketed, sometimes at outrageous prices, to compete with mainstream medicine for the treatment of many ailments. Electronic devices, including the Auto Electronic Radioclast, Electron-ORay, Depoloray, and many others, were promoted as cures for cancer and other diseases. They were marketed into the 1990s.

The manufacture and distribution of such fake devices eventually were regulated by the U.S. Food, Drug and Cosmetic Act (FDCA), enforced by the Food and Drug Administration (FDA). The Act required proper labeling of medical devices and the restriction of claims to those that could be proven. Some devices, such as powerful magnets sold to cure cancer, continue to be marketed, skirting the regulations by careful wording of curative claims.

What It Is

As in all matter, electricity exists within our bodies at extremely low levels. Brain waves are produced on an electro-encephalogram (EEG), and the rhythm of heartbeats can be recorded on an electrocardiogram (EKG or ECG). These diagnostic tools depend on electricity emitted by the brain and heart, respectively, to produce “pictures” of activity in those organs.

Electricity in varying frequencies and strengths is used in mainstream medicine for certain therapeutic purposes. Perhaps the most dramatic application occurs in the hospital emergency room, where two highly charged

paddles, applied against a patient's chest, transmit a jolt of electricity to the body in order to restart a stopped heart.

Alternative electromagnetic therapies usually employ galvanic devices such as the Ellis Micro-Dynameter to diagnose and treat disease. These instruments use two electrodes of different metals to measure electric current. The electrodes often are applied to two acupuncture points to identify areas of inflammation, irritation, or degeneration. Practitioners of electromagnetic therapies believe that electrical resistance on the skin indicates the health of body organs. Measured by galvanic devices, variations from a "norm" are used to diagnose disease. In actuality, electrodes placed on the skin simply measure changes in the electrical resistance of the skin, not events inside the body.

Scientific knowledge of the human body, electricity, and magnetism, sometimes combined with unsubstantiated concepts of an energy "life force," form the basis for the deductive leap made by some practitioners to the claim that electromagnetic therapy can heal virtually any illness.

A current example is EPEX ("Electro Physiological Frequency X"). This made-up, invented name describes an electronic device sold to diagnose and destroy all diseases, everything from allergies to cancer, by sending electric radio frequencies into the body. The inventor says it "... assists health practitioners in finding energy imbalances in both humans and animals."

The U.S. Food and Drug Administration (FDA) ordered inventor William Nelson to stop sales and false claims. He refused, was indicted on felony fraud, and fled to Budapest. There he now runs a major health-care fraud operation, makes millions selling the EPEX machine. More than 10,000 of these useless boxes have been sold in the U.S. alone.

What Practitioners Say It Does

Contemporary claims for alternative uses of electricity as therapy have not been substantiated. Most advocates today promote the ability of electromagnetism to stimulate tissue regeneration or enhance the immune system through the use of external electrical energy sources.

The electrical overstimulation of muscles is said also to promote relaxation, thus improving oxygen and nutrient supply, waste removal, and the strengthening of treated muscles. These are unproven claims.

Electric current and electromagnetic field applications are used by some practitioners to treat ulcers, burns, nerve and spinal cord injuries, diabetes, gum infections in dentistry, asthma, heart disease, and other maladies. One type of therapy involves placing an antenna in the patient's mouth, through

which low-level electromagnetic energy is administered to treat insomnia and hypertension. A magnetic pulse generator is used in lieu of electroconvulsive therapy (informally known as electroshock) to treat depression and seizures.

In Russia, where modern medications and therapies are not readily available to all patients, extensive use of microwave resonance therapy with low-intensity microwave radiation continues as an unproven treatment for arthritis, ulcers, chronic pain, nerve disorders, cerebral palsy and other diseases. In the Western world, magnetic devices, sometimes fashioned as bracelets, belts, or tiny discs contained in adhesive bandages, are promoted to achieve pain relief. Larger “super magnets” and several versions of electricity-emitting boxes are still promoted as cancer cures.

Scientific data do not support the effectiveness of magnetic or electric fields in the diagnosis or treatment of disease. It is ironic that electromagnetic therapies are being promoted today as alternative cures for cancer and other diseases, as international scientific research is simultaneously examining the possibility that even very weak electromagnetic fields can promote cancer in some body cells.

Beliefs on Which It Is Based

Scientifically, it is known that the human body is regulated by electrical forces, and that it cannot function without its own internal electrical energy system. The heart beats as a result of contractions triggered by electrical impulses, and the nervous system regulates body systems, movement, and thought through a combination of chemical and electrical stimuli. Each molecule in our body has its own minute magnetic and electrical force. We cannot survive without the extremely low levels of electricity that regulate and sustain life within us.

Those who practice alternative electromagnetic therapies, however, go beyond accepted scientific knowledge, claiming that disease and illness are caused when electrical energy within our bodies becomes imbalanced or misaligned. Some practitioners further believe that the electric devices they have developed can supply electrical energy to the body or to a specific organ within the body and correct the “imbalances” that are claimed to cause disease.

There is another belief that bioelectric energy may simply carry or transmit “information” necessary to cell life. This hypothesized mechanism is used to explain the workings of homeopathic medicine (Chapter 3), in which medications are so diluted that no molecule of the original product remains. Proponents believe that the “information” originally contained in the dissolved material remains as a trace memory in the form of bioelectric energy

in the solution. This bioelectric energy “memory” is thought to provide the promised therapeutic benefit.

Bioresonance therapy is a currently popular device available in Europe, Mexico, Florida and elsewhere in the U.S. This approach is said to diagnose and treat cancer, allergies, arthritis and various chronic degenerative diseases. Bioresonance is based on the false idea that electromagnetic oscillations from diseased organs and cancer cells are different from those emitted by healthy cells because of differences in cell metabolism and DNA damage. No evidence supports these claims; these magic boxes have no value.

Research Evidence to Date

Low-level electric current is known to stimulate the healing of bone fractures. Radiation therapy, magnetic resonance imaging (MRI), and X-rays are among the established scientific applications of electricity in mainstream medicine.

The marketing of useless “black box” approaches to electromagnetic therapy are a focus of criminal and FDA activity. These devices, variations of which have been sold for decades, have been examined and are considered completely bogus. They are useless therapies sold typically for large amounts of money to people facing serious illnesses.

Where to Get It

Electrical stimulation is used extensively by many acupuncturists, physical therapists, and rehabilitation therapists; these are generally useful and appropriate. However, there is no evidence that the many alternative applications of bioelectromagnetic energy are effective or helpful.

Despite the absence of documented benefit, these devices are used or sold by many chiropractors, naturopaths, con artists and marketers of various unproven and disproved remedies, including electric devices. Should you be drawn to try electromagnetic therapy, consult your physician first, or search www.quackwatch.org or look for “BioResonance Therapy” or “electronic devices” at www.mskcc.org/AboutHerbs.

This page intentionally left blank

Faith Healing

In the first book of Corinthians in the New Testament, the gifts bestowed on the faithful by the Holy Spirit are enumerated. One of these is the “gift of healing” (I Corinthians 12:9). Although this refers primarily to the spiritual ability to draw the good out of suffering, it also refers to the ability to bring about physical healing. In the almost two millennia since this was written, various people and places have gained reputations for their power to heal. They claim to have the miraculous capacity to banish illness through faith.

In medieval times, the doctrine of the divine right of kings espoused that monarchs could heal by the laying on of their royal hands. St. Catherine of Siena and other saints throughout history also were believed to have the power to heal. In modern times, some evangelists as well as others have claimed similar gifts. The Christian Science Church, for example, believes that its practitioners and nurses can cure illness through prayer.

Today, the term faith healer is most frequently used to identify those people who claim to have a special power derived from God that enables them to cure illness and disease. Faith-healing ceremonies typically are conducted in an atmosphere of high emotion, often on television or in traveling revival meetings, by self-appointed, religiously inspired “healers.”

The term faith healing is applied also to a variety of efforts aimed at eliminating disease and disability through prayer, through visiting a religious shrine, or simply through an individual’s strong belief in a Supreme Being. Sometimes these activities occur in the presence of a priest from an organized religion who leads the patient and family in more traditional prayer.

Strong opinions exist on both sides of the debate about the power of faith healers and the ability of prayer to cure sickness and disease. Contemporary thinkers continue to debate the possibility that a combination of the patient’s faith in a higher power and the healer’s ability to capture and transmit that power to the patient can cure disease.

What It Is

There appear to be three distinct phenomena involved in faith healing: the claims of faith healers that miraculous cures are possible, the influence that mind and belief can have on health and disease (the placebo effect), and the fact of spontaneous remissions, which occur rarely but regularly in medicine. When evaluating the claims of faith healers, it is important to consider and distinguish among these three factors.

Faith healing is the idea that someone or something can eliminate disease or dysfunction in another individual. It is offered by people who claim to have a special gift themselves or who claim that particular locations, such as the famous French shrine at Lourdes, are imbued with the power to heal. Faith healing is said to occur also through the power of prayer on the part of the patient or through others praying for the patient’s recovery.

The placebo effect (Chapter 18) describes the therapeutic effect of inert substances that derives from the patient’s belief that the substance is beneficial. In drug studies it is well known that 30% to 40% or so of patients show improvement only as a result of placebo interventions. Finally, there have been documented cases of “miraculous” cures, unexpected recoveries, and spontaneous remissions from diseases such as cancer and conditions such as coma that cannot be explained by medical science.

What Practitioners Say It Does

Faith healers claim they can cure virtually all problems. This includes physical disabilities such as blindness and deafness, serious illness such as cancer and AIDS, and developmental disorders.

The scope of faith healing reflects the medical knowledge of the time. In the Middle Ages, for example, kings were believed to be capable of curing tuberculosis, then called scrofula. Today, tuberculosis can be prevented and treated by conventional medicine, and faith healers no longer attempt to cure it. As with other forms of alternative medicine, faith healing tends to offer hope for conditions that conventional medicine cannot cure or treat effectively at that point in time.

Beliefs on Which It Is Based

Faith healing rests on three core beliefs:

1. A power, which may be a god or a psychic force, can be accessed by the healing agent.
2. The healing agent can not only access this power, but also use it to heal disease.
3. The faith of the patient is essential.

Failures in faith healing often are attributed not to the shortcomings of the healer, but to a lack of faith on the part of the patient. Most scientists view faith healing as a means of eliciting the placebo effect. Believing that it can cure often imbues a medication, person, institution, incantation, or prayer with curative power. For the vast majority of serious problems, however, faith healing does not work. It fails to produce the expected results for which many patients pay great sums of money. (Of course, the same may be said about many medical therapies.)

Research Evidence to Date

Probably the most serious and thorough modern investigations of faith healing have been conducted by James Randi, author of the book, *The Faith Healers*. Randi has debunked television evangelists by exposing hidden microphones and other means of communication through which backstage conspirators provide information to the on-air healer. Similarly, he has shown that “paralyzed” people who magically rise from their wheelchairs after apparent successful faith healing actually are ambulatory individuals acting the part.

Randi reports that the modern faith healers he studied are either sincere but misguided and unable to produce healing, or outright charlatans and quacks who rely on trickery to impress the frightened and gullible.

Randi not only uncovers the tricks used by faith healers, but he also describes the logical fallacies that many use to make it difficult to disprove faith healing. Most illnesses, for example, run a natural course, at the end of which the patient’s health returns. If faith healing is attempted during this time, the patient’s eventual and inevitable improvement is attributed by the healer to the “faith healing.” Alternately, lack of improvement following a faith-healing effort typically is attributed to inadequate faith on the part of the patient. This removes the onus of proof from the healer.

Spontaneous remission from cancer has been the subject of many studies. Despite research efforts, spontaneous remissions, which are extremely rare, remain a poorly understood phenomenon of natural biology. No consistent physiologic or other characteristics are associated with people who experience spontaneous remissions. Original work in this field revealed that fewer than one in 100,000 cancer patients experiences unexpected remission.

There is a commission of the Roman Catholic Church that authenticates the miracles said to occur at the famous Lourdes shrine. Numerous miraculous cures are claimed by the approximately one hundred million visitors to the shrine. The Church committee, however, using its extremely strict guidelines, has rejected the authenticity of most, and validated only 65 miracle cures in the 150 years since people have flocked to this shrine. Given the number of visitors over that period of time, this number of “miraculous cures” is far fewer than the expected rate of spontaneous remission.

What It Can Do for You

Unfortunately, the history of faith healing and healers seems to contain many more stories of charlatans fleecing the unwary than of true miracles. However, although it has never restored missing limbs and although it rarely dissipates serious physiological disease, faith and religious belief, possibly through the placebo effect, can produce important health benefits. These include the relief of pain and anxiety, and possibly the prolonging of life so that an individual lives until an important personal anniversary.

The study of seeming “miracle” cures such as spontaneous remissions may one day produce information that will help fight disease.

Where to Get It

The history of faith healers reveals that many have been exposed as unscrupulous. There is no evidence that healing can be purchased. Religious belief and faith in and of themselves may be valuable and worthwhile for many, but the extravagant claims of some healers can trap the unwary.

Kirlian Photography

Kirlian photography is a dubious technique used to diagnose illness and abnormalities by reading or interpreting “auras” on an exposed photographic plate. Such exposures are created on film placed atop a metal plate when a body part (such as a hand, foot or fingertip) is pressed against the film. An aura is created around that body part and captured on the film when a high voltage electric current is passed through the metal plate.

Auras created by Kirlian photography are luminous radiations that outline the body part under study. Auras look like multicolored concentric rings, often dominated by blue and white and permeated by dots of other hues.

Many alternative practitioners believe in a variety of life forces, and some extend this concept to the belief that people radiate luminous energy fields. These fields, they say, can be analyzed to provide insight into people’s mental, physical and emotional states. It is this force that Kirlian photography practitioners believe is captured by the “electronic photography” process. They also believe that images created by this process can be used as diagnostic tools.

What It Is

Kirlian photography first emerged as the result of research conducted by the Soviet husband-and-wife team Semyon and Valentina Kirlian in the late 1950s. Kirlian photography produces images that could be described as being similar to the sun in total eclipse — a dark center where the foot, hand or finger touches the film, surrounded by an “aurora borealis” of color, often showing bright white slivers of light shooting out into concentric circles of increasingly darker shades of blue. Sometimes varying shapes of red, yellow,

and white dots of light are seen in the aura. Auras are defined as portraits of the body’s “bioenergy,” or “life force.”

