✓Treatments *That Work*™

Hypnosis for Chronic Pain Management

Therapist Guide

Mark P. Jensen

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About Treatments *ThatWork*™

Stunning developments in healthcare have taken place over the past several years, but many of our widely accepted interventions and strategies in mental health and behavioral medicine have been brought into question by research evidence as not only lacking benefit, but perhaps inducing harm. Other strategies have been proven effective using the best current standards of evidence, resulting in broad-based recommendations to make these practices more available to the public. Several recent developments are behind this revolution. First, we have arrived at a much deeper understanding of pathology, both psychological and physical, which has led to the development of new, more precisely targeted interventions. Second, our research methodologies have improved substantially, such that we have reduced threats to internal and external validity, making the outcomes more directly applicable to clinical situations. Third, governments around the world and healthcare systems and policymakers have decided that the quality of care should improve, that it should be evidence-based, and that it is in the public's interest to ensure that this happens (Barlow, 2004; Institute of Medicine, 2001).

Of course, the major stumbling block for clinicians everywhere is the accessibility of newly developed evidence-based psychological interventions. Workshops and books can go only so far in acquainting responsible and conscientious practitioners with the latest behavioral healthcare practices and their applicability to individual patients. This new series, Treatments *ThatWork*™, is devoted to communicating these exciting new interventions to clinicians on the front lines of practice.

The manuals and workbooks in this series contain step-by-step detailed procedures for assessing and treating specific problems and diagnoses. But this series also goes beyond the books and manuals by providing ancillary materials that will approximate the supervisory process in

assisting practitioners in the implementation of these procedures in their practice.

In our emerging healthcare system, the growing consensus is that evidence-based practice offers the most responsible course of action for the mental health professional. All behavioral healthcare clinicians deeply desire to provide the best possible care for their patients. In this series, our aim is to close the dissemination and information gap and make that possible.

This unique therapist guide is written for clinicians who treat patients with chronic pain who wish to incorporate hypnosis and hypnotic procedures into their treatment protocols. Chronic pain is common and research has shown that hypnosis treatments are effective for reducing daily pain intensity in individuals with chronic pain, whether they suffer from headaches, back pain, nerve damage, or pain caused by disability, trauma, or accident.

Organized into three parts, this guide is written for a wide audience including clinicians who know about pain but not about hypnosis, clinicians who know about hypnosis but not how to apply it to pain, and newly trained clinicians who do not yet have extensive experience using hypnosis or treating patients with chronic pain.

Part I presents introductory information about pain and the biology of pain. Part II defines hypnosis and describes its history, and summarizes the findings from research examining the effects of hypnosis on pain. Part III is the "how to" section of the guide and provides instruction on how to perform hypnosis treatment.

David H. Barlow, Editor-in-Chief,
Treatments *That Work*™
Boston, MA

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This book is dedicated with deep love and affection to my wife,
Lisa, and our son, Devin.

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David R. Patterson's feedback, based on his deep knowledge of the field of hypnosis and hypnotic analgesia, was particularly helpful for ensuring that the guide provided recommendations that are clinically useful, practical, and consistent with current scientific knowledge. Lisa C. Murphy provided needed editorial assistance to help keep the writing pithy and clear. Finally, Maureen Peirce, a clinical psychologist, read an earlier version of the guide from the perspective of a pain clinician who is new to hypnosis, and helped to identify sections where additional or clarifying information was warranted.

Anna Smith provided invaluable assistance by transcribing some of the hypnotic scripts that are provided on the web as a resource to readers, formatting and organizing the citations, obtaining permission for the copyrighted material that is in the guidebook, and organizing and formatting the appendices.

A number of master clinicians also contributed hypnotic scripts that they have developed and have found particularly helpful in their work: Assen Alladin, Arreed Barabasz, Joseph Barber, Antonio Capafons,

Basil Finer, Guy H. Montgomery, David R. Patterson, and Michael Yapko. The scripts that they so generously provided will allow the reader a glimpse into the many possible "voices" of effective hypnosis.

The book could also not have been written without the financial support for the clinical research studies that underlie the hypnotic protocols described. Funding from the National Institutes of Health, the Department of Education, the Paralyzed Veterans of America, and the National Multiple Sclerosis Society, in particular, was key to building an understanding of the effects and efficacy of self-hypnosis training.

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Contents

Introduction

Who Should Read this Therapist Guide

Controlled trials published over the past two decades confirm that hypnosis treatments are effective for reducing daily pain intensity in individuals with chronic pain. Evidence also indicates that hypnotic procedures can enhance the efficacy of other treatments, such as cognitive behavior therapy. Based on these findings, clinicians who treat patients with chronic pain should consider incorporating hypnosis and hypnotic procedures into their treatment protocols.

This guide is written for clinicians who are interested in doing just that. It provides step-by-step instructions for providing hypnotic inductions and making hypnotic suggestions. Hypnosis can, and often should, be used to address the many goals of chronic pain treatment, including pain reduction, increased activity level, improved mood, and improved sleep quality. The procedures described in the guide are based on treatment protocols that have been used in clinical trials, and they have empirical support for their efficacy (Jensen et al., 2008; Jensen, Barber, Romano, Hanley et al., 2009; Jensen, Barber, Romano, Molton et al., 2009; Jensen et al., 2005; Jensen et al., 2006).

The guide is intended for three primary audiences: (1) clinicians who may have a great deal of knowledge about pain and its treatment, but have limited knowledge about the use of hypnosis; (2) clinicians who may have a great deal of knowledge about hypnosis, but have limited knowledge about pain and the application of hypnotic procedures to pain and activity management; and (3) newly trained clinicians who do not yet have extensive experience using hypnosis or treating patients

with chronic pain. Thus, the guide does not assume that the reader has a broad knowledge of either hypnosis or pain treatment.

Organization of the Guide

This guide is divided into three parts. Part I is written for clinicians who may have limited knowledge about chronic pain. It provides state-of-the-science information about the biological basis of pain (Chapter 1) and psychological factors that influence pain (Chapter 2), focusing on information that would be most relevant to clinicians who plan to use hypnosis. Part II, comprising Chapters 3 and 4, is written for clinicians with limited knowledge of hypnosis. Chapter 3 provides a summary of the history of hypnosis and a discussion of different theoretical models of hypnosis. Chapter 4 summarizes the findings from research examining the effects of hypnosis on pain-related brain activity, and the results of clinical trials that have examined the efficacy of hypnosis on chronic pain.

Part III is the "how to" portion of the guide and discusses, in order: (1) how to perform a thorough psychological evaluation and prepare the patient for hypnosis treatment (Chapter 5); (2) issues to consider when designing a treatment program that includes or incorporates hypnotic procedures (Chapter 6); (3) basic hypnotic inductions (Chapter 7); (4) hypnotic suggestions for pain and symptom management (Chapter 8); (5) hypnotic suggestions for thought and mood management (Chapter 9); (6) hypnotic suggestions for behavior, activity, and sleep management (Chapter 10); and (7) post-hypnotic suggestions for extending the benefits of the hypnotic session into the patient's day-to-day life (Chapter 11). Chapter 12 provides a summary of the entire guide and discusses how to provide hypnotic procedures in the context of a multi-session treatment plan.

Two appendices provide additional supplemental information that will likely be helpful to the practicing clinician. The first lists specific interview questions that assess key psychosocial factors that can contribute to pain. These questions are useful during an initial clinical interview. The second presents information about standardized measures that may be used to supplement information obtained during the clinical interview.

Interested readers can also access additional hypnotic scripts for helping patients manage pain and other symptoms, as well as for reducing the negative effects of pain on quality of life. These additional scripts were generously provided by a number of master clinicians working in the field today. They can be accessed via the website www.oup.com/us/ttw by clicking on the "downloadable tools" link.

There is also a patient workbook that serves as a companion to this therapist guide (Jensen, 2011). The patient workbook provides much of the same information about pain and hypnosis presented in this guide, although it is written to be accessible to someone without clinical training. The patient workbook is designed to prepare patients for hypnosis by establishing both hope and realistic expectations for hypnotic treatment, and by answering common questions about hypnosis.

Although the information provided in this guide is enough for clinicians to get started using hypnosis in their practice, it should be considered a beginning. Clinicians who are interested in obtaining advanced knowledge and skills in hypnosis should consider registering for in-person training from one of the two prominent hypnosis societies:

- The Society of Clinical and Experimental Hypnosis (SCEH: www.sceh.us)
- The American Society of Clinical Hypnosis (ASCH: www.asch.net)

With additional training and experience, clinicians will find that they are increasingly comfortable using and incorporating hypnotic procedures—to the benefit of their patients.

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Part I: Understanding Pain

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Chapter 1 *The Biological Basis of Pain*

(Corresponds to Chapter 1 of the Workbook)

Clinicians who plan to use hypnosis for treating chronic pain should have a good understanding of pain neurophysiology for two important reasons. First, such an understanding allows the clinician to better explain the biological basis of pain to patients. The more patients understand how the brain creates the experience of pain, the more likely they are to be interested in treatments, like hypnosis, that can influence this activity. Second, research has demonstrated that many areas of the brain are involved in the pain experience, and that hypnosis can influence activity in all of these areas (the findings from much of this research are summarized in Chapter 4). As we currently understand it, each person's pain experience is a unique combination of influences from various brain areas. Rather than using one or a select few hypnotic suggestions, clinicians should seek to understand the biological and neurophysiologic processes that might be contributing to the pain of a particular patient, and then use treatments and suggestions that target those specific processes. Alternatively, if the clinician is not sure which nervous system structures are most important to a patient's pain problem, he or she should systematically provide treatments and hypnotic suggestions that address activity in *all* of the possible areas in order to maximize the possibility of a successful outcome. It is useful, therefore, for clinicians to think in terms of *where* in the nervous system they wish to intervene to be most helpful. To do this, they need to know the areas involved and the role that each plays.

In addition to knowing about the neurophysiology of pain, clinicians should have a working knowledge of different pain diagnoses and the treatments that are indicated for each. Understanding how chronic pain is classified, and the interventions that can benefit patients with each type of pain, is critical when developing treatment plans.

This chapter provides the pain clinician with a brief overview of the basic information about (1) pain neurophysiology and (2) chronic pain classifications. Although the summary provided in this chapter covers the most important and basic information about pain neurophysiology, it is also necessarily brief. The reader interested in greater detail should read several of the many excellent primary sources for the material presented here (Apkarian et al., 2005; Byers & Bonica, 2001; Craig, 2003; DeLeo, 2006; Rainville, 2002; Terman & Bonica, 2001).

An Overview of the Neurophysiology of Pain

The nervous system is broadly divided into two areas: (1) the peripheral nervous system, which enervates all of the body areas outside of the brain and spinal cord and (2) the central nervous system, which includes the nerves and structures within the spinal cord and brain. The central nervous system is further divided into the spine and supraspine (above the spine [i.e., brain]) areas. Activity in all of these areas can contribute to the experience of pain. In addition to specific areas or nervous system structures that are involved in the processing of pain, there are two general neurophysiologic processes that play an important role in chronic pain: (1) global activation and (2) plasticity.

Nervous System Areas Involved in the Experience of Pain

In the 1600s, the French philosopher René Descartes argued that pain is a simple reflexive response to physical damage. In his model, information about physical damage detected by sensors in the skin is transmitted directly through a specific set of nerves to the spine. These nerves then send a signal up the spine to a "pain center" in the brain. Descartes viewed the brain as a passive recipient of sensory information traveling along these nerves. According to his model, "real" pain should be directly related to the amount of physical damage "causing" the pain. Among clinicians who believe in this model, patients who complain of pain but for whom no clear physical damage is apparent are suspected of exaggerating. Their pain is not considered "real," and they tend to be at best ignored, and at worst insulted, by healthcare professionals. Descartes' model of pain

(subsequently called the *specificity theory* of pain) remained the generally accepted view of scientists and healthcare providers for 300 years.

Beginning with the publication of the gate control theory of pain in 1965 (Melzack & Wall, 1965), knowledgeable pain researchers and clinicians came to understand that activity in *both* the peripheral and central nervous systems influences the experience of pain. We now know that the brain is not merely a passive recipient of nociceptive information; rather, neurons in the spinal cord and brain actively process and modulate that information. Also, there is no "pain center" in the brain. Instead, multiple integrated pain networks work together to contribute to the global experience of pain.

Peripheral Mechanisms

All bodily tissues outside of the brain and spinal cord (i.e., in the periphery) are innervated by receptors that respond to physical injury. These receptors are classified according to the type of nerve fibers to which they connect. The nerve fibers that transmit most of the information about physical damage are of two types: (1) thin C fibers (thin because they do not have a myelin sheath covering them, which also makes them transmit information more slowly) and (2) thicker, myelinated, and therefore faster, A-delta fibers. A third type of fiber, A-beta, normally carries information related to touch, but can also transmit information that contributes to the experience of pain (Fig. 1.1).

The stimulation or damage that excites these receptors, and the information about this stimulation transmitted along the C, A-delta, and A-beta fibers, is not pain. Pain is not experienced until certain structures and networks in the brain become activated. Rather, the information from nerve receptors that communicate potential or actual physical damage is called *nociception* (from the Latin *nocere*, which means harm or injury); the receptors that trigger this information are called *nociceptors*. *Nociceptors can be more or less sensitized and therefore respond differently at different times to the same amount of stimulation or damage.* The mechanical and chemical changes that sensitize or inhibit nociceptors are very complex and are influenced by many factors.

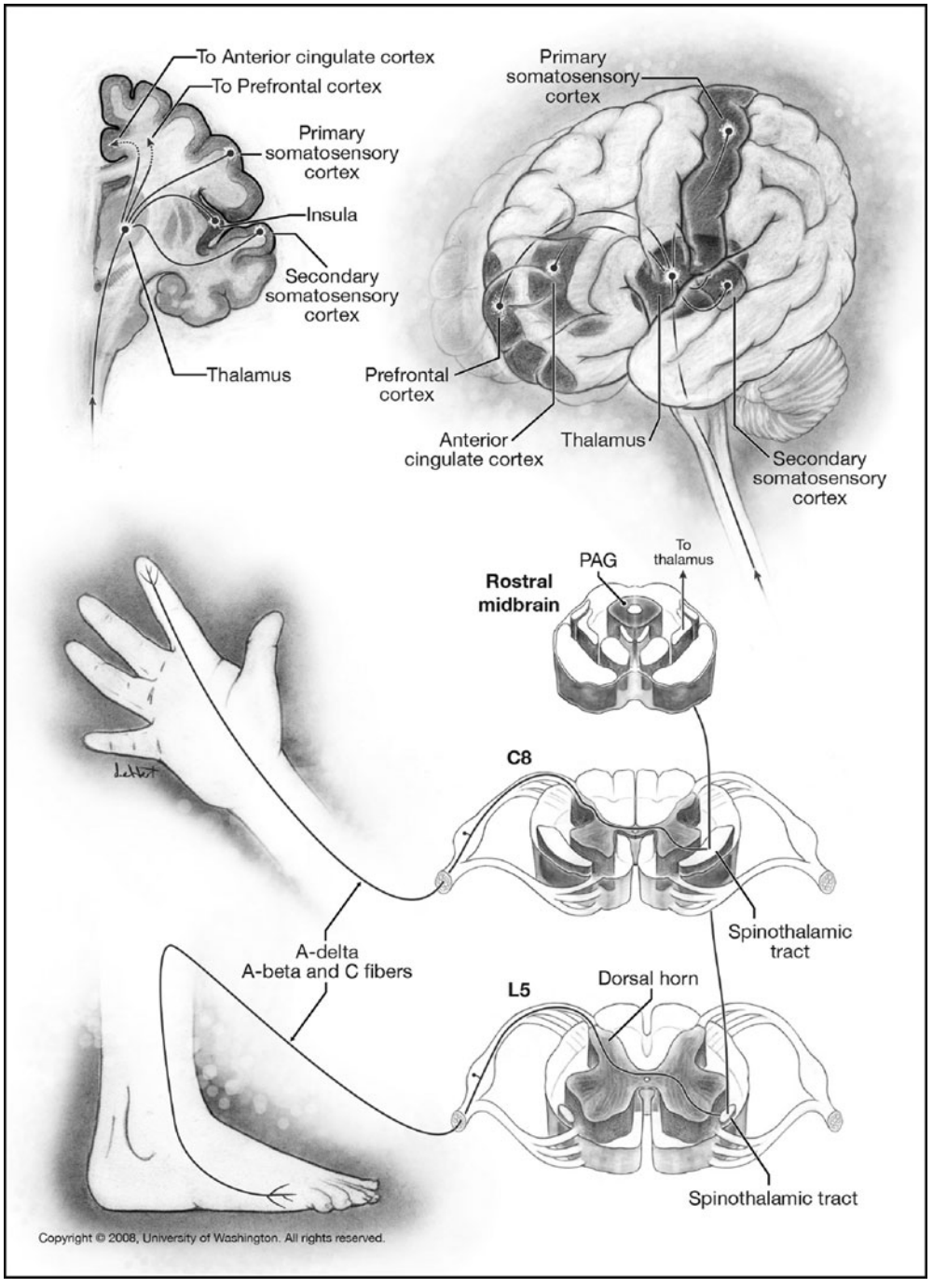

Figure 1.1

Primary peripheral and central nervous system components involved in the experience of pain

Spinal Mechanisms

The fibers that communicate nociceptive information from the periphery to the central nervous system, including C, A-delta, and A-beta fibers, enter the spine at the dorsal horn (see Fig. 1.1). These fibers end there, and connect with nerves that send information up the spine and into the brain. Most of the nerves in the spine send information to the thalamus, which is the primary relay station in the brain. This "information highway," sending information through the spine and to the thalamus, is called the spinothalamic tract (STT). The STT is the most important (but not the only) pathway for the transmission of nociceptive information to the brain.

The relative responsivity of STT neurons to nociception is influenced by activity coming *down* the spinal cord to the dorsal horn from the brain; the brain is able to make the STT cells less responsive to nociception. Some of the first evidence for the ability of the brain to alter the amount of nociception it processes came from research showing that electrical stimulation of the periaqueductal gray (PAG; see Fig. 1.1) area in the midbrain resulted in significant analgesia. Moreover, the PAG itself receives significant input from a number of brain areas, including the insula, the anterior cingulate cortex, and the sensory cortex, all areas known to be involved in the processing of pain, as discussed below. *In short, our brains are hardwired to have the ability to inhibit pain information coming from the periphery.*

Supraspinal (Above the Spine) Mechanisms

Although the discussion so far has focused on peripheral and spinal mechanisms of nociception, it is important to keep in mind that the activation of nociceptors and neurons in the STT is neither necessary nor sufficient to produce the perception of pain. *Pain is perceived when complex integrated cortical (supraspinal) systems are engaged.* This can occur with or without the presence of nociception, and the same amount of nociception can be associated with vastly different levels of pain in two different people, depending on what their brains do with

that nociception. Thus, when the brain systems that create pain ("pain matrix") are disengaged or interrupted, pain relief ensues.

A number of supraspinal sites have been shown to be involved in the perception of pain, but the areas that are most important are the thalamus, the primary and secondary somatosensory cortices (S1 and S2), the anterior cingulate cortex, the insula, and the prefrontal cortex (see Fig. 1.1). These brain areas and structures work closely together in an integrated fashion to produce the experience we label as pain.

Thalamus

The thalamus is located just above the brain stem. As mentioned earlier, it can be viewed as the brain's primary relay center, transmitting sensory information from the periphery and spinal cord to various sites in the cortex. The STT neurons originating in the dorsal horns of the spinal cord terminate in a number of different areas of the thalamus, each of which then projects further to various brain areas, including (1) the primary and secondary sensory cortices (S1, S2), (2) the insula, (3) the anterior cingulate cortex, and (4) the prefrontal cortex.

Somatosensory Cortex

The somatosensory cortex is divided into primary (S1) and secondary (S2) areas (see Fig. 1.1). S1 cortex consists of a strip on the surface of the brain just behind the motor cortex, and the neurons in the S1 cortex are organized in such a way that each area of the body is represented in distinct and well-defined loci within the S1. The S2 cortex lies at the base of the S1 cortex in the parietal lobe. The number of S2 neurons that respond to noxious stimulation via the thalamus appears to be relatively small. Nevertheless, S2 neurons (along with neurons in the insula) are among the first in the cortex to receive nociceptive input (Apkarian et al., 2005). It is thought that S1 and S2 cortices both encode spatial information about nociception (that is, they help to tell us *where* on the body damage has or might have occurred), and that the S2 cortex, perhaps more than S1, is involved in encoding the severity and quality of the stimulus/nociception (Chudler & Bonica, 2001; May, 2007; Miltner & Weiss, 1998).

Anterior Cingulate Cortex

The anterior cingulate cortex (ACC) lies in the front part of the cingulate cortex, which itself lies just above the corpus callosum, in the cortical tissue between the brain's two hemispheres. The ACC is a part of the limbic system and is related to a large number of processes and activities. Evidence supports the conclusion that pain-related activity in the ACC is related to the affective/emotional (suffering/bothersomeness) component of pain (Apkarian et al., 2005). Research findings also suggest that pain-related ACC activity is involved in a person's preparations for getting ready to do something about the pain, including the facilitation of cognitive, behavioral, and emotional coping efforts (Craig, 2003; Rainville, 2002).

Insula

Although the insula is a part of the neocortex (the surface of the brain), it lies deeply inside a fold (the sylvian fissure) of the brain, near the sensory cortex (see Fig. 1.1). Like the ACC, the insula is a component of the limbic system. Craig (2008) has argued that the insula is primarily the sensory component of the limbic system and is responsible for encoding a person's sense of his or her physical condition across a number of domains as they relate to motivation (the extent to which we "feel" thirsty, hungry, in pain, or itchy, versus feel satisfied and physically content). When discrepancies exist between (1) what the brain knows the body needs for survival (oxygen, food, physical integrity) and (2) what the brain perceives (a lack of oxygen, low blood sugar, physical damage), alarm bells ring; and the insula may be largely responsible for determining when (and how loudly) those bells should ring.

Prefrontal Cortex

The prefrontal cortex lies on the front of the frontal lobes (see Fig. 1.1). This area of the brain is thought to be involved in the planning of complex cognitive responses and in moderating social behavior, among other executive functions. As it relates to pain, the prefrontal cortex encodes

the cognitive aspects of pain, such as memory of pain, evaluation of the meaning of pain, and executive decisions concerning what to do about pain (Apkarian et al., 2005). The "what to do about pain" decisions are then transformed into pain coping behavior initiated with the help of the ACC and motor cortex. Also, research shows that activity in the prefrontal cortex is *negatively* associated with the severity of pain: when the prefrontal cortex is more active, we feel less pain. This is thought to occur, at least in part, because the prefrontal cortex sends information to neurons in the PAG that, once activated, send information down the spine to "close the gate" in the dorsal horn and therefore limit the amount of nociception that is allowed to reach the thalamus (Lorenz et al., 2003).

Cortical Processes Influencing Pain: Global Activation and Plasticity

In addition to the specific nervous system structures that work together to create pain, two cortical processes have been linked to pain: global activation and plasticity.

Global Activation

Data from both laboratory and clinical studies indicate that the experience of acute and chronic pain is associated with a global activation of the brain. *Activation* here refers to the number and frequency of neurons that are firing in the cortex. The brain contains roughly 100 *billion* neurons. Each neuron is made up of a cell body, dendrites, and a single axon. The dendrites receive information from other neurons, and the axon is the "wire" that sends information from the cell body to other neurons.

To communicate with other neurons, a neuron needs to "fire." This results in an electrical discharge (called an action potential) that travels down the axon of the neuron and then causes a release of neurotransmitters from the end of the axon. These neurotransmitters then bind to receptors on the dendrites and cell body of any neuron(s) near where the neurotransmitters are released. Neurotransmitters can be inhibitory or excitatory and therefore decrease or increase the probability that the

next neuron will fire. This is the basic process that allows neurons to communicate with one another.

Global cortical activity can be measured by electroencephalography (EEG). This involves placing electrodes on an individual's scalp with a waxy paste or in a "cap" placed on an individual's head. These electrodes detect the tiny electrical discharges associated with the neurons firing—at least, activity of neurons firing near the surface of the brain. These electrical signals are amplified into the EEG signal, which reflects the number and frequency of firing of all of the neurons that can be detected by the electrodes.

Approximately one-thousandth of a second is required for a neuron to fire and return to its resting potential, able to fire again. Any one neuron could therefore theoretically fire up to 1,000 times per second (1,000 Hz). However, firing rates of 300 Hz or less are more common. When performing an EEG assessment, the EEG signal (an average of all of the electrical activity) is filtered into different-frequency bandwidths, and each of these is given a label: delta (<4 Hz), theta (4 Hz to <8 Hz), alpha (8 Hz to 13 Hz), beta (>13 Hz to 30 Hz), and gamma (>30 to 100 Hz).

A person whose brain has more cells firing at slower bandwidths (e.g., alpha rhythm), relative to the overall number of cells firing, would report that he or she is feeling "relaxed." A person whose brain has more cells firing at faster bandwidths (e.g., beta rhythm) in the frontal cortex would likely report more concentration, active thinking (e.g., numerical calculations), or anxiety. More beta activity in the motor cortex is associated with more motor movement. Presumably, more beta activity in the sensory cortex is associated with more processing of sensory information.

Given the many brain areas involved in the processing of pain and the associations between (beta) bandwidth activity and information processing, it should not be surprising that patient reports of acute pain severity are associated with a bandwidth activity. Specifically, research has shown that with more intense painful stimulation, *all* EEG frequencies increase in power (i.e., more neurons fire in the cortex), but that beta frequencies increase relatively more than other frequencies, and that relative alpha activity tends to decrease (Bromm, Ganzel, Herrmann, Meier, & Scharein, 1986; Bromm, Meier, & Scharein, 1986; Chang et al.,

2001; Chen et al., 1983; Huber et al., 2006); see also reviews by Bromm and Lorenz (1998) and Chen (1993, 2001). At the same time, laboratory research shows that pain relief is associated with decreases in the relative amount of beta activity and increases in the relative amount of alpha activity (Kakigi et al., 2005; Pelletier & Peer, 1977).

There is less research examining the effects of chronic pain severity on EEG measures. The findings from the few studies that have examined EEG activity in patients with chronic pain are generally consistent with those from acute (induced) pain studies, with one interesting exception: there appears to be a significant increase in relative very slow (theta) activity in individuals with chronic pain who have neurologic conditions (e.g., spinal cord injury) than in individuals without chronic pain (Boord et al., 2008; Sarthein et al., 2006; Stern et al., 2006).

Plasticity

In addition to causing both specific (i.e., targeting specific areas) and diffuse (across the whole brain) activity in the nervous system, nociception can produce structural changes in the brain—changes that affect the processing of future nociceptive input. For example, nociception can sensitize some of the cortical areas involved in pain processing so that they are more likely to become active in response to future nociception (e.g., Tinazzi et al., 2000; see review by Melzack et al., 2001). It is as if the experience of pain becomes a learned response more easily triggered by nociception over time.

Nociception can also produce shifts in the relative importance of structures in the brain as they respond to and process future nociception. For example, activity in the prefrontal cortex becomes increasingly engaged and associated with the experience of pain as pain becomes more chronic (Apkarian et al., 2005). This finding provides a neurophysiologic rationale for something that clinicians have long known: for the adequate treatment of chronic pain, processes related to the prefrontal cortex, such as memories and the meaning of the pain in the context of the patient's life goals, must be addressed. Structural brain changes have also been found in patients with pain associated with amputation (Elbert & Rockstroh, 2004; Flor et al., 1995); complex regional pain syndrome,

type 1 (Maihofner et al., 2003; Pleger et al., 2006); back pain (Apkarian et al., 2004; Flor et al., 1997; Schmidt-Wilcke et al., 2006); and fibromyalgia (Kuchinad et al., 2007).

As a group, these research findings show that ongoing nociception and pain alters brain physiology and future pain processing. Unfortunately for persons with chronic pain, the changes lead to increases in pain and suffering. On the other hand, the fact that the nervous system shows changes in response to nociception and pain also opens the door to a number of treatment options, such as hypnotic analgesia, that might be able to reverse or buffer the negative effects of these structural changes.

As will be summarized in Chapter 4, there is evidence that hypnosis and hypnotic analgesia affects activity in all of the nervous system structures and processes involved in the experience of pain. This may explain, in part, why hypnosis can be so effective for pain management: the neurophysiologic targets for hypnosis treatment are many and therefore, perhaps, difficult to miss.

Global Pain Classifications

Chronic pain can be classified broadly into three basic types: neuropathic pain (pain resulting from a lesion or disease of the nervous system), nociceptive pain (also sometimes referred as non-neuropathic), and psychogenic pain (pain resulting primarily from psychological trauma or processes). These classifications are not necessarily mutually exclusive; many patients have both neuropathic and nociceptive pain, or have nociceptive or neuropathic pain that is influenced by psychological factors. However, the extent to which any one pain problem is more or less neuropathic, nociceptive, or psychogenic will determine what treatments will be most effective.

The clinician should be able to determine from the patient's medical and psychological record (or from a brief conversation with the referring physician) the extent to which nerve damage or dysfunction, nociception, and psychological factors may be contributing to the patient's pain experience. However, with careful evaluation, it is also possible to develop reasonable hypotheses regarding these factors, to be confirmed by response to treatment and additional information from other providers

as it becomes available. Such an evaluation (see Chapter 5) should be considered a necessary first step prior to providing any hypnotic treatment.

Neuropathic Pain

Neuropathic pain is defined as pain that either (1) results from a lesion in the nervous system (e.g., following an amputation or spinal cord injury, nerve damage associated with late-stage diabetes, or damage to CNS structures following a stroke) or (2) disease of the nerous system (e.g., in individuals with multiple sclerosis). Peripheral neuropathic pain is pain that results from a lesion or disease in nerves located outside of the CNS (e.g., outside of the brain and spine). Central neuropathic pain results from a lesion or disease in nerves located in the spine or brain.

Neuropathic pain does not respond well to biomedical treatments. Opioid analgesics have been shown to be associated with some pain decreases in some groups of patients with chronic neuropathic pain, but (1) they rarely, if ever, eliminate the pain, (2) they fail to provide a significant benefit for many patients with neuropathic pain, (3) they are associated with significant uncomfortable side effects (nausea, somnolence, constipation), (4) patients can build up a tolerance to them (so that higher doses are required over time to have the same effect), (5) they have significant negative long-term adverse effects (e.g., decreased libido due to effects on testosterone levels ["chemical castration"], poorer function, and decreased pain tolerance), and (6) they can lead to dependence and addiction in some patients. Surgery has been used to treat various chronic neuropathic pain conditions, but surgical incisions on nerves produce more nerve damage, which can then result in even more pain. For some patients, medications originally developed to treat seizure disorders (specifically, gabapentin and pregabalin) can be very helpful. Topical agents (such as lidocaine patches or capsaicin lotion) can also be helpful for many patients with peripheral neuropathic pain. But even these treatments rarely take away the pain completely; even when provided with the most effective state-of-the-science biomedical pain treatments, patients with neuropathic pain are often left with moderate or even severe and disabling pain.

The most common peripheral neuropathic pain conditions are postherpetic neuralgia (pain on the surface of the skin following an outbreak of herpes zoster ["shingles"]) and painful diabetic neuropathy (pain from injury to the peripheral nerves in some patients with advanced diabetes). However, pain can follow damage to the peripheral nerves from a variety of sources, including toxins or toxic drugs (e.g., chemotherapy for cancer), inflammatory diseases (lupus, Guillain-Barré syndrome), physical trauma (e.g., phantom limb pain), nerve compression or irritation (e.g., carpal tunnel syndrome, trigeminal neuralgia), and neurogenic disorders (e.g., Charcot-Marie-Tooth disease, multiple sclerosis lesions in peripheral nerves). The most common central neuropathic pain conditions are those resulting from stroke (e.g., thalamic stroke can result in chronic severe one-sided pain), neurogenic disorders (e.g., multiple sclerosis causing lesions in central nerves), and physical trauma to the spine or brain (e.g., spinal cord injury).

Physical stimulation, even light stimulation from wind or light touch, can result in significant increases in pain severity in many neuropathic pain conditions. Unlike nociceptive pain (see below), however, neuropathic pain is not usually influenced dramatically by general activity level or body position. Given its resistance to biomedical interventions, and given evidence that hypnosis can decrease neuropathic pain (see Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009) self-hypnosis training can be considered a first-line treatment for many neuropathic pain conditions.

Nociceptive Pain

Nociceptive pain results from the stimulation of peripheral nociceptors in tissues that detect physical damage. Any pain resulting from the stimulation of nociceptors in the skin, muscles, and fasciae (the tissue surrounding muscles), ligaments, tendons, bones, or blood vessels is nociceptive pain. The most common nociceptive pain problems are headache, low back pain, arthritis, and pain from overuse or strain injuries, but there are a large number of different nociceptive pain problems.

Unlike neuropathic pain problems, nociceptive pain often increases immediately following activity. As a result, many patients with nociceptive

pain choose to limit their activity level, and some become markedly deactivated. Unfortunately, this results in a weakening of muscles and tendons, and sometimes marked muscle atrophy. Weak muscles and tendons are more likely to spasm and send nociceptive information to the brain than strong muscles and tendons are. Thus, a common coping strategy (inactivity) for nociceptive pain that works in the short run can make pain levels increase in the long run.

Patients with nociceptive pain who maintain a reasonable level of activity and exercise (e.g., regular walking, 20 to 30 minutes of aerobic activity at least 5 days a week, regular stretching and strengthening of the muscles and tendons in and around the painful area[s]) are usually able to avoid a worsening of their pain problem. In fact, patients who participate in multidisciplinary treatment programs that encourage a more active lifestyle usually report decreases in pain from before to after treatment, although, as mentioned above, they often report increases in pain during the early stages of reactivation. This is true even when the focus of treatment is on behavioral adaptation to pain. Thus, assuming the patient has been cleared for exercise and activity by an appropriate healthcare provider, activity and exercise can be key components of an effective treatment program for many nociceptive pain problems.

Psychogenic Pain

Psychogenic pain can be defined as pain that results primarily from psychological factors. Of course, psychological factors can either increase or decrease the severity of either neuropathic or nociceptive pain because these factors can influence activity in many of the brain areas involved in pain processing (e.g., frontal lobes, ACC). However, primary psychogenic pain (pain that is not linked to a history of physical trauma or some other underlying medical condition) is quite rare. When this type of pain is diagnosed, the appropriate treatment is psychotherapy—sometimes long-term psychotherapy. Such pain problems would not be expected to resolve following the brief program of self-hypnosis training in pain management that is described in this therapist guide.

However, individuals with psychogenic pain may obtain some improvement in control over their experience of pain with the treatment

program described here; thus, hypnosis may serve as an appropriate adjunctive treatment to psychotherapy for psychogenic pain. If, during treatment, evidence for the presence of psychogenic pain emerges that was not apparent following the initial evaluation, the therapist should refer the patient to a therapist specializing in the resolution of psychogenic pain.

Unclassified Pain Problems

Clinicians specializing in pain treatment may also encounter patients whose pain conditions are neither clearly neuropathic nor nociceptive, or may have qualities of both. Diagnoses for which there is not yet consensus about their primary cause, or that might involve both neuropathic or nociceptive components, include complex regional pain syndrome, type I (CRPS-I, formerly known as reflex sympathetic dystrophy); fibromyalgia; and some visceral pain problems (e.g., pelvic pain). However, a lack of consensus regarding the classification of these pain problems does not mean that individuals with these pain conditions will not respond to hypnosis or training in self-hypnosis. In fact, a large variety of chronic pain problems respond to hypnosis and hypnotic analgesia; hypnosis should therefore be strongly considered whenever an individual with chronic pain expresses an interest in this treatment (Patterson & Jensen, 2003).

Chapter Summary

The key points made in this chapter may be summarized as follows. First, although activity in peripheral nerves can contribute to the experience of pain, nociception is neither necessary nor sufficient for someone to experience pain. Rather, the experience of pain is the end result of multiple interacting processes and networks in different areas of the brain. The cortical areas that play a role in the experience of pain include those areas responsible for processing information about the meaning of pain (e.g., prefrontal cortex), the magnitude and sensations of pain (e.g., primary and secondary sensory cortices), the affective or suffering component of pain (e.g., the anterior cingulate cortex), and the extent to

which the person judges that his or her body is physically at risk (e.g., the insula). Moreover, these areas communicate with each other; affecting activity in one will affect activity in the other areas. This means that there are multiple potential treatment targets for influencing pain. This guide is designed to teach clinicians how to use hypnosis to influence all areas, and thereby maximize treatment efficacy.

Chapter 2 *Psychological Factors that Influence Pain*

(Corresponds to Chapter 2 of the Workbook)

Virtually everyone understands that biological factors affect pain. However, healthcare providers and patients do not always understand that psychological factors also influence the experience of pain, as well as the effects of pain on psychological functioning (depression, anxiety) and day-to-day functioning (activity level, social functioning). Scientific research has clearly confirmed the importance of psychological factors in understanding and treating pain, and we now know which psychological factors are closely linked to the experience of pain and its impact.

The purpose of this chapter is to summarize the clinically relevant findings from this body of research. Discussion of psychological factors is grouped under three primary headings: (1) catastrophizing, (2) pain beliefs, and (3) pain coping responses. The most important psychological factors related to chronic pain adjustment, along with brief definitions of each, are listed in Table 2.1.[1]

Catastrophizing and Adjustment to Chronic Pain

Catastrophizing reflects a tendency to focus on and ruminate about "catastrophic" thoughts. Patients who catastrophize about their pain will endorse such thoughts as "My pain is horrible, and it is never going to get better," "I can't stand this," and "I can't keep my pain out of my mind." Thus, catastrophizing represents both the content of people's

[1] The research findings summarized in this chapter are based primarily on a number of reviews of this research literature (Boothby et al., 1999; DeGood & Cook, in press; Jensen & Karoly, 2008; Jensen, Moore, & Bockow, in press; Jensen, Turner, Romano, & Karoly, 1991; Jensen, Turner, Romano, & Nielson, 2008; Keefe, Rumble, Scipio, Giordano, & Perri, 2004). The reader interested in more detail regarding the associations between psychological factors and patient pain and functioning is referred to these articles and the source documents cited in them.

Table 2.1 Psychological Factors Closely Associated with Patient Functioning in Individuals with Chronic Pain

Factor	Description
	Adaptive Factors
Control and self-efficacy beliefs	The belief that one has the skills or resources to be able to control pain and its negative effects on one's life
Acceptance beliefs	A "giving up" of the struggle against direct control over pain, coupled with a decision to focus on being engaged in valued activities
Coping self-statements	Purposefully thinking positive thoughts about the pain problem
Pacing	Maintaining an appropriate level of activity, despite pain
Task persistence	Not allowing pain to interfere with activities
Exercise/stretch	Engaging in muscle strengthening or stretching activity
Seeking social support	Finding a friend or loved one to talk with on the phone or in person
	Maladaptive Factors
Catastrophizing cognitions	Focusing on and ruminating about negative thoughts about pain and its effects on one's life
Disability beliefs	The belief that one is necessarily disabled by pain
Harm beliefs	The belief that pain is a signal that physical damage is occurring and that activity and exercise should be avoided
Medical cure beliefs	The belief that there exists a medical cure for one's pain problem and it is the responsibility of healthcare providers (and not the patient) to manage the pain
Medication beliefs	The belief that pain-contingent analgesics are appropriate for chronic pain management
Solicitude beliefs	The belief that others, especially family members, should be helpful or solicitous in response to the patient's experience and expression of pain

(Continued)

Factor	Description
Guarding	Restricting the use or movement of a body part
Resting	Engaging in a "resting" activity in response to pain, such as lying down, sitting down, or going to a dark or quiet room
Asking for assistance	Asking someone for help with some activity when in pain, such as household chores or lifting

thoughts (i.e., what they think) and the way that they think (e.g., overfocus and rumination). Of all of the psychosocial factors that have been studied, catastrophizing is by far the strongest and most consistent predictor of patient pain and suffering. Patients who catastrophize are much worse off than patients who do not catastrophize; they report higher levels of pain, depression, anxiety, distress, and disability.

Research also shows that patients who learn to reduce or stop catastrophizing show improvements on many outcome variables, including pain intensity, psychological functioning, and activity level (Jensen, Turner, & Romano, 2001). Moreover, patients who are able to maintain lower levels of catastrophizing following pain treatment are more likely to maintain treatment gains made in both psychological and physical functioning (Jensen, Turner, & Romano, 2007). Clinicians, including those who use hypnosis, should assess catastrophizing and address it when present.

Beliefs and Adjustment to Chronic Pain

Pain beliefs are the meanings patients give their pain. Many measures of pain beliefs have been developed, and many studies have examined the associations between these belief measures and measures of pain and functioning (see reviews by Boothby et al., 1999; DeGood & Cook, in press; Jensen & Karoly, 2008; Jensen et al., in press). This research has identified four domains that are consistently associated with

patient adjustment: (1) control and self-efficacy, (2) pain acceptance, (3) disability, and (4) harm. Other domains found to be important to some populations of individuals with chronic pain include (1) beliefs regarding management of pain by self versus others, (2) beliefs about the use of analgesic medications, and (3) beliefs regarding the extent to which others should be solicitous when the patient is experiencing pain.

Control and Self-Efficacy Beliefs

Patients who believe that they can control their experience of pain and can manage pain's effects on their lives will endorse statements such as "I have learned to control my pain," "I am certain I can decrease my pain," and "I can do what I want to do, despite having pain." These patients tend to report lower pain intensity levels, less overall disability, and (in particular) less depression and distress compared with patients who do not believe that they can control pain and its effects on their lives. Individuals with high levels of self-efficacy are also more likely to take steps to cope adaptively with their pain, which can then contribute further to improvements in quality of life and overall mood. Encouraging patients to believe that they can control their pain and teaching them specific skills for doing so (such as self-hypnosis) is one way to increase a patient's self-efficacy.

Acceptance Beliefs

The concept of pain acceptance is central to acceptance-based cognitive behavior treatments of chronic pain (Dahl et al., 2005; Hayes et al., 1999). By accepting suffering (and pain) as one of many components of a rich experience, patients paradoxically can also become more open to other emotional experiences, such as joy and a sense of meaning. Patients who have achieved this general approach endorse two core beliefs: (1) the belief that the patient is able to lead a satisfying life consistent with his or her most deeply held values, even with chronic pain (a type of self-efficacy belief [see previous section]) and (2) the belief that pain reduction is *not* a central goal (Vowles et al., 2008).

Disability Beliefs

Disability beliefs reflect the conviction that one is necessarily disabled by pain. Two patients experiencing the same level of pain intensity may hold different beliefs about the extent to which this pain affects their lives: the patient who believes that he or she is more disabled by pain will likely act more disabled. He or she will exercise less, socialize less, and work less than the patient who believes that he or she need not be disabled by pain. Given the importance of activity level to a person's quality of life, as well as to the long-term adjustment to nociceptive pain, disability beliefs can have an important impact on a patient's functioning level. Patients who hold disability beliefs endorse statements such as "My pain would stop anyone from leading an active life" and "If my pain continues at its present level, I will be unable to work."

Harm Beliefs

Harm beliefs reflect the mistaken understanding that pain is *necessarily* a sign or signal of physical damage, and that activities that result in more pain (such as exercise or sitting for two hours at a movie with friends and family) should therefore be avoided. Patients who hold such beliefs would endorse statements such as "The pain I usually experience is a signal that damage is being done" and "If I exercise, I could make my pain problem much worse." These beliefs likely come from prior experience with acute pain states following injuries, in which pain *is* a sign of physical damage, and in which the severity of pain often (but not always) reflects the extent of that damage. However, once pain becomes chronic, the intensity of the pain tends to lose its association with the presence and amount of physical damage. Given people's day-to-day experience with minor and major injuries, however, it is not surprising that many individuals hold onto the belief that high pain intensity may be an indication of physical damage. Helping patients to alter this view can be challenging. However, doing so is an important component of pain treatment because such beliefs are often closely associated with both psychological and (in particular) physical dysfunction; patients who think that pain is a sign of physical damage are more likely to avoid

activities, including those that could be a source of pleasure and that give their life meaning.

Pain Management Responsibility Beliefs

Many patients with chronic pain have a deeply held belief in a purely biomedical model of their suffering—that is, the Cartesian view that pain is a sign of peripheral damage, and that this damage needs to heal, or be "found and fixed," before the patient is able to get on with life. These patients tend to seek medical explanations for their suffering and tend to avoid self-management pain coping approaches. Pain management responsibility beliefs have two subdomains: (1) the belief that a medical cure for one's pain is (or might someday be) possible and (2) the belief that healthcare providers are or should be primarily responsible for pain management. Patients holding these beliefs would endorse statements such as "A doctor's job is to find effective pain treatments" and "I count more on my doctors to decrease my pain than I do on myself." Patients who do not endorse these beliefs are more likely to take responsibility, putting significant effort into learning and using adaptive coping strategies.

Analgesic Medication Use Beliefs

Patients vary with respect to their beliefs about the appropriateness of analgesic medications for chronic pain. Patients who view analgesic medications as appropriate endorse statements such as "I will probably always have to take pain medications" and "Medicine is one of the best treatments for chronic pain." Although there remains controversy regarding the long-term benefits versus costs of using strong analgesics (in particular opioids) for chronic pain, the available evidence demonstrates that for many patients, opioid medications cause more problems than they solve. Patients who endorse using analgesic medications for chronic pain are less willing to consider using non-medication self-management approaches such as exercise, cognitive restructuring, and self-hypnosis. Evidence shows that these beliefs are also associated with more depression and disability, consistent with the hypothesis that these beliefs are not helpful.

Solicitude Beliefs

Solicitude beliefs reflect the expectation that other people, in particular significant others such as one's spouse and family, should be attentive (i.e., solicitous) when the patient is experiencing pain. Patients holding such beliefs endorse statements such as "When I hurt, I want my family to treat me better" and "Often I need more tender loving care than I am now getting when I am in pain." The behavioral model of chronic pain disability hypothesizes that the responses of others can influence (i.e., reinforce, strengthen) patient pain behaviors and undermine independent functioning. Consistent with this model, research indicates that solicitous responses (e.g., affection and attention, as well as offers to take over chores and responsibilities) in response to patient pain behaviors are associated with higher levels of patient pain intensity and disability. Patients who endorse solicitude beliefs would be expected to be particularly sensitive or responsive to what family members say and do when the patient is experiencing or reporting pain.

Coping Responses and Adjustment to Chronic Pain

Whereas pain-related catastrophizing and pain-related beliefs reflect cognitive content and processes, pain coping refers to what patients actually *do* to manage pain and its effects on their lives. A great deal of research has sought to identify the coping strategies that are the most helpful and adaptive and, in contrast, the coping strategies that are the most maladaptive and harmful (see reviews by Boothby et al., 1999; DeGood & Cook, in press; Jensen et al., 2008; Jensen et al., 1991; Keefe, Rumble, et al., 2004). From this research, eight specific coping domains emerge as being most relevant to patient functioning. Five of these are adaptive (coping self-statements, pacing, task persistence, exercise and stretching, and seeking social support) and three are maladaptive (guarding, resting, and asking for assistance).

Of course, with pain treatment, clinicians should seek to teach and encourage adaptive coping responses and to discourage the use of maladaptive ones. However, most of the research on pain coping is correlational; definitive proof that a particular coping response is adaptive or

maladaptive is lacking. Moreover, what might be adaptive or maladaptive for one patient could have little effect on functioning in another. Thus, when encouraging changes in coping, it is important to observe the effects of these changes in each patient individually and to remain flexible about the possible need to change course (e.g., stop encouraging a coping response thought to be adaptive if it produces negative effects in a particular patient).

Coping Self-Statements

Coping self-statements are calming and reassuring thoughts in response to pain. When experiencing pain, for example, a patient might say to himself or herself, "I will think of something pleasant," "I will be brave and carry on despite the pain," "I can overcome this pain," "Things could be worse," and/or "Things will get better." Coping self-statements may be considered to be the opposite of catastrophizing. Interestingly, however, catastrophizing tends to be more strongly (negatively) associated with functioning than coping self-statements are associated (positively) with functioning. This suggests that it may be more important to *discourage* catastrophizing than it is to *encourage* coping self-statements. That said, the use of coping self-statements has been found to be positively associated with patient functioning (in particular, psychological functioning), and some attention to this coping domain is warranted.

Guarding

Guarding refers to keeping a body part still or stiff, or limiting the use of a body part (e.g., limited standing or walking) as a way to minimize pain. People who guard tend to move slowly or stiffly. If they are guarding a leg, they may limp. If guarding their neck, and when looking to the side, they may turn their whole body rather than turning their head only. Using a cane, an arm sling, or a back brace represents guarding behavior.

Guarding can be an adaptive response that facilitates healing during the initial hours or even days following some injuries. However, guarding that extends beyond healing time is thought to produce (rather than

inhibit) physical disability and greater pain. It can weaken muscles and tendons that are critical to the patient's mobility. As mentioned earlier, weak muscles and tendons are also more prone to spasm, so guarding, even when it decreases pain in the short term, can contribute to increased pain over the long term.

Pacing

Pacing refers to how one goes about controlling the rate or speed at which one performs tasks. Adaptive pacing allows patients to maintain an appropriate level of activity and thereby achieve their most valued goals and meet their most valued responsibilities. Appropriate pacing requires a balance between doing "too much" and "too little." For many individuals, appropriate pacing involves learning to maintain activity in a "slow but steady" manner. In all cases, the objective of appropriate pacing is to achieve important goals. Patients who cope by resting in response to pain (see the section that follows) are not pacing well because they are basing their choice to rest on pain rather than on their goals. These patients often find that they are resting more and more, while their pain gradually increases (as their muscles and tendons become weak). Some patients who fall into this pattern become so deactivated that they are barely able to function.

On the other hand, there are patients who feel the need to be highly active whenever possible. For these patients, a period of pain relief can be viewed as an opportunity to complete some large task or chore that has been left undone. These patients tend to "overdo it" when and if they experience a period of decreased pain. Following this, they experience a significant pain flare-up. This might then cause them to remain inactive until the next period of pain relief. Over time the periods of pain relief tend to become shorter and shorter. When patients rest to cope with pain, or become more active during a period of pain relief, they are not pacing well *because they are basing what they do on their level of pain or pain relief rather than on their (most valued) goals*. A much more adaptive strategy is to determine the appropriate level of activity required to achieve goals and live one's life, and then stick with this level of activity, assuming that it is reasonable, regardless of pain level.

Resting

Using rest wisely as a way to maximize activity and energy is an important component of adaptive pain management. Some patients, however, rest far too much when they experience pain. This weakens muscles and tendons and limits their opportunities to engage in valued activities. Patients should be discouraged from resting *when they hurt* (i.e., on a pain-contingent basis) and encouraged to rest as a reinforcement for engaging in an important activity (e.g., after 30 minutes of performing an exercise that their physician has recommended they perform).

Asking for Assistance

Giving and receiving positive global social support ("unconditional positive regard") with loved ones is important for feeling connected and contributes to a meaningful life. In fact, research consistently shows that such support is closely associated with positive psychological functioning. All of our patients can be expected to benefit from positive and *non-pain-contingent* social support.

On the other hand, the provision of *pain-contingent* support, in which loved ones help patients to complete chores or otherwise discourage activity when the patient is experiencing pain, has been consistently shown to predict poorer patient functioning. In fact, such "support" undermines patient confidence and can turn someone who might otherwise be able to increase his or her strength, endurance, and engagement in life, into a disabled and demoralized individual. Patients who ask for assistance as a way to cope with pain are at more risk than those who do not ask for this type of unhelpful assistance. This is particularly true for patients living with a spouse or family member who desires to be as supportive as possible. Thus, to help patients maximize the quality of their life, they can and should be encouraged to obtain emotional support on a regular basis (see the section on seeking social support). At the same time, however, they should be encouraged to avoid asking for assistance with chores or tasks that they are able to complete, even when they feel pain.

Task Persistence

Task persistence refers to the coping strategy of continuing normal (reasonable) activity despite pain. Encouraging this coping response in individuals for whom it is physically safe to be active is central to adaptive pain management. A patient who is able to maintain his or her activities despite pain is an individual who is not allowing pain to control his or her life. Importantly, someone who is able to maintain planned activities despite pain would be expected to be (1) more physically fit in general, (2) more able to tolerate activity, and (3) better able to participate in valued activities, relative to someone who rests in response to pain or pain flare-ups.

Exercise and Stretching

People who do not have chronic pain problems who exercise regularly tend to live longer, feel stronger, report being happier, and sleep better. The benefits of regular activity and exercise are numerous and well documented. The current recommendations from the American Academy of Family Practice Physicians is to exercise for 30 to 60 minutes, four to six times a week. The Academy also notes, however, that any amount of exercise is better than none. Exercise need not involve training for a marathon or lifting excessive amounts of weights. In fact, excessive exercise can cause long-term damage to joints and other bodily tissues. Moderate exercise (such as gardening, swimming, or brisk walking) is recommended.

Exercise can be particularly important for individuals with chronic pain, who are at risk for muscle and tendon atrophy—in particular, atrophy in the areas of the body where they may hurt the most. All individuals, including those with chronic pain, should be exercising regularly, and clinicians working with these individuals should encourage their clients to identify exercises that are safe. The patient who has a significant health problem (such as a heart condition) that could be exacerbated by inappropriate exercise should seek advice from a qualified healthcare provider regarding specific recommendations for type and amount of exercise. Those can then be the exercise treatment goals.

Seeking Social Support

As already mentioned, global social support, as reflected by ongoing and *non-pain-contingent* affection and emotional support from significant others, is very important for general psychological functioning. The lack of such support can, and for many individuals will, lead to distress or depression. This not only contributes to global suffering on top of any suffering associated with the pain, but can also interfere dramatically with motivation to achieve and maintain pain management goals (such as ongoing exercise or use of self-hypnosis strategies). Thus, patients should be encouraged to use appropriate strategies to seek and obtain social support.

Chapter Summary

The primary message underlying this chapter is that psychological factors, such as catastrophizing, beliefs, and coping responses, influence pain and adjustment to pain. To maximize treatment benefit, pain interventions should address all of these factors. The findings from research examining psychological factors has identified those that are most closely associated with adaptive patient functioning (e.g., lower pain intensity, less depression, distress, and disability, and more activity). Some of these psychological factors contribute to positive adaptation and should therefore be taught or encouraged as part of a treatment program. Others contribute to dysfunction and should therefore be discouraged. The adaptive factors include a sense of control over pain, self-efficacy beliefs, and acceptance beliefs, and the coping strategies of coping self-statements, pacing, task persistence, exercise, and seeking social support. Maladaptive factors include catastrophizing cognitions, disability, harm, medical cure, medication, and solicitude beliefs, and the coping responses of guarding, resting, and asking for assistance.

The research in this area also allows us to form a picture of the patient who is managing pain well. We can compare this picture to that of a patient we are working with, and from this we can develop a list of potential treatment goals (see Chapter 5). What would a patient managing chronic pain well look like? Such a patient would rarely, if ever,

think catastrophizing thoughts about or in response to pain. He or she would also rarely, if ever, guard a body part, rest in response to pain, or when experiencing pain, ask for help for a chore that he or she is capable of doing. Rather, this patient would be thinking realistic, reassuring, and adaptive thoughts (reflecting a sense of control over pain and its effects) and using adaptive pain coping responses (coping self-statements, ignoring pain, maintaining activity despite pain, pacing, acceptance) to manage pain. Moreover, this patient would recognize and avoid maladaptive cognitions, such as those reflecting the beliefs that one is necessarily disabled by pain, that pain is necessarily a sign or signal of damage, that it is the responsibility of healthcare providers (and not the patient) to manage the pain, that analgesic medications are appropriate or necessary for adaptive pain management, that pain needs to be controlled before the patient is able to lead a life that is meaningful and consistent with his or her goals, and that others should be more helpful to the patient when the patient experiences pain. Such a patient would also avoid pain coping responses that could lead to greater pain and disability over time, including the use of guarding, pain-contingent rest, and asking for assistance.

A number of psychological interventions have been developed to help patients shift from maladaptive to adaptive responding by decreasing catastrophizing cognitions, altering the meaning of pain, and changing how patients cope with pain. These treatments include operant treatment (e.g., Fordyce, 1976), graded exposure in vivo (e.g., Vlaeyen et al., 2002), cognitive therapy (Thorn, 2004), cognitive behavior therapy (e.g., Keefe, Blumenthal, et al., 2004; McCracken, 2005; Otis, 2007; Turk et al., 1983), and motivational interviewing (e.g., Jensen, 2000, 2002). Importantly for the reader of this guide, hypnotic strategies can be added to this list of effective interventions and can be used to influence catastrophizing, pain beliefs, and pain coping so that patients will hurt less and be able to do more. Moreover, hypnosis and hypnotic strategies can also be incorporated into the above-mentioned treatments to enhance their efficacy (e.g., Kirsch et al., 1995)—these treatments are not mutually exclusive. A specific protocol for providing self-hypnosis training for chronic pain management is described in detail in Chapters 6 through 11 of this therapist guide.

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Part II: Understanding Hypnosis

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Chapter 3 *What Is Hypnosis?*

(Corresponds to Chapter 3 of the Workbook)

The history of hypnosis and the theories developed to explain its effects are not without controversy. Even today, reasonable scientists and clinicians with full knowledge of the research do not always agree on the best way(s) to define or explain hypnosis. However, it is important to remember that *there is a consensus among knowledgeable individuals that hypnosis-based treatments can effectively change thoughts, perceptions (including pain perception), and behavior*. The controversy and disagreements about hypnosis surround its definitions and theory, not its efficacy.

The purpose of this chapter is to provide the reader new to this area with a basic understanding of the field of hypnosis.[1] It begins with a brief summary of the history of hypnosis. This is followed by a discussion of the different ways that hypnosis can be defined. The chapter ends with a review of the primary theories used to understand hypnosis and its effects.

A Brief History of Hypnosis

Although it is possible to find descriptions of people using hypnosis and hypnotic-like phenomenon to treat psychological and medical problems throughout history (including the "dream temples" of ancient Egypt and the "sleep temples" of ancient Greece), most authors agree that the modern scientific examination of hypnosis began with Anton Mesmer

[1]Readers interested in more details and discussion regarding the definitions and theoretical understanding of hypnosis are referred to the excellent reviews of these topics that can be found in Barabasz and Watkins (2005), Lynn and Rhue (1991), Lynn, Rhue, and Kirsch (2010), Nash and Barnier (2008), and Yapko (2003).

(1734–1815). Mesmer was a physician practicing in Paris in the late 1700s. He believed that bodily tissues held magnetic energy, and that this energy could be directed, using magnets, to ease symptoms and heal disease. He also believed that some people inherently had more magnetic energy (*animal magnetism*) than others. These individuals could be particularly effective healers if they focused and directed this energy.

As might be expected, Mesmer believed that he had above-average amounts of animal magnetism. Although he initially treated patients individually, his treatment successes and subsequent popularity forced him to develop his own brand of group therapy. This involved having patients stand around a tub filled with water and iron fillings. The patients would then hold an iron rod that was inserted into the water and iron fillings, through which healing magnetic energy, guided by Mesmer, would flow. As a result of treatment, the patients would typically go into convulsions and then be taken to a recovery room. As they recovered from the experience, many reported being "cured" of their disease and symptoms.

Mesmer's treatments were so effective (and unconventional) that he attracted the attention of the authorities. King Louis XVI appointed a special commission (which included Benjamin Franklin, who was living in Paris at the time) to investigate both the efficacy of Mesmer's procedures and his theory of animal magnetism. The commission determined, through careful experimentation, that although patients did indeed respond positively to Mesmer's treatment (i.e., it was effective), the theory of animal magnetism was not supported. Mesmer's profound results, they concluded, were "only" due to the engagement of the imagination of his patients.

The commission recommended that the potential beneficial effects of engaging a patient's own imagination to relieve symptoms be studied further. However, this advice was not followed at the time. In fact, it took another 200 years before serious research into the effects and efficacy of hypnotic suggestions began. As a result of their dismissal of Mesmer's theory of animal magnetism, Mesmer himself was discredited. He subsequently left Paris, and his disgrace made many in the mainstream hesitant to use or study mesmerism. Following this, interest in mesmerism declined substantially over the next few decades.

There was a surge in the popularity of mesmerism in the mid-1800s, as books about it were translated into English and published in England and the United States. An English surgeon working in Calcutta, India, used it as an anesthetic for surgery during this period, and reported very positive outcomes. However, both chloroform and ether began to be used as anesthetics for surgery right around this time, and they were found to be so effective that interest in hypnosis as a form of anesthesia died out. Mesmerism came to be called *hypnosis* (a term coined by an English physician in the 1840s) to separate it from the negative history associated with Mesmer and his discredited idea that its effects were associated with magnetic currents.

In the 1870s, interest in hypnosis again grew dramatically, in large part due to a number of prominent French neurologists, including Jean-Martin Charcot (1825–1893) and Hippolyte Bernheim (1840–1919), who became interested in its effects on neurological and psychiatric conditions. Charcot believed that hypnosis could be used to induce and study hysterical reactions; he viewed hypnotic trances as pathological manifestations of hysteria. His prominence and respect gave the study of hypnosis much of the credibility it had lost during Mesmer's time.

Bernheim became interested in the possible clinical benefits of hypnosis, which he thought could be used to treat hysteria. With Ambroise-Auguste Liébeault (1823–1904), another prominent clinician, he founded the "Nancy School" specifically to distinguish this more positive view of hypnosis from Bernheim's "Hysteria School" of hypnosis, and to further promote its therapeutic role. Pierre Janet (1859–1947), a psychologist and student of both Charcot's and Bernheim's, had an active hypnosis practice. Janet viewed hypnosis as a form of dissociation (see the section on dissociation theories), and his published work includes some of the first case reports of the effective clinical use of hypnosis for conditions such as anorexia nervosa.

In the meantime, Josef Breuer (1842–1925), a close colleague of Sigmund Freud's (1856–1939), successfully used hypnosis to help a young woman (Anna O.) suffering from symptoms of paralysis. While hypnotized, she was able to recollect and relive early traumatic events. These hypnotic treatments were then followed by the resolution of her paralysis.

Freud became interested in hypnosis as a treatment of hysterical reactions and visited Charcot and Bernheim in Paris in the late 1880s to learn more about its clinical application. He began using hypnosis in his practice, and through its use developed his theory of the unconscious. However, he later replaced hypnosis with other treatment procedures he developed himself, such as free association and dream analysis. The specific reason(s) for Freud's loss of interest in hypnosis are not clear, although there is speculation that the high degree of rapport required for effective hypnotic practice may have been inconsistent with his personality and preferred clinical approach. In any case, Freud's abandonment of hypnosis, combined with the rise in acceptance of psychoanalysis as a treatment for many psychological and psychiatric symptoms, has been blamed as a primary cause of the decline in hypnosis in the early 1900s.

In the 1930s, the published works of two individuals, one a prominent psychologist and researcher and the other a prominent and creative psychiatrist, brought a resurgence of interest in hypnosis. First, Clark Hull (1884–1952), a highly respected experimental psychologist, published a book in 1933 that presented the results of highly controlled experiments using hypnosis. Hull's findings regarding the effects of hypnosis on an individual's ability to alter pain gave hypnosis a high degree of scientific credibility. Second, Milton Erickson (1902–1980), a practicing psychiatrist, began publishing the results of his creative use of hypnosis and hypnotic language to help his patients manage a variety of symptoms and problems.

Ernest R. Hilgard (1904–2001), a professor of psychology at Stanford University, designed and completed many groundbreaking laboratory experiments on the effects of hypnosis and hypnotic analgesia. His work, published in some of the most prominent and well-respected scientific journals, built on Hull's, giving hypnosis even more scientific credibility. Hilgard also developed a theoretical model of hypnosis that remains one of the prominent theories today (see the next section). Much of the scientific psychological research in the field during this period, and into the late 1900s, focused on developing, testing, comparing, and debating the strengths and weaknesses of a number of theoretical models of hypnosis. At times, the debates regarding these models became quite contentious, and echoes of this controversy remain today.

The first decade of the 21st century saw a dramatic increase in scientific research on hypnosis, especially on hypnotic analgesia. Much of this research focused on hypnosis' neurophysiologic mechanisms and correlates, as well as its clinical efficacy. The key findings from this research are summarized in the next chapter.

Definitions of Hypnosis

There are a number of definitions of hypnosis and no universal agreement. At its most basic, hypnosis can be defined as a *procedure* in which "one person (the subject) is guided by another person (the hypnotist) to respond to suggestions for changes in subjective experience, alterations in perception, sensation, emotion, thought or behavior." As a procedure, hypnosis usually begins with an induction (which often consists of a set of suggestions for focusing the subject's attention), followed by one or more suggestions for making positive changes. The suggestions often include—and when using hypnosis for chronic pain management, almost always should include—post-hypnotic suggestions that any positive responses occurring during hypnosis should last beyond the session and become "permanent and automatic."

Hypnosis can also be defined in terms of its *effects* (Barnier & Nash, 2008). A group of individuals may be given a hypnotic induction or treatment, but not all will respond to the hypnotic suggestions or become hypnotized.[2] Even among those who do, each individual will respond somewhat differently.

Those who prefer the first definition view hypnosis as occurring when hypnotic treatment or procedures are provided. Those who prefer the latter definition view hypnosis as occurring when an individual becomes hypnotized (even when this happens out of the context of a hypnotic session or treatment). For the purposes of this guide, the former definition will be used, as the guide describes specific hypnotic procedures that involve an induction followed by suggestions for changes in pain

[2] As discussed in more detail below, there is disagreement regarding whether it is useful to think of hypnosis as involving a "state" where subjects become "hypnotized."

and pain-related thoughts, feelings, and behaviors. However, the reader should at least be aware that this is not the only way to view hypnosis.

Theoretical Perspectives

Dissociation Theories

Earnest Hilgard was lecturing to a large class at Stanford on hypnosis, demonstrating the concept of hypnotically induced deafness. After a suggestion for deafness, the student he had hypnotized in front of the class seemed unable to hear anything, including a loud clap of the hands. One of the students asked if the subject could still hear at one level. Hilgard found this to be a very interesting question, and simply asked the subject who was still under hypnosis this question. The subject responded that a part of him could hear the noises in the room, but not the part that was currently in communication with Dr. Hilgard. This example is a good illustration of the concept of dissociation—that certain parts of consciousness can seem to split from one another—as an explanation for what happens with hypnosis.

Pierre Janet was the first to hypothesize that dissociation was at the core of hypnosis. During dissociation, one or more mental function(s) or subunit(s) split off from the others. This is thought to result in both (1) increased suggestibility and (2) a separation of conscious awareness from other mental processes (e.g., sensations, sense of volition or control). Based on the experience of the student just described and others like it, Ernest Hilgard (Hilgard, 1991) developed a related model, which he termed the *neo*dissociation model to distinguish it from Janet's view. Hilgard's model starts with the assumption that human cognitive processes are organized into a hierarchical structure that is usually under the control of an *executive ego*. The executive ego is responsible for ongoing monitoring of the entire system and initiating action.

Neodissociation theory argues that hypnosis can alter the organization of this structure, allowing different subcomponents to act independently (see also Bowers & Davidson, 1991; Woody & Sadler, 2008). Bowers and his colleagues based much of their formulation of neodissociation theory on the perceived automaticity of behavior. Put very simply, people under

hypnosis often display behaviors that feel as if they are happening automatically without any conscious volition. A classic example of this is the subject whose hand rises after being given the suggestion that a helium balloon is tied to his or her hand. This subject would be determined to be showing a dissociative response when (1) the hand rises *and* (2) he or she feels as if the hand is rising "by itself."

When hypnotized, and following an appropriate suggestion, the system that processes sensory input can dissociate from the system that processes conscious awareness of that sensory information, resulting in analgesia (or deafness, or inability to see color, etc., depending on the hypnotic suggestion). The system that controls motor activity can dissociate from the system that processes conscious awareness of the initiation of action, resulting in feelings of nonvolition, as occurs during the classic arm levitation hypnotic suggestion (as in the example above). Hypnotic amnesia occurs when the system that stores memories becomes dissociated from the system that is aware of memories. Because Hilgard viewed this dissociation as representing a change in the cognitive state/structure of the hypnotic subject, the neodissociation model emphasizes hypnosis as an effect; hypnosis is not assumed to occur until and unless this shift has occurred within a subject.

Trait Theory

Hilgard was also responsible for another model of hypnosis based on the proposition that a subject's response to hypnotic inductions is largely a function of that person's hypnotizability, which is viewed as a stable trait that is largely genetically determined. Trait theory and hypnotizability are useful concepts to explain why some people seem very responsive to hypnotic procedures and appear to easily experience themselves as going into a hypnotic state, while others appear to be largely nonresponsive to hypnosis.

It was out of such thinking that Hilgard collaborated with André Muller Weitzenhoffer (1921–2004) to develop and validate a number of measures of hypnotizability. Perhaps the most commonly used of these are the Stanford Hypnotic Susceptibility Scales (Weitzenhoffer & Hilgard, 1959, 1963). There are three versions of these 12-item scales, as well as a

brief 5-item clinical version. These scales measure a person's response to classic hypnotic suggestions following an induction, and his or her score is the sum of the items responded to. Research with these and other measures demonstrates that they can predict response to hypnotic analgesia in laboratory pain research, but there are less strong associations in clinical populations, as discussed in Chapter 4. Hypnotizability scores also show marked stability—similar levels of stability, in fact, as found in measures of intelligence. These and other research findings made Hilgard conclude that hypnotizability can be viewed as a stable trait.

Psychoanalytic Theory

From a modern psychoanalytic perspective, and as articulated by Michael Nash (Nash, 1991, 2008), hypnosis can also be viewed as a special case of psychological regression that is "marked by characteristic changes in the experience of self, relationship, and information processing" (Nash, 1991, p. 171). This view that hypnosis results in a *characteristic* change in the subject's experience makes this a theory that focuses on hypnosis-as-response; like dissociation theory, it is a "state" theory of hypnosis.

Psychological regression plays a central role in psychoanalytic theory as a way to understand psychopathology as well as a way to help guide treatment. Nash (Nash, 1991, 2008) notes that Freud identified two types of regression: (1) temporal regression and (2) topographic regression. Temporal regression refers to the idea that people systematically progress through different developmental stages, but that each stage of functioning is retained at some level. Psychopathology may be defined as a temporal regression to some previous level of functioning (e.g., infantile, adolescent). Freud also thought that hypnosis could produce a temporal regression. However, as Nash points out, neither clinical nor laboratory evidence supports key assumptions regarding the idea of temporal regression during hypnosis (Nash, 2008).

Topographic regression represents a shift in cognitive process and structure. According to Freud, topographic regression is a shift from thoughts to images, and from secondary-process thinking (logical thinking that allows the individual to separate internal fantasy from external reality, locate events in linear time, communicate clearly, etc.)

to primary-process thinking (symbolic thinking, displacement, condensation, inability to distinguish memory or fantasy from external reality). Evidence for primary-process thinking can be observed in everyday life (slips of the tongue, inebriated states, and dreaming). Also, various forms of psychopathology are associated with an individual's inability to shift out of primary-process thinking (e.g., delusional thinking, hallucinations).

The effects of hypnosis can be viewed as a topographic shift (regression) from secondary to primary-process thinking. As Nash points out, "in hypnosis a pattern of responding emerges, striking a redistribution of key parameters of the system such that thinking, emotion, relationship and self are altered in such a way that there is a prominence of primary-process mentation" (p. 201, Nash, 2008). This model predicts that when someone is hypnotized, we should observe in the individual (1) an increase in prelogical and symbolic (dreamlike) thought process, (2) an increase in the availability of affect and emotion, (3) changes in how bodily sensations are experienced, (4) an increase in use of "displacement" (e.g., displacing onto the hypnotist core issues related to the subject's parents) and "condensation" (a fusion of multiple issues or elements into one [e.g., increased transference to the clinician]), and (5) an increase in the frequency of motor responses being experienced as occurring involuntarily. Research findings support all of these changes in hypnotized subjects, supporting the viability of this model for understanding hypnotic responses.

Although the shift in cognitive processes hypothesized by the psychoanalytic model might be viewed as a shift "towards" psychopathology, especially if the individual were unable to shift "back" into secondary-process thinking, Nash (2008) points out that the ability to shift into such states can be useful. They can be particularly useful for creative problem-solving and enhancing an individual's ability to relate empathically and communicate compellingly.

Sociocognitive Views

Sociocognitive theorists note that people behave in ways consistent with their goals and consistent with their interpretation of the most

appropriate behaviors and feelings in a social situation. Thus, like all behavioral responses, hypnotic responses have cultural, personal, and interpersonal determinants that operate via their effects on patient expectations and motivation. According to proponents of this approach, the fact that many subjects report having an altered state of consciousness following hypnotic inductions is not due to the fact that hypnosis produces an altered state of consciousness. Rather, these responses occur because many people in our culture *believe* that hypnosis produces altered states of consciousness; experiencing such a state then becomes the appropriate response in the hypnotic context. The subject's motivation and expectations are often invoked as key determinants of hypnotic responding by sociocognitive theorists.

One of the more recent and intriguing sociocognitive models of hypnosis to emerge is response set theory (Lynn, Kirsch, & Hallquist, 2008). Response sets are conditioned patterns of associations among mental constructs, such as expectancies, intentions, and views of the self. Two of these constructs, expectancies and intentions, in particular are hypothesized to influence the initiation of thoughts and behavior. Because they are preconditioned, the resulting thoughts and behaviors can be perceived to occur automatically; in fact, according to this model, many if not most of our day-to-day behaviors (driving to work, taking a shower in the morning) can occur "automatically" without the need for reflection. Supporting this view, recent findings from neuroimaging studies suggest that the perception of conscious volition related to most, if not all, of our behaviors may be an illusion (see Lynn et al., 2008). Hypnotic suggestions for nonvolitional motor behaviors (e.g., arm levitation) may merely allow subjects to suspend this (inaccurate) perception that they are consciously controlling their actions. Thus, response set theory argues that hypnosis may operate, in large part, by encouraging the subject to access and initiate response sets associated with different suggestions.

Neurophysiologic Views

Research studying the neurophysiologic correlates of hypnosis has been of greatest interest to theoreticians who view the hypnotic state as an important factor to consider when defining and understanding hypnosis.

If a hypnotic state or states exist, many argue, hypnosis and responses to hypnotic suggestions should have neurophysiologic correlates consistent with this state, in the same way that different sleep states have neural activity correlates.

Researchers have used three primary measures of neurophysiologic activity and function to identify neurophysiologic correlates of hypnosis: (1) response to neuropsychological tests, which ask the subject to perform tasks and solve problems known to require processing in different parts of the brain, (2) imaging (e.g., PET, fMRI [see below]) procedures that measure activity in specific areas of the brain following both general hypnosis and response to specific hypnotic suggestions, and (3) electroencephalographic (EEG) measures of global brain activity. Although a thorough summary of the many research studies in this area is beyond the scope of this chapter, the conclusions from this research can be summarized.

The bottom-line conclusion of this research[3] is clear: When responding to hypnotic inductions and suggestions, the measured brain activity in individuals who score high on hypnotizability scales is qualitatively different than that in individuals who score low on these measures. Individuals in the latter group (low hypnotizables or "lows") show little neurophysiologic change when given hypnotic inductions or suggestions. On the other hand, high hypnotizables ("highs") show consistent and reliable differences in measures of brain processes and activity.

The research findings from imaging studies and studies using neuropsychological tests have identified brain regions consistently influenced by hypnosis in highs—specifically, frontal brain regions (frontal lobes), parietal lobes, and anterior cingulate cortex (ACC) (Oakley, 2008). The frontal area of the brain and parietal lobes are known to be responsible for attention, absorption, and conceptual thought (e.g., prefrontal cortex) and attention to external and bodily stimuli (parietal lobes). The ACC is a structure of the limbic system that plays a role in many activities and responses, including emotional reactions to pain. It is therefore not clear at this time whether the consistent changes in ACC activity in

[3] The interested reader is encouraged to read the reviews on this topic (Barabasz & Barabasz, 2008; Gruzelier, 1998, 2006; Oakley, 2008; Oakley & Halligan, 2010).

highs occur because of the specific effects of hypnosis, or because responses to suggestions, whether the subject was hypnotized or not, might require ACC involvement (Oakley, 2008).

Various studies using EEG measures of brain activity have shown fairly consistent results (see Oakley & Halligan, 2010). First, during hypnosis among highs but not lows, there is a general shift in activity from the left hemisphere to the right hemisphere. Right-hemisphere processing is associated with more nonverbal and symbolic mentation ("primary-process" thinking), and left-hemisphere processing is associated with more verbal/logic mentation. Second, highs evidence higher baseline levels of both theta and alpha bandwidth activity (associated with more relaxed states in general) than lows. When hypnotized, highs show greater increases in alpha activity than lows do.

Whether one concludes from this body of research that the findings support the existence of a hypnotic "state" appears to depend more on one's theoretical orientation than on the findings themselves (see, for example, Barabasz & Barabasz [2008] vs. Lynn, Kirsch, & Hallquist [2008] for two different interpretations of these findings). Either way, however, there is no doubt that hypnosis alters brain activity in reliable ways, and it does this more so in individuals who score high on hypnotizability tests than in individuals who score low on these tests. Thus, hypnosis can be seen as a form of "neuromodulation" that allows subjects to alter their brain activity in ways that can provide them with more comfort.

Chapter Summary

Hypnosis can be defined by what it looks like (hypnosis-as-procedure) or what it does (hypnosis-as-response). There has been and continues to be disagreement among scientists regarding the most useful model for understanding hypnosis. Importantly, however, there is not disagreement among experts regarding the efficacy of hypnosis-based treatments. *The conclusion that hypnotic treatments produce significant and meaningful changes in thought, emotions, behavior, and perception is well established and noncontroversial* (see Chapter 4 for a summary of the research findings demonstrating the efficacy of hypnosis for pain management, specifically).

Michael Yapko (Yapko, 2003), one of the most prominent clinicians and educators working in the field today, has pointed out that each model or theory of hypnosis provides a useful explanation of different aspects of the hypnotic interaction. At the same time, each existing model is inadequate for understanding everything that can and does occur when a clinician uses hypnotic procedures. Dissociation models provide a useful understanding for the apparent "magic" of hypnosis—how pain symptoms can sometimes disappear during and after hypnotic analgesia suggestions, how subjects engage in behaviors that seem nonvolitional, and why patients sometimes describe experiencing unusual dissociative experiences during hypnotic sessions. The psychoanalytic model explains the often-observed high level of creativity that can occur during hypnotic sessions, as well as the very rapid rapport that can occur between clinicians and patients during and after hypnotic procedures. Sociocognitive models emphasize the importance of the social and personal interaction skills of the clinician, as well as the effects of patient motivation and outcome expectancies on therapeutic outcome. Neurophysiologic models provide a description of the biological neurophysiologic underpinnings of hypnosis and its effects.

The treatment protocol presented in this guide, as well as in previous and ongoing clinical trials of self-hypnosis training for chronic pain management (Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009; Jensen et al., 2011), uses a neurophysiologic model as a basis for explaining the effects of hypnosis to patients (see Chapter 5). This does not imply that the neurophysiologic model is viewed as representing a higher "truth" than dissociation, psychoanalytic, or sociocognitive models. Rather, a neurophysiologic model was chosen because it has the most clinical relevance and utility for demystifying hypnosis. By providing patients with clear biological explanations of the effects of hypnosis, an emphasis on neurophysiologic processes over psychological ones may help legitimize the intervention in the eyes of patients. Also, when explained in simple terms, this model is easily understood by most patients; discussion of the effects of hypnosis on global brain activity and on activity in specific pain-processing areas of the brain is likely easier to understand than concepts of "hierarchical control mechanisms," "prelogical" and "symbolic" thought processes, and even "contextual variables" and "response sets." Third, many

patients are already thinking about their pain in physiologic terms (although many seeking treatment may be thinking about pain in terms of peripheral rather than central nervous system activity), so speaking in this language does not usually require a change in the primary model most patients are already using to understand their pain. Finally, the findings from neurophysiologic research on the effects of hypnosis on pain are very clear and are associated with pictures and images that can provide observable evidence of the physiologic changes produced by hypnosis. This may make the findings of this model easy to absorb (and perhaps easier to believe) by many patients.

Chapter 4 *What Hypnosis Can Do for Pain*

(Corresponds to Chapter 4 of the Workbook)

A great deal of research has examined the effects of hypnosis on pain. This research can be divided into two broad areas: (1) laboratory studies on the effects of hypnosis on acute pain and its neurophysiologic substrates and (2) clinical trials examining the effects of hypnotic interventions for chronic pain. The purpose of this chapter is to provide the reader with an overview of the primary findings from research in these areas and to discuss the clinical implications of these findings for developing effective treatment plans using hypnosis.

Effects of Hypnosis on Pain Neurophysiology

Chapter 1 of this guide reviewed the state-of-the-science understanding of the neurophysiologic substrates of pain. One of the most important conclusions from this research is that the brain is *not* merely a passive recipient of the nociceptive information it receives from the periphery. Rather, the entire nervous system (neurons in the periphery, the spinal cord, and brain) actively processes and modulates the information that it receives. Nociception—information from the periphery indicating damage or the threat of damage—is neither necessary nor sufficient for an individual to experience pain. Moreover, there is no "pain center" in the brain. Instead, multiple integrated neuronal networks work together to contribute to the global experience of pain. These processes and networks make up the "pain matrix."

Depending on the presenting problem and the results of the initial clinical evaluation (see Chapter 5), one possible goal of pain treatment, including hypnotic pain treatment, is to influence activity in the pain matrix so that the patient experiences less pain. As a result, the patient should be better able to more fully participate in non-pain-related life activities. Treatments that alter activity in the pain matrix can contribute to these goals and outcomes. This section of the chapter reviews the research demonstrating that hypnosis affects both activity in the structures (peripheral, spinal, and cortical) and processes (global activation and plasticity) of the pain matrix.