It is these varying images that practitioners in Kirlian photography use to make diagnoses of the patient’s biological state, including evidence of disease. Some say that the auras also reflect the person’s emotional state and psychic relationships.

Auras

Pink or white auras are believed to indicate health and happiness. Red auras may signify suppressed anger. Gray or brown auras may be a sign of emotional or physical deficiency.

One proponent believes that auras of drug or alcohol addicts are a shade of dirty green.

What Practitioners Say It Does

Chief among claims for Kirlian photography is that it can make medical diagnoses. Promoters contend that mood, energy level and health can be determined by the color of the person’s auras. Certain patterns also may signify whether something is wrong inside the body.

As proof of this phenomenon, practitioners claim that patients with the same illness have similar auras. Conditions identifiable through Kirlian photographs span the medical spectrum. Nutritional deficiencies, mental illness, substance abuse, organ weakness, cancer and other disorders are all said to show their presence in energy fields. Even states of mind such as confusion and anxiety are claimed to be apparent in Kirlian photographs.

Beliefs on Which It Is Based

The concept that underlies Kirlian photography is the belief that all objects and humans emit invisible auras, thought to define life forces, that can be “captured” and “read.” Reading or interpreting the auras provides information about states and characteristics of that object or person.

Research Evidence to Date

Despite the beliefs and efforts of advocates, the scientific community does not accept the legitimacy of Kirlian photography. Most explain the colorful halos in terms of nothing more than physiologic variations on the skin’s surface at

the time of the photograph. Factors such as moisture, temperature and pressure, as well as variations in voltage and exposure time, cause color and pattern differences among patients, experts explain.

Rumanian researchers in 1978 claimed that they could detect differences in Kirlian photographs between cancerous and nonmalignant tumors, and said they could detect breast cancer using Kirlian photography with complete accuracy. This approach is claimed by some proponents also to diagnose asthma. Individuals with asthma, they contend, have auras with a recognizable wispy pattern. Claims of the diagnostic value of auras are not taken seriously by scientists.

What It Can Do for You

The general consensus seems to be that, aside from producing a colorful picture of your hand, there is very little that Kirlian photography can accomplish. The process should not be used to substitute for mainstream diagnostic techniques or to determine medical conditions of any kind.

Kirlian photography is not a rational option to be considered in place of conventional treatment. Most diagnoses attempted by Kirlian photography can be more easily determined by asking the individual what his or her problem is, or by observation. Standard diagnostic procedures such as X-rays and blood tests are needed to diagnose serious medical conditions.

Where to Get It

Although the practice is not widespread, there are still some people who practice Kirlian photography. They are often found at health fairs. Be wary of Kirlian practitioners who claim to diagnose nutritional deficiencies and then sell expensive supplements.

This page intentionally left blank

Prayer and Spirituality

Religion has been an integral component of the human community since the beginning of recorded history. From the 30,000-year-old Venus figure icons of fertility prayer to the gods of ancient Egypt and Greece, to modern Christianity, Judaism, Islam, Hinduism and Buddhism, every culture at each period of time and in every corner of this globe developed systems of religion and spirituality. Some manner of prayer served as the institutionalized means of seeking assistance from a being or beings believed sufficiently powerful to alter nature, the elements, health and disease.

Prayers have been uttered for the prosperity, safety, physical and spiritual well-being, good weather, and bountiful harvests for the living and to help the souls of the dead. The scope of prayer is limited only by the scope of human desire and enterprise. The power of prayer to influence illness and health has become the subject of intense scientific inquiry. Can prayer have a medical effect? Are those who hold religious beliefs physically healthier than those who do not?

Some recent studies claim that prayer can have a positive effect on health, although critics point to serious shortcomings in the research methods employed. Some groups now advocate prayer as a complement to medical therapy, while others, such as the Christian Science Church, use it in place of conventional medical treatment even for serious illnesses.

What It Is

The root of the word prayer comes from a Latin word that means “obtained by entreaty.” In virtually all cultures, prayers have been said for rites of passage through life, such as birth, adulthood, marriage and death.

For many, prayer is a powerful asset in times of illness and emotional need.

The application of prayer takes many forms. Prayers may be read silently or spoken aloud. Prayer also can be a silent form of meditation. Some prayers are improvised while others follow a set form. Praying may occur individually or in a group; it may focus on oneself or on helping others. Intercessory prayers, which are offered for others who are often geographically distant and may not even be known to the applicant, have been the subject of recent investigation.

Many religions adhere to established times and rituals for organized prayer. Tibetan Buddhists construct prayer wheels, cylinders of wood and metal, with prayers written on them. Islam has five periods of prayer each day. In Western cultures, many parents teach their children to “say their prayers” at bedtime. The Catholic Church historically has divided the monastery day into seven segments and assigned particular psalms and prayers to each, such as matins and lauds, which comprise the morning prayers, and compline, which is the final canonical hour. Life in a monastery thus is a timed program of work, prayer and rest.

What Practitioners Say It Does

The major health-related claim for prayer is that, even if it cannot bring about a cure, it can reduce the adverse effects of disease, speed recovery and increase the effectiveness of medical treatment.

Some groups, such as Christian Scientists, rely on prayer in lieu of conventional medical therapy, claiming that prayer alone can heal disease. Christian Science practitioners attribute illness to spiritual rather than organic causes. Most mainstream religious groups, however, do not reject conventional medicine. Indeed, the earliest European hospitals were developed and run by the Church, and many Christian and Jewish groups have founded, operated, and/or financially supported hospitals and clinics throughout the world.

Beliefs on Which It Is Based

Across different religious traditions, explanations for the efficacy of prayer include a similar set of beliefs. These include the conviction that a deity or higher powers exist, that human beings can communicate with them through prayer, and that this God or gods can understand and act on human prayers, thereby influencing the course of illness.

Other explanations for the efficacy of prayer that do not rely on a specific deity have been advanced. For example, Larry Dossey, MD, an author of popular books about healing and spirituality, developed a theory of “nonlocal medicine.” The mind, he believes, is not limited to the physical brain. Instead, the minds of all people ultimately are joined, unbounded by space and time. This joining of consciousness, according to Dossey, allows prayer and other distance-healing methods to work by enabling the mind of one person to affect the mind — and therefore the health — of another.

He claims that nonlocal medicine cannot be explained in terms of current scientific knowledge because, he believes, the mind can transcend physical constraints such as time and location. This conceptualization of the mind and its powers is not consistent with contemporary science.

Research Evidence to Date

Studies of prayer and spirituality address several distinct types of activity. Research has examined the effects of intercessory prayer as well as the question of whether religious belief in and of itself can affect health.

There have been at least four published studies of intercessory prayer. Two double-blind studies, reported in the British medical literature in the 1960s, found no statistically significant effect for distant, intercessory prayer involving groups of people praying for far away patients. These studies were double-blind, meaning that neither the researcher nor the subjects knew which subjects were being prayed for. A recent study in New Mexico in which Jewish and Christian people prayed to relieve others’ substance abuse problems found no effect for prayer.

The most famous study of intercessory prayer was conducted in the early 1980s at a coronary care unit in San Francisco — most famous because it is the only one that showed a benefit for intercessory prayer. In this study, 192 patients were prayed for by distant groups, while 201 patients with similar medical problems received no prayer. Prayers were directed at keeping these seriously ill patients alive. Results showed that prayed-for patients were less likely to require antibiotics and less likely to develop some complications, such as pulmonary edema.

However, there was no difference in mortality or length of stay in the coronary care unit between the two groups, although the prayers specifically asked to prevent death.

In addition to that critical negative result, critics have pointed to major flaws in this study. For example, more than twenty-five medical variables were investigated, but differences between the prayed-for group and the control

group occurred in only six of those variables. Furthermore, there is no way to control for or even know whether the control group really did not receive prayers from others, such as their friends and families.

The Power of Prayer

There is no doubt about the numerous benefits of prayer and spirituality. These include solace in times of suffering, uncertainty and loss; a community of people who share one's values and beliefs, and principles to help guide us through difficult situations. These benefits are helpful and healing in the deepest sense of the term.

From the perspective of serious theologians, these investigative approaches fail to test the effects of the real purpose of prayer, which is to earn the grace to draw from suffering whatever good is in it; to deal with the suffering and direct it into positive channels. This attitude itself may affect health. Praying to prevent death in oneself or others is not consistent with the true purpose of prayer from a theological view.

Another body of literature has attempted to determine whether religious belief confers a health benefit. Literature reviews of these studies reveal mixed results. In an analysis of 115 studies, thirty-seven found that religious belief seemed to have a positive effect on health, forty-seven studies produced a negative effect, and thirty-one found no effect. Another survey looked at religious involvement as an in-depth measure of religious practice. Twenty-two of twenty-seven studies showed regular religious involvement to have a positive effect on health. Such involvement could contribute by virtue of religiosity, social support, prayer or some other mechanism.

Other recent studies also find benefits for religious activity. Work at Duke University Medical Center found that older patients involved in regular religious practices were less likely to be depressed than those who were not, including elderly patients with serious disabilities, a group statistically more prone than average to depression.

Research also suggests that, following open heart surgery, patients who had strong social support or who derived strength and comfort from their religion experienced lower mortality than those without such support or religious comfort. If they had both strong social support and religious belief, their risk of mortality was even lower.

Personal belief also has been shown to be an important component of the relaxation response (Chapter 17). Researchers find that an important component of eliciting the relaxation response is repeating a word or very brief phrase with personal meaning. However, it is important to note that

the content of the phrase does not matter. What is significant is the meaning of the phrase to the person who is meditating. The phrase, “The Lord is my shepherd” works for Christians, the word “shalom” works for Jews, Buddhists and others often prefer long vowel sounds, and words such as “love” or “one” or “peace” work for those without any particular religious belief.

The fact that religion and religious practices have existed in virtually every culture throughout history suggests to some scientists that an evolutionary survival advantage may be conferred by religious belief.

What It Can Do for You

Without attempting to contest individual religious belief, the scientific evidence suggests that intercessory prayer has not been proven to influence the course of illness, either in a positive or negative way.

As for the health benefits of religious belief, some studies appear to indicate that religious belief does correlate with better health. However, it is important to note that correlation is not the same as causation; other factors, such as social support, may explain the better health of those with religious belief. The evidence is not yet clear that religious faith causes better health.

Whether or not prayer and spirituality confer direct health benefits, many people find religion to be an important part of their lives by providing meaning, fellowship and comfort. Those benefits are themselves intrinsically helpful, stress-reducing, and consistent with good health practices.

Where to Get It

Prayer and spirituality are areas of individual conscience and personal belief. Some prefer praying in solitude, while others feel enriched by a community of people who share the same beliefs or by the presence and words of a spiritual leader. Each person finds his or her own way to the most comfortable and fulfilling spiritual or religious life.

This page intentionally left blank

Shamanism

Shamanism is a primitive religious system in which the shaman, or medicine man, is the central figure. When in a trance state, the shaman is believed possessed by gods and spirits that act through him or her. All powerful, the shaman is expected to restore health, protect the tribe, foretell the future, and otherwise guide and safeguard the community.

Shamans are religious leaders or priests believed by their community to have the ability to cure the sick through magical powers. Shamanic healing, which appeared in all early cultures throughout most of the world, displays characteristics of both religion and magic, as did all early efforts to deal with illness and other undesirable events.

Perhaps the oldest of all healing therapies, shamanism originated over 20,000 years ago — some researchers say 40,000 — in the Altai and Ural Mountains of western China and Russia. The word shaman in the Tanguis Manchurian language means “to know.”

To his or her tribe, the shaman is the only person capable of communicating with ancestral spirits, gods and demons, which remain invisible to others. It is through this unusual power that the shaman can divine the unseen, control events, and thereby cure disease.

Other early cultures, including those on the North and South American continents, in Asia, India, Africa, the South Pacific and Australia, all had their own concepts of a shaman: religious leader, healer, and seer. Shamans used rituals that included singing, dancing, chanting, drumming, art forms, and storytelling to heal the sick, promote success in hunting and food gathering, and to create a safer or better life for members of their tribe.

In more modern times, especially among Native Americans (Chapter 4), shamans add conventional medicine to their traditional practices to promote healing. At the same time, many shamans today share their knowledge about healing with others. This has encouraged a modern resurgence of interest in this oldest of healing therapies. Lectures, weekend meetings called “medicine wheel gatherings,” and other group activities are now available to the general public. They teach shamanic principles such as living in balance with nature.

What It Is

Shamanism is a form of folk medicine, mind-body or trance healing, or “white magic” that relies on healers with special powers. These healers, or shamans, mediate between hostile spiritual forces and the problems facing the people in their communities. Common problems include wounds and disease, childbirth, and overcoming evil spirits.

Most people around the world, although not in most industrialized cultures, continue to rely on shamans or comparable healers for their health care. The “medicine man” often portrayed in old American cowboy and Indian movies was, in fact, a shaman, and Native Americans today call their shamans “medicine men.” Shamans go through rigorous training before practicing their art. They are often well paid by their patients, but also may suffer punishment if they fail to bring about a cure.

The work of the shaman consists of more than the magic or religious rites typically conducted at night in locations with special religious significance. Throughout history, shamans also have discovered plants that have identifiable beneficial effects. These botanicals are applied to treat various ailments. However, contemporary shamans continue to blame ill-defined illnesses on spirits who must be placated before the patient can be cured.

In order to communicate with the spiritual world, the shaman goes into a trance or mind-altering process. This state is reached through fasting or the use of hallucinogenic herbs or plants, typically accompanied by chanting, drumming and dancing. In the self-induced trance, the shaman’s supernatural powers help him discover the cause of the illness or pain. He then seeks to intercede with evil spirits that caused the problem, thereby restoring his or her patient’s health.

Across time, cultures and continents, shamans, like those in Nepal, North America and elsewhere today, use charms and ritual objects in addition to their magical healing skills. Shamanic therapy also includes chanting, drumming, dancing and spirit visualization.

What Practitioners Say It Does

Shamans believe they have a special ability to communicate with the spiritual world through altered mental states. These states of ecstasy enable the shaman to journey to the unknown, communicate with spirits, gather knowledge, and return to reality to use that knowledge to heal the sick. The shaman's work promotes an expectation of recovery in the patient, who believes the battle with evil spirits will be won.