Peripheral Effects

Evidence indicates that hypnotic suggestions can influence the chemical, inflammatory, and other physiologic processes at the site of any injury, and thereby alter the responsivity of nociceptors. In one study, for example, Chapman, Goodell, and Wolff (1959) compared the responses to noxious heat stimulation given to the right and left arms of subjects following hypnotic suggestions for one arm to be "normal" and the other arm to be "vulnerable" ("painful," "burning," "damaged," and "sensitive"). Of the 12 times they compared peripheral responses in the "normal" versus "vulnerable" arms, they found greater inflammatory reactions and more tissue damage in the skin of the "vulnerable" arm nine times (75%). These investigators then repeated the study 27 more times, but this time comparing the effects of hypnotic suggestions for "anesthetic" versus "vulnerable" arms. In the replication study, they found greater inflammatory reaction and tissue damage in the "vulnerable" arm relative to the "anesthetic" arm 20 times (74%). They also found more bradykinin (a vasodilator associated with increased pain) in the perfusate of the "vulnerable" arm than the "anesthetic" arm.

Additional evidence that hypnosis can influence peripheral processes comes from studies showing that hypnotic suggestions influence peripheral vascular activity (Casiglia et al., 1997; Klapow et al., 1996) as well as objective measures of wound healing (Ginandes et al., 2003). Thus, if

the pain problem involves peripheral inflammatory responses, or if pain is otherwise related to peripheral vascular activity, hypnotic suggestions can influence pain via its effect on these responses and activity.

Spinal Effects

There is also evidence that hypnotic analgesia can influence nervous system activity in the spinal cord. Support for this conclusion comes from a variety of studies that demonstrate hypnotically induced reductions in skin reflex on the arm (Hernandez-Peon et al., 1960), nerve response in the jaw (Sharav & Tal, 1989), and muscle response in the ankle (Kiernan et al., 1995). The latter study may be particularly informative as it demonstrated that hypnotic suggestions for analgesia were correlated with reductions in the R-III (spinal nociceptive) reflex, a response that is *not* subject to voluntary control.

Using a methodology similar to that of Kiernan et al. (1995), Danziger et al. (1998) identified two patterns of R-III reflex associated with hypnotic analgesia in 18 individuals: 11 of their study participants showed inhibition and 7 showed facilitation of the spinal nociceptive reflex following hypnotic analgesia suggestions. Together, these findings suggest that change in the R-III reflex in either direction (inhibition or facilitation) may mediate the effects of hypnotic analgesia by disrupting the transmission of nociception information through the spinal cord.

Supraspinal Effects

The advances in neuroimaging technology over the past decade and, in particular, developments in functional magnetic resonance imaging (fMRI) and positron emission tomography (PET) have facilitated research into the effects of hypnosis and hypnotic analgesia on brain activity. One key finding from this research is that different hypnotic suggestions affect activity in different brain areas in ways consistent with the content of those suggestions—hypnosis can be very precise in targeting activity in specific structures of the pain matrix. For example, hypnotic suggestions for decreased pain *unpleasantness*, as measured by

PET imaging, were found to be associated with decreased activity in the ACC but not S1 or S2 cortex (Rainville et al., 1997). Wik et al. (1999) also found a decrease in activity in the cingulate cortex using PET scans with hypnotic analgesia suggestions. Recall that the ACC is involved with processing the emotional, but not the sensory, aspects of pain. On the other hand, hypnotic suggestions for decreased pain *intensity* were shown to be associated with decreased activity in the S1 sensory cortex (and to produce a similar trend in S2 sensory cortex) but not the ACC (Hofbauer et al., 2001).

Faymonville et al. (2000) found that hypnotic suggestions to relive a very pleasant personal memory decreased pain in response to noxious stimulation. Subjects receiving this suggestion also had greater activity in the midcingulate portion of the ACC, as measured by PET scans, relative to individuals who were not given this suggestion. The findings of Faymonville et al. and those of Rainville et al. (1997) might appear to be contradictory, with the former showing an increase in ACC activity and the latter showing a decrease in ACC activity following the hypnotic analgesia suggestions. However, the specific content of the suggestions used in these studies varied, and different suggestions may elicit different cortical responses (this issue is discussed in more detail below). In any case, the findings support the effects of hypnotic analgesia on the ACC, which is a key cortical structure involved in the creation of pain sensations.

One additional study is relevant to understanding the effects of hypnosis on the experience of pain. In this study, fMRI images of brain activity were made during three experimental conditions: (1) during actual noxious thermal stimulation, (2) following hypnotic suggestions for this same pain experience without stimulation, and (3) following a request that subjects simply think about or imagine this pain without any hypnotic induction (Derbyshire et al., 2004). The average pain intensity rating (on 0–10 scales) during actual noxious stimulation was 5.7, and the average pain rating following hypnotic suggestions that the subject experience pain was 2.8. None of the participants reported that they experienced any pain intensity during the imagined pain condition. Interestingly, similar brain areas became active following the noxious stimulation, hypnotic pain, and imagined pain conditions, including the thalamus, ACC, midanterior insula, and parietal and prefrontal cortex.

This research is striking in that it shows that hypnotic suggestions without physical stimulation can create reports of pain sensations and that the brain responds as if the sensations were real (see also Kosslyn et al. [2000] for similar findings concerning the effects of hypnosis on perception of color). Of course, if the brain can create the sensation of pain with hypnosis, hypnosis can be used to help the brain create other sensations as well, including sensations and perceptions that are inconsistent with pain, such as sensations of comfort and relaxation.

Effects of Hypnosis on Pain-Related Cortical Processes

Global Excitability

As summarized in Chapter 1, EEG bandwidth activity is associated with the experience of acute and chronic pain. Specifically, more pain is associated with more beta (13 Hz to 30 Hz) bandwidth activity and less alpha (8 Hz to 13 Hz) bandwidth activity. Beta activity is associated with normal waking consciousness or the processing of information (i.e., thinking or sensing), while alpha activity is associated with a lack of active cognitive activity and general feelings of relaxation. Thus, beta activity, perhaps especially in the pain matrix, may reflect the processing of information needed to create an experience of pain, while alpha activity may be inconsistent with or otherwise interfere with that information processing. Treatments that decrease beta activity and increase alpha activity—treatments that result in states described as "relaxed" by individuals—may therefore result in an overall decrease in the experience of pain. As it turns out, hypnosis has both of these effects on brain activity: it increases relative alpha activity and decreases relative beta activity (Crawford, 1990; Williams & Gruzelier, 2001). This global "calming" effect of hypnosis on brain activity may be an additional mechanism by which hypnosis reduces the experience of pain.

Plasticity

In addition to producing a decrease in global cortical activity and altering activity in specific areas associated with the pain matrix, hypnosis

can also alter the *process* of brain activity—that is, the relationships and communication between different cortical areas. For example, using the same design (and some of the subjects) as in their 2000 study cited above, Faymonville et al. examined the functional connectivity between the midcingulate portion of the ACC and other brain areas during hypnosis using PET scans (Faymonville et al., 2003). Connectivity in this case was assessed as a correlation in activity between the ACC and other areas of the brain known to be connected to the ACC (a higher correlation is thought to reflect a higher rate of communication between areas). In this study, Faymonville et al. replicated their findings regarding the significant effects of hypnosis (relative to rest and to distraction) on pain. With hypnosis, they also found an *increase* in connectivity between the midcingulate ACC and the bilateral insula, the pregenual cingulate cortex, presupplementary motor area, right prefrontal cortex and striatum, thalamus, and brain stem.

Fingelkurts et al. (2007) examined functional connectivity using correlations in EEG activity assessed over different scalp sites in a single highly hypnotizable individual. In this study, connectivity was compared between baseline and hypnotized conditions in two hypnosis sessions, separated by a year. In apparent contrast to the findings of Faymonville et al. (2003), they found significant *decreases* in connectivity in activity assessed over a number of scalp sites following the hypnotic induction in two hypnotic sessions. Similarly, Egner et al. (2005) also reported a decrease in functional connectivity (accessed via correlations in EEG activity) between the frontal midline and left lateral scalp sites in highly susceptible subjects after hypnosis during a challenging mental task.

Does hypnosis increase connectivity or decrease connectivity between cortical areas? The answer appears to be that it can do both, depending perhaps upon the nature of the hypnotic suggestions made. Suggestions to relive a pleasurable experience inconsistent with pain might enlist activity in and connections among brain areas needed to experience comfort and pleasure (a "pleasure matrix"). On the other hand, individuals given suggestions to experience decreases in pain, specifically, may respond by disrupting communication between cortical areas involved in the pain matrix, resulting in measurable decreases in connectivity.

More often than not, clinicians who use hypnotic interventions to treat individuals with pain report that with any one patient they provide just one or two of the many possible suggestions that might be effective for pain management (e.g., Evans, 1989; Gainer, 1992; James et al., 1989). It is not always clear, however, why particular suggestions are chosen over other possible ones. In addition, there has been a tendency for clinicians who use hypnosis to focus on suggestions that target the sensory components of pain (pain intensity) as opposed to using or including suggestions that address pain's emotional, motivational, cognitive, and behavioral components (e.g., Crasilneck, 1995; Evans, 1989; Gainer, 1992; Jack, 1999; Lu et al., 2001; Simon & Lewis, 2000; Williamson, 2004; but see Abrahamsen, Baad-Hansen, & Svensson, 2008, and Sachs, Feuerstein, & Vitale, 1977, for descriptions of more comprehensive hypnotic analgesia treatment approaches). In other words, they seem to be targeting mostly the thalamus and sensory cortices, and sometimes the ACC, but not so much the insula or prefrontal cortex.

However, one important conclusion from the research on the neurophysiologic effects of hypnotic analgesia is clear: "hypnotic analgesia" is not a single treatment that affects pain via a single underlying physiologic mechanism. Instead, different hypnotic suggestions affect the pain experience via their effects on different neurophysiologic structures and processes. This observation raises the intriguing possibility that *the efficacy of hypnotic analgesia interventions might be maximized by including suggestions that address multiple underlying physiologic areas and processes*—not just, for example, those areas related to the sensory (somatosensory cortex) or affective (ACC) domains of pain.

When using hypnosis, there are tens if not hundreds of suggestions to consider, only a subset of which are likely to be most effective for that particular patient's problems. Even though the treatment protocols developed for clinical trials in this area are often standardized (i.e., all participants in the hypnosis condition in clinical trials usually receive the same manualized induction[s] and suggestions) to ensure replicability across research settings, in the clinical setting *treatment should be tailored to the patient*. This may, and often does, involve starting treatment using inductions and hypnotic suggestions that have demonstrated

efficacy in clinical trials in other patients, such as the protocols described in this guide. However, soon after treatment starts, and continuing until the last session, the patient's preferences and response to the hypnotic suggestions should be assessed. New suggestions should be added based on this feedback until the patient and clinician are satisfied that the patient has achieved maximum benefit. This is one primary reason that this guide includes numerous examples of hypnotic suggestions for changing pain, pain-related thoughts, mood, activity, behavior, and sleep quality (see Table 4.1 and also the additional scripts available to the readers of this book on the web at www.oup.com/us/ttw). Using the inductions and suggestions described in Chapters 7 through 11 ensures that the patient will receive treatment with proven efficacy. Tailoring the hypnotic suggestions as treatment progresses in response to the patient's responses and preferences will likely increase efficacy further.

To ensure that as much of the pain matrix is influenced as possible, hypnotic suggestions that "target" all of the areas involved in the creation of pain should be at least considered, if not tried, for each patient. Table 4.1 lists some specific suggestions that target or mention activity in the periphery, spine, and brain (somatosensory cortex, insula, ACC, and prefrontal cortex), as well as structural processes (plasticity and connectivity) related to pain. Suggestions that are followed by significant pain relief and comfort, improved well-being and sense of control over pain and its effects, positive behavioral changes, and improved sleep quality should be continued; those that appear to have little benefit can be abandoned and replaced with others.

Not each suggestion in Table 4.1 is necessarily associated with a measurable change in activity in a specific pain matrix structure or process, and only that structure or process, for all patients. Research demonstrating the specific neurophysiologic effects of each of these suggestions has not yet been conducted. Also, it is likely that many of the suggestions listed influence multiple structures or processes or may even influence different structures and processes in different individuals. However, the suggestions in Table 4.1 do provide the clinician with a broad range of suggestions to try as he or she seeks to identify the specific suggestions most appropriate for any one patient.

Table 4.1 Hypnotic Suggestions or Approaches for Pain Management and Possible Site(s) of Action

Neurophysiologic Site(s) or Problem	Goal(s) of Suggestion(s)	Examples of Suggestions
Periphery	Experience peripheral analgesia	"The area of pain and discomfort is being engulfed in a psychological anesthesia" (Crasilneck, 1995, p. 260)
	Produce the experience of decreased nociceptor responsivity	You can "begin to reduce the oversensitivity by pour[ing] soothing, healing fluid down the affected nerves to help them" (Williamson, 2004, p. 148)
Spine	Experience competing sensations that inhibit nociception	"[Y]our body, your spine, knows that when you rub a body part, it overwhelms the spine with comfortable sensations, that displace any other sensations. . .and you can take advantage of that ability, imagining that someone is rubbing, massaging the part that is sometimes uncomfortable. . .feeling that relaxing massage. . .and noticing how it replaces any feelings of discomfort."
	Suggest descending inhibition	"Your brain is now sending messages to the gate-control stations to tune down the intensity and quality of the pain signals, so that you will feel less and less discomfort" (Sacerdote, 1978, p. 20)
	Metaphors and images related to inhibition	"Picturing yourself in a room that is just too bright. . .so you go over to the dimmer switch, and turn the knob. . .dimming the lights" (see also "master control room" metaphor used by Gainer, 1992)
Somatosensory cortex	Decreasing pain intensity	"Now the pain in your right hand is beginning to lessen, the pain is subsiding; the pain is decreasing. With every breath you take, the pain in your right hand is diminishing; less pain. . . Lessening, decreasing, and almost gone" (Crasilneck, 1999, p. 259), or

(Continued)

Table 4.1 Hypnotic Suggestions or Approaches for Pain Management and Possible Site(s) of Action (*cont'd*)

Neurophysiologic Site(s) or Problem	Goal(s) of Suggestion(s)	Examples of Suggestions
		"I can't take away all of your pain . . . it is asking too much of your body . . . and if you lose 1 percent . . . you would still have 99 percent of it left, but it would still be a loss of 1 percent. You could lose 5 percent of that pain. You wouldn't notice the loss of 5 percent, because you would still have 95 percent of the pain, but you would still have a loss of 5 percent. . . You might even lose 80 percent of your pain, but I don't think that is quite reasonable, yet. I would be willing to settle for a loss of 75 percent . . . what is the difference between 75 and 80 percent, and sooner or later you can lose 80 percent, and maybe 85 percent, but first, let us settle for 80." (Erickson, 1983, p. 236)
	Alter the pain site	"Now, you've got cancer pain. Why not have another kind of pain also? Why not have pain out here in your hand? You have cancer pain in your body. It is very, very troublesome; it is very, very threatening . . . You wouldn't mind any amount of pain our here in your hand. . . And if you had pain out here you could stand any amount" (Erickson, 1986, p. 80; see also Jack, 1999; Spinhoven & Linssen, 1989)
	Alter pain extent	"The area of any discomfort is shrinking, becoming smaller and smaller, actually shrinking, to the size of a hand. . .a palm . . . a Band-Aid . . . a button . . . a tiny tiny speck . . . so small . . . hardly noticeable at all."
	Alter pain quality	"[S]ubstitute a different feeling, such as numbness or warmth, or tingling or pressure, for any unpleasant sensations . . . you may already be feeling different sensations—sensations that slowly and easily take the place of any uncomfortable feelings" (Jensen et al., 2005, pp. 208–209), or

		"This short, cutting, stabbing, blinding pain of yours, could you make that into a dull, heavy pain?" [and then transform this into a feeling of relaxation and weakness] (Erickson, 1980, p. 318), or "If you will just pay attention to that grinding pain you will notice that it is a *slow* grinding pain" (Erickson, 1983, p. 227; see also Abrahamsen et al., 2008)
	Metaphors that alter the sensory aspects of pain	"And you can picture the discomfort as a picture, a figure, or an image . . . that's right . . . and now notice as the size, color, location, or other aspect of the image changes, . . ." or, "You can picture putting these feelings in a box, then putting this box into in another box, and then putting this box in yet another box, and placing that box in a room down a long hallway." (Jensen et al., 2005, p. 206; see also Abrahamsen et al., 2008; Erickson, 1967; Jack, 1999; Gainer, 1992; Spinhoven & Linssen, 1989).
Insula	Experiencing bodily sensations associated with comfort and safety	"And in your special place, you can feel a breeze, it might be cool. . .or warm . . . it is just the right temperature . . . it just feels so good," or "As you lower yourself into the healing water . . . you might feel a tingling . . . the feeling of the water around you . . . and the temperature . . . it is just right for you right now . . . pleasantly warm or cool. . . I don't what would feel the best to you now. . .but you do . . . and the water . . . so relaxing . . . filling your body with a sense of comfort . . . such relief . . . you might feel yourself wanting to sigh . . . a sign of relief," or "[N]ow just feel the shawl and drape it around yourself . . . feel the snugness and how it is protecting you . . . feeling warm and snug trapping all the warm air" (Jack, 1999, p. 235), or "Now as I talk and I can do so *comfortably*, I wish that you will *listen to me comfortably* . . . *it's so comfortable Joe* to watch a plant grow" (Erickson, 1966, pp. 203–4)

(Continued)

Table 4.1 Hypnotic Suggestions or Approaches for Pain Management and Possible Site(s) of Action (*cont'd*)

Neurophysiologic Site(s) or Problem	Goal(s) of Suggestion(s)	Examples of Suggestions
	Age regression to the experience of physical sensations incompatible with pain	"Remembering a time when you just felt so good, physically. Maybe you were getting a massage, maybe it was when you were running, comfortably, easily, and strongly . . . feeling so good . . . muscles relaxed, really feeling that way, right now."
Anterior cingulate cortex	Experiencing a feeling of "not caring" about the pain—a feeling of not having to do anything about it	"And know that you and your body are safe . . . the body knows . . . what to do to heal itself . . . there is no need for you to *do* anything more, other than what any person requires to maintain their health and comfort . . . you can just relax and accept that you will feel more and more comfortable."
	Amnesia for pain to reduce recall of distress and dread of future pain	"The explanation was offered that, in amnesia for pain, one could experience pain throughout its duration, but would immediately forget it and thus would not look back upon the experience with a feeling of horror and distress, nor look forward to another similar pain experience with anticipatory dread and fear" (Erickson, 1959, p. 70)
Prefrontal cortex	Altering the meaning of pain	"Pain . . . is no cause for undue alarm . . . it [can] reasonably be put into the background, much as noisy children are invited to play in a room with the door closed where they can be responded to if necessary, but otherwise ignored" (Dane, 1996, p. 233)
	Focus on valued goals other than pain reduction	"As you are able, more and more, to ignore feelings of discomfort, you are free to consider other things, and to move towards your own important life goals, perhaps goals related to what you want to do with your family . . . your children . . . you are now free to grow . . . to leave discomfort behind," or

	"While you're thinking about this or that particular happy thing, you won't have enough energy left over with which to feel the pain of your cancer, because all of your energy is going to go into this matter of thinking over all the nice things" (Erickson, 1983, p. 318)
Focus on physical activity and fitness	"To create for yourself a healthy lifestyle . . . in the ways that are just right for you . . . being appropriately active . . . choosing and maintaining the exercises that fit with your goals and life . . . feeling so good about how in control you are . . . of your body . . . your health . . . your life."
Age regression to experience memories of comfort	"And you can think back to a time when you felt so very comfortable . . . and remember what that felt like . . . in body . . . in mind . . . Where are you? What are you doing? . . . You are there . . . really there . . . notice what is around you . . . and how you feel . . . really experience that comfort . . . in every nerve, every muscle, every tendon. . . Are you experiencing this now? Good . . . and now, remember this . . . allow the mind to bookmark this state. You can come back, now, to the here and now . . . but bring this c comfort with you."
Age progression	"And now. . .you can see yourself sometime in the future. . .maybe later today. . . tomorrow. . .next week. . .or even months from now. . .feeling so much better then you do now. So confident in your ability to live the life you want, no matter what sensations you experience, to do what you want and need to do, comfortably, with a sense of relaxation and purpose. . .and thinking thoughts that reflect this confidence and comfort. Just filled with optimism and hope. . .a confidence that you can manage and move forward. . .You feel good physically. . .and emotionally. So relaxed. . .yet strong. . .so calm. I wonder what thoughts are going through your head that reflect these feelings? Positive, realistic, and reassuring thoughts. . .you may remember some of these thoughts. . .yes, that one . . . and you will be able to tell it to me later. . .and now, as you come back to the here and now, you are bringing back with you some, or much, or all. . .you choose how much. . .of these feelings, these thoughts, with you. . .bring them right back with you as a part of your brain and body. . .so you can experience them here and now . . .and the rest of today, and tomorrow" (see also Spinhoven & Linssen, 1989)

(Continued)

Table 4.1 Hypnotic Suggestions or Approaches for Pain Management and Possible Site(s) of Action (*cont'd*)

Neurophysiologic Site(s) or Problem	Goal(s) of Suggestion(s)	Examples of Suggestions
Global activity	Generalized calm	"Allow your mind to be aware of the muscles and tendons in the [state body part or area], and allow those muscles and tendons to relax . . . let go . . . noticing whatever sensations that let you know that the muscles are relaxing. Perhaps a sense of heaviness. . .or warmth . . . or a sense of lightness . . . I don't know what sensations you will experience, as the [body part of area] feels more and more relaxed . . . more and more comfortable . . . with every breath you take . . . and now, those feelings of relaxation move to the [next body part or area, until the entire body is covered]."
	The experience of being in a calming "safe place"	" . . . and in your mind's eye, you can picture yourself moving down a path, to a safe and comfortable place . . . a place you might have been before . . . or a place that you create for yourself . . . "[continuing with suggestions that will allow the client to experience details of the place, including sensory experiences as well as references to safety and control]."
Structure (plasticity and cortical connectivity)	Experiencing oneself as distant from one's body	"The body is so relaxed . . . you even lose awareness of some parts . . . almost as if they were becoming thinner and thinner, or disappearing altogether . . . and as the body disappears, perhaps you experience yourself as a point of consciousness . . . floating . . . just floating in space . . . the body far below . . . you are just pure consciousness . . . completely separate from the body."[1]
	Dissociate sensations from an emotional response	"You may already be aware that any pain intensity, and the distress that pain can sometimes produce are two different things. They are processed in different parts of the brain. It is possible to be aware of a painful sensation but not be bothered by it. Sometimes, it is even possible to experience significant pain. . .and still it does not seem to bother you" (Jensen et al., 2005, p. 208)

Experiencing the painful area as able to move comfortably and easily	"And as you experience yourself in this comfortable place, you can also observe your arm moving, naturally, and easily . . . the arm is bending . . . the fingers are moving . . . and now, lifting that weight . . . feeling the arm move . . . making it move . . . getting stronger and stronger"
Post-hypnotic suggestions to make any benefits permanent	"All benefits that you have obtained from the session today, and your use of it . . . for self-hypnosis in your daily life . . . those benefits can become . . . more and more . . . a permanent part of how your brain works . . . so that any time for your comfort and well-being, the brain can automatically and easily . . . without you even having to think about it . . . move itself into a state that allows for comfort and relaxation . . . just like the more you learn to do anything, driving, walking [insert appropriate examples from the patient's own life], the more automatic it becomes . . . automatic, freeing you up to do whatever else you want to do . . . to talk . . . to listen . . . to enjoy the moment . . . to really *be* with family and friends . . . what the brain is learning, and to the extent that it brings you comfort and a greater sense of control, then, is becoming more and more a permanent part of who you are . . . of how your brain works."

[1] Patients with a history of abuse or trauma may have coped with that abuse or trauma by dissociation and may therefore be at risk for experiencing distress if or when they experience dissociation again. Therefore, care should be taken when making suggestions for dissociation such as this with such patients.

A review of psychological interventions for pain management published in 1982 asserted that hypnosis was the psychological pain treatment that has been used for the longest time, yet it was among the psychological interventions with the fewest controlled clinical trials testing its efficacy (Turner & Chapman, 1982). This situation has changed a great deal since that review was written. A number of well-controlled trials have been completed and published in the interim, and several reviews of these trials have summarized the key findings from this body of research (Dillworth, 2010; Jensen & Patterson, 2005; Montgomery et al., 2000; Patterson & Jensen, 2003).

The conclusions from the reviews are consistent: relative to standard care, hypnosis is more effective for reducing chronic daily pain, and the beneficial effects of hypnosis treatment remain for as long as follow-up data have been collected—up to one year in some studies (e.g., Jensen, et al., 2008). Hypnosis has also been found to be either as effective (e.g., Andreychuk & Skriver, 1975; Friedman & Taub, 1984; Gay et al., 2002; McCauley et al., 1983; Schlutter et al., 1980; Spinhoven et al., 1992; Winocur et al., 2002; Zitman et al., 1992) or more effective than other pain treatments (e.g., Anderson et al., 1975; Edelson & Fitzpatrick, 1989; Haanen et al., 1991) for reducing pain. As a group, these findings provide strong evidence for the efficacy of hypnosis and the importance of considering hypnosis as a treatment option for patients who are interested in trying this approach.

Detailed findings from a number of recently published studies that used the treatment protocol upon which this therapist guide is based are discussed in the sections that follow to make five additional important points: (1) Response to hypnosis treatment is variable; (2) Global hypnotizability may play a role in treatment outcome, but that role appears to be weak; (3) The "side effects" of hypnosis treatment are overwhelmingly positive; (4) Patients may have two types of positive outcomes following hypnosis treatment (a reduction in the severity of ongoing daily pain intensity, and an ability to use self-hypnosis to experience periods of greater comfort) and clinicians should provide treatment with these two outcomes in mind; and (5) Clinicians should include suggestions for altering more than just pain severity.

In 2005, Jensen et al. published the findings from a case series examining the effects of 10 sessions of self-hypnosis training in 33 individuals with chronic pain associated with various physical disabilities (spinal cord injury, multiple sclerosis, and acquired amputation, among others) (Jensen et al., 2005). This was followed by a study presenting the long-term (12 month) outcomes in the same sample (Jensen et al., 2008), as well as two additional controlled trials comparing the effects of the 10-session treatment protocol with treatment conditions controlling for time, therapist attention, patient outcome expectancy, and other non-specific effects (Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009).

The primary outcome variable in these studies was chronic daily pain intensity, as measured by an average of four 0-to-10 numerical rating scale ratings of pain intensity assessed during a 7-day window before treatment, after treatment, and at various follow-up points. The hypnosis treatment protocol, described in much greater detail in Chapters 7 through 11 of this guidebook, included a series of sessions that contained a hypnotic induction followed by suggestions for experiencing (1) deep relaxation, (2) decreased pain, (3) decreased pain unpleasantness, (4) pleasant sensations other than pain, and (5) hypnotic anesthesia. Following these suggestions, post-hypnotic suggestions were given that included the suggestions that (1) patients could experience the comfort achieved during sessions at any time by initiating a cue (in this case, a deep breath that was held for a moment, and then released), (2) the beneficial effects of the cue would increase over time and as patients practiced self-hypnosis, and (3) the beneficial effects of treatment would extend beyond the session times and with practice would become permanent. In the initial case series, all five of the analgesia suggestions were provided in each of the treatment sessions (Jensen et al., 2005). Two of the sessions were audio recorded, burned onto CDs, and given to the patients to listen to at home between sessions. The patients were asked to listen to their preferred recording at least once every day, and also to practice self-hypnosis using the cue on multiple occasions throughout the day.

Some minor modifications of the treatment protocol were made in the subsequent controlled clinical trials (Jensen, Barber, Romano,

Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009). First, a "special place" suggestion was added to the induction to help the patient feel even more comfortable, to enhance hypnotic responding by "deepening" the hypnotic state, and to include additional suggestions (some from Table 4.1) that might address pain matrix structures or processes not addressed by the initial protocol. Second, the induction and special place imagery were followed by a suggestion for experiencing a classic hypnotic response (such as hand lowering with imagined weight, although different suggestions were tried until one was found that the patient responded to) to enhance each participant's sense of successful hypnotic responding, and therefore increase outcome expectancies for positive outcomes. Third, although all five of the analgesia suggestions were given in the first two sessions of the controlled trials, only two were given in the subsequent sessions. These two were (1) the suggestion for decreased pain unpleasantness, which appeared to be effective for many participants and targets a key area of the pain matrix (the ACC; see Chapter 1 and the previous section), and (2) one of the other four analgesia suggestions that, in the judgment of the clinician, the patient benefited from the most. This change was based on our observations in the case series that not all participants responded well to all of the suggestions, indicating that some tailoring was indicated, even in the context of a clinical trial using manualized treatment. Finally, additional suggestions for facilitating changes in pain-related thoughts or behaviors could be added at the request of the study participants, given that hypnosis can be used to facilitate changes in these areas as well (Patterson & Jensen, 2003).

Pre- and post-session measures of pain intensity were administered in the controlled trials (Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009), and pre-treatment, post-treatment, and follow-up measures of average daily pain intensity were assessed in all three of the studies. The reduction in current pain from pre- to post-session averaged 1.67 (Jensen, Barber, Romano, Hanley, et al., 2009) and 1.89 (i.e., a decrease from 3.21 to 1.32; Jensen et al., Jensen, Barber, Romano, Molton, et al., 2009) points on the 0-to-10 scale used in these studies. This pre- to post-session pain reduction was clinically meaningful (i.e., a decrease of 30% or more) for the vast majority of individuals (87%; Jensen, Barber, Romano, Molton, et al., 2009).

However, these immediate effects on pain were not maintained for all patients; pain intensity tended to increase some in the direction of its pre-*session* levels within minutes to hours following the sessions for many patients, although over time and on average it tended not to return completely to pre-treatment levels.

In all three studies, statistically significant pre- to post-*treatment* improvements in average daily pain were observed among individuals who received the self-hypnosis training (Jensen et al., 2005, Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009). However, the amount of decrease in pain averaged across all patients was only modest, ranging from 0.94 (Jensen et al., 2005) to 1.38 (Jensen, Barber, Romano, Hanley, et al., 2009) on the 0-to-10 scale. Because these statistics represent averages across all study participants, they provide little information regarding the number of individual patients who benefited from treatment. In terms of a meaningful (30%) decrease in average daily pain (Farrar et al., 2000), the responder rates ranged from 22% to 60% (Jensen et al., 2005, Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009). Regarding maintenance of gains, when decreases in average daily pain occurred, they tended to remain for at least three months (Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009) and were still present at 12 months (Jensen et al., 2008) following treatment.

Thus, with respect to pain intensity, clinicians (and their patients) can expect that most patients will experience a meaningful *immediate* decrease in pain intensity when patients participate in a hypnosis session. However, after multiple hypnosis sessions, and with repeated practice, only a subset of patients will report meaningful decreases in usual day-to-day pain. The reported responder rates, as indicated by a decrease in average daily pain of 30% or more, range from 22% for individuals with chronic pain associated with spinal cord injury (a particularly difficult chronic pain problem to treat) (Jensen, Barber, Romano, Hanley, et al., 2009) to 47% for individuals with multiple sclerosis (Jensen, Barber, Romano, Molton, et al., 2009) and up to 60% for individuals with acquired amputation and chronic pain (Jensen et al., 2005).

Hypnotizability is an individual's ability to respond to a large variety of hypnotic suggestions. It is measured by performing a hypnotic induction and then making a number of suggestions (e.g., arm levitation, visual hallucination, alterations in perception or memory). The number of positive responses to the suggestions made equals the subject's hypnotizability score. The most common measures of hypnotizability used in hypnosis research are the 12-item Stanford Hypnotic Susceptibility Scale, Form C (Weitzenhoffer & Hilgard, 1962; the manual for this scale can be downloaded from http://socrates.berkeley.edu/~kihlstrm/PDFfiles/Hypnotizability/SHSSC%20Script.pdf) and the group-administered Harvard Group Scale of Hypnotic Susceptibility, Form A (Shor & Orne, 1962; the manual for this scale can be downloaded from http://socrates.berkeley.edu/~kihlstrm/PDFfiles/Hypnotizability/HGSHSAScript.pdf). A brief 5-item version of the Stanford Hypnotic Susceptibility Scale, Form C, was developed for use in clinical settings—the Stanford Hypnotic Clinical Scale for Adults (Hilgard & Hilgard, 1975).

All of these scales have excellent psychometric properties, evidencing strong internal consistency and strong associations with each other and with other measures of hypnotizability. Moreover, hypnotizability, as measured by an earlier form of the Stanford Hypnotic Susceptibility Scale (Form A), has been shown to be highly reliable across time—as reliable, in fact, as IQ test scores (Piccione, 1989).

Given its strong stability, many argue that general hypnotizability is a trait; in fact, this is a basic tenet of the trait model of hypnosis. This view, combined with the observation that measures of hypnotizability are often shown to be significantly associated with response to hypnotic analgesia suggestions in laboratory studies (Hilgard & Hilgard, 1975), may encourage clinicians to consider assessing hypnotizability and perhaps using the resulting score to screen patients into (i.e., those who score high) or out of (i.e., those who score low) hypnotic analgesia treatment.

However, general hypnotizability has been shown to be statistically significantly associated with only *some* measures of pain reduction in only

some studies (Andreychuk & Skriver, 1975; Friedman & Taub, 1984; Gay et al., 2002; ter Kuile et al., 1994). Other studies have not found significant associations between measures of hypnotizability and any outcome measure (Jensen et al., 2005, Jensen et al., 2005, Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009). Moreover, the strength of the associations found between hypnotizability and outcome in chronic pain populations tend to be weak, with hypnotizability never accounting for more than 23% of the variance in outcome (Gay et al., 2002), and often accounting for much less (e.g., 3%, Jensen et al., 2005). These findings suggest that *hypnotizability plays a weak role in treatment outcome in chronic pain populations*. Importantly, the results also indicate that some individuals who score low on existing measures of hypnotizability will benefit from hypnotic treatments (and also that some individuals who score high on these measures are not guaranteed positive outcomes). Thus, the existing measures of hypnotizability should *not* be used to screen patients into or out of hypnotic treatment for chronic pain.

The "Side Effects" of Hypnosis Treatment Are Overwhelmingly Positive

Although not every participant in these studies reported meaningful decreases in daily pain, the clinicians who provided the treatment noted nearly universal satisfaction with treatment. To better understand the reasons for such a high rate of treatment satisfaction, despite the variability in treatment outcome as measured by decreases in daily pain intensity, a follow-up study was performed in the original case series sample (Jensen et al., 2008). In this study, the participants were telephoned by a research assistant (i.e., not by the clinician who provided treatment) and asked to provide ratings of global treatment benefit and ratings of global satisfaction/dissatisfaction with treatment, and to list the specific benefits obtained as well as the reasons for treatment satisfaction or dissatisfaction. Participants were allowed to list as many benefits or reasons for treatment satisfaction or dissatisfaction as they wished, and most provided more than one.

Only one (3%) of the participants contacted reported no benefit with treatment (Jensen et al., 2008), and only two (7%) of the participants

indicated that they were in any way dissatisfied with treatment. The treatment benefits listed and the reasons for satisfaction or dissatisfaction were then classified into pain-related, non-pain-related, or neutral benefits/reasons. Forty types of benefits/reasons were given by the participants, with only nine (23%) of these being related to pain. Fifty-eight percent of the comments were non-pain-related. Only three individuals made any comments that could be classified as negative, and all three of these were pain-related comments indicating disappointment that (1) the treatment was ineffective (one participant reported this), (2) the treatment was less effective than the patient had hoped it would be (three participants reported this), and (3) the treatment benefits did not last as long as the patient hoped they would (one participant reported this). The most common pain-related benefits listed by the participants were (1) pain reduction, (2) increased sense of control over pain, and (3) a sense of having a new option or tool to deal with pain. Non-pain-related benefits included (1) an increase in positive affect, relaxation, and well-being, (2) increased energy, (3) increased self-awareness, and (4) lowered blood pressure. In short, even though the specific focus of the intervention was to decrease pain intensity, the individuals who participated in this treatment reported a large number of additional benefits, which contributed to their being highly satisfied with the intervention.

Hypnosis Has at Least Two Types of Outcome on Pain Intensity

At each of the follow-up assessment points in the case series and the two controlled trials, the participants were telephoned to obtain follow-up measures of outcome. The study participants were also asked to indicate the frequency with which they continued to (1) listen to the audio recordings made during treatment and (2) practice the self-hypnosis skills taught without the assistance of the audio recording. They were asked to rate the amount of pain relief they obtained with either practice method and the length of any relief obtained (in minutes or hours, as appropriate).

An unanticipated finding—unanticipated because the rates of meaningful decreases in pain with treatment were 60% or lower within subject

populations in the three studies on average—was that a great majority of participants continued to listen to the audio recordings and to practice self-hypnosis on their own without the audio recording. For example, in the two controlled trials, at 3 months after treatment, 60% to 85% of the participants who received self-hypnosis training continued to listen to the audio recording (Jensen et al., 2005, Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009), and 62% to 80% continued to practice self-hypnosis on their own without the audio recording (Jensen et al., 2005, Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009). The average pain relief rating (on a 0 = No relief to 10 = Complete relief) after listening to the audio recording was computed as a mean in one study (mean = 3.58, SD = 2.19; Jensen, Barber, Romano, Hanley, et al., 2009) and a median in the other (median = 6, range 3–10; Jensen, Barber, Romano, Molton, et al., 2009). The relief statistics associated with self-hypnosis practice *without* the recording were mean = 3.44 (SD = 2.76) and median = 6 (range = 1–10). The average amount of time that relief lasted tended to be longer after listening to the audio recording (mean = 3.36 hours in one study, median = 6 hours in the other) than after self-hypnosis without the audio recording (mean = 1.42 hours in one study, median = 2 hours in the other).

The fact that participants report experiencing *immediate* reductions in pain intensity after listening to the recording and/or practicing self-hypnosis without the recording, and the fact that these reductions lasted 2 to 6 hours after hypnosis practice, may explain the high rates of continued use of hypnosis after treatment, even among those whose daily pain was not necessarily reduced by 30% or more. Thus, it can reasonably be concluded that the hypnosis intervention has two possible, non-mutually exclusive, benefits. First, this treatment appears to produce a significant reduction in daily pain that lasts up to 12 months (and possibly longer) after treatment. This treatment response occurs for a subset of 22% to 60% of patient participants (depending on patient population). Second, and for a much larger number of individuals (up to 85%), the treatment provides an audio recording and skill (self-hypnosis) for producing a short-term reduction in pain intensity when they choose to use these.

A study was recently completed that tested the effects of expanding hypnotic suggestions to address maladaptive pain-related cognitions, in addition to pain intensity, in a sample of individuals with chronic pain and multiple sclerosis (Jensen et al., 2011). The authors of this study noted that hypnosis has traditionally focused primarily on reducing pain intensity. Using hypnosis in this way is not necessarily a negative thing, especially given the real possibility that someone who experiences lower levels of pain intensity and an increased sense of control over pain may find it easier to focus on experiences other than pain, and therefore may be more able to focus on more fulfilling activities and goals. But using hypnosis *only* for pain reduction may limit its potential to be beneficial (Patterson & Jensen, 2003).

Cognitive therapy for pain targets pain-related cognitions, with a goal of reducing maladaptive cognitions and processes (e.g., catastrophizing) and increasing adaptive and reassuring cognitions. Given the physiologic connections between the areas of the brain hypothesized to process pain-related cognitions (i.e., prefrontal cortex) and the other structures of the pain matrix processing one's emotional response to pain (i.e., ACC) and the sensory components of pain (i.e., S1 and S2) (see Chapter 1), it would be reasonable to hypothesize that direct effects on pain-related cognitions could have indirect effects on the emotional and sensory components of pain.

At the same time, there is evidence that adding hypnosis to cognitive behavior therapy can enhance the efficacy of the latter (Kirsch et al., 1995). This could be due to the general increase in suggestibility and cognitive flexibility that occurs with hypnosis; during hypnosis, individuals may be more open to new ideas. Clinicians have noted this response, and some very creative ones have developed hypnotic cognitive therapy interventions to treat depression based on this idea (Alladin, 2006, 2008; Yapko, 2001a, 2001b, 2006). An interesting question follows from this line of work: Could hypnotic cognitive therapy designed to alter pain-related cognitions contribute to changes in pain or in catastrophizing cognitions beyond the effects of (pain-focused) hypnosis or (catastrophizing-focused) cognitive therapy alone?

To address this question, Jensen et al. completed a study in which 15 patients with multiple sclerosis and chronic pain were given 16 treatment sessions: (1) four educational control (EC) sessions where they were given information about pain that was designed to be interesting and useful but was not expected to have any effects on pain or catastrophizing cognitions; (2) four sessions of pain-focused self-hypnosis training (HYP), hypothesized to have direct effects on average pain intensity; (3) four sessions of cognition-focused cognitive therapy (CT), hypothesized to have direct effects on catastrophizing cognitions; and (4) four sessions of hypnotic cognitive-therapy (HYP-CT), hypothesized to contribute to reductions in pain intensity and catastrophizing cognitions over and above the reductions in these outcome produced by the HYP or CT sessions alone. Current pain intensity was assessed before and after each of the 16 individual treatment sessions, and daily average pain intensity, worst pain intensity, catastrophizing cognitions, and pain interference were assessed before treatment and after each of the four treatment modules.