Another contemporary activity, psychic surgery, is a modern expression of traditional Filipino shamanism. Practiced also in North America by visiting Filipino shamans, psychic surgery involves the extraction of "tumors" from the body through a bloody but painless and invisible "incision" in the patient's abdomen. Chicken blood and parts have been found hidden on the shamans who perform these procedures.

Whether shamans believe they can cure any and all diseases is not clear. It is interesting to note, however, that some shamans select their patients with care, feeling that their special talents will not be beneficial in every case. There is a fear of failure and its consequences of punishment by the tribe.

Beliefs on Which It Is Based

Shamanism is based on the belief that all healing has a spiritual dimension that must be addressed before healing can occur. It is believed that the evil spirits inhabiting the spiritual dimension contributed to the patient's sickness. It is further believed that the shaman, an individual with special training and the ability to enter into a self-induced trance, can communicate with the spirit world while in that state of mental suspension. There the shaman has the opportunity to work with the evil spirits on behalf of the patient, and perhaps gather knowledge on how best to cure the patient.

Research Evidence to Date

There is an abundance of historic material from many cultures and written over many centuries about the successes of shamanism and its ability to treat illness and other problems. This material consists of anecdotes, which are essentially stories similar to those told about religious miracles.

Shamanic practices have not been subjected to research as such. That is, studies have not been conducted to test the frequency or mechanisms of shamanic activity. However, expectation and strong belief are known to have

powerful healing effects, as described in discussions of the placebo effect in Chapter 18 as well as in other chapters in this book.

What It Can Do for You

A researcher and psychologist at Stanford University in California reported that shamanistic practices sometimes are useful in treating pain, anxiety and stress among cancer patients, especially Native American patients. The rhythmic drumming usually included in a shaman therapy session has been helpful because it interrupts destructive thought patterns assumed to be detrimental to recovery from illness.

Many believe that shamanism can help promote spiritual or emotional healing. A therapeutic session with a shaman, or participation in a shamanic ritual with its chanting, drumming, and dancing, often produces outcomes similar to those achieved by counselors or psychotherapists. Even if shamanic healing achieves its effect through a placebo-like response, that response can be comforting and beneficial to the patient.

Where to Get It

One of the best resources for information about modern shamanic activity is the Dance of the Deer Foundation (www.danceofthedeer.com/foundation/center-for-shamanic-studies), an organization that promotes continuation of the Huichol Indian shamanic tradition.

Shamanism study groups are active throughout North America and in Europe as well. The Foundation for Shamanic Studies in Germany, for example, explores ethical shamanic healing and provides basic guidelines through workshops and seminars (www.shamanicstudies.net).

Therapeutic Touch

Therapeutic touch does not actually involve touching the physical body. Practitioners claim they are able to shift the energy field that emanates from the patient's body.

Therapeutic touch shares with other alternative therapies, such as qigong, tai chi, "biofield therapies," Reiki and others, the belief that there are "energy fields" or "life forces" in and around the human body. There is no touch in therapeutic touch. Rather, the therapist's hands, held inches above the patient, sense and alter the presumed energy field around the patient.

Developed in the 1970s by Delores Krieger, PhD, RN, then Professor of Nursing at New York University, with assistance from Dora Kunz, a clairvoyant, therapeutic touch has become very popular and is often practiced in hospitals, nursing homes, and other health-care facilities throughout the United States and elsewhere. Krieger estimated that she taught the technique to more than 40,000 people as of 1995, and writes that her program is taught in over eighty U.S. universities and practiced in sixty-eight countries in addition to the United States.

Therapeutic touch is closely related to the concept of laying on of hands, practiced by ministers of several faiths and often used at revival meetings, during which healing energy is said to flow from the healer to the patient. The power of therapeutic touch, however, is derived not from a religious concept of God's presence, but rather from the idea of energy fields within and surrounding the body. "Energy field disturbances" has been an official nursing diagnosis in the U.S.

The value of touch is demonstrated in various therapies to provide a feeling of caring, security, and understanding between healer and patient. This is an ancient idea. It can be identified in 15,000-year-old cave paintings found

in the Pyrenees. It is important to note, however, that therapeutic touch, despite its name, does not include touching the person’s body.

What It Is

Practitioners hold their hands, palms down, a few inches above the patient’s body. They sweep their hands from the patient’s head to toe, shaking off the bad or excess energy after each sweep. Practitioners also transmit energy from their own hands to the patient’s energy field.

A therapeutic touch session usually lasts for twenty to thirty minutes. The patient lies down, and the practitioner stands at the patient’s side. Each session is divided into four activity segments:

1. *Centering*: The therapist focuses his or her own thoughts, clearing the mind to communicate with the patient’s energy field and identify areas of abnormality or blockage of energy flow.
2. *Assessment*: In this phase, the practitioner passes his or her hands, held two to six inches above the patient, down the length of the body, looking for blockages to the normal flow of energy. The therapist expects to be able to identify specific forces of emanating energy.
3. *Unruffling*: To unruffle the patient’s energy field and restore balance, the therapist sweeps stagnant energy downward past the patient’s toes and out of the body.
4. *Transferring*: The practitioner concludes the session by transferring his or her own excess energy to the patient, thereby altering any misalignment in the patient’s energy field and relieving pain, curing illness, or accomplishing some other goal.

What Practitioners Say It Does

Proponents of therapeutic touch believe the human body produces its own energy field, and that blockages in the energy field cause illness and pain. Practitioners believe their hands can detect these blockages or imbalances. Advocates claim that practitioners can focus on the area causing pain, transfer their own energy, and change the patient’s energy field, thereby stimulating the body’s own recuperative powers.

Practitioners believe that therapeutic touch reduces stress and promotes relaxation, cures headaches, reduces anxiety, and stimulates a sick person’s recuperative powers. It is also said to calm crying babies, alter

enzyme activity, increase hemoglobin levels, reduce fever and inflammation, ease asthmatic breathing and accelerate the healing of wounds.

Beliefs on Which It Is Based

Because there is no scientific evidence to show how or why it works, or even to support the existence of an energy field, therapeutic touch requires faith in the existence of such a field and in the ability of therapeutic touch to alter it. The basic belief is the presence of a life force or energy field, similar to qi in Chinese Medicine and prana in Ayurvedic (ancient Indian) Medicine.

Krieger says she was influenced by yoga, Ayurvedic, Tibetan, and Chinese health systems in developing these concepts. Her theories of energy transfer are based on the ancient belief in energy fields that was essential to traditional Asian and Indian therapies. She points out that the concept of a life force or energy field around human bodies, although unproven, does not contradict the laws of modern physics, which state that all matter contains energy.

Although some practitioners are at a loss to understand how they can transfer energy from their own bodies to that of the patient, most are confident they are able to do so.

Research Evidence to Date

Many anecdotal reports speak of the success of therapeutic touch, which is still widely employed by nurses and other therapeutic touch practitioners. Only one objective, scientific study of therapeutic touch has been published in the medical literature.

In this study, published in the *Journal of the American Medical Association* in 1998, twenty-one therapeutic touch practitioners were asked to identify which of their hands was closest to the unseen investigator's hand. Practitioners should have correctly located the investigator's hand 100% of the time. In fact, the correct hand was identified in only 44% of 280 trials, close to random chance.

The study's conclusion was that the practitioners' failure to substantiate therapeutic touch's most fundamental claim was clear evidence that the claims are groundless.

What It Can Do for You

People who seek therapeutic touch tend to feel better after the experience. For some, it can assist relaxation, reduce stress, relieve headaches, and

Part Seven: “Alternative” External Energy Therapies

ameliorate the discomforts of illness, injury and surgery. Despite the likelihood that energy transfer does not exist, the sheer attention and the therapist’s hands passing over the body no doubt enhance a sense of well-being.

Scientists suggest that patients’ reactions may reflect a kind of placebo response, or that psychological benefits may accrue simply from having a caring person nearby, providing concern and attention.

Where to Get It

The Therapeutic Touch International Association (<http://www.therapeutic-touch.org>) provides information and resources. Internet access to names and locations of practitioners is available for most cities.

Complementary Therapies for Some Common Ailments

alcohol and drug abuse Acupuncture, meditation, mental imagery.

anemia, caused by iron deficiency Dietary adjustments, spinach, or iron supplements.

anxiety and stress Therapeutic massage, acupressure (press center of inside wrist 2 inches above crease), relaxation techniques, yoga, aromatherapy, valerian, chamomile.

arthritis Acupuncture, hand and back yoga exercises, hydrotherapy, topical capsaicin, willow bark, turmeric, and gamma linolenic acid.

attention deficit disorder Biofeedback, yoga, massage therapy, cognitive behavioral therapy, music therapy.

backache Massage therapy, chiropractic, or other bodywork, topical capsaicin.

carpel tunnel syndrome Hydrotherapy, acupuncture, massage, ginger compress.

cholesterol, high Fresh garlic, red yeast rice, guggul, omega-3 fatty acids.

common cold Echinacea, eucalyptus or peppermint oil in steam vaporizer, raw garlic.

constipation Drink 6 to 8 glasses of water daily, eat more fiber, plantago seed, senna.

cough Eucalyptus, ginger, elderberry.

depression Hypericum (St. John's wort, but not if you are on prescription medication), lavender, yoga, tai chi, meditation, light therapy, massage therapy.

Complementary Therapies for Some Common Ailments

diarrhea Dried blackberry or blueberry leaves; dried blueberry fruit; peppermint tea.

headache Press acupoints between eyebrows or in hollows at base of skull on both sides of the spine; massage, progressive relaxation, biofeedback; feverfew butterbur.

heartburn Ginger tea.

high blood pressure Garlic, foods rich in calcium and magnesium, mind-body techniques.

indigestion Peppermint or chamomile tea.

menopause problems Acupuncture, mind-body techniques, exercise, black cohosh soy.

menstrual cramps Warm baths, feverfew, extract of the herb black cohosh, raspberry tea.

motion sickness/nausea Ginger (tea capsules, candy), acupressure at center of inside wrist, two inches above wrist crease.

muscle aches Wintergreen oil, capsicum cream, massage therapy, hydrotherapy.

osteoporosis Walking and other weight-bearing exercises; calcium-rich diet and supplements

pain, chronic Acupuncture, massage and other body work, biofeedback, hypnotherapy.

Pre-menstrual syndrome (PMS) Lavender or parsley oil in a warm bath, yoga, meditation, chasteberry, black cohosh.

prostate enlargement Saw palmetto.

rashes Oakmeal bath, aloe vera.

seasonal affective disorder Depression therapies, especially light therapy.

sleep problems Valerian tea, warm bath, sage, meditation.

sore throat Zinc lozenges, salt gargle, slippery elm.

sunburn Bathe in cool water, apply aloe gel or arnica cream.

tennis elbow Acupuncture, bodywork techniques, chiropractic, apply ice.

urinary tract infections Cranberry juice.

varicose veins Horse chestnut, elevate feet.

Glossary

acupoints Points or places along the body's meridians where needles or pressure are applied.

acupressure Hand or finger pressure applied to an acupuncture point on the body.

acupuncture Therapy using very thin needles inserted at designated points (acupoints) along meridians on the body to manage symptoms. In ancient lore: to balance the hypothesized flow of energy and thereby restore health.

acute Having a short, sometimes severe course. Not chronic.

Alexander technique A type of movement therapy intended to reduce muscular tension. This technique is useful as a complementary therapy in treating stress, muscular fatigue, and neck and back pain.

allergen Any substance that can produce an immediate hypersensitivity or allergy. Dust and pollen are typical allergens.

allopathic medicine Mainstream or modern medicine; based on principles proven through scientific research. Contrast with "alternative medicine."

alternative medicine Therapies used in place of allopathic medicine; not proven by traditional scientific investigation.

antioxidant A natural or synthetic substance, such as vitamin E, that prevents or delays the oxidation process in cells or tissue.

aromatherapy The therapeutic use of odors distilled from plant oils; said to be useful in treating headaches, anxiety and tension.

Glossary

art therapy The use of drawing, painting, and sculpting as therapy to treat behavior or emotional problems; promotes self-expression.

artery The vessels that circulate blood from the heart to various parts of the body.

aura An atmosphere or energy field said to surround a person. In alternative medicine, it is believed that everyone has a surrounding aura (energy field), visible to some people, that indicates the individual's state of health.

Ayurvedic medicine An ancient traditional medicine system based on Hindu philosophy and ancient Indian civilization. The body is seen as a microcosm of the universe, consisting of the five elements of fire, earth, air, and ether. Each element corresponds to one of the five senses: sight, taste, smell, touch, and hearing. It embraces the concept of an energy force in the body similar to the Chinese concept of *qi*, and emphasizes the balance of mind, body and spirit to maintain health.

Bach flower remedies The use of oils from one or more of thirty-eight different flowers to use as self-treatment for mental, emotional, and sometimes physical discomfort.

bacteria Single-cell micro-organisms living in air, soil, and water and as parasites in bodies of plants and animals. Some types cause disease in humans.

benign Non-threatening to health or life; a noncancerous growth.

biofeedback The use of electrical devices to recognize changes in body functions, such as heart rate, perspiration and temperature, to achieve relaxation or muscle control. Sometimes used to treat incontinence and anxiety-related conditions.

biopsy A diagnostic technique that examines tissues, fluids, or cells removed from the human body.

biorhythms Individual physical, mental, or emotional cycles, lasting typically twenty-two to thirty-three days; often charted by naturopathic physicians to better understand behavior and determine the best time for treating depression and illness.

bodywork A term used to identify a broad variety of techniques to promote relaxation through massage, manipulation, controlled movement, reflexology and other hands-on procedures. It includes standard Swedish massage, the Alexander technique, the Feldenkreis method, Rolfing, Hellerwork, and other variations.

botanical medicine Use of the entire plant or herb for therapeutic purposes.

capillaries The smallest blood vessels in the body. They connect to tiny arteries and veins

carbohydrate The major class of foods that includes starches, sugars, cellulose, and gums. Carbohydrates are a necessary part of the daily diet.

carcinogen Any cancer-causing substance.

cartilage Dense, flexible connective tissue found at the ends of some bones, in the nose, and elsewhere in the body.

catheterization The process of inserting a catheter or small tube into a vessel, body cavity or organ, such as the bladder or heart, in order to examine it with a tiny video camera, to inject or remove fluids, or to open passageways.

channels Passageways in the body through which the hypothesized life force called *qi* or *Frana* is said to travel; also called meridians.

chemotherapy The use of chemicals that do not harm most normal tissue, but that attack fast growing cells such as cancer cells.

chi See “*qi*”.