The results of the study were consistent with many, but not all, of the hypothesized effects of HYP, CT, and HYP-CT. First, as hypothesized, the HYP sessions and the HYP-CT sessions resulted in significant immediate (pre- to post-session) decreases in current pain intensity, while the CT and EC sessions showed no such effects. These findings provide confirmatory evidence that hypnotic analgesia sessions result in immediate reductions in pain, but this finding is also extended to hypnotic cognitive therapy. Second, as hypothesized, patients reported significantly lower levels of average daily pain and worst pain intensity following the HYP treatment module but not after the CT treatment module. This replicates the beneficial effects of hypnosis treatment on average daily pain, and indicates that CT has limited effects on pain intensity. Interestingly, however, and inconsistent with the study hypotheses, *both* the HYP and the CT conditions resulted in lower levels of catastrophizing cognitions, but their effects on catastrophizing were not significantly different from each other. Thus, HYP may reduce catastrophizing cognitions at least as well as CT, even when HYP is focusing only on pain reduction. Perhaps HYP gives patients an increased sense of control over pain and allows them to feel less helpless about it—thoughts and feelings inconsistent with catastrophizing.

The most interesting results from this study, perhaps, were related to the HYP-CT condition. Patients reported significant continued improvement in *all* outcome measures following the hypnotic cognitive therapy treatment module. These findings are consistent with other studies examining the beneficial effects of adding hypnosis to CBT treatments (Kirsch et al., 1995) and suggest that pain-related cognitive therapy might be enhanced by providing this treatment in the context of hypnosis, when patients might be more open to hearing and incorporating reassuring and adaptive beliefs. Although this conclusion needs further study, the initial findings are very promising. A version of HYP-CT treatment is included in the guide (Chapter 9) as a resource for clinicians interested in incorporating this treatment into their protocols.

Chapter Summary

Research, especially research performed in the past decade, has demonstrated that hypnosis and hypnotic analgesia has measurable effects on all of physiologic processes involved in the development and experience of pain. It can reduce inflammatory responses in the periphery, alter the modulation of nociceptive input at the level of the spinal cord, and alter activity in key brain areas involved in the processing of pain, including the thalamus, primary and secondary sensory cortices, ACC, insula, and prefrontal cortex. Moreover, the evidence indicates that different hypnotic suggestions have different effects on brain areas consistent with their content; suggestions for reductions in pain affect alter activity in cortical areas that process information about the affective component of pain, and suggestions for reductions in pain intensity alter activity in cortical areas that process information about the sensory component of pain. As a group, these findings provide clear evidence that the effects of hypnosis on pain are "real," in that it alters more than just a willingness to report pain, but actually alters the brain activity that underlies the experience of pain. The findings also provide a rationale for expanding hypnotic suggestions to include more than merely reductions in pain intensity. To maximize efficacy, clinicians would do well to consider including suggestions that target multiple dimensions of pain and pain-related neurophysiologic processes.

The results of controlled clinical trials indicate that clinicians can anticipate that the majority of their patients will report significant and meaningful reductions in pain intensity during individual hypnosis sessions. Many of these patients may be (pleasantly) surprised by the effects of hypnosis, and many will be able to go on to use the audio recordings from the hypnosis sessions to replicate this benefit outside of the clinic. A subset of these patients will achieve marked reductions in daily pain that should last for weeks, months, and possibly indefinitely after treatment. Clinicians should seek to achieve these outcomes by identifying and then offering the hypnotic suggestions that will be most effective for each individual patient, and then emphasizing post-hypnotic suggestions that the benefits obtained with hypnosis (and in response to listening to audio recordings of the sessions after treatment) will last and become permanent (see Chapter 11). Finally, the results of a recently completed study suggest the possibility that adding hypnosis to cognitive therapy might enhance the efficacy of the latter, both for decreasing the frequency of maladaptive pain-related cognitions (i.e., catastrophizing) and reducing pain even further (Jensen et al., 2011).

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Part III: Using Hypnosis for Chronic Pain Management

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Chapter 5 *Patient Assessment and Preparation*

(Corresponds to Chapter 5 in the Workbook)

Treatment using hypnosis should not proceed until the patient has had a thorough psychological evaluation and a treatment plan has been negotiated and agreed on by both the patient and clinician. The purpose of this chapter is to provide the clinician with a guide to the comprehensive psychological evaluation needed for this purpose. It should be emphasized, however, that many interventions in addition to hypnosis should be considered for addressing the treatment goals identified in the evaluation. These may include biomedical approaches (e.g., appropriate medications or physical therapy) or one or more of a number of additional psychological treatments (e.g., cognitive therapy). Indeed, following the evaluation, it may be determined that hypnosis is not indicated, although a decision not to use hypnosis will likely be rare.

In addition, *the clinician should ensure that the patient is receiving appropriate medical care for the pain problem and any other health conditions*. Hypnosis (or any other form of psychological care) should not be provided *instead* of biomedical care; rather, medical and psychological care should *both* be provided until (and if) the chronic pain problem is resolved. Moreover, because hypnosis for chronic pain management often targets behavioral change (e.g., more activity and exercise is often indicated), it is necessary for the clinician to be aware of any activity limitations that are required from a medical perspective. Patients with specific diagnoses might have exercise and activity limits that should not be exceeded. The clinician and patient need to have clear medical guidelines regarding these and any other medically based behavioral restrictions before setting treatment goals.

The chapter begins with a summary of the primary purposes of the evaluation and then describes in detail its two principal components: (1) the clinical interview and (2) administration of validated self-report measures.

The risks and contraindications for hypnosis are then summarized, given that these inform treatment planning, in particular the decision to use or not use hypnosis as a part of treatment. The chapter ends with discussion about how to perform the final critical step of the evaluation: preparing the patient for treatment by negotiating a treatment plan.

Comprehensive Psychological Pain Evaluation

The initial evaluation serves four very important purposes. First, it provides a "first impression" that allows the clinician to establish and enhance rapport, instill hope, and set the tone for future treatment interactions. Second, it provides the information that is required to identify the behavioral, belief, and coping factors (see Chapter 2) contributing to the patient's pain problem. This allows the clinician to identify which factors might be the most appropriate treatment targets. Third, the initial evaluation provides the opportunity to negotiate a treatment plan with the patient. Finally, the initial evaluation provides the baseline data needed for evaluating the efficacy of treatment as it progresses.

Clinical Interview

Establish Rapport and Set the (Collaborative) Tone for Treatment

Rapport between the patient and clinician has long been known to be related to patient engagement in treatment and positive treatment outcome (Kakigi et al., 2005; Schnur & Montgomery, 2010). To enhance rapport, clinicians should strive to behave in ways that would result in patients describing the clinician as "easy to talk to," "warm and caring," "honest and sincere," and "understanding."

As a general approach, and in order to establish and enhance rapport, it is necessary to *listen* carefully and *pay attention* to the patient—to seek to understand the pain problem, its causes and its effects, from the patient's perspective. To achieve this, the opening statement by the

clinician can (briefly) state the purpose of the evaluation session, but should then quickly shift to asking the patient to express his or her hopes for the session, and for treatment as a whole. You may wish to say something like the following:

> *I am hoping to get to know you better today, to understand your pain and its effects on your life, and to get an idea about what we can do, together, so that you can do more and hurt less. But first, I want to know what you are hoping to get out of today's evaluation. How can I help you best? What would be an ideal outcome or set of outcomes from your perspective?*

The therapist should then take the time to listen carefully to what the patient says. Normally, it takes about five minutes to clarify with the patient what his or her most significant concerns are and what he or she is hoping to get out of treatment. However, if the patient has many concerns he or she wishes to discuss, this might take longer. In addition, patients will often begin to provide information at this stage that the clinician was planning to ask about later during the clinical interview. Letting patients communicate information in a way that is most comfortable for them communicates respect and a willingness to work with the patient on his or her terms. If the patient begins to talk off-topic, it is often appropriate to gently redirect the patient back to the topic at hand ("That story about your dog is very funny. I am also aware of the time, and want to be sure that we have enough time for me to really understand your pain problem and how it has affected you. May I ask you some questions about that?").

Sometimes, when asked about goals for the evaluation or for treatment, patients will say (with a smile or laugh), "I want you to take away my pain." This provides the clinician with a good opportunity to encourage hope, and also to help the patient develop a set of realistic goals for treatment. A response that might accomplish these goals would be:

> *Well, out of the hundreds of individuals with chronic pain that I have worked with, only one reported that he was able to completely eliminate his most severe chronic pain when using hypnosis. You might be like him; learning to use hypnosis to experience no or very little pain is at least theoretically possible. But it is also very rare. Other benefits of this treatment are much more common. Almost everyone*

I work with, for example, reports that when they practice self-hypnosis at home, they experience at least some pain relief, and that the relief can last for hours. Many of these people report that they use self-hypnosis sort of like an analgesic, but it is a "medication" that has only positive side effects, such as feeling more relaxed and in control of one's life. Also, many people who use self-hypnosis report noticeable decreases in their everyday background pain, and that this decrease in daily pain lasts for months and even years. So I think that some level of pain relief is a realistic goal, and we can work towards that. At the same time, it is also possible to significantly decrease the amount of suffering that can go along with your pain, so that any pain you do feel bothers you less and less. Many people can also learn to use hypnosis to ignore whatever pain is left, so that they can get back to doing what it is that is most important to them. They report that they sleep better, and are more active overall. They get back to living their lives. We can discuss which of these, and other possible goals, you would want to work towards with treatment. How does that sound?

(Listen to response, and use reflective listening to communicate your understanding.)

What I'd like to do now is ask you a series of questions to understand your pain better, including what you do now to cope with the pain. I want to know what is working well for you, and what might be working less well. With this information, we can then talk about where we might start so that you can do more and feel better. Is it okay for me to go ahead and start asking these questions now?

(Asking permission to ask a series of questions that may require more clinician direction communicates your intent to shift from a reflective listening mode to a more questioning mode of interaction.)

Conduct the Interview

Ideally, and prior to the patient interview, the clinician would have obtained the patient's previous medical records, which should include important information about the patient's pain (and any other) diagnosis. The medical record should also be reviewed for previous psychological and psychiatric diagnoses, history of psychological and

psychiatric treatment, history of drug or alcohol abuse or treatment, current medication use, and history (and efficacy) of previous pain treatments (including surgeries, emergency room visits, physical therapy, pain coping skills training, and cognitive therapy, among any others). This information provides the clinician with useful information for understanding the patient's general approach to pain management (e.g., passive and biomedically or illness-focused if there is a long history of multiple surgeries and medication trials; more active and self-management or wellness-focused if there is no record of surgeries or analgesic medications but there is a record of participation in active physical therapy and psychological treatment). If the clinician has a working relationship with the patient's managing physician, a phone conversation prior to the evaluation to address any unresolved questions that emerge from the review of the medical record is often useful.

The key questions to ask in a comprehensive psychological evaluation of the pain problem, and a form for making this easier, are presented in the Pain Evaluation Form at the end of the book. The clinician experienced with these questions will usually be able to obtain responses in 45 to 60 minutes. If a patient is loquacious, the clinician may need to ask, "In order to get to all of the questions I need to ask before the end of our time together today, I may have to interrupt you at times to ask the question again or ask the next question. Would that be okay?"

The interview questions on the Pain Evaluation Form are presented in an order that often works well for and makes sense to many patients. Questions about the pain (including pain history) are asked first, which communicates to the patient that the clinician is willing to view pain as a primary focus of the interview. Such questions are also relatively easy for many patients to answer and can therefore help to create a rhythm and pattern of communication that limits defensive responses to the more sensitive questions (e.g., about drug use history) that are asked later in the interview. However, patients often volunteer information that provides answers to questions that might be listed later in the interview as they are responding to earlier questions. In this case, the clinician can simply note the answer provided in the appropriate place on the form, and then not ask the related question later.

Some of the questions may elicit information that may not be relevant to the pain problem of a particular patient, but every question is highly relevant for at least some patients. All of the questions should therefore be asked. The information obtained by asking all of the questions also provides the clinician with a depth of knowledge about many aspects of the patient's history and current life situation—knowledge that the clinician can use to build rapport further.

When combined with a review of the medical record (and possible conversation with the patient's managing physician), the answers to the interview questions provide the clinician with the information needed to develop initial hypotheses regarding the factors that might be contributing to pain severity, the suffering associated with pain, and the impact of pain on the patient's life. The most important of these factors to consider are (1) pain type (neuropathic vs. nociceptive vs. psychogenic), (2) the patient's current approach to pain management (i.e., maladaptive vs. adaptive pain cognitions and coping), and (3) the presence of potential motivating factors for adopting a pain self-management approach. The next section discusses the information that can be used from the interview to understand each of these four factors.

Pain Type

The patient's pain diagnosis (e.g., post-herpetic neuralgia, below-injury-level pain in a patient with spinal cord injury) will likely be on the medical record, or can be obtained from a conversation with the patient's managing physician. If this information is available prior to the interview, information from the interview that is helpful for determining pain type would only be confirmatory. However, when information about the pain diagnosis or other details from the medical record are not available, the patient's responses to the interview questions can provide important preliminary information regarding pain type.

The questions from the interview that provide the most information regarding pain type classification are (1) "What words would you use to describe your pain?"; (2) "What makes your pain worse?" and "What makes your pain better?"; (3) "What is the usual daily time course of

the pain?"; (4) "Where do you experience pain?"; and (5) "When did the pain begin? What else was happening in your life?"

"What words would you use to describe your pain?" The pain descriptors most commonly linked to neuropathic pain include "burning," "electrical," "tingling," "numb," "cold," and "sensitive." Descriptors most commonly associated with nociceptive pain include "aching," "dull," and "sore." However, some patients with nociceptive pain might describe their pain using neuropathic words and vice versa, especially if their pain has both neuropathic and nociceptive components.

"What makes your pain worse?" and "What makes your pain better?" Given that nociceptors are located in skin and muscle, nociceptive pain tends to increase with activity and decrease with inactivity or rest. Body position also tends to affect the severity of nociceptive pain more than it does neuropathic pain; patients who find pain relief when they get into a certain position (e.g., lying on the couch with pillows under their legs) or by shifting position frequently tend to have nociceptive pain. On the other hand, when asked "What makes your pain worse?" a patient with neuropathic pain tends to respond, "Nothing seems to make it better or worse; it is unpredictable."

"What is the usual daily time course of the pain?" Nociceptive pain problems tend to have specific time patterns that are stable from day to day (with pain either decreasing or increasing as the day progresses, or with activity, for example); neuropathic pain tends to be less predictable (although some patients with neuropathic pain report that the pain seems worse at night when they are in bed and less distracted). Also, unless the patient has a degenerative condition contributing to the pain (e.g., amyotrophic lateral sclerosis, multiple sclerosis), neuropathic pain tends not to improve or become worse over time without treatment. Nociceptive pain, on the other hand, is more likely than neuropathic pain to become worse over time, even within the period of a few months. Pain that worsens in the absence of a degenerative condition (such as multiple sclerosis) suggests that the patient is engaging in maladaptive coping responses—often inactivity or pain-contingent rest.

"Where do you experience pain?" Patients with nociceptive pain tend to describe pain as being in joints (e.g., arthritis) or in muscle (e.g., tension headache), and the pain tends to be more diffuse (more than one area or "spread out") and "deep," as opposed to focal or "surface."

"When did the pain begin? What else was happening in your life?" Asking patients when the pain began, and following up with a question about what else was happening in the patient's life, can provide clues regarding the possibility of a (very rare) psychogenic pain problem. Pain problems that emerge "on their own" (i.e., not following an injury or associated with a specific diagnosis) may have psychogenic causes. Similarly, pain problems associated with or that follow psychological trauma (e.g., experiencing or observing abuse or victimization) may have a primary psychogenic cause.

Implications of pain type for treatment plan development. Pain type has important implications for treatment goals. Nociceptive pain (e.g., musculoskeletal pain) tends to increase in the short run as an individual becomes more active, but then tends to decrease in the long run as the patient maintains an appropriate exercise program. Aerobic exercise, muscle strengthening exercise, and stretching exercise can all contribute to long-term improvement in individuals with nociceptive pain. Thus, developing and maintaining a reasonable (*and medically approved*) exercise program is important for individuals with nociceptive pain, including headache. Because starting such a program can be challenging (remember, exercise and activity can make nociceptive pain "worse" in the short run), hypnosis can be useful for increasing motivation, as well as for providing patients with a coping skill that they can use to make exercise more comfortable and pleasant.

Neuropathic pain problems (except for complex regional pain syndrome, type I, which some clinicians classify as a neuropathic pain condition), on the other hand, tend not to be strongly influenced by activity level or exercise. Although it is reasonable to encourage all individuals to participate in a regular exercise program tailored to their current health condition and level of fitness (Stuart et al., 2009), an individual with nociceptive pain who becomes more fit is more likely than an individual with neuropathic pain to report both (1) more pain with exercise in the short term and (2) improvements (decreases) in overall daily pain as

exercise continues in the long term (Kumar et al., 2009; Mannerkorpi et al., 2009).

Psychogenic pain problems should be referred to clinicians who specialize in addressing the psychological issues that are presumably the primary cause of these pain problems. Of course, it is possible that the patient with a psychogenic pain problem is not (yet) interested in participating in psychotherapy to address the putative causes of the pain. In this case, and if the clinician determines that such issues are the *only* issues that are driving the patient's experience of pain, then the most ethical approach would be to communicate this opinion to the patient. Continued treatment for other possible factors (e.g., maladaptive coping, focus on pain; see section that follows) should proceed only when and if these other factors are determined to be contributing to the pain problem. In this case, and even with individuals who are deemed to have a psychogenic component contributing to the problem, treatment could proceed, perhaps along with ongoing gentle encouragement that the patient also seek treatment for resolving issues related to the psychological factors contributing to a (possible) psychogenic pain problem.

Approach to Pain Management: Adaptive versus Maladaptive Pain Cognitions and Coping

Hints about the patient's general approach to pain management (self-management vs. healthcare provider management) can often be found in the medical record. A long history of trying multiple biomedical treatments for the chronic pain problem (especially repeated use of passive treatments that have not proven effective for the pain problem, such as repeated nerve blocks or surgeries) suggest that the patient may be viewing the problem from a biomedical perspective. Patients who view the problem from this perspective tend to be passively looking for a "fix" to the pain problem and will likely report higher levels of numerous maladaptive pain-related cognitions and coping (see Chapter 2). On the other hand, patients who view the pain problem from a self-management approach will tend to express more adaptive beliefs about the problem and will be willing to learn and apply more adaptive pain coping strategies.

Chronic pain treatment, at least from a biopsychosocial perspective, consists of strategies that encourage a shift from maladaptive beliefs, coping, and cognitive processes in the direction of adaptive beliefs, coping, and cognitive processes. An important part of the initial evaluation is to assess beliefs and coping responses and determine which of these are viable treatment targets. Standardized measures of many beliefs and coping responses exist (see the next section) and can be useful adjuncts to the clinical interview. In addition, the clinical interview provides an excellent opportunity to assess beliefs and coping responses directly.

Questions in the Pain Evaluation Form (Appendix 1) that elicit information related to the patient's general approach to pain management and presence or use of adaptive versus maladaptive beliefs and coping include (1) "What has been the course of your pain since it began, and during the past six months? Has it gotten worse, better, or stayed about the same?"; (2) "What treatments have you tried or been given for pain?"; (3) "What do you do for exercise (how much, how often)?"; (4) "Some people with pain tell me that they get so tired of being inactive, that on days that they feel even a little bit better, they try and do too much, only to pay for this with a big increase in pain. Then they have to rest, sometimes for days. Does this ever happen to you?"; (5) "What do you do now to cope with the pain?", and (6) "What have you been told is the cause of your pain? What do you think about this?"

"What has been the course of your pain since it began, and during the last six months? Has it gotten worse, better, or stayed about the same?" The usual course of pain following injury or onset is that healing occurs and the pain resolves. Thus, and unless the patient has a diagnosis associated with ongoing damage or deterioration (multiple sclerosis, cancer, etc.), if the pain problem has gotten worse since its onset, and in particular in the past few months, there is a high likelihood that the patient is using a coping strategy or set of coping strategies that is contributing to making the problem worse. The most common maladaptive coping responses identified in the research literature (see Chapter 2) include guarding, pain-contingent rest, and asking others for assistance. The clinician should be alert, in particular, for the presence of these avoidant coping responses and should consider targeting these for change with treatment when present.

"What treatments have you tried or been given for pain?" Information about the treatments that the patient has already tried in his or her efforts to manage pain provides a wealth of data regarding the patient's basic approach to and beliefs about pain. Two maladaptive pain beliefs, the belief that pain management is the responsibility of healthcare providers (rather than the patient) and the belief that pain-contingent analgesics are appropriate for chronic pain management, are reflected in the pain treatments the patient has used or avoided in the past. Patients who believe that pain management is the responsibility of healthcare providers will have much thicker medical records than patients who take more of a self-management perspective. The former patients are more likely to have consulted multiple healthcare providers as they have continued to experience pain, and this will be reflected by more progress notes and medical records. Patients who believe that pain-contingent analgesic use is appropriate for chronic pain management are more likely to be taking analgesic medications for their pain, and their medical records will reflect this. Patients who believe that taking high doses of opioid mediations, in particular, is necessary for pain management may have a medical record containing notes by healthcare providers expressing concern over the amount of opioid use, or there may be multiple (failed) attempts to decrease or stop opioid use. The medical records may also provide hints regarding the treatments that the patient may be willing to consider in the future. Evidence for a biomedical management focus (as opposed to self-management) should be addressed when negotiating the treatment plan.

"What do you do for exercise (how much, how often)?" Exercise and stretching are adaptive pain coping responses. The general health benefits of appropriate exercise have been confirmed in hundreds if not thousands of research studies. Higher levels of exercise (even nonaerobic exercise) are associated with improved cognitive functioning (e.g., Anderson-Hanley et al., 2010) as well as improvements in overall strength, participation in activities, and various measures of psychological health and functioning (e.g., Penedo & Dahn, 2005; Smith et al., 2006). The key is determining the most appropriate level of exercise and activity for any one individual. Although it is very unlikely that life-long "bed rest" or chronic deactivation is healthy for anyone, individuals with some diagnoses (e.g., post-polio syndrome and chronic heart disease) are

at risk for negative health outcomes if they exercise too much—but even these individuals should engage in "some" regular exercise. Patients who say that they do not exercise regularly or are markedly deactivated are at risk for their pain problem becoming more severe over time. Developing and maintaining an appropriate (i.e., medically approved, and if needed, medically supervised) exercise program is an appropriate treatment target for deactivated individuals.

"Some people with pain tell me that they get so tired of being inactive, that on days that they feel even a little better, they try and do too much, only to pay for this with a big increase in pain. Then they have to rest, sometimes for days. Does this ever happen to you?" While pain-contingent rest and associated deactivation are fairly common maladaptive pain coping responses, *over*-activity is also occasionally observed. Patients who find inactivity aversive, but who also find that they limit their activity when pain is severe, sometimes find themselves falling into a pattern of "no activity" versus "over-activity." As Wilbert Fordyce, a pioneer in the application of psychosocial treatments for chronic pain, would sometimes comment, such individuals seem to be able to move at only two speeds: "200 mph or full stop." This pattern of activity is maladaptive for at least two reasons. First, it teaches patients that activity leads to pain and that inactivity leads to pain relief. Although these consequences are correct in the short run, they are inaccurate in the long run: over time, patients who remain appropriately active experience less pain than individuals who are inactive. Second, with this pattern of activity, *pain* rather than the patient's own goals determines activity level. This results in a decrease in self-efficacy and loss of perceived control over one's life, which can then contribute to distress and depression. Learning appropriate pacing of activities is a reasonable treatment goal for such patients.

"What do you do now to cope with the pain?" Asking patients directly to describe how they cope with pain is another way to assess pain-related beliefs and coping responses. If the patient does not mention the use (or avoidance of use) of the adaptive and maladaptive coping responses that have been most closely linked to patient functioning in the research literature, the clinician should ask about these specifically. The reader will recall that coping self-statements, pacing, task persistence, exercise and stretch, and seeking social support are all adaptive coping strategies, and guarding,

resting, and asking for assistance are maladaptive strategies. Use of maladaptive strategies or lack of use of adaptive ones would be an indication for targeting these for decreased or increased use, respectively. Discussion on the topic of coping with pain can also help the clinician understand the extent to which the patient believes that he or she can control pain and its effects (adaptive belief) as well as the patient's tendency to "accept" having a chronic pain problem (adaptive cognitive process) versus a tendency to focus on the experience of pain (maladaptive process).

"What have you been told is the cause of your pain? What do you think about this?" It is also useful to understand the patient's model for the cause of pain. While many patients will respond well to the question, "What do you think is the cause of your pain?" a subset of patients are annoyed with this question and respond with, "I don't know, I'm not a doctor!" To avoid this response, all patients can first be asked, "What have you been told is the cause of your pain?" Once they respond to this question, they can then be asked, "What do you think about this? Does it make sense to you?" What the clinician is seeking to understand here is the presence of a possible illness conviction, fears about the meaning of pain, or possibly even delusional thinking about the cause of pain—beliefs that can interfere with an adaptive pain management treatment program. The response to these questions can also reflect a patient's tendency to catastrophize (maladaptive response) or, alternatively, think reassuring and adaptive thoughts (adaptive response).

Implications of pain-related beliefs and coping responses to treatment plan development. Pain-related cognitions and coping responses are among the primary treatment targets for psychosocial pain interventions, including hypnosis. Thus, by the end of the initial evaluation, it is important that the clinician understand where the patient lies with respect to the beliefs and coping responses that have been shown to be most closely linked to patient functioning (see Table 2.1 in Chapter 2). A basic tenet of treatment from a psychological perspective is to help the patient shift from being an individual who holds maladaptive beliefs and uses maladaptive coping response to an individual who holds adaptive beliefs and uses adaptive coping responses. Chapters 6 through 11 of this guide describe how the clinician can use hypnosis to help patients make this shift.

Presence of Potential Motivating Factors for Adopting a Pain Self-Management Approach

The evaluation questions and patient responses discussed in the previous section should give the clinician a fairly complete list of possible treatment targets, which will be considered in the initial case conceptualization (see later in the chapter). In addition, it is useful to assess a number of contextual factors that can influence the patient's motivation for and response to treatment. These factors can influence the clinician's choices regarding how best to approach the patient, as well as which problems or issues the patient may wish to address first.

Questions that get at these motivational and contextual issues are questions that assess (1) pain intensity, (2) social responses to pain and well behaviors, (3) pain-related life changes, (4) effects of pain on sleep, (5) education and work history, (6) social history, (7) psychological history, and (8) current and past drug and alcohol use.

Pain intensity. Many clinicians are ambivalent about asking patients to rate their pain intensity. On one hand, one might argue that there is too much emphasis placed on this single pain domain; pain treatment involves much more than addressing pain severity. Asking patients repeatedly to rate their pain intensity communicates that this outcome domain may be viewed as most important, when in fact the patient might do well to focus more on other outcomes. On the other hand, pain intensity is an acknowledged pain domain, and one that is often viewed by patients as being of primary importance, at least when treatment starts. Clinicians should therefore probably at least assess and consider treating this domain. Moreover, with hypnosis treatment many patients report significant decreases in daily pain and an increased sense of control over pain as they learn and use self-hypnosis skills. Assessing pain intensity—and the importance of addressing this from the patient's perspective—can therefore be considered reasonable.

The three most common methods for assessing pain intensity are numerical rating scales (NRS), visual analog scales (VAS), and verbal (categorical) rating scales (VRS) (Jensen, 2010). Although each of these

measures has its strengths and weaknesses, consensus groups made up of pain researchers and clinicians are now recommending the use of NRSs over the other pain intensity measures because NRSs have more strengths and fewer weaknesses that the other scales in most populations (Dworkin et al., 2005; Widerström-Naga et al., 2008). However, other scales, such as a very simple VRS (asking the respondent to select one word or phrase that best describes his or her pain intensity) or the FACES scales, can be useful in populations such as the elderly or very young who may not always understand how to rate their pain using NRSs. The appendix of self-report measures provides more detailed information about these measures and other measures discussed in this chapter.

When asking patients to rate the severity of their pain on a 0-to-10 NRS ("with 0 indicating 'no pain' and 10 indicating 'pain as intense as you can imagine'"), clinicians should assess current pain, as well as least, worst, and average pain in the past week. The numbers provided by each of these ratings give the clinician valuable information. Ratings in the 1 to 4 range are generally considered "mild" by patients and reflect intensities that might be noticeable and bothersome at times but do not necessarily have a significant impact on day-to-day functioning in most individuals (e.g., Jensen, Smith, Ehde, & Robinson, 2001; Serlin et al., 1995). Ratings of 5 or 6 are generally viewed as "moderate" pain and represent intensities can interfere significantly with a number of life activities. "Severe" pain is usually rated as 7 or higher on 0-to-10 NRSs; pain at these intensities is described by many patients to be a central focus of their lives.

Knowing the effects of different levels of pain on functioning, as well as the patient's ratings of current, least, worst, and average pain, can give the clinician a sense of where the patient's motivations may lie. For example, patients whose "average" pain is in the severe range will likely view pain reduction as a primary treatment goal, and may resist, at least at first, treatments that encourage them to "accept" this pain. Patients whose "average" or "least" pain intensity is in the "mild" range may be more willing to begin treatment focusing on goals other than or in addition to decreases in pain intensity. The "least" level of pain intensity reflects the lowest level that the patient's system is able to achieve on its own at the beginning of treatment. If this level is in the mild range,

and the patient expresses the view that this level of pain is one that he or she could live comfortably with, it would be reasonable to view increasing the amount of time that the patient experiences this level of pain intensity as a treatment goal. If the "worst" pain levels are significantly higher than the "average" levels, then the patient likely experiences intermittent "breakthrough pain," and the treatment plan should include goals to minimize the number and severity of these events (see Chapter 8).

The clinician should also ask the patient about the importance, from the patient's perspective, of experiencing the two most common outcomes of training in hypnotic analgesia (see Chapter 4): (1) a substantial reduction in average daily pain and (2) an ability to use self-hypnosis to achieve periods of pain relief. Asking patients to discuss the importance of these two goals serves multiple purposes. First, it communicates that the complete elimination of pain is unlikely and therefore not a reasonable single benchmark for judging treatment success. At the same time, discussion of these two outcome goals communicates that a *reduction* of pain is possible, and that the treatment could have two goals with respect to pain intensity management. Raising this possibility, and in particular the possibility that treatment could provide the patient with an ability to experience temporary periods of pain relief, may help the patient take full advantage of these benefits.

Social responses to pain and well behaviors. The operant model of pain, first and most clearly articulated by Wilbert Fordyce (e.g., Fordyce, 1976), argues that how patients respond to pain is influenced by the social responses to their pain and coping behaviors. Behaviors followed by reinforcers will increase in frequency, and behaviors that are ignored or punished will decrease in frequency. The behavioral model of pain has received consistent empirical support (Flor et al., 2002; Jolliffe & Nicholas, 2004; Schwartz et al., 2005), and treatments that incorporate operant principles have been shown to be effective for reducing pain, disability, and psychosocial dysfunction (Eccleston et al., 2009).

One effective way to assess the presence of potential reinforcers for patient pain and well behaviors is to first ask the patient to describe his or her pain behaviors ("How do people know when you are hurting? What do you do or say?") and well behaviors ("How do people know

when you are doing well?") and then follow this up with questions asking how people in their environment respond to them (see the Pain Evaluation Form on pages 227–230). Look for responses that might be particularly reinforcing (e.g., "He massages my shoulder") or aversive (e.g., "She gets mad at me"). The critical question is whether the patient's immediate social environment is encouraging pain behaviors and maladaptive coping, or well behaviors and adaptive coping. Evidence for a lack of support for adaptive behaviors should be addressed, for example, by meeting with the spouse and providing education regarding adaptive versus maladaptive pain coping responses, and ways that the spouse can reinforce and encourage adaptive pain self-management. Not doing this, when the patient's home environment is contributing to the pain problem, can undermine the efficacy of treatment.

Pain-related life changes. Another set of questions that can be used to identify possible social reinforcers for pain and illness behavior asks patients how their day-to-day life has changed since the onset of the pain problem. In particular, it is useful to carefully observe the patient's affect as he or she describes the changes that have occurred. If the patient is no longer working, does the patient appear relieved, neutral, or upset about this change? Is the change potentially reinforcing (the pain problem allowed the patient a face-saving way out of a job he or she hated) or aversive (the patient seems to be upset about this change and has made multiple efforts to return to work)? If the patient is no longer performing household chores, does he or she seem to miss being able to care for the home, or has he or she gladly given up these responsibilities? What are the most valued social and recreational activities that have been given up, if any?

Effects of pain on sleep. Sleep disruption is very common in individuals with chronic pain problems (e.g., Lunde et al., 2010; Palermo et al., 2008). Moreover, among individuals with chronic pain, those who report more severe sleep difficulties also report more pain, pain-related disability, depression, and anxiety (e.g., Ashworth et al., 2010; Naughton et al., 2007; Palermo et al., 2008). Improvements in sleep quality have been noted as a "side effect" of hypnosis in patients who receive hypnotic treatment for pain (Abrahamsen, Zachariae, & Svensson, 2009) and hot flashes (Elkins et al., 2008). One possible explanation for this

finding is that the neurophysiologic activity associated with hypnosis (see Chapter 4) is similar to the hypnagogic state (the brain state just before a person drifts into sleep), so teaching individuals self-hypnosis gives them a strategy for "preparing the mind" for sleep. In any case, improved ability to get to sleep is a reasonable outcome goal with hypnosis treatment (see Chapter 10), and patients who report sleep difficulties may be interested in this aspect of the intervention.

Education and work history. Knowledge concerning education and work history, in addition to information about compensation and litigation status, can provide the clinician with additional important contextual information relating to patient resources and motivation. Patients who are currently employed or who had a long work history prior to the onset of the pain problem generally have more financial resources—and therefore less financial-related stress—than patients who are unemployed or have a very spotty work history. Less stress usually translates to more psychosocial resources that the patient can use to help him or her focus on the treatment program. Also, although the evidence regarding the importance of pain-related financial compensation or litigation does not indicate that patients who are receiving compensation or have pending litigation *necessarily* do not respond well to pain treatment, when significant effects are found, ongoing litigation and compensation for pain tend to be associated with poorer outcomes (Anderson et al., 2009; DeBerard et al., 2001; Kennedy et al., 2006; LaCaille, 2005; Rubinstein et al., 2008; Taylor et al., 2000), perhaps because of the motivational issues involved. Knowing information regarding these variables can help the clinician determine their relative importance and whether they need to be resolved prior to proceeding with treatment.

Social status and history. A patient's social history also provides the clinician with important contextual information regarding psychosocial resources. Individuals whose histories do not contain any significant negative events (e.g., abuse or neglect) and who report being involved in supportive social relationships generally report less stress and may have fewer distractions from the effort needed to learn and practice new (adaptive) pain coping responses. Patients experiencing significant social dysfunction or distress may need to have some of these issues resolved prior to participating in a pain management treatment program.

Alternatively, the treatment program may need to include interventions that will help the patient address or buffer the effects of this social distress. In any case, the clinician should be well aware of these social issues and take them into account when negotiating a treatment plan with the patient.

Knowledge concerning any history of significant psychological trauma or abuse is also important, in particular, when considering hypnotic treatment. Patients who report a trauma or abuse history should be asked if they recall coping with the incident(s) via dissociation (e.g., out-of-the-body experiences or depersonalization). They should also be asked whether dissociative experiences continued following the incident(s) and into the present. The section on risks and contraindications of hypnosis in this chapter discusses issues that the clinician should keep in mind when using hypnotic approaches with individuals who report a history of dissociative experiences.

Psychological/psychiatric history. All patients should be evaluated for the presence or history of major depression, post-traumatic stress disorder, anxiety disorders, personality disorders, dissociative disorders, and psychotic symptoms or delusional disorders. Psychiatric diagnoses, in particular depression and anxiety disorders, are a common comorbidity of chronic pain (Ahman & Stalnacke, 2008; Castro et al., 2009; Miller & Cano, 2009; Poole et al., 2009). Moreover, the presence of significant psychological disturbance can distract patients from the efforts needed to learn and practice adaptive pain management skills. Thus, when present, significant psychological problems need to be addressed and treated along with the pain treatment; in some cases, addressing psychosocial symptoms prior to pain treatment may be needed to minimize the negative effects of these on pain treatment outcome.

A history of schizophrenia or psychotic/delusional symptoms, dissociative disorders, and personality disorders would be potential contraindications for hypnotic treatment, at least hypnotic treatment that focuses only on pain. As discussed in Chapter 3, the psychoanalytic model of hypnosis argues that hypnosis involves a shift from secondary-process to primary-process thinking. Viewing hypnosis from this model, an individual who is actively psychotic or delusional may already be engaging in excessive primary-process thinking. Hypnosis in this case could

encourage an increase in such cognitive processes when a decrease would be more beneficial. Patients with dissociative disorders (e.g., depersonalization disorder, dissociative identity disorder) may report an increase in dissociative episodes following hypnosis.

In addition, one of the effects of hypnosis that has been noted by clinicians is "accelerated transference," in which patients respond with rapid and unexpected strong feelings about or toward the clinician (Barber, 1998). Patients with boundary issues (i.e., patients who meet criteria for some personality disorders, many of whom may also report a history of trauma or abuse) may be particularly vulnerable to transference issues when using hypnosis. To enable the clinician to make informed decisions about the use of hypnosis (discussed at the end of this chapter), then information about current or a history of psychotic/delusional symptoms, dissociative disorders, and personality disorders is important.

Drug and alcohol use history. An individual who is actively abusing alcohol or illegal drugs is unlikely to benefit from pain treatment until this behavior changes. At minimum, the clinician needs to screen for active drug and alcohol use prior to making treatment recommendations. When drug and alcohol abuse is present, the patient should be referred for appropriate care to address this problem.

Clinicians may not be certain how to proceed when the patient denies current use or abuse of drug or alcohol abuse but reports a *history* of significant drug or alcohol abuse and is currently using scheduled medications or drugs (e.g., opioids, medical marijuana) to help manage the pain. Unfortunately, there are as yet no published research findings that could help the clinician determine how best to proceed in this instance. A reasonable approach might be to proceed with treatment, since the lack of research findings in this area indicates the possibility that such patients could still benefit from treatment. But each clinician must make his or her own decisions regarding what is in the best interests of the patient.

Standardized Self-Report Measures

The clinical interview is of paramount importance to pain treatment. It provides the clinician with an opportunity to set the tone for clinical

interactions, create and develop rapport, and understand the patient at a level that is not possible through the use of standardized measures alone. Moreover, most, if not all, of the information needed to understand the patient's problems can be obtained during a clinical interview. Standardized measures that have been validated for assessing these same constructs are not necessarily required.

However, to the extent that the clinician may wish to have more "objective" measures of key psychosocial domains, he or she may wish to also administer one or more of a number of standardized instruments to assess many of the key psychological factors that are assessed during the interview. Also, the use of standardized measures allows for a quantitative documentation of outcomes that may be useful when communicating with other healthcare providers and third-party payers. Thus, scores from standardized measures are most useful for (1) confirming conclusions from the clinical interview and (2) obtaining baseline (pre-treatment), mid-treatment, and post-treatment data to enable monitoring of treatment efficacy. The psychosocial and outcome domains that pain clinicians might consider assessing using standardized measures include (1) pain intensity, (2) pain beliefs, (3) pain coping, (4) catastrophizing, (5) depression, (6) pain interference, and (7) sleep quality. The appendix of self-report measures presents information on some specific measures that could be considered for assessing each of these domains.

Pain Intensity

As mentioned, the most common measures of pain intensity used in pain research are the 0-to-10 NRS, VAS, and VRS. Pain researchers and clinicians recommend the use of the NRS over the other measures due to its relative strengths (ease of use, interpretation, and scoring, and adequate number of levels making it possible to detect even small changes in pain) (Dworkin et al., 2005). However, a minority of patients, usually the very elderly or very young, may find the 0-to-10 NRS difficult to understand and use. Such patients may find the VRS or the FACES scales easier to use (Jensen, 2010). The appendix of self-report measures presents versions of the 0-to-10 NRS, VRS, and FACES scale that clinicians can use for assessing pain intensity.