Chinese herbal medicine An essential part of the 3,000-year-old Chinese system of comprehensive health and healing. Thousands of different herbs are used to treat specific complaints.

chiropractic The largest nonsurgical and drugless system of healing in the West. Chiropractic assumes that a smooth flow of nerve impulses from the brain to all parts of the body through the spinal column is necessary for maintaining homeostasis or equilibrium among different parts of the body, and thus good health. Misaligned vertebrae, called subluxations, are thought to interfere with the transmission of nerve impulses. The chiropractor uses manipulation to reposition spinal bones.

cholesterol A steroid alcohol found in animal cells and body fluids. The human liver usually produces sufficient cholesterol to meet bodily needs. Diets high in saturated fats usually increase cholesterol levels in the blood, creating an unhealthy condition that can lead to coronary heart disease.

chromatotherapy The unproven belief that colored lights can help cure serious diseases such as cancer.

Glossary

chromosome A structure found in the nucleus of each human cell. It contains DNA, which transmits genetic information during cell division. There are typically forty-six chromosomes in each cell.

chronic Continuing over a long period of time; not acute.

collagen An insoluble protein found in skin, bone, cartilage, and other connective tissue.

colonic irrigation A form of hydrotherapy that uses large amounts of water to irrigate the large bowel. It is said to relieve constipation, detoxify the colon, and aid elimination.

colored-light therapy An unproven therapy that uses different colors of lights for therapeutic purposes. Some colors are believed to have a specific effect on specific diseases. Red light, for example, is believed to stimulate the sympathetic nervous system.

complementary medicine Medical care that is adjunctive (used in addition to) mainstream medical care. Most complementary therapies are beneficial in promoting relaxation, reducing stress, and controlling symptoms.

counseling Professional guidance or direction provided through talk therapy.

cranial osteopathy A specialized diagnostic and therapeutic process based on reducing subtle movements of the bones of the skull by manipulation. Because the bones of the skull become fused in early childhood, this technique is improbable as well as unproven.

Craniosacral therapy A manipulation designed to treat the craniosacral system, including the cranium, sacrum, spinal cord and bones of the spine; closely related to cranial osteopathy.

crystal healing Sometimes called gem therapy; uses quartz crystals and gemstones, which are believed to emit electromagnetic energy, for healing purposes; often used in combination with color therapy.

cupping An ancient Chinese and Ayurvedic therapy that aims to lower blood pressure, improve circulation and relieve muscle pain by making punctures in the skin and then covering them with a heated cup, which creates suction. Cupping was also used in colonial American medicine.

dehydration The loss of water from the body. An abnormal and sometimes dangerous depletion of body fluids.

detoxification The process of removing “toxic substances” from the body; a treatment to free an individual from a chemical addiction.

dietary therapy The use of diet, or prescribed food intake, to effect health benefits. Unproven or fad diets can be harmful because of severely imbalanced nutritional intake. Diets that claim to cure cancer and other diseases are fraudulent.

disease A condition that impairs the function of a person or body organ.

doshas The three basic body types or life forces that underlie human functioning according to Ayurvedic belief. They are *Veda*, producing movement; *Kapha*, responsible for bodily structure; and *Pitta*, an interface between *Veda* and *Kapha*.

electromagnetic therapy A form of “energy medicine” that claims to diagnose and correct disturbed electromagnetic frequencies emitted by the body, thus curing disease and promoting health. Many mysterious “black boxes” are marketed as electrical devices capable of producing cures. Although electric energy is used in many traditional diagnostic devices such as X-rays and MRIs (magnetic resonance imaging), there is no evidence that electromagnetic therapy cures disease.

energy therapies A broad range of treatments based on the use of various energy forms to heal illness and disease. Electroacupuncture, electromagnetic therapy, dental energy medicine, microwave energy, and other approaches use a variety of electrical devices. The TENS (transcutaneous electrical nerve stimulator) unit is useful for reduction of pain. The use of highly charged electric paddles in a hospital emergency department to restart a stopped heart is also a common practice. Most other uses are unproven.

enzyme A complex protein that acts as a chemical catalyst between other substances without themselves being destroyed or altered. Enzymes are divided into six categories according to the work they do in the body, such as the conversion of proteins and sugars.

essential oil Highly concentrated aromatic oil used in aromatherapy. The forty different oils designed to treat specific ailments are derived from roots, bark, leaves, wood and sap from plants, trees, and herbs. The rinds of citrus fruits also provide fragrant oils. Because of their highly concentrated aromas, they are usually diluted in “carrier” oils or alcoholic solutions.

etiology The cause or origin of disease.

extract A concentrated preparation such as an essence or concentrate created by withdrawing the active constituents by chemical or physical processes, prepared as semiliquid, dry powders, or solids.

Glossary

fasting Technically, abstention from eating. In alternative medicine, fasting claims to cleanse the body of impurities. This is based notion that, when the body is not digesting food, greater reserves of energy are available for use in immune function, cell growth, and elimination processes. Because the body is deprived of necessary energy resources during fasting, fasting can be dangerous.

fat One of the three kinds of food energy, along with carbohydrates and protein. Fats are found in meat, poultry, fish, dairy products, and some vegetables. The U.S. food guide recommends only a small amount of fat from meat, poultry and/or dairy products each day. Stored in the human body as adipose tissue, fat provides a major reserve source of energy. It also acts as a “padding” between various organs of the body. It protects against cold and helps the body absorb certain vitamins. Excess dietary fat increases the risk of serious health problems.

fatty acid A component of fat, whether saturated, monounsaturated, or polyunsaturated. Saturated fats raise blood cholesterol levels.

Feldenkrais method A therapy designed to make the body work with gravity rather than against it by correcting physical habits of movement that put too much strain of muscles and joints.

fiber Indigestible parts of plants, some soluble; others insoluble. In the human digestive system, fiber absorbs water and assists elimination. It is an essential part of a healthy diet.

flower remedies See “Bach flower remedies.”

food guide pyramid Pyramid-shaped display of optimal nutritional intake, developed in the U.S. by the Departments of Agriculture and Health and Human Services.

free radical An unstable molecule with an odd number of electrons, produced as a byproduct of oxydation. Free radicals are potentially harmful to the body, as interaction with DNA can lead to impaired cell function, and they may be a factor in development of cancer. Said to be neutralized by antioxidants.

friction A type of massage employing small circular movements of the fingers and thumbs or the heel of the hand. One of six major massage techniques.

fungus A parasitic organism such as a mold or yeast that can infect human body tissue.

gene A segment of a DNA molecule and the biological unit of heredity. It is self-reproducing and transmitted from parent to children.

generic drug A medication without a specific brand name. After patent rights expire on brand-name medications, similar generic drugs are often produced and marketed at lower cost to the consumer.

Hellerwork An outgrowth of Rolfing, this bodywork therapy concentrates on efficient body movements seen as natural to different body types. Alignment with the earth's gravitational forces is believed paramount, as is greater mind-body awareness.

herb A plant or plant part valued for medicinal or other purposes. Culinary herbs are used as flavoring in cooking.

herbal medicine Healing through the use of organic substances. One of the oldest forms of medical care, the ancient Egyptians, Chinese, Indians and other early societies discovered that certain plants had curative properties. Myth and science over time have produced a system of therapies that range from the Doctrine of Signatures, in which an herb bearing physical characteristics similar to those of the illness would help cure, to the present-day pharmaceutical industry that produces medications synthesized from herbs. Chinese and Ayurvedic shamans, Indian medicine men, and modern practitioners have all used a wide variety of herbs to promote cures.

homeopathy A system of medicine based on the concept of "like cures like" (the Law of Similars): symptoms are treated with extremely small amounts of drugs that would normally produce the same symptoms as the illness being treated. Homeopathy was developed by a German physician and chemist as an alternative to the more severe practices of bloodletting, vomiting, and other excesses of orthodox medicine practiced in the early 1800s.

homeostasis An internal state of stability toward which the body automatically strives.

hormone One of many chemicals produced in the body by glands and certain organs. Hormones regulate activities of body systems, glands, organs and tissues, usually distant from their originating source. Hormones regulate blood sugar levels, women's menstrual cycles, and growth.

hydrotherapy The use of water (hot or cold liquid, ice, or steam) to maintain or restore health. Forms of hydrotherapy include full-body immersion, saunas and steam baths, sitz baths, colonic irrigation, jacuzzis, and the use of hot or cold compresses.

hypnotherapy The use of hypnosis to treat or manage certain medical and psychological problems; often used to treat stress, sleeping disorders, anxiety, fears and phobias, and depression; also used to assist smoking cessation and to overcome alcohol and substance abuse.

infection The invasion of micro-organisms and their subsequent multiplication in body tissues. A localized infection can become systemic if infecting micro-organisms gain access to the lymphatic or vascular system.

inflammation A protective response to injury or destruction of body tissue; a localized action to destroy or isolate injured tissue and the injurious agent.

ligament A band of fibrous tissue that connects bones and cartilages and strengthens and supports joints.

light therapy The use of light to treat a variety of health problems, from depression to cancer. Full-spectrum and bright white light are used to effectively treat seasonal affective disorder (SAD), but practitioners' claims for its ability to treat most other health problems remain unsubstantiated.

macrobiotic diet A system that emphasizes a life balance between yin and yang qualities: yin foods grow above ground and usually have high water content, while yang foods tend to be roots, stems and seeds that grow in colder, wet environments. Grains are closest to a neutrality between yin and yang and are therefore the most important component of the macrobiotic diet. Utensils used to prepare foods are carefully chosen, avoiding copper and aluminum. Lengthy cooking usually is required.

magnetic therapy See "electromagnetic therapy."

malignant Tending to metastasize and infiltrate. Used in describing cancerous tissue or tumors of potentially unlimited growth.

mammography Low-dose X-rays of the breast to detect abnormalities such as cancer.

mantra An uplifting, sometimes mystical word or phrase usually associated with meditation. In Ayurvedic medicine, a category of Satvajaya, or sound therapy, designed to change the vibratory patterns of the mind.

massage Manipulation of tissues and muscles by rubbing, stroking, kneading, or tapping. It is the most basic of all bodywork, frequently used to treat musculoskeletal problems.

meditation The process of focusing one's thoughts or engaging in contemplation or reflection. As a complementary therapy, a method of reaching the

mind's inner reservoir of creative thought and energy, as in Transcendental Meditation. Meditation can lower heart rate and address some blood pressure problems, help alleviate chronic pain, and reduce stress.

megavitamin therapy Taking doses of vitamins far above levels recommended for general good health in order to prevent or cure certain diseases. Excessive amounts of certain vitamins can cause liver, bone, and nerve function damage as well as rapid pulse, insomnia, and other disorders.

meridians From ancient Chinese medicine, particularly acupuncture, the fourteen main channels of energy or life force that run up and down the body and head. Each meridian is said to affect a particular organ or body system.

metabolism Collectively, all of the physical and chemical processes through which life is sustained. Metabolic processes are fueled by energy from nutrients in food.

mineral An inorganic substance, neither animal or vegetable. Minerals are found in the human body in small amounts and are replenished from food. Naturally occurring springs, sometimes the center of health resorts, are often rich in minerals such as sodium, potassium, sulphur or calcium.

moxa Another name for dried mugwort. Used in moxibustion by burning on the ends of needles, or rolled into sticks or cones that are then heated. This is said to increase the flow of qi in the body.

moxibustion (or moxabustion) A therapy used by Chinese herbal practitioners. Mugwort is burned on or very close to the body at an identified affected site to increase circulation and promote healing.

naturopathy (naturopathic medicine) A drugless therapy based on the body's own ability to heal itself, facilitated by a naturepathic physician trained to treat the cause rather than the effect of illness or disease. Treatments most often are diet- and nutrition-oriented with attention given to the patient's personal history and lifestyle.

needling The primary action of acupuncture. Very thin needles are inserted into the skin at specific points along one of the many meridians, or life-force lines on the body said to change the energy flow and thus promote healing.

nutritional therapy The use of dietary approaches to promote good health or treat illness.

ore (over the counter) Describes medications legally sold without a physician's prescription. Many cold remedies, aspirin, Tylenol, and products for indigestion are OTC medications.

orthodox medicine Health care based on scientifically proven principles; conventional medical care, practiced by physicians trained in recognized medical schools. The main type of care practiced in most developed nations of the world.

orthomolecular therapy See “mega-vitamin therapy”.

osteopathy A medical philosophy based on the concept that the body can fight disease if the body is in a “normal structural relationship, is adequately nourished, and is not adversely affected by environmental conditions. It follows accepted physical, surgical and medicinal techniques for diagnosis and treatment. Some osteopathic physicians practice joint manipulation, postural re-education and physical therapy to correct structural problems.

placebo effect Healing that results from the patient’s belief in the treatment or the therapist.

polarity therapy Based on the concept, that in health, life energy circulates within and around the body in five specific patterns of balance, similar to the five environmental elements of Ayurvedic medicine. One of these elements of energy flows through each finger and toe. When the normal energy pattern is interrupted, gentle manipulative therapy is applied to eliminate blockages, restore balance, and promote relaxation. Yoga exercises, diet, and counseling also are used.

prana Ancient Indian concept of healing energy or “force,” equivalent to traditional Chinese medicine’s *qi*.

progesterone A female sex hormone, secreted by the ovaries, that prepares the uterus for the reception and development of fertilized eggs. Along with estrogen, it regulates menstrual-cycle changes.

protein The primary and essential constituent of the protoplasm of all cells, consisting of complex combinations of amino acids. Protein, along with carbohydrates and fats, make up the three primary dietary components. Meat, fish, poultry, eggs, and dried beans are major sources of protein.

proving In homeopathy, testing a remedy by seeing what symptoms it elicits in healthy people.

psychosomatic Concerned with the relationship between mind and body. Some bodily symptoms may be caused by mental or emotional disturbances; these are called psychosomatic illnesses.

qi According to ancient Chinese philosophy, qi is the vital life “force” or energy that flows throughout the body along pathways that connect all

organs and systems. Disruptions in the flow of *qi* (pronounced “chee”; also spelled *chi*) is said to cause imbalance and illness. Acupuncture is used to adjust *qi*.

qigong A traditional Chinese medicine regimen involving movements, breath regulation, and meditation, geared to balance *qi* and maintain health.

radionics A “black box” approach to diagnosis (or analysis) and holistic treatment, it is banned in the United States. “Corrective” energy patterns are directed from the instrument to the patient, even at a distance, to treat deepseated health problems. The devices often analyze samplings from the patient, such as a snippet of hair, to arrive at a diagnosis.

RDA (Recommended Dietary, or Daily, Allowance) Guidelines developed by the Food and Nutrition Board of the U.S. National Research Council that set recommended levels of vitamins and minerals that are essential to good health. Figures published on processed food packages as “Nutrition Facts” are based on a person requiring a 2,000 calorie-per-day diet.

red blood cell Blood cells that contain the protein hemoglobin, which carries oxygen from the lungs to the body. A shortage of these cells causes anemia.

reflexology A therapy that involves manipulation of the feet to promote homeostasis (or balance) among body systems. Reflexologists believe that parts of the feet called “reflex points” are related to specific body organs or functions. Stimulation by finger and thumb massage is believed to eliminate energy blockages said to cause health problems.

relaxation response Decreased and other calming physiological reactions to meditation; the body’s stress-reducing regulation of internal activity.

relaxation therapies Therapies that release physical and mental tension; often included in broader therapeutic programs. Floatation therapy, hypnotherapy, meditation, yoga and many other mind-body therapies embrace relaxation-therapy principles.

remission A condition during which symptoms of a disease are reduced.

Rolfing A deep-tissue massage therapy; also called Structural Integration, designed to reach the body’s connective tissues or fascia. Its intent is to strength and realign the body by stretching and lengthening the fascia. A treatment program usually includes ten, sessions which deal with different fascial layers sequentially. The therapist uses fingertips, knuckles, elbows, and sometimes knees to knead muscle and tissue layers.

Rosen technique A bodywork technique that treats the mind and body as one. It is based on the belief that chronic muscle tension is caused by repressed emotional conflicts. Gentle, deep pressure is applied as the practitioner questions the patient about what he or she is experiencing.

seasonal affective disorder (SAD) Depression associated with the dwindling sunlight that occurs in winter. Geographic location plays a major role: people living in northern areas are eight times more likely to experience SAD than are those living in more southern areas.

sedative An agent or drug that calms or moderates nervousness or excitement.

self-limiting Describes a condition that lasts a specific period of time and corrects or cures itself.

serotonin A brain neurotransmitter that, at high levels, can lead to relaxation and sleepiness; also a powerful vasoconstrictor (an agent that narrows the blood vessels).

shamanism A healing approach that dates back at least 20,000 years and is found in almost every culture. The ability of shamans to enter a trance or a state of altered consciousness enables them to enter the spirit world, where they attempt to control the spirits and effect changes in the physical world. While in a trance, they believe their souls are separated from their bodies and transported throughout the cosmos in search of cures for their patients.

shiatsu Means “finger pressure” in Japanese; an Asian bodywork or acupressure technique in which fingers at specific points apply a firm sequence of rhythmic pressure to “awaken” acupuncture meridians.

Simonton method The use of imagery along with cancer therapy. Patients imagine their white cells as aggressive destroyers of their cancer cells.

sitz bath A form of hydrotherapy involving shallow, therapeutic immersion of the thighs and hips in warm water, sometimes with an additional substance in the solution such as Epsom salts; used as a tonic and to treat hemorrhoids and abdominal and pelvic disorders.

soft tissues Tissues of the body other than bone or cartilage; includes organs, muscles, tendons, and ligaments.

sound therapy An ancient method of healing based on the idea that everything in the universe, including the human body, is in a constant state of vibration and that even the slightest change in vibration can affect internal organs. It is believed that there is a natural frequency or note for each body

part or organ, and that sound directed to a specific target can restore health to a body part whose vibration is off.

spiritual healing The transfer of a healing energy or life force from healer to patient through the laying on of hands. Some healers believe they have a God-given gift of healing or are helped by angels in their ability to channel cosmic energy from their hands to the patient.

structural integration See “Rolfing” **subluxations**. The term used by chiropractors to describe misalignments of the vertebrae, or partial dislocations of bones in a joint.

supplement Something added; for example, food supplements taken in addition to meals. Complementary therapies used in addition to mainstream medicine can be termed supplemental therapies.

Swedish massage The most common form of massage, involving long gliding strokes, kneading, and friction on the superficial muscle layers; relieves muscle tension and promotes relaxation.

symptom Evidence of disease; something that suggests the presence of a bodily disorder.

syndrome A group of symptoms that occur together to produce a specific abnormality.

systemic Relating to or affecting the body in general.

tai chi An ancient Chinese system of gentle exercise or precision movement and breathing that develops balance, control, and relaxation, and has calming effects. There are many specific sequences of movements. Thi chi is used to treat stress-related problems and for rehabilitation after surgery, injury, and illness.

tendon The fibrous cord attached to muscles and bones.

TENS (transcutaneous electrical stimulation) An electric device often used to treat affected nerves to relieve pain; accepted in mainstream medicine as a useful treatment for some diagnoses involving pain associated with the nervous system.

therapeutic touch An unproven method of healing that includes no physical contact. As such, it is not a true “touch” therapy, but rather one that deals with “energy forces” and the therapist’s ability to transfer energy from his or her body to the patient. The hands of the therapist pass inches above the

Glossary

patient's body, from head to toe in a wavelike motion, ending at the feet with a flick of the therapist's hands to shake off any harmful energy.

tincture An alcohol or alcohol-and-water solution prepared from a plant or medicine.

toxin A poisonous substance produced by the metabolic activities of a living organism. Toxins usually are capable of inducing antibody formation in the body.

Traditional Chinese Medicine (TCM) A complex healing system based on thousands of years of practice in the healing arts.

Trager approach A bodywork therapy in which gentle, rhythmic touch combined with movement exercises is applied by a therapist to release tension in posture and movement. The procedure is called "Psychophysical Integration." It is a system of movement reeducation.

Transcendental Meditation (TM) Based on the Vedanta philosophy in Hinduism; a form of meditation that uses mantras (words or short phrases repeated in the mind) to exclude extraneous thought and reach a deep level of consciousness. Mental pictures are used to achieve relaxation, reduce heart rate, and heal illness.

ultrasound High-frequency sound waves used to visualize internal organs' for diagnostic purposes. Ultrasound sometimes is used therapeutically to increase body temperature.

Vata One of three basic forces and body types of Ayurvedic medicine. Symbolized by air, *Vata* is the dosha that produces movement.

vein The vessel through which blood that is low in oxygen passes from various body parts or organs back to the heart.

vertebrae Thirty-three bones of the spinal column. In chiropractic medicine, vertebrae out of alignment are believed to be the source of medical problems and are manipulated by the practitioner to restore health.

viruses Minute infectious agents capable of reproducing only in living host cells. Viral diseases include the common cold, influenza, mononucleosis, and AIDS.

visualization A relaxation therapy based on the formation of meaningful images in the mind. Mental pictures are used to achieve relaxation, reduce heart rate, and heal illness.

vitamins Organic substances in minute quantities that are vital to nutrition and good health. They help regulate body but do not provide energy. Found in natural foods and sometimes produced by the body. They are identified by letters and letter-number combinations (such as A, B, B2) and sometimes by their chemical names (such as niacin and pantothenic acid).

white blood cells The primary resource in the immune system, and the body's defense mechanism against disease. White blood cells attach themselves to infectious microbes and usually produce antibodies to destroy invaders.

X-ray A diagnostic device that uses electro-magnetic radiation of a certain high frequency to create images used by radiologists to inspect and diagnose problems of the skeletal structure, especially bone fractures, potential cancerous sites, and other problems.

yin/yang Complementary but opposing qualities assigned to everything in the natural world as part of ancient Chinese cosmology. Everything has a yin and a corresponding yang, as in night and day, hot and cold. The human body is said to have both yin and yang organs, which must produce a balance by operating in pairs. A balance of yin and yang forces in the body is assumed to create good health. When yin and yang are not balanced, illness results.

yoga An ancient Eastern philosophy of health and well-being. It is also a philosophy and exercise system that combines movement and simple poses with deep breathing and meditation to unite the human soul with a universal spirit. *Prana*, a life energy, is believed to flow through and vitalize the body. Those who practice yoga strive for a deep meditative state that promotes relaxation and reduces stress. It is a gentle exercise regimen suited to virtually any group. Yoga has been practiced as early as 3000 BC.

This page intentionally left blank

Professional Degrees and Titles

AA	Associate of/in Arts degree
ABA	American Board of Anesthesiology
ABAI	American Board of Allergy and Immunology
ABCRS	American Board of Colon and Rectal Surgery
ABD	American Board of Dermatology
ABEM	American Board of Emergency Medicine
ABFP	American Board of Family Practice
ABIM	American Board of Internal Medicine
ABNM	American Board of Nuclear Medicine
ABNS	American Board of Neurological Surgery
ABOG	American Board of Obstetrics and Gynecology
ABOP	American Board of Ophthalmology
ABOS	American Board of Orthopedic Surgery
ABOto	American Board of Otolaryngology
ABP	American Board of Pathology
ABP	American Board of Pediatrics
ABPM	American Board of Preventive Medicine
ABPMR	American Board of Physical Medicine and Rehabilitation
ABPN	American Board of Psychiatry and Neurology
ABPS	American Board of Plastic Surgery
ABR	American Board of Radiology
ABS	American Board of Surgery
ABTS	American Board of Thoracic Surgery
ABU	American Board of Urology
ACHRN	Advanced Certified Hyperbaric Nurse
ACRN	AIDS Certified Registered Nurse

Professional Degrees and Titles

AD	Associate's degree (two-year degree)
ANP	Adult Nurse Practitioner
AOCN	Advanced Oncology Certified Nurse
AOCNP	Advanced Oncology Certified Nurse Practitioner
AOCNS	Advanced Oncology Certified Clinical Nurse Specialist
APRN,BC	American Nurses Credentialing Center
Au.D.	Doctor of Audiology
B.D.	Bachelor of Divinity
B.M.	Bachelor of Medicine
B.M.T	Bachelor of Medical Technology
B.N.	Bachelor of Nursing
B.S.N.	Bachelor of Science in Nursing
BA	Bachelor of Arts
BB(ASCP)	Technologist in Blood Banking
BDentSci, BDSc	Bachelor of Dental Science
BDS	Bachelor of Dental Surgery
BHS	Bachelor of Health Science
BHyg	Bachelor of Hygiene
BM BCH	Bachelor of Medicine and Bachelor of Surgery
BM or BMed	Bachelor of Medicine
BMedBiol	Bachelor of Medical Biology
BMedSci or BMS	Bachelor of Medical Science
BMic	Bachelor of Microbiology
BMT	Bachelor of Medical Technology
BN	Bachelor of Nursing
BO	Bachelor of Osteopathy
BP or BPharm	Bachelor of Pharmacy
BPH	Bachelor of Public Health
BPHN	Bachelor of Public Health Nursing
BS or BSc	Bachelor of Science
BScN or BSN	Bachelor of Science in Nursing
BScPh or BSpH	Bachelor of Science in Pharmacy
BSM or BScM	Bachelor of Science in Medicine
BSW	Bachelor of Social Work or Bachelor of Science in Social Work
BVMS	Bachelor of Veterinary Medicine and Science
BVSc	Bachelor of Veterinary Science
C(ASCP)	Technologist in Chemistry
C.A.	Certified Acupuncturist
C.C.H.	Certificate in Classical Homeopathy

C.M.A.	Certified Medical Assistant
C.N.C.	Certified Nutrition Consultant
C.N.M.	Certified Nurse Midwife
CAPA	Certified Ambulatory Perianesthesia Nurse
CB or ChB	Bachelor of Surgery
CBI	Certificate in Breast Imaging
CCNS	Critical Care Nurse Specialist
CCRN	Critical Care Registered Nurse
CDA	Certified Dental Assistant
CDE	Certified Diabetes Educator
CDN	Certified Dialysis Nurse
CEN	Certified Emergency Nurse
CFRN	Certified Emergency Flight Nurse
CGRN	Certified Gastroenterology Registered Nurse
ChD	Doctor of Surgery (post-medical degree specialty program)
ChM or CM	Master of Surgery (post-medical degree specialty program)
CHPN	Certified Hospice and Palliative Nurse
CHRN	Certified Hyperbaric Nurse
CLT	Certified Laboratory Technician
CM	Certified Midwife
CMA	Certified Medical Assistant (Non-licensed)
CMSRN	Certified Medical-Surgical Registered Nurse
CNM	Certified Nurse Midwife
CNMT	Certified Nuclear Medicine Technologist
CNN	Certified Nephrology Nurse
CNS	Clinical Nurse Specialist (a job title)
COCN	Certified Continence Care Nurse
COTA	Certified Occupational Therapy Assistant
CPAN	Certified Post Anesthesia Nurse
CPFT	Certified Pulmonary Function Technologist
CPN	Certified Pediatric Nurse
CPNP	Certified Pediatric Nurse Practitioner
CPON	Certified Pediatric Oncology Nurse
CRN	Credential for nurses who have taken the Certification Examination for Radiologic Nursing
CRNA	Certified Registered Nurse Anesthetist
CRNFA	Certified Registered Nurse First Assistant (an operating certification)