Pain Beliefs

As discussed in Chapter 3, pain beliefs reflect the content of the patient's thoughts about pain. A number of pain belief measures have been developed and evaluated for validity and reliability. However, across different studies and different pain populations, seven basic beliefs appear to be most closely related to patient functioning (see Chapter 2). The three most important beliefs include the adaptive beliefs reflecting control over pain and two beliefs related to acceptance of pain. The two belief domains that make up the pain acceptance concept reflect (1) a willingness to "give up" the struggle for direct control over pain and (2) a focus on engaging in valued activities (McCracken et al., 2004). Four additional maladaptive beliefs related to patient functioning are (1) the belief in oneself as disabled, (2) the belief that pain is a signal of physical damage, (3) the belief that medications are appropriate for chronic pain management, and (4) the belief that others should be solicitous when one is experiencing pain. The two measures that include scales that assess these key pain-related beliefs are the Survey of Pain Attitudes (Jensen & Karoly, 2008) and the Chronic Pain Acceptance Questionnaire (McCracken et al., 2004). These measures can be found in Appendix 2.

Pain Coping

The coping strategies shown to be most closely linked to adaptive functioning include the use of coping self-statements (thinking reassuring thoughts), pacing (making decisions about activity levels based on goals rather than on pain level), task persistence (maintaining a chosen activity despite pain), exercising/stretching, and seeking social support. The maladaptive coping responses of guarding (holding a body part still or in an unusual position to avoid pain), resting, and asking for assistance are associated with worse functioning (see Chapter 3). All of these coping responses are assessed by the Chronic Pain Coping Inventory described in Appendix 2.

Catastrophizing

Pain catastrophizing has been defined as "an exaggerated negative orientation toward noxious stimuli" (Sullivan et al., 1995; see Appendix 2). Moreover, as discussed in Chapter 2, research has consistently demonstrated strong associations between measures of pain-related catastrophizing and measures of pain, psychological dysfunction, and physical functioning, across a wide variety of patient populations (see also review by Quartana et al., 2009). The current gold standard measurement of pain-related catastrophizing is the 13-item Pain Catastrophizing Scale (PCS) (Sullivan, et al., 1995; see the appendix). The PCS items can be scored as a global measure, or scored into three subscales assessing three elements of catastrophizing: magnification (e.g., "I keep thinking of other painful events"), rumination ("I can't seem to get it out of my mind"), and helplessness ("I worry all the time about whether it will end").

Depression

As mentioned, depression is a common comorbidity of chronic pain (Fishbain et al., 1997; Ong & Keng, 2003). Given this, patients with chronic pain should be routinely evaluated for the presence and severity of depression. A large number of measures of depression exist, and many of these have good evidence supporting their reliability and validity. Depression measures commonly used in the field include the 20-item Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977), the original Beck Depression Inventory (BDI; Beck et al., 1961), the updated version (BDI-II, Beck et al., 1996), and the depression items of the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983). All of these measures have demonstrated reliability and validity for measuring depression in samples of individuals with chronic pain.

Two relatively new measures of depression are the nine-item depression module of the Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001) and the PROMIS Depression items bank, both of which can be found in Appendix 2. Although relatively new, both are public domain

measures (i.e., they can be used at no cost by clinicians and researchers). Moreover, each has unique strengths that may make them particularly useful in the clinical setting.

The nine items of the PHQ-9 reflect the nine specific criteria used to diagnose a major depressive disorder. Probably because of this, despite the fact that it is half the length of many other depression measures, it has demonstrated high rates of sensitivity and specificity for classifying patients as meeting criteria for a major depressive episode (Kroenke et al., 2001). This scale may be particularly useful when clinicians seek to confirm a diagnosis of depression and to monitor this diagnosis over time (i.e., determine when the patient no longer meets the diagnostic criteria). Moreover, there is evidence that the PHQ-9 is responsive to change in depressive symptoms over time in patients with chronic pain (Dobscha et al., 2009).

Starting in 2004, the National Institutes of Health (NIH) funded a large-scale multisite series of studies whose primary goal was to develop a set of publicly available measures of the most common domains studied by NIH-funded researchers. During the first five years of funding, the project focused on creating measures of 10 domains: pain behavior, pain interference, fatigue, sleep disturbance, wake disturbance, anxiety, depression, anger, social role satisfaction, and social activity satisfaction. The project was titled the "Patient Reported Outcomes Measurement Information System" (PROMIS; see http://www.nihpromis.org).

PROMIS primarily uses item response theory (IRT) to evaluate items for assessing each domain. IRT differs from classical test theory (CTT) in that the former focuses on selecting and evaluating the properties of *items* that might be used to assess the domain of interest, whereas the latter focuses on the properties of *scales*. Thus, CTT will result in a scale (such as the PHQ-9, CES-D, etc.) that has psychometric properties (reliability, validity) for measuring a domain of interest. IRT, on the other hand, results in a set or bank of *items*, any subset of which can be used to measure the domain of interest. This makes it very easy to use alternate forms (use different items from the same item bank) that not only assess the same construct, but do so in a way that creates a score that is directly comparable to all other scores that result from different subsets of items from the same item bank. Another strength of all of the

PROMIS items is that they went through extensive cognitive testing, which means that the items have been demonstrated to be understandable to most individuals.

PROMIS has developed short forms made up of items from each existing item bank for all of the PROMIS domains. The raw scores of PROMIS scales, including the Depression Short Form, can be transformed into T-scores (mean of 50, SD of 10); a score of 50 represents the mean for the U.S. general population, and scores of 40 and 60 represent one SD below and above the mean, respectively. Knowing this makes the interpretation of absolute scores and changes in scores over time (i.e., during treatment) easier. The PROMIS Depression Short Form items, as well as a table for converting the raw scores into T-scores, are listed in Appendix 2.

Pain Interference

Pain interference represents the extent to which pain interferes with day-to-day functioning. The current gold standard of pain interference measures is the seven-item Pain Interference scale of the Brief Pain Inventory (Cleeland & Ryan, 1994). The measures lists seven basic activities and functioning (general activity, mood, walking ability, normal work [includes both work outside the home and housework], relations with other people, sleep, and enjoyment of life) and asks the respondent to rate the extent to which pain interferes with each on a 0 (Does not interfere) to 10 (Completely interferes) scale. The total BPI Pain Interference score is an average of the seven responses. A great deal of research supports the reliability and validity of this measure for assessing pain interference, as well as for detecting changes in pain interference over time and with treatment (see review by Jensen, 2010).

The BPI Pain Interference scale provides a brief, reliable, and valid measure of pain interference in able-bodied individuals. It has also been modified to make it useful for individuals with physical disabilities, including individuals who have mobility limitations, by (1) changing the wording of the "interference with walking" item to ask respondents to rate interference with "mobility (ability to get around)" and (2) increasing the content validity by asking respondents also to rate interference

with self-care, recreational activities, social activities, communication, and learning new information or skills. The reliability and validity of the modified BPI Pain Interference scale have been demonstrated in samples of individuals with cerebral palsy (Tyler et al., 2002), spinal cord injury (Raichle et al., 2006), and multiple sclerosis (Osborne et al., 2006). Both the original and modified BPI Interference scales are presented in Appendix 2.

Sleep Quality

Individuals with chronic pain often complain of sleep difficulties, and as mentioned previously, improving sleep quality is a reasonable treatment goal, especially in individuals who are receiving self-hypnosis training. One psychometrically sound and brief option for sleep quality assessment is the Medical Outcomes Study (MOS) Sleep Scale (Hays & Stewart, 1992). This scale consists of an item assessing the time it usually takes the respondent to get to sleep, an item asking the respondent to indicate the number of hours he or she slept each night in the past four weeks, on average, and 12 items asking about sleep quality and common sleep or sleep-related difficulties (e.g., feeling that sleep was not quiet, feeling drowsy or sleepy during the day). Nine of the 12 sleep quality and problem items can be scored to create a sleep problem composite score, called the Sleep Problem Index II (SPI-II; a six-item Sleep Problem Index, or SPI-I, can also be scored [Hays & Stewart, 1992]). Evidence from numerous samples, including individuals with chronic pain, supports the validity of the SRI-II and SRI-I scales (e.g., (Hodge, 1988; Unruh et al., 2003; Viala-Danten et al., 2008; Wolfe et al., 2006).

In addition, PROMIS has developed a sleep problem item bank and an associated sleep problem short form (http://www.nihpromis.org). Although the PROMIS Sleep Problem short form is too new to have yet been evaluated for responsivity to treatment, it does share many strengths with all of the other PROMIS measures, including (1) ease of interpretation (i.e., a score of 50 represents the U.S. population mean and a score of 60 is one SD above the mean) and (2) an ability to compare PROMIS Sleep Problem T-scores with those from other samples that have used the PROMIS Sleep items. The appendix of self-report measures presents

the MOS Sleep Scale and PROMIS Sleep Problem Short Form items and scoring information.

Determining Candidacy for Hypnosis

Implications of a History of Personality Disorders or Psychotic or Delusional Symptoms

Evidence indicates that the risks of hypnosis are minimal when treatment is administered by a knowledgeable and experienced clinician (Jensen et al., 2006; Mott, 1992). Moreover, hypnosis is not found to have a higher rate of adverse reactions than other psychological treatments, such as general psychotherapy or relaxation training (Lynn et al., 1996). When adverse events following hypnosis are noted, they are most often associated not with clinical hypnosis, but with stage hypnosis, which is performed for its entertainment value and rarely with regard to potential negative outcomes (e.g., Allen, 1995; Crawford et al., 1992; Wain & Dailey, 2010). However, unexpected side effects and adverse events, although rare, have been reported in clinical settings (Averback, 1962; Barber, 1998; MacHovec, 1988).

The most serious adverse events that have been reported following hypnosis include dissociative episodes (Echterling & Emmerling, 1987; Kleinhauz et al., 1979; Wain & Dailey, 2010), aggressive behavior (Allen, 1995; Wain & Dailey, 2010), emotional lability (Judd et al., 1986), accelerated transference (i.e., strong unexpected feelings about or towards the clinician; Barber, 1998), and the precipitation or worsening of psychotic symptoms (Allen, 1995; Judd et al., 1986). In most cases, the adverse events that occur resolve on their own or following appropriate treatment, although residual negative effects following stage hypnosis have been noted to last for months (Allen, 1995) and even years (Kleinhauz et al., 1979).

Many of the adverse events that have been described following hypnosis could be interpreted to be related to a decrease or disruption in executive control (i.e., frontal lobes, see Chapter 3), consistent with the psychoanalytic model of hypnosis that argues that hypnosis involves a shift from secondary- to primary-process thinking (Nash, 1991, 2008).

These considerations suggest the possibility that patients with interpersonal relationship difficulties or who are otherwise vulnerable to emotional or psychotic decompensation (i.e., those presenting with current or a history of emotional disturbance or psychotic symptoms) may be at greater risk than others for evidencing adverse events following hypnosis. On the other hand, because hypnosis has been used to treat individuals with psychotic symptoms and personality disorders among clinicians highly experienced in this area (e.g., Baker, 1983; Hodge, 1988; Steingard & Frankel, 1985), a history or even presence of severe psychological and psychiatric symptoms is not necessarily a contraindication for the use of hypnosis.

Thus, although it is important to assess for a history or current presentation of psychotic symptoms, delusional disorders, or symptoms associated with personality disorders in any psychological evaluation (as described in the assessment protocol presented earlier in this chapter), it also has important implications for the clinician's decision to proceed with the use of hypnosis. In these cases the cautious clinician often chooses to proceed with treatments that do not involve hypnosis. If the decision is made to process with hypnosis, the clinician should do what any sensitive clinician does when providing any treatment (i.e., not just hypnosis): closely monitor the patient's responses, with a plan to modify (and perhaps discontinue if needed) a particular treatment approach if strong emotional responses or psychotic symptoms emerge or increase in severity.

Implications of a History of Abuse or Trauma

Individuals experiencing trauma or abuse sometimes use dissociation (a perceived detachment of the mind from an emotional state or from the body, characterized by the sense of the world as a dreamlike or unreal place) as a way to cope with the traumatic event as it is occurring (Hulette et al., 2008). This may explain, at least in part, the finding that individuals with a history of trauma or abuse tend to report higher rates of dissociative experiences than individuals who do not have such a history (Marysko et al., 2010; Ross et al., 2008). Such individuals may also meet full criteria for dissociative disorders, such as dissociative amnesia

(inability to recall important personal information, usually of a traumatic or stressful nature), dissociative fugue (sudden travel away from home and inability to recall one's past), dissociative identity disorder (presence of two or more distinct identities or personality states), or depersonalization disorder (persistent or recurrent experiences of feeling detached from one's mental processes or body).

As discussed in Chapter 3, one of the mechanisms by which hypnosis is thought to operate is by inducing or encouraging dissociation. This raises the possibility that patients who experience dissociation during hypnotic procedures may be reminded of past traumatic events; some may even re-experience some of the strong emotions associated with those events. Of course, such reactions are not unique to hypnosis: they can occur in the context of any psychotherapeutic relationship that involves a discussion of a patient's past.

Merely having a history of trauma or abuse, therefore, is not a contraindication for using hypnosis, especially given the fact that hypnotic procedures can be used to treat patients with a history of trauma (Degun-Mather, 2006; van der Hart et al., 1990). However, clinicians who are not experts in helping patients resolve trauma should not use hypnosis for assisting patients to resolve this trauma without appropriate training. Moreover, they should be cautious when using hypnosis for pain management in individuals with this history. Patients who have coped with trauma using dissociation or who otherwise experience dissociative episodes in their daily lives are at risk to have dissociative experiences during hypnotic procedures, and some may find these experiences uncomfortable. This possibility should be discussed with the patient—in particular patients with a history of trauma—and a mutual decision should be made regarding the appropriateness of hypnosis, given this risk.

If a decision is made to proceed with treatment in a patient who has a history of trauma or has a tendency to dissociate, then the clinician should avoid inductions or suggestions that encourage dissociation (e.g., inviting the patient to have an experience of "floating comfortably above the body"). The inductions and suggestions used should be simple and straightforward ones focusing on pain control and positive life changes without straying into attempts to address other issues. Clinicians should

also monitor any changes in the frequency and severity of dissociative events during hypnosis and between sessions, and should change treatment as needed to minimize these if they are occurring.

Patients Who Explicitly State that They Do Not Want Hypnosis, or Refuse Hypnotic Interventions on Religious Grounds

Some individuals hold strong beliefs that make it inappropriate to provide hypnosis treatment for their presenting problems. Some patients, for example, are concerned that hypnosis involves giving up personal control over their thoughts and actions, and refuse hypnosis treatment on this basis. These patients can be asked permission for the clinician to discuss the possible benefits of hypnosis further. However, patients who are adamant about not wanting hypnosis need not be given hypnotic treatments; there are many other interventions that have proven efficacy, including cognitive therapy (Thorn, 2004), cognitive behavior therapy (Otis, 2007), acceptance-based cognitive behavior therapy (Dahl et al., 2005; McCracken, 2005), and motivational interviewing (Jensen & Barbar, 2000). The options for helping patients are many, and there is no need to limit treatment only to hypnosis.

Patients who have concerns about hypnosis but are willing to discuss the possibility of using hypnosis can be told that the focus of treatment is to *enhance* personal control by teaching skills for managing their experience of pain and its effects. Clinicians may also, appropriately, explain that "hypnosis" is a general label given to procedures that invite the patient to use his or her natural abilities and imagination to focus less on pain and more on improving his or her quality of life. Many, if not most, patients are using these abilities on their own even without training; hypnosis treatment allows the patient to learn how to focus these natural abilities further so they can be more effective. The family of procedures that also use these abilities includes relaxation training, meditation, and guided imagery.

However, if the patient still refuses to participate in hypnosis treatment following these explanations, it would be unethical to provide hypnosis, even under the guise of a different label ("relaxation training"). Similarly, patients who decline hypnotic treatment on religious grounds can be

educated about the benefits and limitations of hypnotic treatment but should not be urged to participate if they express an unwillingness to learn self-hypnosis skills.

Case Conceptualization

Once the evaluation is complete, the next step is to develop the initial understanding of the patient's problem and the factors contributing to pain, distress, and dysfunction. The most common cognitive and coping responses that play a significant role in functioning for patients with chronic pain are listed in Table 2.1 in Chapter 2. Based on these factors, we can develop a picture of the patient who is managing well with chronic pain. This would be an individual who (1) believes that he or she has the skills to control pain and its negative effects, (2) no longer struggles with those aspects of pain that cannot be controlled, (3) focuses on being engaged in valued activities, (4) thinks positive and reassuring thoughts about the pain, (5) maintains appropriate levels of activity, (6) persists in valued activities even during pain flare-ups, (7) exercises regularly, (8) seeks and obtains social support, (9) avoids focusing on or ruminating about negative pain-related thoughts, (10) does not believe that he or she is necessarily disabled by pain, (11) does not believe that pain is necessarily a sign of physical damage and that exercise or activity should necessarily be avoided when pain is present, (12) does not believe that it is the responsibility of healthcare providers to manage the pain problem, (13) does not believe that pain-contingent analgesics are appropriate for pain management, (14) does not believe that others, especially family members, should be solicitous when the patient is hurting more, (15) avoids guarding in response to pain, and (16) avoids asking for assistance when in pain. In addition to these psychosocial factors, and given the importance of sleep quality to overall adjustment to chronic pain, it would also be reasonable to add that an individual managing well with chronic pain would be an individual who reports being able to obtain restful sleep on a regular basis.

Any patient who is found to have relatively low levels of adaptive beliefs and coping and relatively high levels of maladaptive beliefs and coping, or who reports difficulties sleeping, has room to improve. A list of potential treatment goals based on these factors is presented in Table 5.1.

At this stage of the evaluation, the clinician can develop an initial rank order of possible treatment goals, putting at the top of the list those goals where the patient might have the most progress to make, and that are therefore most likely to have the largest benefits. Usually, but not always, the amount of benefit is in direct proportion to the gap between the patient's current presentation and the ideal. For example, increases in a sense of control over pain are more likely to benefit patients who believe they have virtually no control than patients who believe that they already have a large degree of control. An increased acceptance of pain and focus on engaging in valued activities would be more likely to benefit patients who are trying to avoid pain at all costs—even at the cost of giving up activities that are most important to them—than patients who have come to accept their pain and who maintain valued activities.

Another factor to take into account when ranking treatment goals is the relative response of each to hypnotic treatment. Pain and thought management, for example, are both relatively easy to address with hypnotic approaches, given hypnosis' direct effects on attention and cognitive activity (see Chapters 8 and 9). However, hypnosis' effects on coping behavior is less direct and may require additional interventions beyond hypnosis, such as contingency management (Fordyce, 1976) and motivational interviewing (Jensen, 2000, 2002). Hypnosis, however, can be useful for helping patients view behavioral changes as possible—an important first step towards actually making behavioral changes (Jensen, Nielson, & Kerns, 2003).

Table 5.1 Potential Treatment Goals

Treatment Goal	Hypnosis for . . .
Decrease in perceived pain severity	Pain management (Chapter 8)
Decrease in being bothered or upset by pain	Pain management (Chapter 8)
Decreased focus on pain	Pain management (Chapter 8)
Increased ability to ignore pain	Pain management (Chapter 8)

(Continued)

Treatment Goal	Hypnosis for . . .
Decrease in perceived fatigue severity	Fatigue management (Chapter 8)
Increased belief that one has the skills or resources to be able to control pain and its negative effects on one's life	Thought management (Chapter 9)
Pain "acceptance" (decreased belief that a search for a medical cure for pain will be helpful and that pain must be reduced to live a meaningful life)	Thought management (Chapter 9)
Purposefully thinking positive pain-related thoughts	Thought management (Chapter 9)
Increased ability to automatically interrupt negative rumination (catastrophizing) and replace it with more reassuring thoughts	Thought management (Chapter 9)
Increased belief that it is safe to move and be active despite pain	Thought management (Chapter 9)
Increased belief that it is possible to manage well without pain-contingent analgesics	Thought management (Chapter 9)
Increased confidence in one's ability to function independently, without pain-contingent assistance from others	Thought management (Chapter 9)
Engaging in muscle strengthening or stretching activity	Behavior management (Chapter 10)
No longer restricting the use or movement of a body part	Behavior management (Chapter 10)
No longer engaging in a "resting" activity in response to pain, such as lying down, sitting down, or going to a dark or quiet room	Behavior management (Chapter 10)
Increase in activities that are valued by the patient	Activity management (Chapter 10)
Maintaining an appropriate level of activity despite pain	Activity management (Chapter 10)
Not allowing pain to interfere with activities	Activity management (Chapter 10)
Improved ability to get to sleep and overall sleep quality	Sleep management (Chapter 10)

Towards the end of the initial evaluation, the clinician should have a solid understanding of the patient's pain problem, the factors that are most likely to be influencing that problem, and an initial (ranked) list of potential treatment goals. The clinician should also have determined whether hypnosis is contraindicated (e.g., the patient has clearly stated that he or she continues not to be interested in hypnosis, even after hypnosis is described by the clinician as a natural skill that can be learned and practiced) or if the patient has a higher-than-average risk for having an adverse reaction to hypnosis treatment (e.g., has a history of trauma or psychotic symptoms).

At this point, the clinician should provide feedback to the patient. Feedback can begin with the clinician's statement (if this is accurate) that there seem to be changes that the patient can make that will allow him or her to hurt less and do more. This is almost always the case, although there will be the rare patient whose beliefs, thought processes, coping behaviors, sleep quality, and social situation are already as adaptive as they can be; patients who have essentially already met the treatment goals listed in Table 5.1. These patients should be praised for the efforts it takes to maintain an adaptive lifestyle and encouraged to keep doing what they are doing.

Almost all of the other patients, however, will have room for improvement on at least one treatment goal, and often many. You may say something like the following:

> *Thank you for taking the time to meet with me today and answer all my questions. I think I have a pretty good sense of your situation at this point in time. To your credit, there are things that you are doing that have probably really helped the problem not get any worse than it is. You still swim at least once a week, and you have managed to maintain some of your hobbies. You told me that the support you get from your husband is very important to you, and you have maintained good communication with him and are able to provide him with the support that he needs as well.*
>
> *I also think that there are some changes that you can make that will allow you to hurt less, and do more. First, you say that the pain has*

gradually gotten more severe over the past six months, and that you are doing less and less. You have cut back on exercise and are getting weaker and less able to be active, and you are no longer engaging in activities that you used to enjoy and that brought meaning to your life. You also told me that a lot of your day is spent thinking about and worrying about pain, and you are feeling more and more depressed as a result. You have been using analgesic medications and rest as the primary methods to cope with the pain, and although this usually produces an immediate decrease in pain, you also notice that your daily pain is actually increasing over time. You also tell me that you have a hard time getting to sleep at night, and that often when you wake up you have a hard time getting back to sleep—so you end up feeling tired and fatigued during the day.

Although I understand that all of these are problems, they might also be considered opportunities. They are opportunities because there are things that you can do to address each one; I think that it is possible to start to turn this around. But before I give you some of my ideas about this, I want to make sure that everything I have said is accurate. Is there anything I said that is wrong, or have I missed an important point?

(Allow the patient to correct anything that is not accurate, and reflect what the patient tells you so that he or she knows you understand.)

Okay, here is a list of what I think are some reasonable goals that you could accomplish in the next couple of months if you are interested:

1. *I think you could learn some self-hypnosis strategies for making it easier to feel more comfortable as you go about your daily life.*
2. *You could also learn to make a shift in how you think about the pain and its effects on your life so that you feel more relaxed and calm throughout the day, regardless of how much pain you feel.*
3. *You could come up with a plan for exercising even more than you do now in order to feel stronger and more able to socialize with your family and friends. We could also use hypnosis to help make this plan work for you.*

4. *You could learn to use self-hypnosis strategies for getting to sleep faster, feeling more rested when you wake up, and feeling more energy during the day.*

How does this sound to you? Are you interested in one or more of these ideas, and if so, which one or ones? Where would you like to start?

(Giving the patient a choice regarding which goal[s], if any, he or she wants to work towards communicates respect for his or her independence and judgment.)

The clinician should answer any questions and continue the discussion until a list of specific treatment goals that the clinician believes will benefit the patient, and the patient wants to work towards, is created and agreed upon. In this example, that list might be for the patient to (1) learn self-hypnosis strategies for reducing pain intensity, (2) learn self-hypnosis strategies for being less bothered by pain, (3) increase the time spent engaging in aerobic exercise to 30 minutes, five times per week and using self-hypnosis to make this increase in exercise easier, (4) increase the number of social events the patient engages in with family and friends from once a month to once a week, again using hypnotic strategies for making this change easier, and (5) shorten the time spent it takes to get to sleep when the patient first goes to bed, and during the night when the patient wakes up.

Chapter Summary

Given the significant role that psychosocial factors play in the experience and effects of pain, a thorough psychological evaluation should be completed before initiating treatment for any chronic pain condition. Four important goals can be achieved during the initial evaluation: (1) establishment of rapport; (2) identification of treatment goals, which will most often include changes in pain-related coping behaviors and beliefs; (3) collection of baseline outcome data; and (4) negotiation of a treatment plan.

One possible outcome of the evaluation is that the clinician may determine that the patient is already managing his or her pain as well as can

be expected: the patient may be exercising regularly, sleeping well, focusing on valued life goals and activities more than pain, using self-hypnosis regularly to experience periods of comfort and relaxation that last most of the day, and thinking realistic and reassuring thoughts about pain. For such patients, treatment may not be needed or indicated. Similarly, the clinician might determine that self-hypnosis training is not needed or indicated. Perhaps the patient feels strongly that he or she is not interested in learning self-hypnosis skills for religious reasons. Or perhaps the patient has a history of psychiatric difficulties, including perhaps a history of disruptive dissociative states, and the clinician determines that the risk of increasing the frequency of dissociative events precludes the use of hypnosis. For these patients, other psychological treatments for improved pain management, such as cognitive therapy or motivational interviewing, might still be indicated.

For most patients, however, the results of the initial evaluation will result in a list of treatment goals that both the clinician and patient agree would be worth pursuing and that would likely respond well to hypnosis, or to the combined use of hypnosis with other psychosocial treatments. The remainder of this guide describes how clinicians can use hypnosis for such patients.

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Chapter 6 *Hypnosis for Chronic Pain Management: The Basics*

(Corresponds to Chapter 5 in the Workbook)

This chapter provides an introduction to the basics of using hypnosis for chronic pain management, and is written for the clinician who has very little working knowledge of hypnosis. It begins with a description of the common myths and negative attitudes that patients may have about hypnosis, and discusses how those can and should be addressed prior to the initiation of treatment. It then provides a description of a typical individual hypnosis treatment session, designed to give the reader a sense of how hypnotic inductions and suggestions, described in Chapters 7 through 11, are embedded in the context of treatment. It ends with a brief discussion of the use of standardized (scripted) versus tailored hypnotic inductions and suggestions, and points out that clinicians need not, nor should they, choose between using either hypnosis or other pain treatments with known benefits, such as cognitive behavior approaches. Instead, clinicians can use hypnosis *with* other established pain treatments, and can even use hypnosis specifically to enhance the efficacy of these other interventions.

Addressing Hypnosis Myths and Misconceptions

Most people learn about hypnosis from film and television or from witnessing stage hypnotists, and almost all of what they learn from these sources is wrong. Worse, this misinformation can be a barrier to participation in treatment and can even interfere with treatment success among those who do participate. Thus, at some point before hypnosis treatment begins, either at the end of the initial evaluation or prior to the first hypnosis session, the patient's views about and attitudes towards

hypnosis should be assessed and any inaccurate information corrected. This section lists the most commonly held incorrect views about hypnosis and provides scripts for what the therapist can say to address each one.

Hypnosis Is the Same as Sleep

Some patients may have watched movies or television shows in which the hypnotist induced a hypnotic response by telling the subject that he or she is getting "sleepy." This may have led the patients to believe that hypnosis is a form of sleep, and that the subject becomes unconscious during hypnotic procedures. Patients who believe that hypnosis is a form of sleep may not believe that they are receiving "real" hypnosis or are not responding well to the procedures if they do not "fall asleep" during hypnosis. These patients can be told the following:

> *Research shows that hypnosis is not the same as sleep. During sleep people are not conscious, and the brain shows specific brain wave activity. No such brain activity is seen in people during hypnosis. In fact, the brain activity seen during hypnosis is very similar to the brain activity observed when people are awake. Rather than "sleep," hypnosis might be described as a state of focused attention during which many people can achieve better control over their experience of comfort. It is true, though, that with hypnosis there is a general calming of brain activity. For this reason, many people find that it is easy to drift off into sleep once they learn self-hypnosis. So as you learn to use hypnosis, you can use it to help you get to sleep more quickly, if you wish.*

The Clinician Has Control over the Subject

Concerns about control are perhaps the most common among individuals who have limited experience with hypnosis. Almost always, when hypnosis is shown in movies or on television, it involves one character using hypnosis to gain control over the other, often "making" the hypnotic subject do something when hypnotized that he or she would not otherwise consider doing. Similarly, stage hypnotists will often use hypnosis to encourage subjects to engage in acts that might be embarrassing

for them. Sometimes patients are worried that they might be forced to say something they do not wish to say, such as give up a closely held secret, when hypnotized. Patients expressing these concerns can be told:

> *The self-hypnosis training you will be given is designed to give you the skills to promote your comfort. At no time will I attempt to control you or brainwash you. In fact, when I am giving you suggestions for your comfort and for getting more control over pain and its effects on your life, you will often hear me qualify the suggestions by saying, "You will find that it is easy to respond to suggestions that are appropriate for your comfort and well-being." By using this wording, I will be giving your mind permission to only respond to those suggestions that you think will be most helpful to you; you will be free to simply ignore the rest.*

Only Weak-Minded, "Suggestible," or Gullible People Can Be Hypnotized

It is generally known that people vary in their responsivity to hypnotic suggestions. However, despite significant efforts to identify the predictors of hypnotic responsivity, researchers have not been able to identify personality traits or other individual factors that are significantly associated with hypnotizability (Kirsch & Council, 1992). Patients who indicate that they see a response to hypnosis as reflecting one or more aspects of their personality should be educated to understand that this is not the case:

> *Scientists have searched for decades to discover if there are any types of people who are more likely than others to respond to hypnosis. Despite all of these efforts, and testing many different personality variables, researchers have not found any personality types that are more or less likely to respond; responding to hypnosis depends much more on your basic ability to use your mind than on your personality type. Also, different hypnotic suggestions are easier and harder to respond to—some take more ability at using hypnosis than others. As it turns out, ability to use hypnosis for pain management is among the easiest hypnotic tasks. This may explain why hypnosis has been used so often for pain management. Almost everyone finds that they can learn to use hypnosis to feel more relaxed and comfortable. As an additional*

benefit, people who learn self-hypnosis can also use these skills to sleep better and ignore symptoms with greater ease, so that those symptoms interfere less with what is most important to them.

The Subject Will Lose All Conscious Awareness and Have No Memory of the Experience

It is the rare patient who loses conscious awareness during hypnosis, or who has no memory of the experience. In fact, it is generally acknowledged that during hypnosis most people experience something very much like what they do on a daily basis when they are absorbed in a hobby or other relaxing activity. Patients who believe that hypnosis must be accompanied by a loss of awareness or amnesia for the hypnotic session may not believe that they will respond well to hypnotic treatments when they do not experience amnesia, and this might interfere with progress. You can address this with these patients by saying something like the following:

Most people find the hypnotic state to be very pleasant, and most people remember most if not all of what transpired during the hypnosis session. Also, the state of focused attention associated with hypnosis is a state that is familiar to many people. Some people report that they "did not feel hypnotized" during the procedures, because the state of hypnosis is a natural relaxed state that many people achieve on their own as they go through their day-to-day activities, especially when they are participating in activities that are very absorbing for them, like gardening, exercising, or relaxing on vacation.

The Subject Must Remember and Consciously Process Everything that the Clinician Says for the Session to Be Effective

On the opposite end of the continuum, some patients may believe that they must actively and consciously remember and process everything that is said during the hypnotic session for them to obtain benefits. Although this belief is relatively rare, there are patients who express

concerns that because they "zoned out" during the session, they may not respond to the suggestions. Reassure these patients by telling them:

> *With hypnosis, people do not need to "work at" listening to everything that the clinician says. Like all learning, the hypnotic management of pain does not require 100% of your conscious attention at all times. You may find that you drift in and out of being aware of my voice during the sessions. That is fine and should have little effect on the outcome.*

If the Subject Does not Experience a Deep Level of Focused Attention, the Treatment Will Be Ineffective

Many individuals (and some clinicians) believe that the effects and efficacy of hypnotic procedures are maximized when patients attain "deep" levels of focused attention as opposed to "light" levels. However, there is no evidence that supports this assumption. Patients expressing this belief can be told:

> *Learning to get control over and decrease pain is one of the easier hypnotic skills, possibly because we already have the nervous system "wiring" to make this response possible. Also, many people are highly motivated to feel better, and so hypnotic suggestions for relaxation and comfort fit with their own goals. Almost everyone notices feeling more relaxed and comfortable with self-hypnosis. Also, most people with pain report that they benefit from hypnosis treatment for pain, including many who are able to achieve "only" a light trance state.*

Addressing Negative Previous Experiences with Hypnosis

Finally, patients should be asked what previous experience they have with hypnosis, including both what they have experienced personally and what they have observed. Patients who have witnessed stage hypnosis, for example, may express some of the misconceptions previously listed. When they do, the clinician can provide the more accurate information presented. Other patients may have participated as subjects in stage hypnosis acts and have residual negative feelings about

the experience. Still others may have had one or more sessions of clinical hypnosis with another provider and report some negative experiences (or no benefits).

Patients who have concerns based on observing or participating as a subject in stage hypnosis acts can be assured that the self-hypnosis described in this guide differs from stage hypnosis in many ways. They might be told:

> *Stage hypnosis is nothing like clinical hypnosis. First of all, the goals are very different. With stage hypnosis, the goal is to entertain the audience. In stage hypnosis the needs and wishes of the hypnotic subject are usually ignored. Hypnotic subjects in stage hypnosis are often encouraged to act in ways that seem embarrassing, and they might feel used and ignored after the experience. Also, the stage hypnotist does not seek to help the subjects learn any skills that they can use to feel more comfortable and in control in their daily life. It is all about entertainment. On the other hand, with clinical hypnosis, the focus is on helping an individual learn to use his or her natural hypnotic abilities to feel better—to reduce the experience of pain, to increase the ability to ignore pain, to have pain be less bothersome, to sleep better, and to be able to get back doing the things that are most important to you, among many other goals. Hypnosis has been shown to help with these goals. Clinical hypnosis is all about helping you achieve what you wish.*

Patients who report negative previous experiences with clinical hypnosis should be interviewed carefully to determine what it was about that experience that they did not find useful or was bothersome. The information obtained may make the clinician and patient decide not to use hypnosis, or at least to approach its use very carefully—for example, if the patient reports that hypnosis was associated with a marked increase in the frequency or severity of dissociative symptoms. As described earlier, there are a number of treatments that can help patients with chronic pain feel better and do more; hypnosis is not the only option.

If the patient's previous experience with hypnosis resulted in no or little benefit, then it is possible that the patient might not benefit from the intervention protocols described in this guide; not everyone benefits

from hypnotic treatment. On the other hand, the majority of patients report that they obtain many benefits from the treatment described here, even if a marked reduction in pain is not achieved (Jensen et al., 2006). Patients who did not experience significant benefits from previous hypnotic treatment might be told the following:

> *People's response to all treatments, including hypnosis, is variable. Some people do very well right away, others might take longer to show improvement, and still others might experience no improvement. Research shows, however, that it is the rare patient who reports no benefits from learning how to use hypnosis. In fact, the majority of patients report that they can learn to use hypnosis to experience periods of pain relief, and some report marked decreases in their daily pain that lasts as long as the outcomes are measured. Also, most patients report that they get other benefits as well. As I may have mentioned before, some people who learn these skills report that their pain is less bothersome to them, or that they can more easily ignore pain, or that they are sleeping better, among other things. Still, you tell me that you did not benefit that much from hypnosis in the past. Given all of this, how would you like to proceed?*

It is possible that patient concerns or questions about hypnosis might emerge as treatment progresses. The clinician would do well to keep an eye out for these and address them as he or she learns about them. For the most part, though, if the clinician performs a careful evaluation of the patient's beliefs and concerns about hypnosis, and addresses these directly before treatment begins, it is relatively rare for these to interfere significantly with treatment. Once they are addressed, the clinician can proceed with the hypnosis sessions.

The Components of a Hypnotic Session and Hypnotic Treatment

Although each clinician will develop his or her own style for managing a clinical session, clinicians who do not have a great deal of experience using hypnosis may consider starting with the generic session outline presented here, and then modifying it as appropriate to fit their own treatment style and each individual patient. The outline assumes 50-minute treatment sessions, although a number of prominent clinicians

in the field argue that 90-minute or even longer sessions may be more useful (e.g., Rossi, 2010).

In a 50-minute session that focuses on hypnosis only, the total time spent for the induction and suggestions might take up to 30 minutes, leaving 10 minutes before and after the hypnosis portion for discussion and feedback. If other interventions are included to help the patient develop new skills or work towards treatment goals, such as motivational interviewing (Jensen, 2000) or cognitive therapy (Thorn, 2004), the hypnosis portion of the session might be quite brief—as brief as 10 minutes. Even when the time spent for hypnosis is very brief, however, it is useful to include five elements when hypnosis will be used:

1. Discussion about the patient's experience with self-hypnosis practice at home since the previous session
2. Discussion of the goals for this session's hypnotic treatment
3. A hypnotic induction (see Chapter 7) followed by hypnotic suggestions (see Chapters 8–10), which are then usually followed by post-hypnotic suggestions (see Chapter 11)
4. Discussion of the patient's experience during the hypnotic experience
5. Discussion of plans for self-hypnosis practice following the session

Discussion about the Patient's Experience with Self-Hypnosis Practice since the Previous Session

As will be mentioned in the next section, the hypnotic inductions and suggestions used in the initial sessions will likely be based on scripts or approaches that the clinician has most often found to be helpful in previous patients with similar problems. Each subsequent induction and set of suggestions should almost always be modified, based on the patient's response and feedback. The only situation in which the clinician might consider using the same set of suggestions is when both the patient and clinician agree that these were ideal for the patient's current situation and goals, and it would make sense for the patient to hear these same suggestions again.

Some individuals report that they are able to experience a hypnotic trance very quickly, and so may require an induction that takes no more than a minute or two (or even less). Others will prefer inductions that last much longer—10 minutes or more. Many find that with treatment and practice, they require less time to enter a relaxed and focused state, and so may request longer inductions at the beginning of treatment and increasingly briefer inductions as treatment progresses.

To determine the best timing for the induction portion of future hypnotic sessions, and also to determine the induction content that might be most effective for the patient, the clinician should ask the patient for feedback about both the *length* and *content* of the induction used in the previous session. Ideally, most patients would have been listening to an audio recording of the previous session on a daily basis since that session. Should the next induction be longer or shorter than the one in the most recent session? Which aspect(s) of the induction was (were) most compelling and useful? Which components, if any, might be dropped in future inductions?

A particularly useful simple question to ask prior to the hypnosis portion of the session is, "What did you experience during the last induction?" Information regarding how the patient experiences the hypnotic induction, especially when he or she found the experience to be particularly useful or powerful, can provide the clinician with important clues for ensuring that future sessions, and their associated audio recordings, are most useful. For example, patients who experience physical sensations, such as "floating," "warmth," or "heaviness," that they find pleasant and that contribute to a sense of hypnotic success can be offered subsequent inductions that include these experiences ("And as you focus your awareness on your right hand, you notice changes. Perhaps it is feeling warmer, or heavier . . . perhaps at the same time a sense of lightness, almost as if it were floating"). Visual imagery should be added to the inductions of patients who describe that such images occur to them during their experience of hypnosis ("You notice the leaves, a light translucent green, and can see the leaves' veins as you focus on each detail, and in the background a beautiful blue sky" or "A wonderful purple color fills your vision"). Keeping the inductions consistent with what the patient reports that he or she was able to experience can make the

experience easier for the patient, which ultimately makes the induction more successful.

Similarly, the clinician should ask at each session what the patient experienced during and after each time he or she listened to the audio recordings at home. It is also useful to keep in mind the different domains of pain (sensory, affective, motivational, cognitive) as the patient describes changes in his or her experience of pain as treatment progresses. Patients who describe changes in pain severity, quality, or location during or following their home practice sessions are reporting an aptitude for using hypnosis to alter the sensory aspects of pain. For such patients, continued inclusion of suggestions that address the sensory aspects of pain can build upon the patient's natural abilities and enhance overall outcome (see Chapter 8).

Other patients may report that they are thinking differently about their pain, and evidence an ability to alter their thoughts and beliefs about pain with treatment. These patients may benefit from additional suggestions that focus on these cognitive aspects of pain (see Chapter 9). On the other hand, suggestions that are frustrating or annoying to patients ("I really don't like it when you suggest that I should let the pain change location. I can't do that, and it brings me out of hypnosis.") should be avoided in future sessions. The issue here is to find out how this particular patient is responding to hypnotic treatment, and then tailor the suggestions included in the next session to fit this patient's abilities and skills.

This is also a useful time to assess for the occurrence of any "adverse events" associated with treatment. As described in Chapter 5, negative responses to hypnosis treatment are very rare and do not appear to occur more often with hypnosis than they do with any other clinical interventions. But negative responses can occur, and it is important to assess for these and modify the inductions and suggestions as needed to limit them. For example, if a patient reports that he or she experiences a "sense of falling" during the hypnotic induction, and that this is uncomfortable or even frightening, the induction can emphasize experiencing "an awareness of the support from below . . . a sense of feeling grounded . . . you can feel the pressure and support of the chair. No matter how heavy or light you feel, you know that that body is supported. Knowing this

can make it easier to experience whatever is most comfortable for you." Although it occurs very rarely, other patients might report an uncomfortable increase in pain following certain suggestions (e.g., an increase in pain as muscles that normally act to support structures start to relax). In this case, the clinician should discuss with the patient whether it makes the most sense to avoid suggestions that were followed by an increase in pain in future sessions, or to revisit these suggestions at a later date as the patient shows increased progress.

Patients who have been determined to have some risk for adverse events with hypnosis (e.g., a history of trauma, dissociative episodes, or psychosis) should be observed very carefully. Does the clinician notice any change in the patient's overall affect? Are there any indications of increased memories about or intrusions from past trauma? Is there any evidence of an increase in spontaneous dissociative events (e.g., "out-of-the-body" experiences, loss of memory)? Or is there any evidence of an increase in psychiatric symptoms (mania, delusions, hallucinations)? If patients show a worsening of any symptoms that may cause them problems, then the clinician should consider discontinuing hypnotic treatment and providing an alternative approach to teaching pain management skills that does not involve hypnosis. At the least, the hypnotic approach that is being used, including the content of the suggestions, should be modified to limit any potential negative effects.

Discussion of the Goals for Today's Hypnotic Session

Following the conversation about the patient's responses to the previous hypnosis session and/or audio recordings, the discussion can switch to the goals for today's session. Based on the overall treatment plan, the clinician and patient should have a list of specific goals for treatment (e.g., a reduction in perceived daily pain intensity, an increased ability to ignore pain, an increase in the frequency and awareness of reassuring thoughts, improved sleep quality, increased strength and mobility as can be achieved by participating in a regular exercise program).

Hypnotic suggestions to facilitate each of these goals can be developed and included in any one or more hypnotic sessions. However, it is not usually realistic to include suggestions that will address *all* of the patient's

treatment goals in every session. Often each session will have a different focus. For example, one session might focus on improved sleep. Another may address the patient's ability to engage in and enjoy valued activities, regardless of background sensations. It is useful periodically to revisit the treatment goals, to reconfirm that these are what the patient would like to accomplish (perhaps modifying them as more is learned about the patient), and then to determine with the patient the focus for today's session.

Because each of the treatment sessions will be recorded and an audio recording for home practice provided, patients will end treatment with a "library" of recordings that include inductions tailored to their particular style of responding (i.e., with inductions that are particularly useful for them) and suggestions that address each of their treatment goals. Discussion of the goals of the current session will help determine how future audio recordings might (or might not) differ from previous sessions.

Induction and Hypnotic Suggestions

Following the discussion with the patient about his or her previous responses to the hypnotic sessions and audio recordings, and about the goals for today's session, the clinician should have a strong sense of what induction to use and for the hypnotic suggestions that will follow in each session. Chapters 7 through 11 present specific scripts that have proven efficacy in research trials. Additional inductions and suggestions that are used by clinicians with a great deal of experience, and that might fit the needs of a particular patient, can be found online at the Treatments*ThatWork*™ Web site at www.oup.com/us/ttw. However, the scripts included in this guide should be viewed as examples that can be altered as needed to be consistent with the clinician's individual presentation style and the patient's needs at the time.

Many experienced clinicians find that they develop a "voice" for hypnosis that differs from their regular conversational voice. A shift in the tone and timing of speech can provide a cue to the patient to experience a shift in his or her experience. Although there is no research that has examined the effects of voice tone and timing on outcomes, many

clinicians view this as important (e.g., Finer & Jensen, 2010). Doris Brett, a psychologist who has used hypnosis in patients with medical problems for many years, puts it this way: "I believe that the tone and emotionality of the therapist's voice are critical in engaging the hypnotized listener. I sometimes think of it as like telling a bedtime story to adults—not talking down to them, but with the immediacy, color and vividness that a good bedtime story reader brings to the subject and with it, the sense of speaking directly, and only, to that particular person" (Brett, 2010).

The induction and suggestions portion of the session might take anywhere from just a few minutes to 30 minutes or longer. Very brief sessions provide the patient with an opportunity to practice brief self-hypnosis skills; skills he or she may choose to use many times during the day to experience ongoing benefits. Brief sessions also provide the patient with recordings for when and if he or she has just a short time to practice, and wishes to do so using a recording. Longer sessions make it possible to include longer inductions, multiple suggestions, and the repetition of particularly useful suggestions. Variety and flexibility are important, giving patients options that allow them to more easily integrate hypnosis into their lives.

Every session should be audio recorded. Many digital recorders are available for purchase, and most come with software that allows the clinician to download the recording onto a computer. The recording can then be burned onto a CD for the patient's use. The section on home practice at the end of this chapter discusses the instructions that can be provided to patients when they are given the recording of the session.

Michael Yapko (2006) has described a structure for the hypnosis component of a treatment session that he developed for treating depression and that has wide applicability. It includes:

1. Orienting the patient to hypnosis
2. An induction
3. Building a response set
4. Suggestions for change
5. Post-hypnotic suggestions

6. Closure

7. Disengagement

The orientation stage simply involves letting the patient know that the hypnotic component of the session is about to begin (e.g., "Okay, do you have any other questions before we begin the induction?"). The induction can include any one of many strategies for helping the patient focus his or her attention (see Chapter 7 and additional induction examples online).

The purpose of the "building a response set" element of the hypnotic session is to facilitate the absorption of and response to the suggestions that will come later. As Yapko points out, the most common strategy for achieving this is to provide a series of truisms that the patient will agree with as a way of building a "yes set" and subsequent willingness to respond positively (e.g., "You are sitting quietly in a chair, listening to my voice") (Yapko, 2006). Another method to build response sets is to "seed" the induction itself with words consistent with the suggestions that will follow (e.g., words like "letting go" and "vacation" when the suggestions that follow will focus on relaxation).

The clinician then provides the specific suggestions that target the goals of the hypnotic session (e.g., pain reduction, improved mood, improved sleep quality). In general, it is more effective to word suggestions as an *increase* in something (a positive feeling, a positive emotional state, an adaptive behavior) rather than a *decrease* in something. What people focus on tends to increase and strengthen. So asking patients to decrease a feeling or thought requires that they keep that feeling or thought in mind (in order to know what it is they are supposed to decrease) and can therefore paradoxically increase focus on that thought. If a goal is to decrease something maladaptive, then it is best to identify something that is inconsistent with the feeling, thought, or behavior that one wishes to decrease, and then suggest an increase in its counterpart. For example, if the goal is to decrease catastrophizing suggestions, saying something like the following can be useful:

> *And you find that you are more and more able to focus on, consider, and remember what you know to be true about your pain. That it is controllable and that you can live your life with contentment and*

periods of great joy and happiness, no matter what is happening with pain . . . and any time that a thought or idea appears that your mind knows is inconsistent with these truths, your mind will automatically be filled with the reassuring thoughts you know to be true. You are in control of your life. You can live your life in a way consistent with your most deeply held values. You can engage in activities that are important to you, including . . .

At the end of the hypnotic portion of the session, post-hypnotic suggestions (see Chapter 11) are provided to allow for generalization of the learning and changes that occurred during the hypnotic session to the patient's day-to-day life. Closure and disengagement let the patient know that the hypnotic session has ended (e.g., "and now you can return to the here and now, bringing with you anything and everything that you wish and that was of benefit to you during the session") and that the patient can disengage from the hypnotic experience (e.g., "giving yourself whatever time you need to come back, signaling to yourself that you are ready by allowing the eyes to open").

Discussion of the Patient's Experience during the Hypnotic Experience

It is often useful to take a few moments after the hypnotic session to obtain some preliminary feedback from the patient regarding his or her experience. It is best to give the patient time to "come back" after the session. The time that it takes for patients to be ready to discuss their experience varies from patient to patient, usually varying from just a few seconds to several minutes. The clinician can simply sit quietly with the patient until the patient is ready.

Useful questions to ask the patient include the following:

1. Is there anything about your experience that you would like to share?
2. What did you find particularly useful about the session today?
3. Do you have any questions at this point?

The clinician should be alert for ideas that will enhance the patient's positive experience and response in future sessions. What modalities

(touch, smell, visual, kinesthetic) are easiest for this patient to experience with hypnosis? What aspects of the induction should be retained and what should be altered to enhance response in the next sessions? Did the patient note any specific suggestion that was particularly helpful? It is possible, however, to "over-analyze" the hypnotic experience, especially when the experience was profound for the patient. As the clinician and client learn more about how the client is responding and the client's preferences, there may be less time needed to debrief following each session.

Discussion of Plans for Self-Hypnosis Practice Following the Session

For many if not most patients, the primary benefits from self-hypnosis training come from the practice that occurs between sessions. Patients should engage in two types of practice: (1) simply listening to at least one audio recording on a daily basis and (2) practicing self-hypnosis on their own without the recording, many times during the day.

Practicing with a Recording

Over time and with repeated sessions (often 8–10 sessions are provided in clinical trials, but the number of sessions in clinical practice will likely be more variable, depending on the needs of the patient), the patient will end treatment with a small library of recordings that contain hypnotic sessions tailored to his or her needs and goals. Patients should be encouraged to listen to at least one of these recordings at least once a day until they have obtained as much benefit from them as they believe possible. Each recording will contain a hypnotic induction and suggestions for experiencing improvement in some aspect of the pain problem or other treatment goal. The suggestions also include post-hypnotic ones to carry the benefits beyond the sessions.

During the days between sessions, patients should generally be encouraged to listen primarily to the most recent recording. This will allow the clinician to obtain feedback on the utility of that most recent recording,

and then create a session that is even more helpful. However, patients sometimes find that they have a favorite recording or recordings. They may therefore wish to listen to a variety of previous sessions throughout the week, as long as they listen to the more recent session enough to be able to comment on its effects.

After the last treatment session, patients can choose which recordings they want to practice with and how often. Follow-up data from three months after treatment with self-hypnosis training indicate that patients vary with respect to how frequently they listen to the recordings (Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009). Although the majority of patients report that they listened to a recording at least once in the previous month, the frequency ranged from once a month to almost daily. Those who listened to a recording reported that the average amount of pain relief they obtained was 3.58 (on a 0 = No relief to 10 = Complete relief scale) in a sample of individuals with spinal cord injury and chronic pain (Jensen, Barber, Romano, Hanley, et al., 2009). A sample of individuals with multiple sclerosis and chronic pain reported that their median pain relief rating was 6 (on that same 0–10 relief scale). The average and median time that relief lasted following the recording was 3.36 hours (range 0.50–9.00 hours) and 6 hours (range 1–24 hours) for the spinal cord injury and multiple sclerosis groups (Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009). In short, most patients continue to listen to the recordings after treatment, and all of those who do continue to report that these sessions are followed by noticeable pain relief that can last for hours.

In addition, there is limited evidence that frequency of practice with recordings is associated with positive treatment outcome (Jensen & Barbar, 2000). However, the available evidence on this issue is only correlational; it is possible that patients who obtain the most benefit from treatment choose to listen to the recordings more. The actual impact of listening to the treatment recordings on a regular basis versus not listening to the recordings following treatment on maintenance of gains has yet to be established.

In addition to listening to recordings on a regular basis during and after treatment, patients should also be encouraged to practice self-hypnosis on their own without a recording, throughout the day. As the reader will see in the next chapter on inductions, each of the hypnotic inductions described in this guide begins with a specific cue that the patient has control over—"take a deep breath and hold it, hold it for a moment . . . and let it go." The hypnotic inductions and suggestions then always follow this cue.

In addition, one of the post-hypnotic suggestions made is "when you take a deep, relaxing breath and hold it, hold it for a moment . . . and let it go, the feelings of comfort and well-being you experience with self-hypnosis will come washing over you . . . easily, naturally, and automatically." Thus, the chances that the deep breath cue will be followed by an experience of a hypnotic state and by "feelings of comfort and well-being" are increased via both classical conditioning and (post-) hypnotic suggestion. Moreover, those chances continue to increase every time the patient listens to the recording again, given that each listening session is associated with (1) another pairing of the cue followed by the experience of a hypnotic state and (2) another opportunity to hear the post-hypnotic suggestion.

Patients are encouraged to take full advantage of this learning by taking moments throughout the day, anywhere from a brief 1 or 2 minutes to a longer session of 10 to 30 minutes, to use the cue to re-experience hypnosis and the comforts and benefits associated with this. Evidence indicates that the majority of patients continue to use self-hypnosis in this way following treatment, providing support for the conclusion that they find this helpful (Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009). Interestingly, although the *amount* of pain relief that patients report with self-hypnosis (without the recording) is similar to that obtained with the recording, the time that relief lasts appears to be less when patients practice on their own (Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009). In any case, most patients find that continued hypnosis practice following treatment is beneficial, and encouraging them to practice can help them take full advantage of the benefits obtained.

There is general agreement in the field that scripted inductions and suggestions are most appropriate for clinical trials testing the efficacy of hypnotic interventions, while tailored inductions are usually more clinically effective. In the context of clinical research, there is a need to specify what is said to study subjects in order to allow other researchers to replicate procedures and test their efficacy in different settings and with different populations. Scripted inductions and suggestions can also be very useful for clinicians early in their use of hypnosis. The use of scripts with proven efficacy—for example, the scripts provided in this guide—allows these clinicians to use hypnosis without a great deal of training.

Once clinicians become experienced with hypnosis, however, they often begin to see the limitations of scripts. Because patients have unique responses to hypnotic suggestions, scripts do not allow the clinician to follow the patient's lead during a session. Also, patients usually favor one sensory modality (auditory, visual, or tactile) over others when responding to imagery suggestions; standardized scripts prevent the clinician from recognizing and responding to the patient's style in this regard. Although not a great deal of research has been done to compare the efficacy of scripted versus tailored inductions and suggestions, the research that has been done supports the efficacy of tailored hypnosis, at least when provided by experienced clinicians (Barabasz & Barabasz, 2006; Barabasz & Christensen, 2006).

As clinicians develop greater confidence and experience in tailoring inductions and suggestions, what factors should they take into account? First, it is very important to closely *observe* the patient throughout the hypnotic session. One goal in doing so is to reinforce and shape any responses in a way that can benefit the patient and enhance response. If the patient lets out a deep breath, starts to blink slowly during the induction, shows a shift in body position, or suddenly smiles, the clinician can reinforce this with statements such as "that's right, just continue to let that happen." Second, if the patient shows behavior that suggests discomfort or a response inconsistent with what is being suggested, contradictory to the script, it is appropriate for the clinician to query it during hypnosis. For example, it is not uncommon for patients to become tearful during deep relaxation and other hypnotic inductions. In this case,

the clinician can say, "Just allow yourself to remain in a comfortable state and let me know what you are experiencing." Often patients in this situation will report that they are tearful because they are experiencing a level of happiness or relief that they had not anticipated. Others might be feeling sad, and in this case the reasons for the sadness should be explored before the process continues.

Patients will also often continue in a direction of imagery, fantasy, or thought during a hypnosis session that the clinician has not anticipated or suggested. When this occurs, and the direction appears to be benign, the clinician can allow patients to take the path that they are generating rather than being too concerned about the script at that point. Patients are often able to use the relaxed and focused state associated with hypnosis to develop creative and useful solutions to the problems they are facing. It makes no sense clinically to interrupt this process.

With time and experience, clinicians will feel increasingly comfortable following the patient's lead rather than relying on highly structured and scripted approaches. In the meantime, the scripts provided in this guide can be considered a useful starting point.

Using Hypnosis to Enhance the Efficacy of Other Treatments

There is general consensus that hypnotic inductions are followed by an increased responsivity to suggestions. Given that suggestions can be viewed as "merely" verbal input, it is reasonable to hypothesize that hypnosis might increase responsivity to other verbal forms of therapy, such as cognitive therapy. Indeed, research shows that adding hypnosis to cognitive behavior therapy increases the efficacy of the latter (Kirsch et al., 1995). Consistent with this finding, a combined hypnosis–cognitive therapy for pain (i.e., a hypnotic induction followed by suggestions for altering beliefs about pain) was shown to be beneficial for reducing pain, pain interference with functioning, and catastrophizing cognitions over and above the benefits of either hypnotic analgesia or a traditional (non-hypnotic) cognitive therapy (Jensen et al., 2011). These findings provide empirical support for adding hypnotic treatment to cognitive therapy. One method for doing this in the context of pain treatment is the topic of Chapter 9.

Patients who are not familiar with hypnosis, or whose knowledge is limited to what they have seen in movies or television or on stage, may believe one or more myths about hypnosis that could interfere with their ability to benefit from hypnosis treatment. Before treatment with hypnosis begins, clinicians should ensure that the patient has accurate information about hypnosis and its effects. One way to facilitate this is to recommend that the patient read the companion patient workbook, which was written as a resource for patients as they participate in hypnosis treatment for chronic pain (Jensen, 2011).

When hypnosis is used, it is important that the clinician understand how the patient is responding to the inductions and suggestions that are offered. Some time should therefore be spent discussing the patient's response to treatment since the previous session (including response to any audio recordings the patient listened to as well as self-hypnosis practice). The clinician should take these responses into account when considering the inductions and suggestions to offer in the upcoming session. The goals for the upcoming session should also be discussed. The hypnotic component of treatment can then be provided. It normally consists of an induction followed by hypnotic suggestions and almost always by post-hypnotic suggestions for the benefits to extend beyond the treatment session. Debriefing immediately following the hypnotic component of the session provides the clinician with important information to take into account when determining the induction and suggestions to use in the next session(s).

Patients should be encouraged to practice at home between sessions, both by listening to the audio recording of the session at least once per day and practicing experiencing a "hypnotic state" and accompanying benefits (e.g., relaxation, ability to get to sleep, decreased focus on pain, as consistent with the treatment goals) on their own without the audio recording multiple times during each day.

Clinicians new to hypnosis may depend on proven scripts, like the ones provided in this guide, for addressing different treatment goals. But as they gain experience, they will likely find that they can increase efficacy further by tailoring the inductions and suggestions to each patient.

Tailoring is informed primarily by the information gained during the discussion at the beginning of each session as well as right after each hypnotic component.

Finally, although it is possible to view hypnosis, including the treatment protocol described in this manual, as a stand-alone treatment, rarely, if ever, should patients with chronic pain receive *only* hypnosis. Hypnosis can, and usually should, be provided with other effective treatments for chronic pain, and may even be useful for enhancing the efficacy of those other treatments.

Chapter 7 *Hypnotic Inductions*

(Corresponds to Chapter 6 in the Workbook)

Hypnotic sessions almost always begin with an induction. This chapter first summarizes some basic concepts of hypnotic induction. This summary is followed by scripts for three inductions that have been used in published clinical trials of hypnotic analgesia (Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009; Jensen et al., 2011). Thus, they may be considered scripts associated with hypnosis treatment with "proven efficacy." However, as discussed in the previous chapter, clinicians should modify these inductions as needed, based on patient feedback, to enhance their efficacy.

Basic Induction Concepts

Inductions can be formal or informal. Formal inductions often begin with a suggestion that the patient focus his or her attention on a single external object (e.g., spot on a wall) or internal sensation (e.g., breathing). With formal inductions, the clinician usually clearly indicates that a hypnosis session is about to begin. Some clinicians, however, prefer to use less formal inductions. These usually involve gradually altering the tone or timing of speech to indicate a shift from a conversational interaction to a hypnotic one, while gradually introducing suggestions. With informal inductions, the distinction between regular (conversational, question-and-answer) therapeutic interaction and the hypnosis component of the session is not always clear. Research has not tested the relative efficacy of formal versus informal hypnotic inductions, and there is no theoretical reason to hypothesize that one type of induction is more effective than the other. Which type a clinician uses depends mostly on personal style and preference.

Hypnotic inductions can be viewed as having three distinct phases that are thought by some to be necessary (or at least useful) to follow:

1. A preparatory phase during which patients are told what to expect
2. A transition phase that involves shifting the patient's attention internally and enhancing his or her focus
3. A deepening phase, which contains suggestions for experiencing a "deeper" level of hypnosis

Although inductions can follow this course, they need not do so. Nearly any series of suggestions that ask the subject to focus his or her attention and notice changes in his or her perceptual or sensory experience can be effective.

The clinician should keep in mind several issues during the induction phase of hypnosis. First, certain mind sets and cognitive activities are not consistent with hypnotic responding. These are generally associated with executive functioning, such as planning and worrying. Therefore, it is best to include suggestions during the induction that are inconsistent with these cognitive activities. This might include suggestions to focus on one's immediate or imagined experience; especially any experience that is comfortable. The induction scripts in this chapter and those available online provide good examples of suggestions that accomplish this.

Second, to the extent that dissociation is associated with the hypnotic experience (see Chapter 3), the clinician can include and incorporate suggestions consistent with dissociative experiences. This can include suggestions for nonvolitional motor behavior ("notice how the eyelids are dropping, all on their own") as well as dissociative language (note the switch from "your [body part]" to "the [body part]" in the relaxation induction in this chapter). However, as mentioned previously, dissociation suggestions are best avoided in patients who report a history of dissociation following abuse or trauma, or who might otherwise have difficulties controlling dissociative experiences.

Third, to the extent that hypnosis is associated with psychological regression (see Chapter 3), the clinician can consider incorporating language consistent with this phenomenological experience in the induction.

Words and phrases such as "taken care of," "warm and comfortable," "supported," "satisfied," and "you can let go . . . without a care in the world" are consistent with this. Such words and phrases are also sprinkled throughout the scripts that are in this chapter and available online.

Fourth, given the concern that some patients express about being "controlled" by hypnosis and hypnotic suggestions, it is useful to include statements that encourage self-control and that indicate that the patient has a choice as to which suggestions he or she will respond to. Examples include statements such as "you will be able to easily respond to suggestions . . . that are *appropriate for your well-bring and comfort* . . . and easily and automatically ignore any suggestions that are not appropriate . . . you will be able to determine which suggestions are best for you, without even having to think about them, and then respond easily and naturally to the suggestions that will be beneficial."

Fifth, as mentioned in the previous chapter, many experienced clinicians pay close attention to the tone of their voice and timing of their words as a way to capture the patient's attention and provide a cue that it is time for the patient to alter his or her perceived state—a cue that it is "time" for hypnosis. These changes in speech might include speaking with a deeper or more expressive voice, emphasizing words that might not have been emphasized in normal speech, and speaking more slowly. Clinicians who use this strategy usually make these voice tone and time changes just as the induction begins.

Finally, to increase responsivity to the suggestions that follow, the induction can include words that "seed" ideas and that will be suggested later in the session. Recent research supports the idea that seeding language can have a significant influence on people's behavior without their awareness. In what has become a classic experiment demonstrating this concept, Bargh, Chen, and Burros (1996) describe a study in which one group of subjects was randomly assigned to be seeded with the concept of "elderly" and another group was not. The seeding was accomplished by asking each group of subjects to construct sentences out of a list of words. The word list given to the experimental group contained "elderly" concept words such as *Florida, old*, *grey*, *bingo*, *forgetful*, *retired*, and *wrinkle*, among others. The word list given to the control group

contained only neutral words (e.g., *thirsty*, *clean*, *private*, etc.). After creating the sentences, all of the subjects were told that the experiment was over. However, it was only then that the primary study outcome variable was (surreptitiously) measured: the time it took the participants to walk to the nearest elevator. The findings showed that the participants "seeded" with elderly concepts walked significantly slower than those who were not.

Milton Erickson (mentioned briefly in Chapter 3) was particularly effective in using the seeding technique to build and encourage particular response sets (Geary, 1994). Practically, this means that the clinician can include words and images associated with the response set that he or she hopes to encourage with the suggestions that will follow. For example, suggestions for increased activity might be preceded by inductions that include words such as "strength," "strong," "energy," "active," and "produce" (e.g., "and as you sink deeper and deeper into a state of focused awareness, you already notice a kind of energy, a relaxed sense of strength, allowing the mind to actively produce strong images that symbolize this focused awareness . . . I don't know what those images will be . . . the mind creates them from its inner strength and reserves of energy"). If the hypnotic session is to focus on an increased ability to ignore sensations, words such as "carefree," "flexible," "in control" might be appropriate to include as seeding words during the induction (e.g., "and as you sink deeper and deeper into a state of focused awareness, your mind has complete control over your ability to feel so carefree . . . shifting flexibly into a state that allows you to notice what is most enjoyable about this experience . . . perhaps a sense of letting go . . . or perhaps an ability to notice everything from a distance").

Basic Countdown Induction

The induction script provided here is adapted from the Rapid Induction Analgesia technique described by Joseph Barber (Barber, 1977). The original version of this induction can be found online at www.oup.com/us/ttw. This induction can be used with patients who are able to achieve a focused state of awareness relatively easily, as it does not include extensive suggestions for dissociation or imagery. It is also a relatively short

induction (about five minutes). Clinicians might consider using this induction during at least one of the treatment sessions. This would provide the patient with at least one recording that includes a brief induction, for use when he or she wishes to practice with a recording but has limited time. Note that this induction, like all of the induction scripts presented in this chapter, begins with a deep breath cue. In the specific example that follows, the cue is repeated many times. Through classical conditioning, and over time as he or she continues to listen to the recording, the patient will increasingly be able to use this cue to elicit whatever he or she usually experiences during hypnosis—for most individuals, this is an experience of relaxation and comfort. The induction is as follows.

> *Now, then . . . just settle back . . .* [if eyes open, say, *and close your eyes*] [if eyes closed, say, *and let your eyes stay closed*]. *That's right. Now, I'm going to offer you various suggestions for experiences you might enjoy having. As I do this, all you have to do is listen to what I'm saying and allow your imagination to make these experiences real.*
>
> *Okay, then . . . the best way to begin is to just sit as comfortably as you can right now. Go ahead and adjust yourself to the most comfortable position you can.* [Observe subject. Wait until adjusting is completed before continuing.]
>
> *That's fine. And remember, feel free to make any adjustments, at any time, to help yourself be comfortable.*
>
> *Now, I'd like you to notice that you can increase your comfort, right now . . . Take a deep, satisfying breath and hold it just for a moment. That's right . . . hold it for a moment. . . . That's fine . . . now let it go. Let yourself notice how good that feels.*
>
> *Now, in a moment . . . I'm going to count from 1 to 10. As I count each number, take a deep, satisfying breath and then let it all the way out. And, as I count each number, I'd like you to imagine something with me. I'd like you to imagine that, as I count each number, you feel yourself settling down, one level of comfort at a time, into a deeper and deeper experience of comfort and relaxation. Perhaps you will imagine yourself going down an elevator . . . perhaps you will imagine each number as I say it . . . I don't know . . . and it really*

doesn't matter. With each number I count, just allow yourself to settle down into a deeper and deeper experience of comfort and relaxation. So that, when we reach the tenth level, you can really enjoy an experience of deep, comfortable ease.

We'll begin now.

One. One level down into deeper comfort. Deep, satisfying breath. That's right.

Two. Two levels down. That's right: deep, satisfying breath. [Observe subject at each level. If subject did not take a breath at "two," say, "Remember to take a deep, satisfying breath each time I count."]

Three. Three levels down . . . That's right . . . and maybe you already notice yourself feeling more and more comfortable.

Four. Four levels down . . . perhaps feeling specific areas of your body relaxing. And I wonder if you can notice a deep, relaxing, and restful heaviness in your forehead, and feel it beginning to spread and flow . . . down, across your eyes, down, across your face, into your mouth and jaw . . . down through your neck . . . deep, restful, heavy.

Five. Halfway down . . . and already beginning, perhaps, to really enjoy this opportunity to feel relaxed and comfortable.

Six. Six levels down . . . perhaps noticing that the sounds around you . . . all the sounds you can hear . . . are sounds that can become more and more a part of your experience of comfort and well-being . . . with nothing to bother you and nothing to disturb you as we continue.

Seven. Seven levels down . . . right now, there is nothing you have to do. Nothing required of you and no one you have to please. No one you have to satisfy or impress. No one you have to take care of. Nothing at all. Just this opportunity to feel deeply comfortable and at ease.

Eight. Eight levels down. Allowing this opportunity to become more and more absorbed by your experience of comfort and well-being . . . As if nothing else matters . . . just your sense of comfort and well-being.

Nine. Nine levels down . . . Perhaps noticing that, as your body relaxes more and more deeply, your whole body feels as if it were

becoming heavier and heavier . . . really sinking deeper and deeper into the comfort of the chair . . . And yet, and you might find this very interesting, no matter how heavy your body becomes, you can also notice the curious feeling of weightlessness. As if your mind could just lift up out of your body and float, effortlessly . . . and so comfortably . . . Allowing yourself to drift and float, just like a puffy white cloud in a beautiful summertime sky. Drifting and floating, as if nothing else matters right now.

And now . . . Ten. The tenth level of relaxation. Notice, now, how deeply comfortable, how very much at ease you can feel. Hearing my voice, understanding my words . . . able to respond easily and naturally to those suggestions that are appropriate for your well-being and comfort . . . and enjoying how easily you can just rest.

Relaxation Induction

The induction that follows is a relaxation induction. It is similar to scripts used for relaxation training. Although it is used as an induction here, the relaxation suggestions embedded in the induction can also be considered as a type of analgesia suggestion because the experience of comfortable relaxation is inconsistent with the experience of severe pain and suffering. Thus, more extensive suggestions for "relaxation and comfort" can be offered following this induction (or other inductions) for patients who respond well to relaxation suggestions (see Chapter 8).

Importantly, the vast majority of individuals are able to respond to suggestions for experiencing relaxation. The positive response to this induction experienced by most people can therefore facilitate a generally positive response set (a pattern of positive responding to suggestions), which is thought to contribute to a higher likelihood of responding to the suggestions offered later in a session.

The length of relaxation inductions can also be easily varied, depending on the needs of the client and session. For example, clinicians can suggest that the patient experience relaxation in three or four primary body areas over the course of just 60 seconds. Alternatively, and if the patient requires a longer time to achieve a focused state, relaxation inductions can be stretched out for 20 minutes or longer by lingering on

very discrete muscle groups or body areas. These three strengths of the relaxation induction—ease of response, inconsistency with severe pain and suffering, and time flexibility—make relaxation inductions among the best for use in chronic pain treatment.

Now . . . I'd like you to notice that you can increase your comfort, right now . . . Take a deep, satisfying breath and hold it just for a moment. That's right, hold it for a moment . . . and let it go. Let yourself notice how good that feels.

And now . . . Allow your whole body to relax . . . Allow all your muscles to go limp . . . [wait about three seconds] *and then allow special muscle groups to relax even more . . . Starting with your right hand . . . Imagine that all the muscles and tendons in the right hand are relaxing . . . and as the hand relaxes, being aware of any sensations that let you know that the hand feels more relaxed . . . perhaps a sense of warmth, or of heaviness, perhaps an interesting tingling sensation, whatever sensation that lets you know that your right hand is becoming more and more relaxed . . . limp, heavy, warm, and comfortable. And now allow that relaxation to spread . . . up, up into the wrist . . . the forearm, the elbow, and upper arm. The whole arm becoming more and more relaxed, relaxed and heavy. All the tension draining away, as the arm feels heavier, and heavier, almost as if it were made of lead. So comfortable, so relaxed.*

And now . . . allow your awareness to move now to your left hand . . . Imagine how the left hand is becoming limp, heavy, and relaxed . . . more and more relaxed, heavier and heavier . . . All the tension just draining away . . . Let yourself be aware of any sensation that lets you know that the left hand is relaxing . . . a warmth, a heaviness, any sensation that lets you know that the left hand is becoming more, and more relaxed . . . And now allow the relaxation to spread. Up the wrist . . . forearm . . . through the elbow, and into the upper arm. So very relaxed, heavy, and comfortable . . . the whole left arm relaxing, heavier and heavier.

And as this process continues, as you continue to allow both of the arms to feel more and more relaxed, you can be aware that the relaxation continues to spread . . . into the shoulders. All the muscles in the shoulders letting go, relaxing, feeling the support of the (chair/

bed), sinking into the (chair/bed), letting all the tension drain out of the shoulders . . . Feeling so relaxed, heavy, and . . . more and more relaxed.

And the relaxation continues to spread . . . into the neck. All the muscles and tendons of the neck letting go, one by one. Just allowing the head to rest, being aware of the sensations that let you know that the neck is relaxing, more and more, as you feel more and more comfortable, more and more at ease. The whole body becoming relaxed, very, very relaxed, relaxed . . . heavy, calm and peaceful . . . allowing the feelings of comfortable relaxation to spread up around the ears . . . the scalp . . . letting all the tension drain away, the muscles around the eyes letting go, relaxing, as do the muscles in the face . . . the jaw . . . limp, relaxed, comfortable, and at peace . . . as relaxed as you have ever been . . . it feels so good to take a vacation from stress . . . and the relaxation continues, down the back . . . into the chest . . . the stomach . . . and the pelvis.

And as the body relaxes, so too does the mind relax . . . feeling so calm, and confident . . . knowing that you know yourself better than anyone else . . . you know . . . deep down inside . . . what is best for you . . . for as you relax and become more focused on my voice . . . it becomes easier and easier to hear my voice, without really needing to listen . . . and respond to those suggestions that are appropriate for your comfort and well-being.

As the relaxation continues to spread . . . down into the legs . . . first, the right leg, feeling so very heavy . . . comfortable . . . all the tension draining out . . . limp, heavy, and comfortable. Feeling the support of the (chair/bed), as the right leg is feeling heavier, heavier, and heavier . . . and so comfortable. And then the left leg . . . all the tension draining out of the left leg, to be replaced by comfort . . . a heavy, pleasant comfortable and deep relaxation.

The whole body relaxing . . . And when it feels like you are as relaxed as you can be, you can allow yourself to relax even more, becoming even more relaxed . . . more comfortable, without a care in the world . . . The whole body relaxed, and comfortable . . . so relaxed, in fact, that you might even lose awareness of sensations from some parts of the body.

"Safe place" inductions are commonly used in hypnotic psychotherapy. For example, they are often used when dealing with abuse and trauma issues (Degun-Mather, 2006). But they can also be used in hypnotic pain treatment. Many patients enjoy the feelings associated with being in a "safe place," and this can be a location to create and meet other helpful entities (e.g., future versions of oneself; see Chapter 9).

It is important for patients to select a place that they can very clearly imagine in detail. Prior to using this technique, the patient should be asked to select a location where he or she feels very comfortable, safe, and at ease. Patients are told that this can be a real place that they have actually been to, or that the place can be imaginary. Patients are also told that they need not always choose the same place. In fact, if they can change the place or details associated with it every so often, this can keep the place fresh for them and make it even more interesting and engaging.

Elicit from clients details regarding what such a safe place might be like (e.g., sandy beach, meadow filled with flowers, mountaintop, living room; ideal temperature; color of any water that is present; if the sky is completely clear or has clouds; plants or other objects around them). Patients should also be asked if temperature has any effect on their pain, and if so, whether having the painful body part or area where they usually experience pain be cold, cool, warm, or hot usually decreases the pain. They can then be invited to include this as part of the imagery, imagining that the body part that usually experiences pain is soaking in a body of water of that temperature. Of course, before offering such suggestions, it is important to ensure that patients are comfortable with water imagery (e.g., such imagery should be avoided with individuals who are water-phobic).

During the induction, patients can then be invited to go to the "special place" that they have previously identified. The clinician should suggest that the patient can see, hear, and smell details of this place (sky, plants, water) as he or she approaches it, moves through it, and relaxes in it. If the patient is agreeable to having a body of water in the imagery, this can be described in detail. Later, the clinician can suggest that the patient is

soaking a body part (or lying completely) in the body of "healing water . . . that is just the right temperature" as a way to experience greater comfort.

Now . . . I'd like you to notice that you can increase your comfort, right now . . . Take a deep, satisfying breath and hold it just for a moment. That's right . . . hold it for a moment . . . and let it go. Let yourself notice how good that feels.

Allow yourself to drift off, and find yourself in a wonderful, beautiful, and very safe place . . . and as you step into your safe place, comfortable place . . . you can notice a sense of relief . . . a sense of deep physical and emotional comfort . . . it is like a vacation from stress . . . you can really let go, knowing that you are so very safe . . . with nothing to bother you, and nothing to disturb you. . .

This is your time . . . a time to charge your batteries . . . you step onto the sand, and can feel its warmth on your feet . . . actually feel that warm sand . . . the texture . . . and as you look around . . . everything is so beautiful. Looking into the sky, you can see that it is incredibly blue . . . as blue a sky as you have ever seen . . . and if there are clouds, they are just floating there . . . so easily . . . white and fluffy . . . they look as relaxed as you feel . . .

There is nothing, nothing at all, that you have to do here. No one you have to please, no one to take care of . . .

And you can smell the salt in the air . . . and hear the waves . . . [timed with the patient's breathing] *back and forth, back and forth, the sound of the waves, so relaxing . . .*

Perhaps there are plants. And you can focus on the leaves. They are so green, perhaps waving a little in the breeze, feeling the breeze against your skin. The temperature is just right . . . just right for feeling so relaxed, focused, able to hear my voice, without really having to listen at all . . .

And in front of you, you can see a soaking tub of water. It is as if it were built just for you. You know that it fits you just right . . . and you know that the healing water in this tub can make you feel even better . . . even more relaxed, comfortable, and strong.

You might decide to allow yourself to move to the tub, to sit back, feeling the support of a built-in chair, supporting your head above the water. And the water just feels so good. It, too, is just the right temperature. The perfect amount of warmth or coolness. You can actually feel the water all around your body, breathing so naturally and easily with your head supported.

Maybe noticing how the healing liquid seems to soak into areas of the body that could benefit from feeling better, stronger, and more energized. Of course, you know that this state of focused awareness is so healthy for you. It strengthens your immune system, it relaxes you and gives you more energy, it allows the mind to relax, and yet feel more focused at the same time.

You might enjoy just letting yourself go, and allow your mind and body to heal, as you experience a timeless feeling of relaxation.

Chapter Summary

Hypnotic inductions can be formal or informal. Either type of induction signals a shift from typical therapeutic interactions to hypnotic ones. There is not an empirical reason to select one induction style over the other; which type of induction the clinician uses will depend mostly on his or her preferred style.

Three formal hypnotic inductions were described: (1) a basic countdown induction, (2) a relaxation induction, and (3) a safe place induction. The countdown induction is particularly useful when a brief induction is warranted; for example, when making a brief audio recording that the patient can listen to when he or she has relatively little time. The relaxation induction should be offered at least once to every patient, and often more than once, for three important reasons: most people are able to respond to relaxation suggestions, perceived relaxation is inconsistent with pain and suffering, and the induction has great time flexibility. The safe place induction is particularly useful in patients who have a talent for imagery. It also allows for the use of "healing water" imagery for reducing pain and increasing perceptions of health.

All three inductions began with a cue to take a deep breath. This establishes a link between a cue that the patient has control over and the beneficial responses to the hypnotic induction and suggestions that follow. Clinicians should not limit themselves by picking just one of these inductions and providing only this one at every treatment session. It is better to try each one at different sessions (and consider offering others; see additional scripts that can be found at www.oup.com/us/ttw) and then determine which one(s) the patient is most responsive to. For patients who would benefit from longer inductions, the inductions can also be combined—for example, starting with the countdown induction, continuing with the relaxation suggestions, and then finishing with a safe place induction.

Following the induction, the clinician will provide a suggestion or set of suggestions (Chapters 8–10) and almost always post-hypnotic suggestions (Chapter 11) that the benefits obtained during the session will last beyond the session. Which suggestions to provide at this point in the sessions depends entirely on the goals of treatment.

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Chapter 8 *Suggestions for Pain and Symptom Management*

(Corresponds to Chapter 7 in the Workbook)

The literature contains hundreds of case series and studies describing hypnotic approaches for pain management, starting perhaps with those of James Esdaile, an English surgeon who reported on the use of hypnosis as an effective anesthetic during surgery (before agents such as ether and chloroform were identified and used for this purpose; Esdaile, 1957/2008).

The plethora of published case studies provides the clinician with many suggestions to consider for helping patients better manage pain. In two recently completed clinical trials supporting the efficacy of self-hypnosis training for chronic pain management, six different types of suggestions were offered to patients to influence the experience of pain (e.g., Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009): (1) pain reduction, (2) decreased pain unpleasantness, (3) symptom substitution, (4) hypnotic analgesia, (5) deep relaxation, and (6) reduced frequency and severity of breakthrough pain.

Another symptom often reported by individuals with chronic pain, and other ongoing medical conditions, is fatigue. Recent research indicates that this symptom may also be responsive to hypnotic suggestions (Montgomery et al., 2007, 2009).

This chapter includes scripts of the suggestions used in these studies for pain and fatigue management. The goals of these suggestions are to (1) reduce the magnitude of the sensory aspect of the symptom (pain or fatigue intensity), (2) reduce the suffering or affective component of the symptoms, and (3) shift focus from the unpleasant sensation to more pleasant sensations, thoughts, or activities.