Professional Degrees and Titles

CRNI	Certified Registered Nurse Infusion
CRRN	Certified Rehabilitation Registered Nurse
CRRN-A	Certified Rehabilitation Registered Nurse — Advanced
CRT	Certified Respiratory Therapist
CRT	Certified Respiratory Therapist
CRTT	Certified Respiratory Therapy Technician (a job title)
CUCNS	Certified Urologic Clinical Nurse Specialist
CUNP	Certified Urologic Nurse Practitioner
CURN	Certified Urologic Registered Nurse
CWCN	Certified Wound Care Nurse
CWOCN	Certified Wound, Ostomy and Continence Nurse
D(J.S.D.)	Doctor of the Science of Law
D.A.	Doctor of Arts
D.a.M.	Doctor of Oriental Medicine
D.C.	Doctor of Chiropractic
D.C. or D.C.M	Doctor of Chiropractic
D.D.S.	Doctor of Dental Surgery
D.D.S.	Doctor of Dental Medicine
D.Eng.	Doctor of Engineering
D.H.A.N.P.	Diplomate of Homeopathic Academy of Naturopathic Physicians
D.H.L.	Doctor of Hebrew Literature
D.Ht.	Doctor of Homeotherapeutics
D.I.B.A.K.	Diplomate of the International Board of Applied Kinesiology
D.M.A.	Doctor of Musical Arts
D.M.D.	Doctor of Dental Science
D.M.D.	Doctor of Dental Medicine
D.Min.	Doctor of Ministry
D.N.P.	Doctor of Nursing Practice
D.N.S.	Doctor of Nursing Science
D.O.	Doctor of Osteopathic Medicine
D.O.	Doctor of Osteopathic Medicine/Osteopathy
D.O.	Doctor of Osteopathy
D.P.A.	Doctor of Public Administration
D.P.E.	Doctor of Physical Education
D.P.H.	Doctor of Public Health
D.P.M.	Doctor of Podiatric Medicine
D.P.M., D.P., or Pod.D.	Doctor of Podiatric Medicine/Podiatry

D.P.S.	Doctor of Professional Studies
D.P.T.	Doctor of Physical Therapy
D.P.M.	Doctor of Podiatric Medicine
D.R.E.	Doctor of Religious Education
D.S.Sc.	Doctor of Social Science
D.S.W.	Doctor of Social Welfare
D.Sc.	Doctor of Sciences
D.Sc. in V.M.	Doctor of Science in Veterinary Medicine
D.T.	Dietetic Technician
D.Th.	Doctor of Theology
D.V.M.	Doctor of Veterinary Medicine
DA	Dental Assistant (also CDA)
DC	Doctor of Chiropractic
DCH	Diploma in Child Health
DCh	Doctor of Surgery (also ChD)
DChO	Doctor of Ophthalmic Surgery
DCP	Diploma in Clinical Pathology
DDR	Diploma in Diagnostic Radiology
DDS	Doctor of Dental Surgery
DDSc	Doctor of Dental Science
DFHom	Diploma from a Faculty of Homeopathy
DHg, DHy, DHyg, DrHyg	Doctor of Hygiene
Dip	Diplomate or Diploma
DipI.AC.	Diplomate of Acupuncture
DipI.C.H.	Diplomate of Chinese Herbology
DipBact	Diploma in Bacteriology
DipChem	Diploma in Chemistry
DipClinPath	Diploma in Clinical Pathology
DipMicrobiol	Diploma in Microbiology
DipPhys or Dphys	Diploma in Physiotherapy
DipSocMed	Diploma in Social Medicine
Div.	Doctor of Divinity
DLM(ASCP)	Diplomate in Laboratory Management
DMD	Doctor of Dental Medicine
DMT	Doctor of Medical Technology
DN	Doctor of Nursing
DNC	Dermatology Nurse Certified
DNE	Doctor of Nursing Education

Professional Degrees and Titles

DNS or DNSc	Doctor of Nursing Science
DO	Doctor of Optometry (also OD)
DO	Doctor of Osteopathy
DON	Director of Nursing
DOS or DOSc	Doctor of Ocular Science
DOS or DOSc	Doctor of Optical Science
DP	Doctor of Pharmacy (also PharmD and PD)
DP	Doctor of Podiatry (also DPM)
DPH	Doctor of Public Health
DPH	Doctor of Public Hygiene (also DrPH)
DPhC	Doctor of Pharmaceutical Chemistry
DPHN	Doctor of Public Health Nursing
DPM	Doctor of Physical Medicine
DPM	Doctor of Podiatric Medicine (also DP)
DPM	Doctor of Preventive Medicine
DPM	Doctor of Psychiatric Medicine
DrMed	Doctor of Medicine
DrPH	Doctor of Public Health
DrPH	Doctor of Public Hygiene (also DPH)
DSc	Doctor of Science
DVM	Doctor of Veterinary Medicine
DVMS	Doctor of Veterinary Medicine and Surgery
DVR	Doctor of Veterinary Radiology
DVS or DVSc	Doctor of Veterinary Science
Ed.D.	Doctor of Education
Ed.M. or M.Ed.	Master of Education
EdD	Doctor of Education
Eng.Sc.D.	Doctor of Engineering Science
ENPC	Emergency Nursing Pediatric Course
ET	Enterostomal Therapist
ET(COCN)	Certified Ostomy Care Nurse
ET(CWOCN)	Certified Wound, Ostomy and Continence Nurse
F.N.AAO.M.F	Fellow of the National Academy of Acupuncture and Oriental Medicine
F.I.C.C.	Fellow of the International College of Chiropractors
FAAFP	Fellow of the American Academy of Family Physicians
FAAN	Fellow of the American Academy of Nursing
FACAAI	Fellow of the American College of Allergy, Asthma and Immunology

FACC	Fellow of the American College of Cardiology
FACD	Fellow of the American College of Dentists
FACG	Fellow of the American College of Gastroenterology
FACOG	Fellow of the American College of Obstetricians and Gynecologists
FACP	Fellow of the American College of Physicians
FACPM	Fellow of the American College of Preventive Medicine
FACS	Fellow of the American College of Surgeons
FACSM	Fellow of the American College of Sports Medicine
FAMA	Fellow of the American Medical Association
FAOTA	Fellow of the American Occupational Therapy Association
FAPA	Fellow of the American Psychiatric Association
FAPHA	Fellow of the American Public Health Association
FCAP	Fellow of the College of American Pathologists
FCCP	Fellow of the American College of Chest Physicians
FCPS	Fellow of the College of Physicians and Surgeons
FDS	Fellow in Dental Surgery
FNP	Family Nurse Practitioner
GNP	Gerontological Nurse Practitioner
GP	General Practitioner
H(ASCP)	Medical Technologist in Hematology
HNC	Certified Holistic Nurse
HNC	Hyperbaric Nurse Clinician
HP(ASCP)	Hemapheresis Practitioner
HT(ASCP)	Histotechnician
HTL(ASCP)	Histotechnologist
JD	Doctor of Jurisprudence (Doctor of Laws)
L.Ac.	Licensed Acupuncturist
L.C.S.W.	Licensed Clinical Social Worker
L.H.P	Licensed Homeopathic Physician
L.M.T.	Licensed Massage Therapist
L.S.D.	Doctor of Library Science
LL.B.	Bachelor of Laws
LL.M.	Master of Laws
LNCC	Legal Nurse Consultant Certified
LPN	Licensed Practical Nurse (also known as an LVN)
LPN, CLTC	Licensed Practical Nurse — Certified in Long-Term Care

Professional Degrees and Titles

LPN, NCP	Licensed Practical Nurse — Certified in Pharmacology
LVN	Licensed Vocational Nurse (also known as an LPN)
LVN, CLTC	Licensed Vocational Nurse — Certified in Long-Term Care
LVN, NCP	Licensed Vocational Nurse — Certified in Pharmacology
M(ASCP)	Medical Technologist in Microbiology
M.A.T.	Master of Arts in Teaching
M.Arch.	Master of Architecture
M.B.	Bachelor of Medicine
M.B.A.	Master of Business Administration
M.C.J.	Master of Comparative Jurisprudence
M.C.L.	Master of Comparative Law
M.D.(H)	Doctor of Homeopathic Medicine
M.Div.	Master of Divinity
M.E.	Master of Engineering
M.F.	Master of Forestry
M.F.A.	Master of Fine Arts
M.F.S.	Master of Food Science
M.H.	Master Herbalist
M.H.A.	Master of Health Administration
M.H.L.	Master of Hebrew Literature
M.I.A.	Master of International Affairs
M.I.L.R.	Master of Industrial and Labor Relations
M.I.D.	Master of Industrial Design
M.L.A.	Master of Landscape Architecture
M.L.S.	Master of Library Science
M.M.H.	Master of Management in Hospitality
M.N.I.M.H.	Master of the National Institutes of Medical Herbalists (British)
M.N.S.	Master of Nutritional Science
M.P.A.	Master of Public Administration
M.P.H.	Master of Public Health
M.P.S.	Master of Professional Studies
M.P.T.	Master of Physical Therapy
M.PH.	Master of Public Health
M.R.E.	Master of Religious Education
M.R.P.	Master of Regional Planning
M.S. in Ed.	Master of Science in Education
M.S. in Pharm.	Master of Science in Pharmacy

M.S.N.	Master of Science in Nursing
M.S.PH.	Master of Science in Public Health
M.S.Sc.	Master of Social Science
M.S.T.	Master of Science for Teachers
M.S.W.	Master of Social Work
M.U.P.	Master of Urban Planning
MA	Master of Arts
MB	Bachelor of Medicine (also BM, BMed, CB, ChB, MBChB, BM ChB)
MBBS	Bachelor of Medicine and Bachelor of Surgery
MBChB	Bachelor of Medicine, Bachelor of Surgery
MC	Master of Surgery (also ChM, CM, MS)
MCPS	Member of the College of Physicians and Surgeons
MD	Doctor of Medicine (also DrMed)
MDentSc	Master of Dental Science (also MScD)
MDS	Master of Dental Surgery
Med. Sc.D.	Doctor of Medical Science
MLT	Medical Laboratory Technician
MLT(ASCP)	Medical Laboratory Technician
MN	Master of Nursing (also MScN or MSN)
MP(ASCP)	Medical Technologist in Molecular Pathology
MPh	Master of Pharmacy (also MPharm)
MPharm	Master of Pharmacy (also MPharm)
MRad	Master of Radiology
MRL	Medical Records Librarian
MS	Master of Surgery (also ChM, CM, MC)
MS or MSc	Master of Science
MScD	Master of Dental Science (also MDentSc and MSD)
MScN or MSN	Master of Science in Nursing (also MN)
MSD	Master of Science in Dentistry (also MScD MDentSC)
MSPh, MScPh, MSPharm, or MScPharm	Master of Science in Pharmacy
MSW	Master of Science in Social Work
MT	Medical Technologist
MT(ASCP)	Medical Technologist
Mus.M.	Master of Music
MVD	Doctor of Veterinary Medicine

Professional Degrees and Titles

N.C.C.A.	National Commission for the Certification of Acupuncturists
N.C.T.M.B.	National Certificate in Therapeutic Massage and Bodywork
N.D.	Doctor of Naturology (British); Doctor of Naturopathy (U.S.)
NCED	Nationally Certified Educational Diagnostician
NCT	Nuclear Cardiology Technologist
ND	Doctor of Naturopathy
ND	Doctor of Nursing
NMT	Nuclear Medicine Technologist
NP	Nurse Practitioner
NP-C	Nurse Practitioners in All Specialties
O.D.	Doctor of Optometry
O.M.D.	Oriental Medical Doctor
OCN	Oncology Certified Nurse
OD	Doctor of Optometry (also DO)
ONC	Orthopedic Nurse Certified
OT	Occupational Therapist
OTR/OTReg	Registered Occupational Therapist
P.T.	Physical Therapist
PA	Physician Assistant (licensed)
PA.	Physician's Assistant
PA-CP	Physician Assistant-Certified
PCP	Primary Care Physician
PD	Doctor of Pharmacy (also PharmD and DP)
PharmD	Doctor of Pharmacy (also DP and PD)
PhD	Doctor of Philosophy
PNP	Pediatric Nurse Practitioner
Psy.D.	Doctor of Psychology
PT	Physical Therapist or Physiotherapist
R.D.	Registered Dietitian
R.N.	Registered Nurse
R.Ph.	Registered Pharmacist
RDA	Registered Dental Assistant
RDA Level I	Registered Dental Assistant Level I
RDA Level II	Registered Dental Assistant Level II
RDCS	Registered Diagnostic Cardiac Sonographer
RDMS	Registered Diagnostic Medical Sonographer
RMA	Registered Medical Assistant

RN	Registered Nurse
RNA	Registered Nurse Anesthetist
RNA	Registered Nursing Assistant
RNC	Various nursing specialists including Women's Health Care Nurse Practitioner and Neonatal Nurse Practitioner
RNC(INPT)	Inpatient Obstetric Nursing
RNC(LRN) L	Low Risk Neonatal Nursing
RNC(MN)	Maternal Newborn Nursing
RNC(NIC)	Neonatal Intensive Care Nursing
RNC(TNP)	Telephone Nursing Practice
ROUB	Registered Ophthalmic Ultrasound Biometrist
RPFT	Registered Pulmonary Function/Technologist
RPh	Registered Pharmacist
RPT	Registered Physical Therapist or Registered Physiotherapist
RRA	Registered Record Librarian or Registered Records Librarian
RRT	Registered Respiratory Therapist
RT	Respiratory Therapist or Radiological Technologist
RTN(ARRT)	Registered Nuclear Medicine Technologist
RTR(ARRT)	Registered Radiography Technologist
RTT(ARRT)	Registered Radiation Therapist
RVT	Registered Vascular Technologist
S.J.D.	Doctor of Juridical Science
S.M.D.	Doctor of Sacred Music
S.M.M.	Master of Sacred Music
S.T.M.	Master of Sacred Theology
SBB(ASCP)	Specialist in Blood Banking
SC(ASCP)	Specialist in Chemistry
SCT(ASCP)	Specialist in Cytotechnology
SH(ASCP)	Specialist in Hematology
SLS(ASCP)	Specialist in Laboratory Safety
SM(ASCP)	Specialist in Microbiology
SV(ASCP)	Specialist in Virology
SW	Social Worker
Th.D.	Doctor of Theology
Th.M.	Master of Theology
TNCC	Trauma Nursing Core Course
VT	Veterinary Technician

This page intentionally left blank

Index

- abdominal cramps, 164
- acetylsalicylic acid, 37
- acne, 16, 79, 186, 204, 217
- acupoints, 5–9, 22, 151, 152, 212, 233
- acupressure, 5, 6, 145, 148, 151–154, 175
- acupuncture, 1, 5–12, 21–23, 25–27, 42, 44, 45, 135, 138, 151, 153, 173, 175, 176, 203, 213, 231, 232, 260, 287
 - oral, 231, 232
- addiction, 5, 8, 45, 111, 114, 116, 124, 129, 143
- agate, red-orange, 281
- AIDS, 43, 44, 59, 60, 66, 76, 88, 89, 124, 143, 183, 202, 218, 232, 236, 263–266, 292
- alcoholism, 111
- Alexander technique, 148, 149, 155–159, 177
- algae, blue-green, 76
- allergies, 16, 30, 76, 135, 202, 232, 233, 279, 287, 289
- allergy therapies, 32
- aloe vera, 78, 79
- alternative medicine:
 - anecdotal reports of, 39, 135, 219
 - definition of, 194
 - miracle cures in, 294
 - mysticism and, 211
 - scientific review of 55
- Alzheimer's disease, 56, 59, 83, 130, 183, 203, 204, 207, 209, 218, 231, 239, 264
- amethyst, 281
- amylase, 252
- anesthesia, 21, 114, 209
- anger, 9, 26
- angina pectoris, 129
- angiogenesis, 268
- animal magnetism, 113, 285
- anise, 79
- an-mo*, 23
- antineoplastons, 226, 227
- antioxidants, 61, 86
- anxiety, 10, 11, 16, 18, 26, 83, 87, 106, 110, 111, 114, 116, 121, 125, 126, 129, 130, 135, 136, 139, 143, 152, 153, 169, 183, 186, 191, 207–209, 294, 296, 308, 310
- apitherapy, 221–223

Index

- armonica, 213
arnica, 79
aromatherapy, 184–188
Artemisia vulgaris (Chinese mugwort), 22
arthritis, 8, 11, 23, 30, 59, 60, 64, 76, 80, 89, 104, 114, 115, 129, 135, 140, 143, 152, 163, 164, 170, 202, 204, 218, 221–224, 227, 240, 243, 260, 264, 285, 288, 289
 rheumatoid, 163, 221, 222, 224
art therapy, 189–192
aspen, 69
assessment, 310
asthma, 30, 64, 104, 105, 110, 127, 143, 175, 223, 224, 264, 287, 297, 311
Aston patterning, 148
auras, 282, 283, 295–297
autism, 60, 207, 208, 218, 248
Auto Electronic Radioclast, 286
autointoxication, 244, 245
autonomic nervous system, 104, 109, 112, 129
Ayurveda, 13, 14, 15, 17, 18, 19
AZT (azidothymidine), 76

Bach flower remedies, 70, 71
back pain, 44, 129, 153, 158, 159, 221, 223, 227–280
baldness, 274, 275, 285
Barnard, Christiaan, 237
bathhouses, 161, 162
Beard, John, 252
bed-wetting, 114
beech, 70
Beecher, Henry K., 127
bee pollen, 219, 221–223
bee venom, 221, 222
behavioral medicine, 43, 104

Benson, Herbert, 126, 131, 136
Berard, Guy, 212
beta carotene, 61, 62
bioelectric stimulation, 256
Bioenergetics, 149
biofeedback, 43, 104, 106, 109–112, 147
biofield therapies, 309
biological dentistry, 219, 231, 233, 234
biological treatments, alternative, 217, 218
“Biosonic Repatterning,” 212
biotin (vitamin B₇), 57
births, problematic, 44
black boxes, 286
black cohosh extract, 79
“Black Drink,” 37
bladder control, 223
blindness, 292
blood circulation, 152
bloodletting, 17, 29
blood pressure, 82, 83, 86, 89, 94, 98, 99, 104–106, 109, 110, 112, 114, 121, 126, 135, 139, 143, 165, 168, 169, 186, 199, 208, 243
bloodstone, 281
bodywork, 27, 145, 147–149, 153, 155, 170, 176, 177
botanical medicine, 42, 43, 90
bovine cartilage, 267–269
bowel purging, 17
brain injuries, 194, 207, 209
breast cancer, 60, 94, 171, 191, 228, 248, 269, 297
breast-feeding, 94, 95
breathing exercises, 13, 14, 17, 137, 140, 142, 167
bromelain, 79
buckthorn bark, 79

- bulimia, 202
 burns, 79, 83, 161, 162, 164, 165, 287
 bursitis, 164
 Burzynski, Stanislaw, 226
 Byers, Dwight, 174
- cachexia, 229
 Caisse, Renee, 228
 calcium, 50, 57, 58, 62, 94, 95, 203, 240
 Cancell, 227
 cancer,
 - alternative biological treatments for, 217, 218
 - breast, 60, 82, 94, 95, 164, 171, 172, 191, 202, 228, 248, 269, 297
 - colon, 64, 94, 99, 162, 163, 165, 172, 173, 202, 218, 243–246, 255, 257, 263
 - cures for, 51, 67, 89, 217, 219, 229, 286, 288
 - rectal, 58, 83, 171, 202, 244, 256, 269
- capsicum cream, 79
 carbon monoxide poisoning, 265
 cardiac problems, *see* heart disease
 - carpal tunnel syndrome, 164, 278
- cascara, 79, 80
 cat's claw (*una de gata*), 90
 cayenne, 79, 80
 celiac disease, 251
 cell therapy, 219, 235–238
 cellulase, 252
 centaur, 70
 centering, 156, 310
 cerato, 69
 cerebral palsy, 248, 288
 cerebrospinal fluid, 247–249
 chakras, 17, 281
- chamomile, 80
 Chan su, 89
 chanting, 37, 39, 113, 184, 305–308
 Chaparral tea, 88
 Chase, Marian, 194
 chelation therapy, 218, 219, 239–242
 chemotherapy, 26, 49, 73, 78, 80, 85, 153, 191, 225, 253, 255, 257
 cherry plum, 69
chi (ch'i), 3, 8, 21, 176
 chicory, 70
 childbirth 42, 44, 71, 207, 306
 children, 54, 59, 94, 95, 97, 113, 114, 116, 153, 169, 177, 190, 191, 194, 195, 198, 202, 207, 208, 210, 213, 237, 247–249, 300
 Chinese medicine, 1, 3, 5–9, 13, 17, 21–27, 42, 86, 91, 103, 133, 134, 138, 139, 142, 149, 152, 176, 232, 281, 311
 Chinese mugwort (*Artemisia vulgaris*), 22
 chiropractic, 43, 69, 247, 250, 271, 273, 277–280
 cholesterol, 16, 83, 93, 94, 98, 99, 239
 LDL, 98
 Christian Science Church, 291
 chromatotherapy, *see* light therapy
 chromium, 203
 chronic pain, 8, 10, 25, 104, 105, 112, 124, 125, 130, 157, 159, 178, 207, 218, 221, 248, 260, 261, 288
 chronobiology, 201
 cinnamon, 80
 circadian rhythm, 201, 203
 cobalamin (vitamin B₁₂), 94, 97, 225
 coffee, 63, 92, 225, 243–245, 255–257

Index

- coffee enemas, 225, 243, 245,
255–257
- cold-based hydrotherapies, 163
- cold laser surgery, 231, 232
- colds, 30, 53, 76, 81, 82, 85–88, 164,
186, 188, 217, 278
- colon cancer, 94, 99, 202
- colon/detoxification therapies, 64,
215, 243, 245
- colonic irrigation, 162, 163, 165,
243–245
- coltsfoot, 89
- communal healing, 39
- constipation, 10, 16, 76, 80, 135, 243,
245, 257
- Contreras, Ernesto, 255
- copper, 58, 93, 231, 233
- coronary artery disease, 62, 99, 239,
241, 242
see also heart disease
- cortisol, 199
- counseling, 42, 43, 149
- Cousins, Norman, 197, 198, 200
- cranberries, 81
- craniosacral therapy, 215, 247–250
- crystal healing, 271, 273, 276,
281–283
- Cullen, William, 30
- cupping, 7, 22, 23, 25
- cymatic therapy, 213
- cystic fibrosis, 251
- cystitis, interstitial, 227
- cytosine arabinoside, 76
- dance therapy, 181, 184, 193–196
- dandelion, 81
- deafness, 277, 292
- dentistry, biological, 215, 219, 231,
233, 234
- Depolray, 286
- depression, 10, 59, 60, 65, 85, 106,
116, 126, 129, 130, 135, 139, 168,
183, 186, 191, 198, 201, 202, 204,
207, 243, 261, 288, 302
- DES, 54
- detoxification, 64, 215, 225, 243, 244,
255–257
- devas*, 282
- diabetes, 7, 31, 56, 60, 68, 73, 80, 82,
99, 103–105, 143, 165, 171, 172,
202, 228, 287
- diarrhea, 30, 76, 80, 84, 86, 87, 217
- dietary supplements, 47, 49–51, 53,
55–57, 59, 60, 62, 75, 82, 255,
269
- diets, dietary remedies 14, 43, 45,
49–51, 59–63, 83, 94, 95, 97–100,
114, 218, 257
regulation of, 12, 19, 53–56, 268,
286
- digestive-tract discomfort, 129
- digitalis, 84
- distress, 5, 10, 67, 105, 129, 151,
191
- DMSO (dimethyl sulfoxide), 227,
228
- Doctrine of Signatures, 73, 81
- doshas*, 15–18
- Dossey, Larry, 301
- double-blind studies, 128, 301
- Down's syndrome, 236, 237
- drug abuse, *see* addiction
- ear, electronic, 212
- Ears Education and Retraining System
(EERS), 212
- eating disorders, 194
- echinacea, 81, 82, 228
- EDTA (ethylene diamine, tetraacetic
acid), 219, 239–241
- effleurage, 168

- elderly, 25, 61, 83, 86, 95, 133, 137, 139, 140, 169, 195, 198, 207, 209, 302
- electroacupuncture, 7
- electrocardiogram (EKG; ECG), 286
- electroconvulsive therapy, 288
- electrodermal activity (EDA), 110
- electro-encephalogram (EEG), 286
- electromagnetic therapies, 271, 274, 285, 287–289
- electromyography (EMG), 110
- electronic ear, 212
- Electron-O-Ray, 286
- Elixir Sulfanilamide, 54, 55
- Ellis Micro-Dynameter, 287
- elm, 70, 87, 228
- endorphins, 199
- enemas, 64, 225, 243, 245, 255–257, 265
 - coffee, 63, 92, 225, 243, 244, 255–257
 - shark cartilage, 268–270
- energy flow, 24, 133, 134, 153, 174, 175, 203, 232, 259, 260, 279, 310
- entrainment, 208
- enzyme therapy, 215, 219, 251–253
- ephedra (*Ma huang*), 82, 89
- epilepsy, 231, 233, 279, 285
- essential oils, 185–188
- Essiac, 89, 219, 228
- eucalyptus, 82, 185, 186
- external *qigong*, 23, 134
- eyesight, 222
- faith healing, 291–294
- fascia, 148, 177, 178
- fasting, 38, 49, 51, 63–66, 306
- fat, 49–51, 54, 57, 58, 62, 64, 93–95, 97, 99, 218, 222, 226, 244, 252
 - saturated, 50, 99
 - unsaturated, 99
- fat-soluble vitamins 57
- Feldenkrais method, 149
- fertility, 3, 124, 260, 299
- fever, 30, 32, 83, 84, 162, 167, 170, 197, 252, 311
- feverfew, 83
- fight-or-flight response, 104, 105
- finger pulse feedback, 110
- Fitzgerald, William, 173
- five elements, Chinese, 4, 9, 24
- flower remedies, 67–71
- fluoride, 57, 232
- flushed, 32, 244
- folic acid (folate; vitamin B₉), 61, 62, 233
- Food and Drug Administration (FDA), 25, 33, 53, 59, 62, 75, 80, 82, 253, 286, 287
- food pyramid guide, 57
- Frazer, James George, 193
- friction, 168, 169
- gangrene, 237, 240, 265
- garlic, 62, 83, 227
- Gattefosse, Rene, 185
- Gaucher's disease, 251
- gentian, 69
- Gerson Clinic, 255
- Gerson diet, 225, 256, 257
- ginger, 83
- ginkgo, 83
- ginseng, 25, 26, 83, 84, 89
- Gold, Joseph, 228
- goldenseal, 84
- Gonzalez, Nicholas, 255

Index

- gorse, 69
- gout, 223, 285
- grape diet, 49
- green tea, 84, 85
- guided imagery, 120, 121
- gum infections, 287

- Hahnemann, Samuel, 29
- hair loss, 203, 204, 222
- hatha yoga, 141–143
- hay fever, 252
- headaches, 11, 44, 83, 110–112, 135, 143, 153, 162, 164, 168, 175, 186, 188, 202, 222, 232, 280, 310, 311
 - migraine, 44, 83, 110–112, 114, 135, 143, 187, 221, 222, 260
- healing touch, 169
- heart disease, 31, 45, 50, 56, 61, 62, 64, 82, 94, 95, 99, 104–106, 124, 126, 129, 135, 143, 165, 169, 170, 172, 218, 231, 241–243, 260, 264, 267, 279, 281, 287
- heat-based hydrotherapies, 163
- heather, 70
- heliotrope, 281
- Hellerwork, 149
- hemorrhoids, 16, 87, 88, 135, 164, 245, 260
- hepatitis, 80, 89, 217, 265
- herbal remedies, 5, 22, 25, 26, 35–37, 47, 74–79, 85, 89, 90
 - regulation of, 12, 19, 53–56, 268, 286
- high blood pressure, 86, 99, 104, 112, 139, 165, 168, 243
- Hippocrates, 30, 49, 169
- HIV, 143, 217, 228, 265
 - see also* AIDS
- hives, 88, 164, 221, 222

- hollow organs 9
- holly, 70, 286
- homeopathy, 29–34, 42, 45, 231
- homeostasis, 14, 174, 279
- honey, raw, 221 222
- honeysuckle, 69
- horse chestnut, 85
- horseradish, 85
- hot tubs, 162, 165
- Howell, Edward, 251
- humor therapy, 197, 198
- Huneke phenomenon, 259
- hydrazine sulfate, 228, 229
- hydrogen peroxide (H₂O₂), 229, 263–266
- hydrotherapy, 42, 145, 148, 161–163, 165, 243, 246
- hypericum (St. John’s wort), 85
- hypertension, 18, 84, 101, 104, 110, 111, 124, 126, 135, 288
- hypnosis, hypnotherapy 42, 101, 104, 106, 113–117, 120, 123, 147, 285

- Iceland moss, 85
- imagery, 106, 119, 120, 122
- immune rejection reaction, 235, 236
- impotence, 202, 236
- incontinence, urinary, 111, 112
- indigestion, 59, 186
- infants, 54, 94, 95, 147, 190, 206, 247, 248
- inflammation, acute, 170
- Infratonic QGM, 212
- Ingham, Eunice, 174
- insect stings, 164
- insect venom, 221
- insomnia, 135, 153, 164, 168, 186, 233, 288
- inspection, 16, 253
- interference field, 259, 260