Some patients will respond more to some of the suggestions than they will to others. Also, as we made clear in Chapter 4, there are many possible pain domains (e.g., affective, sensory, motivational, cognitive) and neurophysiologic targets (e.g., anterior cingulate gyrus, sensory cortices, insula, prefrontal cortex) for hypnotic suggestions. For both of these reasons, clinicians should not limit their suggestions to just one or two pain domains. Rather, they should offer multiple suggestions (including all of those in this chapter; also consider those presented in Table 4.1 of Chapter 4 and those that are available at www.oup.com/us/ttw) and determine empirically for each patient which suggestions are most effective.

Pain Reduction

Perhaps the most common suggestions used in hypnotic analgesia treatment are those that focus on pain intensity reduction. The script provided here includes classic pain reduction suggestions that involve the use of imagery. It also includes a suggestion that even though there will be a reduction in overall background chronic pain, the patient will be able to notice any changes in sensations that might have health relevance. This suggestion is offered to address the (remote) possibility that a highly responsive patient might lose the ability to be aware of any pain, even new pain sensations that might be important to pay attention to.

> *With every breath you take, breathing comfort in and breathing discomfort out, you can wonder how you can be feeling more and more comfortable, right here and now. You may be pleased, of course, but you may also be surprised that it's so much easier now to simply focus on relaxation and comfort, to simply not pay attention to anything other than your comfort . . . So much easier to enjoy the relaxing, peaceful comfort of each breath. So simple, so natural, to attend to your breathing.*
>
> *And at the same time, you can notice, almost as a side effect, that any uncomfortable feelings are drifting farther and farther away. You might even imagine these feelings as an image . . . perhaps as leaves on a stream . . . or as a fire burning on a piece of wood, or even as some*

other image floating on a log or piece of wood . . . you can actually see them. I don't know what color they are, or what the image is . . . but you do . . . You can see details, watching the image change. Perhaps floating slowly drifting down the stream . . . or if it is a fire, watching the fire burning out. Either way, the image is getting smaller and smaller. Disappearing.

And now, maybe you can take whatever image you have of the uncomfortable sensations, and imagine, in your mind's eye, lowering that image or symbol into a strongbox with a secure lid. Into the box they go. And you can see yourself shutting the lid and securing it . . . Muffling the sensations . . . and then putting this box into a second very secure box, and shutting the lid. The sensations are in there, but so muffled . . . And putting this second box into yet another box . . . And shutting the lid. Securing it. Nothing can get out. And then, and you can use your creativity here, imagine sending the box far, far away . . . Maybe deep into space . . . maybe across the ocean . . . but really imagine it going away . . . picturing it. Far, far away . . . So much easier to ignore now.

And with those sensations so far away, it is even easier to feel the comfort of every breath. So easy to let yourself daydream about a peaceful place, to imagine a happy time in your life or a happy time you'd like to have. Letting yourself feel free, right now, to just let your mind wander.

You can trust that your unconscious mind will notice any feelings that you need to pay attention to. If your health requires that you notice any uncomfortable feelings, you will do so. It's so nice, though, that any old, chronic discomforts can fade away, become less and less strong . . . it feels so good to be in such control of your health . . . your well-being . . . you are in charge.

Such a pleasure to be here, with nothing to bother you and nothing to disturb you. With every breath you take, breathing comfort in and tension or discomfort out, just notice how naturally you feel more and more comfort. And any feelings of discomfort seem to have lessened and maybe even disappeared altogether. Like some memory long forgotten. Or something you have stored away but no longer in your awareness. Letting each breath you take . . . contribute to your comfort and well-being.

As described earlier in this guide, pain is a multidimensional experience that is the end result of activity in and interaction between different parts of the brain that make up the pain matrix. Its magnitude or intensity component, hypothesized to be related mostly to activity in the primary and secondary sensory cortices, is distinct from its affective or unpleasantness component, hypothesized to be related to activity in the anterior cingulate gyrus (see Chapter 1). To the extent that that patient is bothered by pain, or experiences the pain as unpleasant—and almost all patients will, at least when treatment starts—the clinician should also offer suggestions to decrease the unpleasantness or bothersomeness of pain. The script that follows is designed to do just that.

As we continue, you can let yourself stay in this peaceful place, or you can drift somewhere else, as you wish, but you can remain very relaxed, and it will become easier and easier to hear my voice and understand my words . . . and to respond to suggestions for your comfort and well-being. Now take another nice deep breath . . . and hold it, hold it for a moment . . . now let it all the way out, and as you do so, just let yourself sink even deeper, into a profound level of relaxation. You may notice that even though you were relaxed before, you feel even more relaxed now . . . as you become more and more absorbed in this experience.

As you sink deeper into comfort, you can be aware of just how well you can feel, with nothing to bother you, and nothing to disturb you. It is possible for you, right now, to notice that even though the body has sensors and nerves that send all kinds of information to the mind, it is the mind that creates sensations from that information. And these sensations are always changing . . . they wax and wane, like all natural processes. But this is not what is most important right now, what is important is this: that you are able to simply accept any sensations the mind creates just as they are. They come, they go. But you do not have to do anything about them. You can experience the sensations almost as if they were happening to someone else, or a different version of you . . . from a distance . . . and just notice them with an emotional detachment . . . perhaps a curiosity about how they might change . . . but knowing that whatever sensations there are . . . they do not have

to bother you . . . Imagine them as leaves floating down a stream . . . arriving, passing by, and continuing down the stream. Sometimes more leaves, sometimes fewer . . . Sometimes none at all . . . Being somewhat interested, but also interestingly detached. Isn't it interesting how the sensations that we experience, and our emotional reaction to them, are different things? The sensations are one thing. Our emotional reaction is another. We can experience small sensations and have large emotions about them, or experience large sensations and be detached; hardly any emotion at all. It is possible to have a calm, warm, comfortable acceptance of our sensations; they simply are what they are. And notice how calming and reassuring this realization is . . . it can feel physically relaxing . . . a kind of letting go . . . not have to worry or bother anymore about these sensations, whatever they are . . . freeing you up to think about the things in your life that are most important.

Many people are surprised to find that it becomes easier and easier to relax the more they practice these skills. To feel relaxed and calm, emotionally, no matter what is happening physically. I wonder if you will be surprised to find that you can experience this too. It might help to remember that you have the ability to take good care of your health as you need to. If there's any change in your feelings or sensations, your mind can notice this, and you will be able to take care of yourself as needed. But this can be done from a detached, calm, relaxing perspective. No matter what type of sensations you have, you really don't need to feel bothered by them . . . As you focus on this, notice that you may have started to feel more and more calm, less and less bothered by anything in particular, without having to do anything at all . . . it just happens.

Because with any of the old feelings, you know that you don't need to do anything at all about them. Just accept . . . calmly accept them. It's just so satisfying to notice that, for some reason, all the sensations you can feel, all the feelings you can notice, can become more and more a part of your experience of comfort and well-being, with nothing to bother you and nothing to disturb you . . . Your comfort can grow . . . it is possible for you to feel better now . . . and in the future . . . Although you can notice feelings . . . from a distance . . . there are no feelings that bother you or to disturb you right now.

Sensory substitution suggestions are based on the premises that (1) our brains create all that we experience, (2) it is likely that at least some sensory neurons are providing input into the central nervous system that is not painful, and (3) what we experience is influenced, at least in part, by what we pay attention to. Thus, at any one time, it should be possible to focus on and therefore experience nonpainful sensations from virtually any part of the body. The goal of sensory substitution suggestions is to alter the patient's experience of pain by focusing more on comfortable (or at least neutral or less painful) sensation than on painful ones.

Prior to giving sensory substitution suggestions, and before the induction, the clinician should ask the patient to describe any and all sensations that he or she experiences as comfortable. Words like "warmth" or "relaxed" might be elicited. If the patient is unable to identify any words that describe sensations that are comfortable, then the clinician should elicit descriptions of sensations that are at least neutral or "interesting" and that have minimal negative connotations. In this case, words like "numb," "heavy," or "tingling," might be elicited. However, it is important that the words describe sensations that have, at worst, neutral connotations for the patient. Patients with neuropathic pain, for example, may experience "tingling" or "numb" sensations that are very bothersome. Bothersome nonpain sensations should not be used to replace pain sensations. Once a short list of comfortable or neutral/interesting sensations is elicited, these can be inserted into the text below to replace pain sensations.

> *Because the mind is so powerful . . . it can magnify and enhance feelings that are interesting and pleasant. I do not know what those feelings might be for you today. You might not even know what they are until they happen. As we continue, you can enjoy discovering that comfortable feelings just seem somehow to change, that comfortable feelings can spread and grow, as you become even more aware of them. With every breath you take, you can notice how feelings of relaxation and comfort seem to become more and more clear, more and more strong . . . as if they are spreading farther and farther throughout your body . . . taking up more and more space in your awareness . . . If there are any sensations that suggest a change in your health, you'll be able to notice them and take care of yourself as needed.*

You are aware that there are feelings and sensations that are very pleasant for you. Warmth, perhaps a sense of strength, or a relaxing heaviness. Or other feelings that are pleasant for you, such as [list previously identified pleasant feelings] _____, _____, *and* _____. *Maybe these are some of the feelings you are noticing. Or maybe some other interesting, calming, good feeling. But wouldn't it be interesting if they were the feelings that were just right for you, right now, right here. Notice that as you notice these feelings, notice, really notice, all of the pleasant sensations that your body is giving you . . . maybe* _____, *or* _____. *As these sensations are noticed, as they build, you probably feel more and more calm, peaceful . . . more and more relaxed.*

You are training your nervous system so that it is possible to be more aware of pleasant sensations and helpful feelings, so aware of pleasant sensations and feelings, in fact, that it is hard to notice any other type of feelings. Noticing, just noticing, how your mind focuses more and more on these feelings of calmness, comfort, and relaxation.

[If floating or being partially submerged in water was discussed as something that could be pleasant, you can describe how a sense of being in healing water can contribute to the patient's comfort. Suggestions will vary based on the patient's preferences and may involve soaking a painful body part, drifting and floating on top of the water, etc. Focus on whatever sensations this subject finds pleasant.]

In fact, your nerves are sending all kinds of interesting feelings to your brain all the time, and your brain can learn to filter out some sensations, and become increasingly absorbed in new, more comfortable feelings. As you pay attention to this, you can start to notice interesting feelings like [sensations the patient identified as pleasant] *in any areas that you want to feel more comfortable. And now you can relax further and allow these other feelings to grow, to expand, to take up more and more of your attention, so that your mind is less and less able to be aware of any other feelings. I wonder if you might be curious about just how absorbed you can become in noticing a feeling of* [sensations the patient identified as pleasant] *. . . or whatever other pleasant feelings you notice. How good this feels.*

And your ability to do this is growing, and becoming more and more automatic all the time. Not only that, but the more you notice these good feelings, the better you feel emotionally . . . calmer and calmer . . . more and more hopeful and confident . . . You can just . . . feel good.

Hypnotic Analgesia

The hypnotic analgesia suggestion provided is a suggestion that uses medical imagery (in this case, the imagery of a powerful analgesic soaking into the [previously] painful area) for pain reduction. It might be considered a hybrid of the sensory substitution and pain reduction suggestions presented above in that it uses both imagery and symptom substitution suggestions to achieve pain relief.

As you know, an analgesic is a powerful medicine used to help you feel more comfortable. We are now going to use your imagination to anesthetize any areas that you would like to feel more comfortable. You can imagine this analgesic any way you like: as a feeling of warmth . . . or coolness, or other sensation that is comfortable and perhaps a little interesting; or as a color, even as a powerful liquid medicine. However it feels right for you. Now imagine the areas that would like to feel more comfortable being completely surrounded . . . or completely filled . . . with a sensation of analgesia . . . a pleasant sensation of comfort . . . Picture these feelings spreading through that area. Notice how naturally, how easily, the analgesic can make those areas feel curiously different and much more pleasant, and even decreasing sensations from that area; as if it were disappearing.

Notice how easily you can feel those pleasant sensations just wash over everything. Notice how the analgesic sensations absorb and block out any discomfort. Such a pleasure to be able to imagine . . . to make real . . . such comfort. These areas of your body feeling more and more comfortable as the anesthesia spreads.

This powerful and long-lasting analgesic is doing its job. It has such positive effects . . . greater comfort . . . a sense of calmness and of confidence. . . and it can last for hours . . . and—you might be surprised!—even days. As you gain more experience, this analgesic

becomes more powerful and effective . . . and can last for as long as you need. Your ability to do this is growing, and becoming a part of who you are. You have the opportunity, now, to really enjoy the comfort of this anesthesia. To feel comfortable and at ease. Free from tension and tightness and stress and pain. So very comfortable and at ease.

Deep Relaxation

Many hypnotic inductions, and basic relaxation training, take advantage of the fact that most people are able to respond to suggestions to experience feelings of physical relaxation. An added benefit of this is that the experience of relaxation is almost universally pleasant; it is inconsistent with the experience of pain and in particular the suffering associated with pain. It would be the rare patient with chronic pain who would not benefit from an ability to achieve a state of deep relaxation on cue.

To enhance these effects, the clinician can, and often should, include suggestions for such relaxation during the suggestion phase in the hypnotic session. The script provided is one example of this.

And now . . . Allow your whole body to relax . . . Allow all your muscles to go limp . . . [wait about three seconds] *and then allowing special muscle groups to relax even more . . . Starting with your hand . . . Imagine that all the muscles and tendons in your right hand are relaxing . . . and as your right hand relaxes, being aware of any sensations that let you know that your hand feels more relaxed . . . perhaps a sense of warmth, or of heaviness, perhaps an interesting tingling sensation, whatever sensation that lets you know that your right hand is becoming more and more relaxed . . . limp, heavy, warm and comfortable. And now allow that relaxation to spread . . . up, up into your wrist . . . your forearm, your elbow, and upper arm. Your whole arm becoming more and more relaxed, relaxed and heavy. All the tension draining away, as your arm feels heavier, and heavier, almost as if it were made of lead. So comfortable, so relaxed.*

And now allow your awareness to move to your left hand . . . Imagine how your left hand is becoming limp, heavy, and relaxed . . . more

and more relaxed, heavier and heavier . . . All the tension just draining away . . . Let yourself be aware of any sensation that lets you know that your left hand is relaxing . . . a warmth, a heaviness, any sensation that lets you know that your left hand is becoming more and more relaxed . . . And now allow the relaxation to spread. Up your wrist . . . forearm . . . through your elbow, and into your upper arm. So very relaxed, heavy, and comfortable . . . your whole left arm relaxing, heavier and heavier.

And as this process continues, as you continue to allow both of your arms to feel more and more relaxed, you can be aware that the relaxation continues to spread . . . into your shoulders. All the muscles in your shoulders letting go, relaxing, feeling the support of the (chair/bed), sinking into the (chair/bed), letting all the tension drain out of your shoulders . . . Feeling so relaxed, heavy, and . . . more and more relaxed.

And the relaxation continues to spread . . . into your neck. All the muscles and tendons of your neck letting go, one by one. Just allowing your head to rest, being aware of the sensations that let you know that your neck is relaxing, more and more, as you feel more and more comfortable, more and more at ease. Your whole body becoming relaxed, very, very relaxed, relaxed . . . heavy, calm and peaceful.

Allow the relaxation to spread up around your ears . . . your scalp . . . letting all the tension drain away, the muscles around your eyes letting go, relaxing, as do the muscles in your face . . . your jaw . . . limp, relaxed, comfortable, and at peace . . . as relaxed as you have ever been . . . it feels so good to take a vacation from stress . . . and the relaxation continues, down your back . . . into your chest . . . your stomach . . . and your pelvis.

And then down into your legs . . . first, your right leg, feeling so very heavy . . . comfortable . . . all the tension draining out . . . limp, heavy, and comfortable. Feeling the support of the (chair/bed), as your right leg is feeling heavier, heavier, and heavier . . . and so comfortable. And then your left leg . . . all the tension draining out of your left leg, to be replaced by comfort . . . a heavy, pleasant, comfortable and deep relaxation.

"Breakthrough" pain is pain that comes on suddenly and that lasts for short periods of time. Patients with phantom limb pain often complain of severe pain that can reach levels of 9 or 10 (on a 0–10 scale) but that lasts for only seconds. Breakthrough pain can be either completely unpredictable, as it often is in neuropathic pain conditions, or can occur as the result of specific activities, such as a lifting and twisting motion in a patient with low back pain.

Breakthrough pain is difficult to manage with analgesics because by the time the analgesic is administered, the pain may have already decreased to its baseline level. Similarly, the use of timed- or extended-release analgesics to manage pain intensities that are only occasionally severe requires chronic use of very high doses, doses that are not needed or helpful for usual background pain levels. This can result in severe side effects or a rapid building of tolerance for the drug, which can then decrease its efficacy. The suggestion provided is designed to help patients better manage breakthrough pain. Of course, the suggestion needs to be offered only to patients who present with this type of pain problem.

With every breath you take, breathing comfort in and breathing discomfort out, you can enjoy the comfort you have created for yourself. You may be pleased, of course, but you may also be surprised that it's so much easier now to simply not notice uncomfortable feelings, to simply not pay attention to anything other than your comfort . . . So much easier to enjoy the relaxing, peaceful comfort of each breath. So simple, so natural, to attend to your breathing.

And you can also consider how pleased and surprised you might be to notice that, as your mind is more and more able to eliminate or reduce any uncomfortable sensations, even before you become aware of them, that . . . you are experiencing fewer and fewer pain flare-ups . . . and those that you might be aware of at times just seem to be less intense . . . and they last for shorter and shorter periods of time. Your mind is now able to identify them and reduce them. Those sensations that used to be uncomfortable are also much, much less bothersome . . . it is almost as if a part of your mind might notice

them at some level, but because you know that they provide little useful information, you are able to ignore them . . . and not be bothered by them at all. Isn't it interesting how your mind is becoming increasingly able to reduce, eliminate, and ignore all of the old uncomfortable sensations? . . . even those that used to arise.

And this ability of your mind, to reduce and ignore sensations that used to be interpreted as uncomfortable, maybe even before your conscious mind is aware of these sensations . . . this ability, this skill, is improving . . . every time you practice. And the more you practice, the more able your mind will be to exert this skill, a skill that you continue to develop, more and more.

So relaxed, so comfortable, yet so interested to see yourself become more skilled, and more able to reduce the frequency, intensity, and duration of any pain flare-ups . . . so skilled, in fact, that you may be surprised just how infrequently they do occur, if at all. You are becoming so able to manage these, in fact, that they are hardly a problem at all . . . and perhaps not even a problem at all.

Managing Fatigue

Pain and fatigue commonly co-occur in the general population (Creavin et al., 2010). Pain and fatigue also commonly co-occur in specific patient groups, such as patients with cancer or cancer survivors (Fleishman, 2004; Goedendrop et al., 2008), patients with spinal cord injury (Jensen et al., 2007), and patients with multiple sclerosis (Motl et al., 2010).

Patients presenting with chronic pain are therefore likely to report significant problems with fatigue as well. Fatigue is also often related to problems sleeping. For patients who complain of both fatigue and sleep difficulties, suggestions that address both problems should be offered (see Chapter 10 and also additional scripts that can be found at www.oup.com/us/ttw for scripts of suggestions for improved sleep). The script below presents suggestions that address fatigue directly by reframing fatigue as "relaxation" and by encouraging the patient to use self-hypnosis to rest and then feel more energized.

And you can remember that the natural state of the body is to feel energized after periods of rest, and to let you know when it is an appropriate time to rest, and then after you rest, to feel energized again. A natural pattern and rhythm . . . rest . . . energy . . . rest . . . energy. You know this so well . . . it is how your mind and body has worked since even before you were born. What might be useful to remember . . . and you may find this very useful indeed . . . is that you can allow yourself periods of rest when it is appropriate . . . and then after these periods of rest you can really experience a sense of energy . . . a sense of being able to accomplish what it is you want to accomplish . . . In fact, you have been resting for a number of minutes already today . . . just now . . . so that you can know that when you are done with this session, you can wake up and feel rested and energized . . . Just feel good . . . And then, when it is time for you take a brief rest, you can allow yourself to do so . . . it need not be a long rest . . . just enough to let your body and mind pull together the resources to feel energetic again . . . maybe 5 minutes, maybe even just 1 minute. You can find a comfortable place . . . take a nice deep breath and hold it . . . hold it . . . and let it go . . . close your eyes and just let your mind and body rest . . . and when you wake up you will feel rested and energized . . . This is called pacing . . . only going for as long as is appropriate . . . and giving yourself brief periods of rest so that when you are awake . . . you feel energized . . . fatigue becomes a thing of the past . . . you can focus your body and mind . . . and when you need to feel more energy . . . just take a nice, brief, rest. It might be twice a day on some days . . . it might be every hour on other days . . . only you really know what is best for you . . . but you can pace yourself with periods of rest followed by periods of feeling so energetic . . . so that when you are awake, you feel energized, alert, focused . . . and the periods of rest . . . when you use them . . . feel so restful . . . relaxing . . . all of the time you feel good . . . Sometimes relaxed . . . sometimes energized . . . as you and your body need . . . and take a moment now, to picture yourself . . . sometime in the future . . . pacing yourself well . . . resting . . . and energized . . . resting . . . and energized . . . always feeling good. Really picture yourself . . . and then bring those skills back . . . and use them, now, and every day . . . so you can feel awake and full of energy when you wish.

Tailoring Suggestions for Symptom Relief

A good strategy for identifying the specific suggestions that are most useful for reducing the patient's focus on and experience of pain or fatigue is to systematically provide each of the suggestions presented (as well as any additional suggestions listed in Table 4.1 of Chapter 4 and the additional inductions available online that the clinician thinks might be useful) and then note the patient's response to each one. Over time and working together, the clinician and patient will develop a list of the most useful and effective suggestions for the patient; an audio recording of the session that contains these suggestions may then end up being the one most often used by the patient following treatment.

Chapter Summary

Although clinicians should rarely, if ever, limit themselves to only providing suggestions for symptom management, they should consider including such suggestions when providing hypnotic treatment. When selecting and developing the suggestions to offer, clinicians should remember that hypnosis can influence many components of the pain matrix, and that influencing any one component will likely influence the others as well. It is also important to keep in mind that patients differ in their response to different suggestions. Based on these considerations, clinicians should cast a wide net, offering suggestions for pain reduction, decreased pain unpleasantness, sensory substitution, hypnotic analgesia, deep relaxation, and breakthrough pain, among other possible suggestions. Moreover, many patients with chronic pain also report significant fatigue, and these patients may benefit from suggestions that address the negative impact of this symptom on functioning.

Based on the patient's response to the suggestions offered, the clinician will soon learn which ones are most helpful for each individual patient. Over time, the audio recordings made of the sessions should become increasingly effective for the patient, especially as he or she continues to listen to the recordings between sessions.

Chapter 9 *Suggestions for Thought, Attribution, and Mood Management*

(Corresponds to Chapter 8 of the Workbook)

One of the most exciting advances in the field of hypnosis has been the development of hypnotic strategies for helping patients alter the content and process of their thoughts as a way to affect mood—in particular, depression (e.g., Alladin, 2006, 2007, 2008; Lankton, 2006; Yapko, 2001a, 2001b). The efficacy of these approaches for addressing catastrophizing cognitions in individuals with chronic pain was recently demonstrated, as was their efficacy for reducing pain intensity and interference of pain with activities in daily living (Jensen et al., 2011).

As is the case for suggestions for pain and symptom management, it is possible to envision many different hypnotic suggestions that would result in a shift from maladaptive to adaptive pain-related cognitive content and processes. Three of these that were used for the hypnotic cognitive therapy module in the recently published clinical study (Jensen et al., 2011) for pain management are listed in this chapter. These include suggestions for (1) tolerating ambiguity, (2) automatically increasing the frequency and awareness of reassuring and realistic thinking regarding pain, and (3) age progression to increase self-efficacy and other adaptive cognitions. Additional suggestions for improving mood by altering cognitive content and processes from maladaptive to adaptive ones can be found online at the Treatments*ThatWork*™ Web site at http://www.oup.com/us/ttw.

Tolerating Ambiguity

As Yapko (2006) points out, one cognitive factor that can contribute to depression is a tendency to jump to conclusions, especially negative

conclusions, in the face of ambiguity. As a result, individuals who are unable to tolerate ambiguity are more likely to feel anxious and depressed than those who are able to tolerate ambiguity. These individuals tend to reach negative conclusions before the evidence needed for those conclusions is available. When the conclusions reached are catastrophic ones regarding pain, a greater focus on pain and suffering associated with pain can be anticipated. Thus, helping individuals to recognize and tolerate ambiguity can reduce a key risk factor for depression. This should also open the patient up to the possibility of considering more reassuring interpretations of events.

Most of the content included in the suggestion provided is taken verbatim from a script Michael Yapko published for treating major depression (Yapko, 2006, pp. 17–19; reproduced with permission). The added material relates the ideas specifically to pain. The suggestions are presented in a structured order where each suggestion builds upon the previous one, ultimately making the suggestions more effective as a group.

> *As you sink deeper into comfort, you can be aware that there are many things that I could say that could help you to feel more relaxed . . . and there are many things you could think to yourself or imagine that would help you feel more comfortable, and at ease . . . and I don't know which of these would be most valuable to you right now . . . and you don't know what pleasant images and ideas will come to you as I talk . . . and you do not know yet in what specific ways you will continue to learn about how the thoughts and the images you carry with you impact how you feel about yourself and your health . . . or what thoughts and images you will discover and create for yourself, so that you can feel so much better . . . And you do not really know just yet at what moment you will find yourself feeling so comfortable and relaxed . . . so comfortable with the possibilities of how things are becoming better and better.*
>
> *I am sure that you have had the experience of calling someone . . . getting his or her answering machine . . . and leaving a message . . . and when the person does not call back in a time frame you think reasonable . . . you might wonder what it means . . . Whether the person is busy . . . Whether the answering machine worked properly . . .*

If the person is avoiding you for some reason . . . or any of the many possible reasons . . . and how do you know what the real reason is? But it is human nature to speculate about what things that happen mean . . . and the real skill is knowing when you are speculating, when you are guessing . . . and when you have evidence to affirm your interpretation. After all . . . you don't want to react to something on the basis of an incorrect interpretation.

And all of the speculations about why the person didn't call back . . . are normal and reflect our desire to make sense out of things that don't seem to make sense . . . and whether you want to understand something like why someone did not call back, or something much more complex like how the universe works . . . or how your sensations are created and how you can gain control over them and your response to them . . . It's one of human beings' greatest strengths . . . that we strive to understand . . . and make sense out of the things that go on around us and within us.

And the fact that you can generate so many different explanations for why someone doesn't call back . . . gives you the opportunity to realize you don't know why he or she didn't call back . . . You can make lots of guesses . . . but you really don't know for sure . . . and when you don't know how to explain something . . . it is perfectly all right to say you don't know . . . After all, no one really expects you to know why someone else doesn't return a phone call. It's a gift of honesty and clear thinking when someone says, "I don't know," instead of making up an answer that might well be wrong . . . or not very helpful . . . There are so many times in life when you'd rather be given no answer than a wrong one.

Before your reach a conclusion, any conclusion . . . it might be useful to ask yourself, "How do I know?" and if your answer is "I just feel it is so" or "I just think so" . . . then know that you are forming a conclusion with no apparent objective data . . . That does not mean you are wrong, necessarily, but it increases the chances considerably . . . So you can remind yourself to go to the next step and ask yourself, "Are there any objective data to support this?" And maybe there will be and maybe there won't be, but as you ask yourself these questions, you'll

notice the quality and accuracy of your ideas and conclusions getting better and better over time.

The human body is wonderfully complex . . . and the brain, which is a part of the body, is a particularly complex part of a complex system. Everything works together to create your experience of your physical and emotional self. Mostly, this happens automatically . . . so we really do not know, when we experience a nice, warm, comfortable sensation . . . how the body created that sensation . . . We don't always know how sensations are going to change. . . how we can learn to alter those sensations, to pay even more attention to comfortable sensations to enhance them . . . And when we experience sensations that are not so pleasant . . . when those sensations are new, it certainly might be reasonable to try and find out the cause of those sensations . . . in a detached sort of way, especially when we have not felt them before . . . we want to know that we are safe . . . and to take care of ourselves. But if they are old sensations . . . we may know on the one hand that we are medically safe . . . but if we do not always know the cause of the sensations, it might not make any sense to draw conclusions about what will happen to them . . . We cannot really predict the future, we do not have a crystal ball . . . It might be wiser to simply accept the sensations for what they are . . . sensations . . . and allow ourselves to leave it at that . . . It might be the most honest thing to do . . . and also allow a kind of freedom . . . from worry . . . and concern.

And each time throughout the day you encounter a situation or a sensation where the meaning is not clear to you, or can even anticipate such as event before it happens, you can remind yourself that there are many different ways to interpret the event . . . and you can also, instantly and automatically, remind yourself you don't know what it means just yet . . . but you can entertain a variety of interpretations . . . and you can ask yourself directly how you will know which interpretation, if any, is a correct one . . . which one is most helpful, reassuring, and accurate . . . and it can lead you to look deeper and you can do so comfortably . . . knowing that you can look for evidence for your views if it exists . . . and comfortably know you can adopt any perspective that might feel good to you . . . when one interpretation is merely as plausible as another. And, as you ponder these issues and allow them to sink in. . .

A primary goal of cognitive therapy (which is a basic component of most cognitive behavior therapy treatment protocols) is to teach individuals adaptive cognitive processes that result in an increased frequency of helpful and reassuring cognitions and a decreased frequency of alarming and maladaptive ones. One step in that process is the identification of thoughts that the patient views as being particularly helpful and reassuring to him or her. These might include thoughts reflecting acceptance of pain (e.g., "Under any and all conditions, it is possible for me to live a life that is in accord with my values"; Dahl et al., 2005) and other thoughts that have been shown to be associated with positive-functioning in individuals with chronic pain (e.g., "Pain will never stop me from doing what I really want to do," "I have learned to control my pain," and "Exercise and movement are good for my pain problem," among many others (Jensen & Karoly, 2008).

Before introducing the next set of suggestions, the clinician should work with the patient to identify the beliefs and cognitions that the *patient* identifies as being most helpful and useful. Clinicians might use cognitive therapy (e.g., Thorn, 2004) to achieve this. With cognitive therapy, the clinician introduces the idea that thoughts or beliefs about pain that contribute to distress and dysfunction are often automatic and may occur just at or even below the patient's immediate awareness. The goal of cognitive therapy is to develop alternative thoughts that are both accurate and reassuring. It is important that the patient play a primary role in the development of any new reassuring thoughts and has explicitly agreed that he or she would like these thoughts to be more "automatic," so that when the clinician inserts them into the hypnotic suggestions, the patient is likely to accept them without "arguing" against them internally during the session.

Once a list of reassuring and realistic thoughts about pain is identified, the hypnosis component of the session can proceed. The suggestions that follow are presented in an order consistent with the structure suggested by Yapko (2006) for presenting hypnotic suggestions, starting with suggestions that build a response set for the suggestions that follow. In the clinical study testing hypnotic cognitive therapy, two hypnotic sessions were provided using the script presented here (Jensen et al., 2011).

You have been using your hypnotic skills for a number of weeks now . . . and every time you practice you learn something new . . . and of course, learning never stops . . . it happens automatically . . . but it can also be directed in ways that are beneficial to you. When we first learn something, we often need to really think about it . . . to focus our attention on what we need to do . . . Like practicing scales . . . or practicing shooting baskets . . . or practicing anything . . . And as we practice . . . we can enjoy noticing that we are getting better and better and better . . . and all of the sudden, we find we can do something without having to think about it at all . . . like riding a bike, or driving, or walking . . . It happens automatically . . . freeing up our mind to do something else . . . have a conversation with someone we enjoy . . . or listen to the radio. And all it takes . . . is practice . . . The more we do something, the more automatic it becomes.

And you already know that the ways of thinking about the events in your life can have a profound influence on the way that you feel about yourself, your life, and your future . . . You can have reassuring, reasonable, and realistic thoughts about events and your symptoms . . . and these thoughts can bring you comfort and confidence and hope . . . And part of growing up and becoming more mature and wise is knowing when beliefs are reasonable and reassuring . . . to be able to form such thoughts and communicate them to yourself and to others.

The skill to do this is something that you have been developing and practicing . . . In fact, you have already developed some very clear thoughts that are just right for you . . . that bring you comfort . . . Thoughts such as [List reasonable thoughts that have been identified here. Thoughts that should be considered and encouraged are those that have been identified as being most closely associated with adaptive pain functioning [see Chapter 5], and include thoughts related to increased perceived control over pain and its effects, increased "acceptance" of pain [i.e., decreased beliefs that a search for a medical cure will be helpful and that pain must be reduced to live a meaningful and satisfactory life], increased ability to automatically interrupt negative rumination [catastrophizing] when it occurs and replace it with more reassuring thoughts, increased belief that it is safe to move and be active despite pain, increased belief that it is possible to manage

well with pain without medications, increased confidence in one's ability to function independently, without pain-contingent assistance from others.]

These are thoughts that you have identified as realistic and reasonable for you. And to the extent that they continue to be reassuring . . . you can ponder these thoughts again right now . . . Just take a moment to review these thoughts in your mind, and why they are accurate.
[Pause for about 60 seconds of silence here.]

And the skills that your mind has developed . . . through your previous work . . . those are also skills that can become automatic . . . You know that we are only aware of the activities of only a small percentage of our brain at any one time . . . The brain is doing many things for us automatically . . . deciding what to focus on . . . determining when and how much we should eat . . . regulating our body temperature . . . and regulating our thoughts. For example, there are thoughts about yourself and your world that probably never occur to you . . . because the brain rejects them outright . . . unreasonable thoughts . . . that 2 plus 2 equals 10 . . . that things will always stay the same . . . And you can take advantage of this natural ability of your mind . . . by telling the mind to monitor all thoughts about any pain or symptoms BEFORE those thoughts reach your consciousness . . . determining if the thoughts are reasonable and reassuring . . . and allowing those thoughts that are helpful, reassuring, and realistic . . . to come into your consciousness . . . so that you can feel reassured. And any preliminary ideas that the mind considers as alarming, exaggerated, or unhelpful, those ideas can just fade back into the background, or automatically be modified into ideas and thoughts that are more realistic and reasonable . . . and then be allowed to come into your awareness.

It is as if you have a close friend . . . or a particularly clever and wise version of yourself . . . deep in your mind . . . watching out for you and the thoughts that pass through your mind . . . encouraging and enhancing those reassuring thoughts that help you to feel good. Perhaps there is a reassuring thought right now that is coming forward . . . I wonder what it might be . . . Take a moment, now, to allow a reassuring and reasonable thought to appear . . . Really become aware

of just the thought that would be most reassuring and most beneficial to you right now . . . and let it sink in.

And to the extent that this thought makes sense . . . and is helpful . . . you can allow it to sink in . . . perhaps you will remember this thought when you come back to the here and now . . . or perhaps you will not be able to remember it consciously . . . That does not matter . . . What matters is that this thought is sinking into your unconscious . . . it is becoming a part of you . . . and it can stay with you for as long . . . and only as long . . . as it continues to be beneficial to you . . . always reassuring you . . . as if your wiser self is in the background . . . reminding you . . . and reassuring you.

So this thought, or thoughts if there are more than one, can be repeating in the background, automatically, whenever you need . . . almost constantly if this is helpful . . . so that you end up feeling better and better. Now take a moment to really ponder what this thought means to you . . . Continue to focus on this thought, .
[Pause for about 60 seconds of silence here.]

And each time throughout the day as you encounter events, feel feelings, or experience sensations, the wise friend inside can monitor any and all thoughts, and develop and nurture, automatically, those thoughts that are most helpful to you . . . because you know that there are many different ways to interpret events . . . and you can allow yourself to entertain a variety of interpretations . . . and allow yourself to select which one is most helpful, reassuring, and accurate . . . As you do this, it will become more and more automatic, knowing that you will easily and automatically adopt the perspectives that are just right for you at the moment.

Time Progression

The script that follows is based on the ideas presented by Torem (2006) for using age progression suggestions (suggestions to the subject that he or she experience a moment sometime in the future) for experiencing changes in affect. In the suggestion, the patient is invited to experience himself or herself as living in a future time when he or she is feeling and managing the pain better than the present, and then "bringing back" the

thoughts (including self-efficacy thoughts) and feelings associated with this into the present. The script provided was used in the fourth and final session of the hypnotic cognitive therapy module in the recently published clinical trial supporting its efficacy (Jensen et al., 2011).

I'd like you to imagine, now, that you are able to travel . . . into your future . . . You might imagine going through a tunnel of time . . . or experience yourself stepping into a special time machine . . . and you move into your future when you are managing even better than you are now. I do not know when that will be . . . It might be a year from now . . . two years . . . five . . . or even 10 years from now . . . It might be different every time you practice this exercise . . . But you are moving forward in time, and then stopping at some point of time when you are doing well . . . very, very well. You have successfully learned the cognitive and hypnosis skills you are practicing right now. Your mind is able to note your thoughts and evaluate them quickly, easy, and automatically, and adjust them for you as needed so you can feel more comfortable, physically and emotionally . . . You are able, whenever you wish, to enter a state of total relaxation . . . and to calmly evaluate your symptoms . . . so that they do not bother you at all . . . You can see yourself feeling so good, actually see yourself . . . so relaxed . . . able to manage any symptoms comfortably and easily . . . Any symptoms really do not bother you . . . The part of you that is YOU is able to focus on and enjoy the things that really matter.

You are no longer surprised at your abilities to manage your thoughts and symptoms . . . Your skills in this area are now second nature . . . When you were first learning to add numbers together as a child, 1 and 1 = 2, 2 and 2 = 4, you might have had to use your fingers, you really had to concentrate and focus . . . and you may not even remember when you first learned to walk . . . but when you did . . . you had to focus your attention on each step . . . You needed help . . . to hold on to people and to furniture . . . But with time and continued practice . . . walking became second nature . . . so automatic that you never really had to even think about it anymore . . . And in your mind's eye, as you see yourself sometime in the future . . . your ability to manage your symptoms . . . and even more importantly your reaction to your symptoms . . . is automatic . . . You see yourself as confident . . . You can actually see yourself smiling . . . feeling so good.

And now . . . in this time in the future . . . you can experience yourself moving into that body . . . You become yourself in the future . . . and can feel, actually feel, what it is like to feel so good . . . so confident . . . Before you saw yourself smiling . . . Now you can feel yourself smiling . . . so relaxed . . . so strong . . . and in control . . . You are feeling even better than you imagined you might . . . You have the abilities and the skills to manage . . . your thoughts . . . and your sensations.

And taking a deep breath . . . go ahead . . . a deep breath . . . and hold it . . . that's right . . . hold it for a moment, and let go . . . and as you exhale, you can really experience an enhanced tranquility . . . Take a few moments now to experience what it feels like to feel this good. [Pause for about 30 seconds of silence.]

And now, you can get ready to travel back from the future . . . perhaps walking back in the tunnel, or stepping again in your time machine. As you come back, bring with you all of these positive experience of joy, comfort, delight, accomplishments . . . and SKILLS. Bring them back as your gifts . . . gifts from your future self. Allow them to stay with you . . . They are now a part of you, now. You have arrived to the present, enjoying and noticing how you are still you, but also changed.

These gifts are now really a part of you . . . and you can carry them now . . . in the present . . . with you, outside of the session. New skills and feelings that you have brought back from the future . . . they are a part of you now, in the present . . . today . . . and they will stay with you . . . You will carry them into the future over time . . . so that they will be with you when you are actually living in the future . . . they will have been with you for all of this time . . . now a permanent part of how your mind works . . . Isn't it interesting how you are using these skills and your ability to imagine to make a positive difference in your life right now, today . . . and every day.

Chapter Summary

Adaptive and maladaptive cognitions—in particular pain-related catastrophizing cognitions—are thought to play a significant role in

adjustment to chronic pain (see Chapter 2; also see review by Keefe, Rumble, et al., 2004). Although hypnosis for chronic pain management has traditionally focused on its ability to help people experience reductions in pain and changes in the sensory characteristics of pain from unpleasant to less bothersome ones, there has been a growing recognition that hypnosis may be helpful for altering the cognitive content and processes as well.

A recent study that examined the effects of hypnosis for altering pain-related cognitive content illustrated its potential efficacy for this application (Jensen et al., 2011). This chapter described the treatment protocol used in that study. It included one session suggesting an increased tolerance for ambiguity, two sessions suggesting an automatic shift from maladaptive to more reassuring thoughts (previously identified and endorsed as helpful by the patient), and a final session that used a time progress suggestion for increasing adaptive pain-related thought content. These sessions may be particularly effective for patients presenting with an excess of maladaptive cognitions or a deficit in adaptive ones.

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Chapter 10 *Suggestions for Behavior, Activity, and Sleep Management*

(Corresponds to Chapter 9 in the Workbook)

One of the most important advances in the field of pain management occurred when Wilbert Fordyce (1976) noted that patients with chronic pain do better when their goals shift from pain reduction to increased activity. When patients give up the struggle against pain, and instead focus on increasing their ability to engage in meaningful activities, they improve the quality of their lives. Paradoxically, this approach also often results in a reduction in perceived pain severity, perhaps due to the change in attention focus (from pain to activity), or due to the physiologic improvements that occur with increased activity.