- internal *qigong*, 23, 133, 134
 interstitial cystitis, 227
 iodine, 76
 I-ON-A-CO 286
 iridology, 91, 92, 173
 iron, 65, 76
 irrigation, colonic, 162, 163, 165,
 243–245, 255, 263
 irritable bowel syndrome, 164
 isolation, 195, 196, 206, 208

 jaundice, 81, 170, 203
Jin Bu Huan, 89
 juice therapies, 63
 juniper, 86

Kapha, 15, 16
 Kelley, William Donald, 255
 kidneys, 65
 kidney stones, 183
 Kirlian photography, 274, 295–297
 kivas, 40
 kombucha, 89
 Krieger, Delores, 309
 Kunz, Dora, 309
 Kushi, Michio, 91

 lactic acid, 126, 169
 lacto-ovovegetarian, 97
 lactovegetarian, 97
 Laetrile, 159
 Lane, I. William, 268
 Lao-tzu, 21
 laryngitis, 164
 laser surgery, cold, 231, 232
 “Laughmobile”, 198
 lavender oil, 86, 185
 laying on of hands, 309
 LDL cholesterol, 98
 lead poisoning, 89, 218, 240

 lemon, 186
 leukemia, 73, 116, 191
 licorice, 79, 86
 light boxes, 202, 204
 light therapy, 183, 201–204
 limbic system, 187
 Ling, Per Henrik, 167
 lipase, 252
 liver, 9, 24, 25, 65, 79, 81, 84, 86, 88,
 89, 148, 186, 203, 225, 226, 236,
 256, 260
 lobelia, 89
 lodestones, 285
 loneliness, 67, 69, 191, 195
 Lourdes, 292, 294
 Lowen, Alexander, 149
 lungs, 9, 16, 17, 157

 macrobiotics 47, 49
 magnesium, 57, 233
 magnetic pulse generator, 288
 magnetic resonance imaging (MRI),
 10, 289
 Mahesh Yogi, Maharishi, 125
Ma huang (ephedra), 82, 89
 malachite, 281
 malaria, 30, 217
 malillumination, 203
 Manner, Harold, 255
 mantras, 212
 massage, 5, 14, 22, 23, 26, 43, 145,
 147–149, 151, 158, 162, 167–170,
 174, 176, 179, 185, 186, 188, 199,
 244, 247
 medicine wheel gatherings, 306
 meditation, 14, 18, 22, 23, 26, 101,
 104, 106, 110, 112, 120, 123–126,
 131, 134–137, 140, 142, 147, 208,
 213, 256
 Transcendental, 14, 125

Index

- megadoses, 51, 60, 62
megavitamin therapy, 60
melancholy, 285
memory, 31, 33, 59, 83, 114, 119,
187, 190, 194, 203, 222, 233, 237,
240, 288, 289
memory loss, 222, 233
menopause, 44, 70, 98
menstrual cramps, 153, 164
menstrual synchrony, 187
menstruation, 164
mental illness, 59, 107, 207, 218,
296
mentally handicapped children, 195
Mentastics, 149
mercury toxicity, 233
meridians, 9–11, 22, 133, 135, 149,
151, 152, 203, 281
twelve main, 6–8
Mesmer, Franz, 113, 285
metabolic therapies, 219, 255, 257
metabolism, 16, 65, 104, 225, 289
microwave resonance therapy, 288
migraines, 114, 187, 221
milk thistle, 86
mind-body medicine, 104, 106, 128,
147
mind-body therapies, 101, 107, 147
minerals, 29, 31, 55, 57, 60–62, 161,
222, 234, 239, 255, 275, 282, 285
mistletoe, 89
motion sickness, 153
mouth balancing, 232
moxibustion, 7, 22, 25
mucoid-forming foods, 244
multiple sclerosis, 221, 223, 239, 252
muscle aches, 80, 88, 164
music therapy, 181, 184, 205–210
mustard, 69, 88
myotherapy, 149
Naessens, Gaston, 229, 230
National Cancer Institute, 58, 76, 77,
225, 228, 257, 266, 269
National Institutes of Health (NIH),
59, 62, 100, 234, 241, 266, 269
Office of Alternative Medicine of,
249
Native American healing, 35, 36, 38,
39, 113, 206
“natural”, 5, 14, 16, 17, 37, 41, 42,
44, 46, 49, 51, 74, 76, 77, 87, 91,
93, 98, 123, 130, 149, 151, 158,
161, 167, 183, 185, 199, 202–204,
213, 218, 232–244, 256, 273, 293,
294
naturopathic medicine, 41, 44–46
nausea, 10, 65, 79, 80, 83, 87, 129,
152–154, 217
nettle, 86
neuralgia, 232
neural therapy, 219, 231, 232,
259–261
niacin (vitamin B₃), 60
Niehans, Paul, 235, 237
nocebo response, 129, 130
nonlocal medicine, 301
Norman, Laura, 174
nutritional supplements, 59, 225, 233,
256, 257, 277
nutritional therapies, 42
obesity, 16, 50, 99, 105, 152, 171,
172
Ohsawa, George, 91
olfactory bulb, 187
olive, 69
oral acupuncture, 231, 232
Ornish, Dean, 143
orthomolecular therapy, 60
osteoarthritis, 163

- osteopathic medicine, 247, 278
osteoporosis, 58, 59, 62, 267–269
overeating, 115
over-the-counter (OTC) drugs, 51, 55, 74–76
oxygen therapies, 219, 229, 263–266
ozone therapy, 43, 263–265
- pain, 162, 205, 212
back, *see* back pain
chronic, 8, 10, 23, 25, 30, 32, 44, 50, 65, 84, 85, 87, 104–107, 110, 112, 114, 115, 124, 125, 129, 130, 143, 153, 154, 157–159, 170, 175, 178, 190, 191, 207, 218, 221, 231, 248, 260, 261, 264, 267, 280, 288, 289
Palmer, D. D., 277–279
palming, 120
palpation, 16, 278
pantothenic acid (vitamin B₅), 57
Paracelsus, 30, 285
Parkinson's disease, 209
parsley, 86
past lives, 282, 283
Patanjali, 142
Pau D'Arco tea, 89
Pauling, Linus, 60
pennyroyal, 89
peppermint, 86, 186
PET (positron emission tomography), 121
petrissage, 168
Petrov, Ivan, 259
pharmacognosy, 74, 79
pheromones, 187
phlebitis, 170
phosphorus, 57, 58
phrenology, 173
physical medicine, 42, 43
phytomedicine, 49
pine, 70
Pitta, 15, 16
placebo effect, 127–131, 292–294, 308
plantains tea, 87
PMS (premenstrual syndrome), 76, 85, 86, 186, 222, 223
pneumonia, 25, 60
polarity therapy, 149
positron emission tomography (PET), 121
postmenopausal women, 59
potassium, 86, 225, 227, 256, 257
prana, 3, 142, 176, 311
prayer, 13, 36–38, 64, 125, 256, 274, 275, 291–293, 299–303
pregnancy, 54, 164
premature babies, 208
premenstrual syndrome (PMS), 76, 85, 222, 223
propolis, 221
prostate, 44, 86, 87, 135, 260, 279
protease, 252
protein, 64, 65, 94, 95, 98, 222, 226, 251–253, 268
Proving, Law of, 29
psoriasis, 202, 239
psychic surgery, 307
pulse taking, 17, 24
purging, 17, 29, 35–37
purification, 14, 17, 32, 36, 217, 243
pyridoxine (vitamin B₆), 58
- qi*, 3, 6, 8, 9, 11, 21–25, 106, 131, 133–138, 140, 142, 149, 152, 176, 311
qigong, 8, 22, 23, 25, 26, 106, 131, 133–138, 212, 309

Index

- quartz crystal, 276
- questioning, 14, 16, 32
- quinine, 30

- radiation therapy, 78, 80, 289
- Randi, James, 293
- raw-food vegetarianism, 97
- Raynaud's disease, 110–112
- reflexology, 148, 167, 173–176
- reflex points, 174–176
- regulatory issues, 53
- Reiki, 309
- relaxation response, 106, 125, 126, 136, 208, 302
- respiration feedback, 110
- Reston, James, 21
- rheumatic pain, 168
- rheumatoid arthritis, 163, 221, 222, 224
- riboflavin (vitamin B₂), 94
- rituals, 35–37, 40, 193, 206, 281, 300, 305
- rock rose, 69
- Rolfing (structural integration), 148, 149, 177–179
- root canals, 207, 233, 265
- rose, 69, 70, 185, 186
- rosemary, 186
- Rosen method, 149
- royal jelly, 221, 223
- Rubinfeld synergy, 149

- SAD (seasonal affective disorder), 183, 202
- St. John's wort (hypericum), 85
- salicin, 37
- sand paintings, 37
- saturated fat, 50, 99
- saunas, 161, 162
- saw palmetto, 44, 87

- schizophrenia, 60, 107
- scleroderma, 227
- scurvy, 51
- seasonal affective disorder (SAD), 183, 202
- selenium, 57, 233
- self-esteem, 126, 139, 189–191, 195
- self-limiting illnesses, 23, 33
- senna, 87
- 714-X, 229, 230
- shamans, 3, 35, 37–39, 76, 123, 275, 305–307
- shark cartilage, 268–270
- Sheridan, James, 227
- shiatsu, 149, 151
- “Siberian ginseng”, 89
- Similar, Law of, 29, 30, 32
- Simonton method, 120, 121
- sinusitis, 231, 232
- sitz bath, 162, 164
- skin disorders, 105, 130, 186
- sleep difficulties, 76
- slippery elm, 87, 228
- smoking, 105, 114–116
- smoky quartz, 281
- sodium, 51, 86, 217, 227, 256, 257
- sonopuncture, 212
- sore throats, 252
- sound tapes, 211
- sound therapies, 183, 213
- soy, soybeans, 62, 92–94, 98
- spas, 36, 43, 161, 162, 165, 169, 238, 243
- spinal cord injuries, 287
- Spiro, Howard, 131
- spleen, 9, 25
- spontaneous remission, 292, 294
- steam baths, 36
- Stone, Randolph, 149

- stress, 5, 11, 13, 16, 43, 44, 67, 70, 71, 73, 83, 98, 103–107, 111, 113–115, 120, 124–126, 129, 136, 139–141, 143, 147, 151, 152, 157, 162, 164, 167, 168, 170, 175, 176, 178, 186, 188, 190, 191, 195, 199, 200, 208, 211, 212, 214, 247–249, 264, 283, 285, 303, 308, 310, 311
- strokes, 168, 273
- structural integration (Rolfing), 148, 149, 177–179
- subluxation, 277, 279
- sulfá, 54, 228, 229
- sunburn, 79, 88, 164
- Sun Dance, 37
- surgery
 - cold laser, 203, 231, 232
 - knee or hip, 163
 - psychic, 307
- Sutherland, William G., 247
- sweat lodges, 36, 39, 40
- Swedish massage, 167, 168
- symbolic healing rituals, 37
- tai chi, 6, 23, 106, 131, 133, 137–140, 309
- Tao-Tè-Ching*, 139
- tapes, sound, 211
- tapotement, 168
- Taxol, 76, 77
- temporomandibular joint syndrome (TMJ), 232
- thalidomide, 54, 55
- therapeutic touch, 271, 274, 309–312
- thermal biofeedback, 110
- thrombosis, 170
- Tibetan medicine, 4
- Tomatis, Alfred A., 212, 214
- tongue, 13, 17, 25, 68, 173, 279
- toning, 212
- trace memory, 31, 288
- trace minerals, 57
- Trager Psychophysical Integration (Tragerwork), 149
- Transcendental Meditation (TM), 14, 125
- transferring, 310
- trepanation, 4
- trigger points, 149, 260
- tuberculosis, 103, 292
- tuina*, 23
- ulcers, 16, 64, 86, 87, 103, 127, 252, 287, 288
- ultrasound, 183, 212
- ultraviolet light therapy, 202
- unruffling, 310
- unsaturated fat, 99
- Upledger, John, 247, 249
- urinary incontinence, 111, 112
- valerian, 87
- vascular disease, 84, 86, 139, 165
- Vata*, 15, 16
- Vedas, 13
- vegans, 97
- vegetarianism, 47, 49, 97, 99
- vetivert, 186
- vibration, 93, 168, 211, 212, 281, 286
- vinca rosea*, 73
- vine, 70
- viral illnesses, 252
- vision quests, 38, 39
- visual art therapy, 189
- visual images, 14, 190
- vitamin A, 57, 60, 61
- vitamin B₂ (riboflavin), 94
- vitamin B₃ (niacin), 60
- vitamin B₅ (pantothenic acid), 57
- vitamin B₆ (pyridoxine), 58

Index

- vitamin B₇ (biotin), 57
- vitamin B₉ (folic acid; folate), 61, 62, 233
- vitamin B₁₂ (cobalamin), 94, 97, 225
- vitamin C (ascorbic acid), 51, 58, 60, 197
- vitamin D, 50, 51, 57–59, 61, 62, 97, 201, 203
- vitamin E, 58
- vitamins, 42, 49–51, 55, 57–62, 75, 94, 95, 222, 233, 240, 255
- volatile mustard oil, 88
- vomiting, 17, 30, 37, 80, 83, 129, 153, 217
 - induced, 17, 30, 37, 103, 113, 115, 153, 157, 256, 306, 307
- voodoo death, 129

- walnut, 70, 228
- Warburg, Otto, 264, 265
- warts, 81, 114
- watercress, 228
- water-soluble vitamins, 58

- water violet, 69
- whirlpool baths, 162
- white-coat hypertension, 104
- white sound, 211
- wild rose, 69
- willow, 37, 70, 88
- willow tea, 37
- Wilshire, Gaylord, 286
- wintergreen oil, 88
- witch hazel, 88

- X-rays, 42, 274, 277, 278, 289, 297

- Yellow Emperor's Classic of Internal Medicine, The*, 167
- yew tree, 77
- yin-yang principle, 91
- yoga, 14, 17, 106, 110, 112, 125, 126, 131, 141–144, 177, 311
- yohimbe bark, 89
- Yuwipi, 38

- zinc, 57, 58, 231, 233