Fordyce and colleagues developed operant treatment approaches (providing social reinforcement for well behaviors and ignoring pain or illness behaviors) as a means of achieving increases in patient activity levels (Fordyce, 1976). In the years that followed, additional psychological treatments, such as cognitive behavior therapy (Otis, 2007; Turk et al., 1983), cognitive therapy (Thorn, 2004), motivational interviewing (Jensen, 2002), graded exposure in vivo (Vlaeyen et al., 2002), and acceptance-based therapies (Dahl et al., 2005; McCracken & Vowles, 2006) were developed as methods to enhance the benefits of operant treatment.

The primary goal of all of these treatments has remained unchanged, however: to maximize the patient's ability to engage in the activities that matter the most to him or her. Given the demonstrated efficacy of hypnosis for influencing behavior and enhancing the efficacy of non-hypnotic treatments in other patient populations (see Kirsch et al., 1995), it is reasonable to expect that hypnotic interventions and suggestions could be added to these other pain treatments as a way to enhance behavioral changes in individuals with chronic pain.

Sleep problems are also common in individuals with chronic pain, with an incidence rate between 50% and 70% (Menefee et al., 2000). Moreover, the available evidence indicates that the association between sleep difficulties and pain is reciprocal (Smith & Haythornthwaite, 2004): improving sleep quality will also likely result in reduced pain. Even if sleep difficulties were not found to contribute to increased pain, however, the presence of sleep problems has been identified as a significant risk factor for other health problems, including depression (Franzen & Buysse, 2008), fatigue (Owens, 2007) and both heart disease and diabetes (Mezick et al., in press). Given the high incidence of sleep difficulties in individuals with chronic pain, improved sleep will be an important treatment target for many individuals in this population.

Improved sleep quality is also a commonly reported "side effect" of hypnotic analgesia treatment in individual and serial case studies, even when improved sleep is not the focus of treatment (Crasilneck, 1979; Crawford et al., 1998; Jack, 1999; Sachs, Feuerstein, & Vitale, 1977). In addition, although no controlled trials have yet to be published that examine the efficacy of hypnotic interventions targeting sleep quality directly, at least one controlled trial found that hypnotic treatment (in this case, a treatment focusing on management of hot flashes) resulted in improvements in sleep in the active hypnosis treatment condition relative to the control (standard care) condition (Elkins et al., 2008). Moreover, hypnotic-like interventions ("imagery training") are a common component of cognitive behavior therapy treatments for insomnia, which have demonstrated efficacy for improving sleep quality (Tang, 2009).

This chapter provides hypnotic suggestions and approaches for (1) identifying activity goals, (2) increasing activity, and (3) improving sleep quality. One critical difference between the hypnotic suggestions offered in this chapter, however, is that unlike the scripts presented in previous chapters, the scripts listed here have not (yet) been included as a part of a hypnosis protocol in a controlled clinical trial for treating chronic pain. Thus, there is not yet direct empirical evidence supporting their efficacy. Nevertheless, the available anecdotal evidence and the known effects of hypnosis on pain control would suggest that many of the suggestions to be offered will be useful.

Identifying Behavioral Goals that Are Meaningful

As discussed in Chapter 5, treatment goals will often include those that focus on changes in behavior and activities. Specifically, chronic pain treatment should include goals to (1) reduce the frequency of behaviors that will contribute to increased pain and disability (e.g., pain-contingent rest and inactivity, pain-contingent analgesic medication use, guarding) and (2) increase the frequency of behaviors that will contribute to decreased pain and disability (e.g., exercise), including an increase in activities that are most meaningful to and valued by the patient.

Hypnosis can be used to help patients identify the activity goals that may have the most meaning for them. The script provided is adapted from an exercise developed by Lance McCracken, an expert in acceptance-based treatment approaches (McCracken, 2005). (The excerpt that follows has been reproduced with permission of the International Association for the Study of Pain® [IASP®]. It may not be reproduced for any other purpose without permission.) Once the hypnotic component of the session is completed, the clinician and patient can discuss the experience, and the implications of this for the selection of behavioral goals for treatment.

> *Sometimes when [chronic pain, fatigue, sleep problems, distress, worry, sadness] has been present for a long time, day-to-day effort comes to be about struggling with that symptom, and not about the types of things that truly give life meaning. Over time, activities that were really important to you are put "on hold," waiting for the time when these symptoms are no longer a problem, so that those activities can be done again. These activities are the sorts of things that would make up the kind of life that you would most want to live in terms of family, intimate relations, friends, work, health and fitness, and personal growth and learning. Sometimes it is easy to lose track of what is most important because the symptoms keep arranging occasions for you to do other things. Today, I will be asking you to reconnect with what is personally most important to you, and to bring these a little more*

clearly into focus. I am going to describe a situation that I want you to imagine. Observe what happens as you move through it.

Imagine, now, that everyone who is important to you is planning a party for you. Perhaps it is a birthday party. Everyone who is important to you in all areas of your life is in on the planning. They want to pay tribute to you, to share their memories and express what you mean to them. Now imagine that they are planning the party in some room, and you are able to hear what they are planning. They want to begin their planning by saying what they would like to share with you and each other about you and what you meant to them. First your life partner or the person closest to you in your life. Consider now, what would you most want [him/her] to say about you as a partner? About how you live that part of your life with [him/her] and have shared with [him/her]. You are free to have [him/her] say whatever you would most want [him/her] to say, whether you feel you have lived up to that lately or not. Hear [him/her] say it. [Pause] *And remember what you hear [him/her] say.*

Now your children [if the patient has children]. *What would you most want [him/her/them] to say about how you live your life as a parent, role model, and adult?* [Pause] *Make a mental note of the things you hear.*

And now a good friend. Hear your friend say how they see you living your life, as if they are describing the life you would most like to live, as a friend. There is no need to worry whether you are living that way today or not. Hear them talk, and remember what they say. [Pause]

And a co-worker from a job you did or are doing, or a colleague from some other service or activity you are doing or have done in the past. Being free to have them say anything you would like them to say about how you live that part of your life. [Pause] *And remember what you hear them say.* [Pause]

That's great. Now hearing the last few words . . . and . . . bringing away what you heard . . . allow the scene fade.

Following the suggestion, review with the patient what each person said during the exercise. Discuss which of these are most meaningful to the patient, and which ones, if any, he or she would like to consider as

behavioral treatment goals. During the discussion, vaguer descriptors (e.g., the patient's daughter saying that she was proud the patient spent so much time with her) that are important to the patient may have to be made more specific (e.g., to spend every Saturday afternoon with the daughter). Following this exercise, the clinician and patient should have at least one behavioral goal, and perhaps more than one, to focus on during treatment. This exercise can also be repeated in future sessions to determine whether other behavioral goals can be identified.

Increasing Adaptive Pain-Related Behaviors

During the evaluation or following the hypnotic session in which the previous suggestion was offered, the patient and clinician should have identified specific behavioral goals to target during treatment. The suggestion presented here is designed to help the patient achieve the behavioral goals identified. It uses a time progression strategy similar to the one presented in the previous chapter for helping to identify adaptive cognitions.

> *I'd like you to imagine, now, that you are able to travel . . . into your future . . . You might imagine going through a tunnel of time . . . or experience yourself stepping into a special time machine . . . and you move into your future, when you are managing even better than you are now. I do not know exactly when it will be, but it will be at a time that you are able to* [describe the new behavior here]. *In fact at this point in time . . . you are able to* [describe the new behavior here] *and perhaps have even been doing it for some time. It might be a year from now . . . or even two years from now . . . It may even be different every time you practice this exercise, as you become more and more able to* [describe the new behavior here] *regularly.*
>
> *But you are moving forward in time, and then stopping when you can see that you are* [describe the new behavior here]. *You can actually see yourself* [describe the new behavior here].
>
> *Take a moment, now, to observe a future version of yourself* [describe the new behavior here]. *Notice the expression on your face . . . You may be aware that the future you is feeling a little proud. He/she is able to* [describe the new behavior here]. *You can also take a*

moment to become very aware of what is different in his/her life now that he/she can [describe the new behavior here]. *Note what you can do now, in the future, that you could not do before.* [Give the patient about 15 seconds.] *And now think about what is better in your life, in the future, because you can now easily do* [describe the new behavior here]. [Give the patient about 15 seconds.]

And now . . . go ahead and experience yourself moving into that body . . . Become yourself in the future . . . and feel, actually feel, what it is like to be able to [describe the new behavior here]. *Take a moment, now, to feel yourself* [describe engaging in the new behavior here], *actually feel as if you are doing* [describe the new behavior here] *right now. Enjoy all of the good feelings and benefits that this brings you.*

And I wonder . . . what was it that allowed you to get to this point? To be able to [describe the new behavior here]? *Think back . . . How did you achieve this? What did you do? You may want to take a moment to consider this, and then bring this as advice to your current self.* [Give the patient about 15 seconds.]

And now, you can get ready to travel back from the future . . . perhaps walking back in the tunnel, or stepping again in your time machine. As you come back, bring with you any of the good feelings you felt while you were [describe the new behavior here]. *And bring back, perhaps, a sense of confidence that you will actually be able to* [describe the new behavior here], *at some point in the near future. And finally, you may decide to bring back with you any advice that you would like to give to yourself, advice regarding how you will be able to accomplish this goal.*

All of this, of course, is really a part of you . . . and you can carry this confidence with you now . . . in the present . . . with you, outside of the session. New confidence, new knowledge, new insights.

Hypnosis for Improved Sleep Quality

The demonstrated beneficial effects of hypnosis on sleep quality may be due to the fact that hypnotic inductions disrupt cognitive activity that

interferes with sleep onset. For this reason, virtually any hypnotic induction or procedure might be expected to improve sleep. Patients may also find that simple self-hypnosis inductions (e.g., those described in Chapter 7, including special place imagery and relaxation, or the "3-2-1" technique described later in the chapter) may help them to fall asleep when they wish. Patients with sleep problems may also benefit from hypnotic suggestions that target improved sleep or changes in sleep-related beliefs specifically.

For patients presenting with sleep difficulties, clinicians should first educate patients about sleep architecture and sleep hygiene. They may also want to consider incorporating into treatment the behavioral treatments of stimulus control (Bootzin, 1977) and sleep restriction (Spielman et al., 1987). Knowledge about sleep architecture provides the patient with basic information regarding the associations between brain activity patterns and sleep quality—information that supports the use of self-hypnosis for influencing sleep via its effects on brain activity. Knowledge about sleep hygiene provides patients with practical information that may help them avoid habits that can interfere with sleep. Stimulus control and sleep restriction interventions (described in a later section) are common components of cognitive behavior therapy treatments for insomnia (e.g., Vitiello et al., 2009) with demonstrated efficacy (Morgenthaler et al., 2006; Morin et al., 1994).

Following education and provision of stimulus control and sleep improvement interventions, clinicians can teach patients specific self-hypnosis strategies for falling asleep, and for getting back to sleep if they awaken during the night. Finally, clinicians can provide hypnotic suggestions for (1) improved sleep and/or (2) increases in adaptive sleep-related beliefs during one or more of the hypnotic sessions. Each of these steps is described in the sections that follow.

Educating Patients about Sleep Architecture

Patients who present with sleep difficulties should be educated about the associations between cortical activity and sleep, and then given recommendations regarding how they can use this information to decrease time to sleep onset when they wish to fall asleep. First, to establish the

rationale for using self-hypnosis strategies for altering brain activity, and hence influencing sleep, it is useful to describe the link between sleep onset, sleep stages, and brain activity. Something along the following could suffice for this purpose (note that this information is also provided to the patient in the patient guide that is the companion book to this therapist manual).

You may be aware that during a good night's sleep the brain goes through different stages. You do not just "go to sleep" and then remain unconscious for as long as you sleep, only to "wake up" when you are done sleeping. During healthy sleep, your brain goes through different stages. Each stage of sleep is associated with a different pattern of brain activity.

First, when you are awake, your brain is quite active. Your brain cells are firing and talking with each other; back and forth. [Note: Some patients may need to be told what a brain cell is]. *If someone were to place electrodes on your scalp and record the electrical activity of your brain, they would see a lot of "fast" activity. This activity is associated with a person thinking, doing, and planning. This is the kind of brain activity that goes on when we are awake and going through our day.*

As a person starts to become relaxed before going to sleep, fewer brain cells in the brain are "firing." The brain starts to "calm down" and you start to feel more relaxed. We can see this slowing of activity when we measure the electrical activity in the brain as people are falling asleep. What we see is an increase in "alpha" and "theta" brain waves as a person relaxes and starts to get to sleep.

From this stage, people usually first drift into a light sleep. Although this is usually the first stage of sleep they enter, it is called "stage 2" sleep. I'll explain why in a moment. Stage 2 sleep is a very light stage of sleep. If you were to wake during this stage of sleep, you might say that you did not even feel like you were asleep—that you were just kind of drifting along, not thinking about very much.

Soon, people usually move from stage 2 sleep into a deeper stage of sleep. Even fewer brain cells are active in the next sleep stage; the brain really starts to slow down. Stage 3 sleep is when there is a lot—between

30% and 50%—of this very slow activity in the brain. If you were wake up from stage 3 sleep, you would be somewhat disoriented. You would say that you do not remember much of anything going through your mind.

Once the very slow brain activity reaches 50% or more, the person has entered the deepest stage of sleep, stage 4 sleep. People can be difficult to wake from stage 4 sleep, and when they do wake up from this stage of sleep, they can be very disoriented. They may not know where they are for a moment.

After spending some time in stage 4 sleep, the brain starts to become active again. It moves into stage 3 sleep, and then into stage 2 sleep. And then it does something very interesting. The very fast brain activity returns—the brain looks like it is very active, pretty much like the person is awake. And yet, the person is clearly asleep. Also, the eyes start to move around, almost as if they are looking at objects or tracking movement. This is called stage 1-rapid eye movement (or stage 1-REM) sleep. If someone woke you up at this point, do you know what you would probably say?

[Let the patient respond. Often, the patient knows or can guess that this is the stage of sleep associated with dreaming.]

That's right. People are usually dreaming in stage 1-REM sleep. After spending some time in this stage, the whole cycle starts over again. Sometimes people wake up briefly at this stage just after they dream (they may do so and not even remember doing so the next morning). Pretty soon, though, they slip back down into stage 2, then into stage 3, and into stage 4 sleep. Then they come back up again.

Each cycle lasts about 90 minutes. And as the night progresses, people tend to spend less time in the deeper stages of sleep (stages 3 and 4) and more time in the lighter stages of sleep (stages 1-REM and 2).

Each stage of sleep seems to be important to our health. If you deprive people of stage 4 sleep, for example, by waking them up every time they enter stage 4 sleep, they will report that they feel very sleepy during the day. Also, when they are allowed to fall asleep and you stop waking them up, they will spend more time in stage 4 sleep than usual, as if they are trying to catch up on the stage 4 sleep they missed.

When people get the stage 4 sleep that they need, they report that they feel rested when they wake up.

Likewise, if you wake up a person every time they start to get stage 1-REM sleep, so that you don't let them get much of this sleep, they usually report that they feel more anxious and upset during the day—as if this stage of sleep allows them to feel more calm. And when you finally let them sleep as long as they want without waking them up, they will then spend more time in this stage of sleep than usual, again as if they are trying to catch up on the stage 1-REM sleep they missed.

Another fact to be aware of is that people need different amounts of sleep. Saying that everyone needs 7 to 8 hours of sleep every night is like saying that everyone should wear a size medium shirt. Everyone needs different amounts of sleep, and they usually know what their ideal amount of sleep is. Do you know what your ideal sleep time is?

[Let the patient respond. Often people have a strong sense of the amount of sleep needed that will allow them to feel rested during the day.]

Also, our need for sleep seems to decrease a little as we get older. A baby sleeps many more hours than a teenager (although if you have lived with a baby, this might surprise you!). Teenagers need more sleep than adults, and young adults need more sleep than older adults. So if you are finding that you are sleeping less as you get older, that is not necessarily a problem.

Another thing that is not necessarily a problem is waking up at night. We all start to wake up more at night as we get older. The important thing is if you are able to get back to sleep when you do wake up, and if you feel rested in the morning.

So it is important to understand that it is fine to need less sleep, and to wake up at night. It is also important to understand that your sleep depends on the activity in your brain. And here is what is interesting: you can control the activity in your brain using the self-hypnosis skills that you have been learning.

What do you think is happening in your brain during the inductions that we do during the sessions, and that you are practicing at home?

[Let the patient respond. If the patient says that the brain "slows down" during hypnosis, agree enthusiastically ("That's right!"). If the patient is not sure or does not say something about the brain becoming more relaxed or slowing activity, proceed to explain what is known about brain activity during hypnosis.]

During hypnosis, and in response to hypnotic inductions, the brain starts to slow down, much like it does just before a person falls asleep. We see an increase in alpha and theta brain waves during this transition period. During hypnosis, the brain is not asleep; it is just in a state that is very similar to that stage just prior to falling asleep. There is much more slow activity.

Part of the reason it is useful to describe the sleep cycles is that this can help normalize the experience of feeling more "active" and even waking up briefly at some points during the night; so that the patient does not panic when he or she wakes up and might otherwise start to worry about losing sleep. Waking up in the night is normalized, and this can be followed by the use of self-hypnosis skills to help the patient return to sleep.

Another reason to describe the sleep cycles in such detail is that this helps solidify the link in the patient's mind between sleep and brain activity. This can help switch the focus from something that is difficult to do ("stop worrying") to something that is easier (using a learned skill to slow down brain activity).

Sleep Hygiene Education

Sleep hygiene refers to lifestyle behaviors that can influence sleep quality. The goal of sleep hygiene education is to discourage lifestyle habits that may contribute to poor sleep, and to encourage habits that contribute to an increased ability to get to and stay asleep. The script shown here provides basic sleep hygiene information that can be given to patients.

Some people are able to sleep whenever they need to. When it is time for them to get to sleep, they go to bed, lie down on their pillow, and fall asleep easily within minutes. They sleep through the night, and wake up feeling rested and refreshed. Part of what may help these

people sleep so well is that they have developed good sleep habits. These are things that they do during the day, or avoid doing during the day, that contribute to a good night's sleep.

These good sleep habits fall into three categories: (1) getting your body ready for sleep, (2) getting your mind ready for sleep, and (3) getting your bedroom ready for sleep.

***Getting your body ready for sleep**. To sleep well, the body should be free of chemicals that can interfere with sleep. This includes all stimulants (caffeine and nicotine) as well as alcohol. The reason to avoid stimulants is probably self-evident: because they can keep your mind revved up and awake. People who are having a hard time sleeping should avoid beverages containing caffeine (including black tea, many soda drinks, and coffee) at least six hours before bedtime; I recommend that you do not take caffeine after noontime. If you smoke, you should avoid smoking in the evening and also anytime at night if you wake up. Nicotine is a stimulant that can interfere with sleep.*

Alcohol can help you to get to sleep, but it also disrupts the sleep cycle, and often results in the person waking up during the night. Even if you sleep through the night after drinking alcohol, alcohol still interferes with getting the type of sleep that you need, and so you'll often end up not feeling rested. Therefore, if you feel tired during the day, or feel that you are not getting good sleep at night, it is best to avoid alcohol.

You should also avoid taking naps during the day if you have trouble sleeping at night (naps during the day are fine if you are able to get restful sleep during the night). Remember that we talked before about people needing to sleep more in certain sleep stages after they are deprived of them? Well, you can also sleep too much during the day, so that your body will feel less need to sleep at night. Napping can also interfere with your ability to get to sleep and to stay asleep. So it is best to avoid naps if you want to get a restful nighttime sleep.

Regular exercise is good for sleep, as long as you do not do it too close to bedtime. So yes, engage in regular exercise that is approved by your doctor. But do it in the morning, the day, or early evening. Do not exercise right before bed.

It is also very useful to get your body in a natural rhythm by waking up at about the same time every day. Over time, and depending on how much sleep you really need, you will start to feel sleepy at about the same time every night, and should plan on going to bed at about this time. Keeping with the same schedule will allow your body to find its rhythm.

Finally, you should avoid eating a heavy meal before going to sleep, as this too can interfere with the sleep cycle and with getting to sleep. If you are hungry, then a small snack might be okay. Perhaps a small glass of milk and a small cookie or piece of fruit.

***Getting your mind ready for sleep**. To help you slip automatically and easily to sleep when you go to bed, it is best to prepare your mind for sleep. You know how your mind automatically links certain reactions to certain things? If you see someone that you like, you will feel glad to see them right when you see them, without even having to think about it. People who have been bitten by a dog might automatically feel frightened or at least a little uneasy if they see a dog like the one that bit them.*

You can take advantage of this ability of your mind to link events and actions to automatic responses to help you get to sleep at night. The idea is to associate certain behaviors with getting to sleep.

Ideally, you should develop a pre-sleep ritual that you can do every night just before going to sleep. It might involve checking all of the locks in your house, followed by brushing your teeth, ending with reading something relaxing or watching a pre-bedtime television show. If you read or watch TV as part of your pre-sleep ritual, you should do this out of bed, not while in bed. After your pre-sleep ritual, go right to bed. If you follow the same ritual every night, the ritual itself will cue your mind to shift from waking to pre-sleep activity.

Then, when you get into bed, you can start your self-hypnosis (we'll talk about this later). You should use the bed only for sex or for sleep. Avoid eating, watching television, reading, or discussing important business with your spouse in bed. You want your mind to associate the bed with sleep.

If you do not fall asleep within 15 or 20 minutes of going to bed, get out of bed. Do something else—reading or other non-stimulating activity—until you get sleepy. You do not want to associate the bed with trying unsuccessfully to get to sleep; you want to associate the bed with sleep. When you get sleepy again, then you can go back to bed.

***Getting your bedroom ready for sleep**. Make sure that your bed is comfortable. Avoid waterbeds. In general, people sleep better on firmer mattresses than they do on soft ones.*

People also tend to sleep better in a cool room with thick blankets than they do in a warm room with thin blankets. Also, of course, common sense would suggest that you should block out sources of light and noise. If you live in a noisy area, you might find that a white noise (or ocean sound) generator helps.

Finally, if you are a "clock watcher," it is best to eliminate the temptation to keep looking at your clock by turning it so it faces the wall.

Sleep hygiene education *alone* has not been shown to be effective for improving sleep quality in clinical studies, although cognitive behavior therapy treatments that encourage patients to follow through on sleep hygiene recommendations (e.g., only going to bed when sleepy, getting out of bed if unable to get to sleep within 20 minutes, using the bed only for sleep and sexual activity, getting up at the same time each morning, and avoiding napping) have been shown to be effective (Morin et al., 1994; Tang, 2009). In other words, it is not education but the behavior change that can follow education that leads to improved sleep.

Self-Hypnosis Strategies for Getting to Sleep and Getting Back to Sleep

Once the patient understands the basic concepts of sleep cycles and sleep hygiene, the clinician can suggest that the patient consider using at least one of three strategies for getting to sleep at night. The first two are strategies that the patient may already know well: (1) the relaxation induction and (2) the safe place induction (both of these are described

in Chapter 7). The patient is told simply to engage in his or her favorite hypnosis induction when he or she goes to bed, without listening to the audio recording, and enjoy the feelings that this produces, until he or she drifts off to sleep.

Two events or experiences often precede sleep for some (but not all) people, and the patient can be alerted to note them as positive reinforcement for his or her efforts to go to sleep. First, a natural muscular response to relaxation is to "twitch," although some people's muscles twitch more than others when they relax. If the patient notices that twitching is occurring, he or she can interpret this to mean that the process is working well. He or she may wish to count twitches, and notice that fairly soon he or she loses track of the number. This inability to count as the patient starts to fall asleep is likely due to the fact that the part of the brain required for counting does not function well as people start to go to sleep. So losing track of the number of twitches, as he or she systematically relaxes different parts of the body or enjoys being in and experiencing the beauty of the "safe place," can be viewed as a sign that the patient is using an effective strategy.

The second experience sometimes associated with drifting off to sleep is that of random visual images—either "dreamlike" images of objects or people, or simply colors and patterns. The clinician can invite the patient to simply notice and enjoy these when they occur, and understand that they are a sign of effective control over the process of getting to sleep. When the patient wakes in the middle of the night—and most adults, in particular older adults, do—he or she can simply use his or her favorite induction again to experience relaxation and/or his or her favorite place until he or she goes back to sleep.

A third self-hypnosis induction that the patient can be taught and that can be used instead of, or in addition to, the relaxation and safe place induction is a variant of the "3-2-1" technique (Enqvist, 2007). This technique is similar to the two inductions in that it gives the patient something to focus on that is inconsistent with thinking, planning, or feeling anxious, etc. It can be described as follows.

> *The goal of the 3-2-1 technique is the same as the other self-hypnotic inductions: to give you something interesting to focus your attention on*

and experience as your mind slows down. Here is how it works. First, just listen for three things. Any three things that you hear: the noise of your breathing—one; or maybe a sound of a far-off airplane—two; or maybe the sound of your skin against the sheet—three. Any three things at all. They can even be the same thing. Just listen for, hear, and then count three things. It's that simple.

Next, feel three things. Any three things. The feeling of the sheet against the skin—one. An interesting tingling sensation in the limbs—two. Cool or maybe warm air on the face—three. It does not matter what they are. Any three things will do. They can be different or the same. Just feel them and count them, 1, 2, 3.

And then, see three things. Allow three images to come into the mind. Just let them appear, on their own. A rose—one. A blue sky—two. Some third image; it does matter what it is, maybe a beach—three. Any three images. Then, after you have seen the third thing, go back, and hear two things, and count them in the mind. Then feel two things. Then see two things. Then hear one thing, feel one thing, and see one thing.

And then start again. Hear three things, feel three things, see three things. Then hear two things, feel two things, see two things. Then hear, feel, and see one thing. And back to three.

As the mind is experiencing what it hears, feels, and sees, as it starts to drift to sleep, you will likely lose count. That is fine; just start over. Hear, feel, and see three things. Hear, feel, and see two things. Hear, feel, and see one thing. You can use this strategy and discover what interesting things you can experience as you drift into a deep, restful sleep.

The session where these instructions are given can be audio recorded. The goal of the recording in this case is not to provide the patients with another self-hypnosis CD to use, but rather to serve as a record of the instructions in case, at some time in the future, the patient wants to be reminded of the techniques.

After the instructions, the clinician should then answer any questions that the patient has about any of these self-hypnotic inductions for

getting to sleep. At the next treatment session, the clinician should ask the patient how often he or she practiced using a self-hypnotic induction for helping to get to sleep, and address any questions or concerns raised about these procedures. There are usually not very many questions, as the procedures are fairly straightforward. The most common question, when there is one, concerns the order ("For the 3-2-1 technique, am I supposed to hear first or feel first?"). The patient can be told that the specific order does not matter; it is the process of engaging the mind in something absorbing that is most important.

Suggestions for Improved Sleep that Can Be Provided During Hypnotic Sessions

In addition to teaching patients to use self-hypnotic inductions for helping them get to sleep at night, the clinician can provide direct suggestions during the hypnotic sessions for improved sleep. Two types of suggestions can be considered and offered: (1) direct suggestions that enhance the efficacy of self-hypnosis for sleep and (2) suggestions for focusing on reassuring sleep-related cognitions. Scripts for both types of suggestions are presented below.

Direct Suggestions for Enhancing the Efficacy of Self-Hypnosis for Getting to Sleep

And you know that the state of relaxation . . . the state you have reached now . . . is not sleep. It is a state of focused awareness, and an increased ability to alter your brain state. Yet we also know that some parts of the brain are not active during this state . . . the brain is relaxed . . . so this state is very much like the state you are in right before you go to sleep. And you can use your ability to enter the state you are in now . . . to be able to easily slip into a state of sleep later . . . or whenever you wish . . . and you know what you can do to enter this state: just take a nice deep breath . . . hold it . . . and let it go . . . and the mind will slow down . . . relax . . . and become more focused . . . and then you just have to wait . . . and if you are ready the mind will slip into a nice, deep, restful sleep. But what will you do as you wait? You have many options . . . as long as they are relaxing and comfortable and interesting.

For example, when it is time for you to get to sleep, you can simply practice your inductions, like the relaxation induction where you gradually move from one body part to another, imagining each body part feeling more relaxed. A key is to really enjoy the sensations of relaxation that you create for yourself. As you lie there feeling relaxed, and as you are enjoying the relaxing feelings, if your brain and body need sleep, they will drift off into sleep. When you next wake up, and if you need more sleep, you can just repeat the exercise.

On another night, if you want to try something else . . .just take a deep breath . . . hold it . . . let it go . . . and go to your special place . . . Enjoy being there . . . See what you can see . . . feel what you can feel . . . smell what you can smell . . . and hear what you hear . . . Enjoy the peace . . . and the beauty . . . Just allow yourself to stay there as long as you like, until the mind is ready to simply drift to sleep.

Or, you know that as the body and mind relax . . . muscles twitch. Sometimes they twitch a tiny little bit . . . sometimes they make larger movements . . . When you want to sleep . . . it can be interesting to allow yourself to pay very, very close attention to the movements and twitches of the body as it becomes more and more relaxed and enters a state of sleep . . . Each twitch . . . each movement . . . means the body is more relaxed. And you can feel yourself relaxing with every one . . . so that when you are ready to go to sleep at night . . . you can simply pay attention to and count the twitches . . . No need to worry if you lose track of the number . . . just start again . . . and keep counting until you enter a deep, restful sleep.

I do not know which strategy you will find most helpful or use most often . . . I do not know which one will give you the most sense of control over your mind . . . relaxing, going to your special place, or counting twitches . . . Maybe all of them will work well for you, and you will use different ones on different nights. But I do know that each one can help you to get to sleep whenever you wish . . . and the sleep you achieve will be restful and comfortable. You might use all of them over the years, or find that one is your favorite and stick to it . . . but over time your mind will learn to be able to shift into a state of sleep when it is right to do so, and allow you to feel so very rested when you wake up . . . and rested and energized throughout the day.

And you know that the ways of thinking about the events in your life can influence the way that you feel and how you respond, including how you feel about your sleep and what happens as you drift off to sleep at night . . .

You are learning more and more, how to be able to identify realistic and reasonable thoughts . . . and how to focus on them for reassurance and comfort . . . and I wonder, what are some realistic, reasonable, and reassuring thoughts that you might have about your sleep?

One interesting way to identify these is to get into your time machine and travel to some time in the future when you are sleeping even better than you are now. Maybe a year from now . . . maybe two years . . . or maybe even next month, or next week. You can picture yourself as someone who is sleeping regularly, deeply. Someone who wakes up feeling rested most mornings . . . Picture yourself . . . right now. . . sleeping there in your bed . . . so deeply . . . resting. And now you can see yourself waking up slowly . . . and yes, there is a smile on your face . . . You know what it feels like to wake up and know that you slept deeply . . . You see yourself get out of bed . . . What is he/she thinking?

How would he/she finish this sentence? "I am a person who. . ." Finish that sentence in your head. [Pause long enough to allow the patient to complete the sentence, perhaps 60 seconds.]

This is also a person who has learned a great deal about sleep, and is not alarmed by an occasional night of sleeping less than usual. I wonder why that is? You can picture yourself in the future waking up some morning . . . there you are . . . waking up, perhaps this time from a night when you slept less than usual. And yet, you are not upset about this in the least. You can see that you feel calm and relaxed. I wonder, what is he/she thinking about the night's sleep that allowed him/her to feel so relaxed and optimistic? Yes, go ahead and consider what the thought or thoughts might be . . . and remember the thought or thoughts. [Pause long enough to allow the patient to consider and then remember the thoughts, perhaps 60 seconds.]

And now, you can get ready to travel back from the future. As you come back, bring with you your memory of these reassuring and realistic and helpful thoughts about sleep. Bring them back as your gifts . . . gifts from your future self. Allow them to stay with you.

Following the hypnotic component of the session, the thoughts that the patient identified should be discussed and evaluated. To the extent that both the clinician and patient agree that the thoughts identified are realistic, reassuring, and adaptive, they can be incorporated into the hypnotic suggestions of future sessions to increase their frequency and automaticity (see Chapter 9).

Chapter Summary

The first step to making behavioral changes is to identify the specific behaviors that the patient wants to change. This step is normally accomplished during the initial evaluation, although it is common to adjust the behavioral goals as needed during treatment. Another method for identifying behavioral goals that may have the most meaning for the patient is to invite the patient to experience observing what those people who are closest or most important to him or her might say if they were planning a party to honor the patient. Those behaviors that both contribute to better pain adjustment *and* are linked to what the patient values can be considered behavioral goals to target during treatment.

Once the behavioral goals are identified, hypnotic suggestions can be offered to make it easier for the patient to engage in the targeted behaviors. The script presented in this chapter used a time progression suggestion for improving self-efficacy. It included taking advice from a "future self" for how best to accomplish a behavioral goal. Discussion of this advice will then lead to a plan for taking the steps to meet the goal as treatment progresses.

Cognitive behavior therapy for insomnia includes encouragement to follow sleep hygiene recommendations and therapy to decrease maladaptive and increase adaptive sleep-related cognitions. Hypnosis can be added to cognitive behavior approaches by (1) encouraging patients to use self-hypnosis skills when they wish to get to sleep, (2) making

suggestions during a hypnosis session that enhance a patient's ability to use self-hypnosis to fall asleep, and (3) making suggestions that help a patient identify and experience reassuring sleep-related cognitions. This application of hypnosis takes advantage of the fact that brain activity following a hypnotic induction (i.e., increased alpha and theta brain waves) is consistent with that of an individual who is falling asleep.

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Chapter 11 *End of the Session: Post-Hypnotic and Reorienting Suggestions*

Following the final suggestion of the session the clinician should usually include both post-hypnotic and reorienting suggestions; the former to facilitate the extension of the benefits of the treatment into the patient's day-to-day life, and the latter as a bookend to the hypnosis session.

Post-Hypnotic Suggestions for Effective Self-Hypnosis Practice

One of the goals of self-hypnosis training is not only to teach patients self-hypnosis skills but to encourage their use as needed in daily life. Of course, one possible use of self-hypnosis in the context of pain management is for patients to use their ability to experience a hypnotic response (e.g., a dissociation from pain or other unpleasant experience) on their own, as needed throughout the day. To facilitate this, as mentioned in Chapters 6 and 7, the protocols described in this guide begin each hypnotic session with a specific cue: the suggestion to "Take a deep, satisfying breath and hold it just for a moment. That's right . . . hold it for a moment . . . That's fine . . . now let it go."

In most cases, patients should hear this cue (and respond by taking the deep breath) at the beginning of every session. They will also hear the cue whenever they practice with an audio recording. Through classical conditioning, the cue becomes associated with whatever response that patient is able to achieve following the inductions. Usually that response includes a sense of relaxation and a dissociation from uncomfortable sensations. Occasionally that response is profound, leaving patients with a strong sense of control over their emotional and sensory experience.

The post-hypnotic suggestion presented below is designed to enhance these effects.

Now we have reached the time to extend any comfort and relaxation you have gained in this session into your daily life. Begin, again, by taking a deep, comfortable, relaxing breath and hold it . . . hold it for a moment . . . and then let it all the way out. That's right. [Attend to the patient's breathing and coordinate your speaking emphasis with the patient's breath.] *Really feel the sensations of each breath. Notice that breathing in feels different than breathing out. Now, I'd like you to imagine that you are breathing comfort in each time you breathe in . . . actual comfort, each time you breathe in . . . and imagine you are breathing tension or discomfort out each time you breathe out.* [Continue, repeating with the subject's breathing, two times.]

Any time you want to feel more comfortable, all you have to do is just rest back and take a very deep, very satisfying breath, and hold it . . . and then, as you let it all the way out . . . let your eyelids close and focus on your breathing. Breathe comfort in and tension out with each breath you take. Really focus your mind on each breath. Let each breath contribute to your comfort. With each breath you take, you can feel yourself filling your awareness with comfort. Then you can let your mind go to your peaceful place if you like, or anywhere else it wishes to go, or just become more and more absorbed by your breathing . . . and your comfort.

All the time you are learning new ways of helping yourself to feel more comfortable . . . and these skills are becoming more automatic and effortless each time you practice. You have the ability to feel more comfortable and peaceful, any time you want. And the more you practice these skills, the easier it will be to keep the comfort with you. This comfort is yours . . . to keep with you, wherever you are, whatever you are doing. You may even find that later today, or tomorrow, or. . . I don't know when . . . you may suddenly notice that you are keeping the comfort with you for longer and longer . . . perhaps longer than you would have expected.

I don't know exactly how you will choose to practice. You may have a longer practice each day, and a number of shorter times, maybe even for a minute or less. But the more you practice, the more your mind will be

able to use these skills, automatically, throughout the day, so that you can find comfort and relaxation when you need it. When you are finished practicing and are ready to end the experience, you'll find that your eyes open, and your mind is clear and alert, ready to go on with the day . . . yet no matter how clear and alert your mind is, this inner comfort, this inner sense of ease, can remain with you and grow. And because this is your experience, you can have it whenever you need to.

Post-Hypnotic Suggestions for Permanence of Benefits

In addition to teaching patients the skill of self-hypnosis, and linking the use of that skill to a cue that will elicit those benefits, hypnosis treatment can also make long-lasting changes in the way that the mind processes information, so that the patient's usual (baseline) experience is comfortable and pleasant. Patients who are able to reach this goal will experience a reduction in their daily pain and an increase in their sense of well-being. Post-hypnotic suggestions facilitate this effect. The following suggestion is designed to facilitate this outcome.

And a part of you already knows, a very deep part of you knows, that you have created the benefits from this session. They might be feelings of relaxation and calm, feelings of energy, or of comfort, or some new insights into what is most important to you, these benefits that you have created. They are within your power . . . and they can stay with you, if this would be helpful to you . . . They can stay, and linger beyond the session . . . for minutes, hours, days, and even years . . . They can become a permanent part of what your mind gives to you all of the time, like breathing, naturally, and easily. These benefits are becoming an automatic part of who you are.

Reorienting

The final suggestions given in a hypnosis session are reorienting ones. The two most common reorienting suggestions are (1) very simple ones letting the patient know that the hypnotic component of the session has ended and giving him or her permission to reorient and (2) slightly

more complex ones also letting the patient know that the hypnotic component of the session is over, but then inviting the patient to do any additional processing that may be helpful for incorporating the suggestions given.

Research has not investigated the relative efficacy of these two types of reorienting suggestions, so clinicians generally choose the final suggestions that best fit the circumstances. The reorienting suggestions used in the clinical trials upon which this guide is based were all the former (more simple) ones. Examples of each type are provided.

Simple Reorienting Suggestion that Can Be Paired with an "Elevator" Induction

Now imagine we're back in the elevator. As I count from ten back to one . . . I want you to come back up the elevator with me, one level for each number that I count . . . and when I reach the number "one" you will be fully alert, but still relaxed and at ease. The feelings of comfort, relaxation, and calmness you have been feeling, these feelings will stay for longer and longer.

Let's begin now. Ten, nine, eight . . . seven, six . . . five, four, three . . . two, one. Eyes open. Fully, fully awake and at ease . . . ready to go on with your day . . .

[After the subject opens his/her eyes, observe that the subject is really awake, not just sitting, compliantly, with eyes open. Give suggestions for being alert, if necessary.]

Generic Simple Reorienting Suggestion

The reorienting suggestion shown here can be used when the clinician wants the patient to be able to reorient at his or her own pace.

And in a moment I will be quiet, and when I am, you can allow yourself to enjoy the state you are in for as long as would like . . . taking the time you need to come back to the here and now.
And when you are ready to come back to the here and now, you can signal to yourself that you are ready by allowing your eyes to open . . .

and when they do, you will be comfortable and alert . . . ready to go on to do whatever it is that you would like to do next.

[After the subject opens his/her eyes, observe that the subject is really awake, not just sitting, compliantly, with eyes open. Give suggestions for being alert, if necessary.]

Reorienting Suggestion Including a Suggestion for Additional "Deeper" Processing Prior to Alerting

And in a moment I will be quiet, and when I am, you can allow yourself time to process what you have learned during today's session. To better understand any insights at a deeper level . . . to really absorb what has happened . . . to allow the time needed for beneficial changes to occur. And then, when all of this processing is done, and your mind has absorbed as much as is appropriate for your well-being and comfort, you can signal to yourself that this processing is complete by allowing your eyes to open . . . and when they do, you will be comfortable and alert . . . ready to go on to do whatever it is that you would like to do next.

[After the subject opens his/her eyes, observe that the subject is really awake, not just sitting, compliantly, with eyes open. Provide additional suggestions for being alert, if necessary.]

Chapter Summary

The purpose of post-hypnotic suggestions is to extend the beneficial effects that occur during the hypnotic sessions into the daily lives of patients. The two post-hypnotic suggestions presented in this chapter suggest (1) self-hypnosis practice and a link between a cue (a deep breath) and beneficial effects and (2) automaticity of the benefits of hypnosis. Both types of suggestions can, and usually should, be provided towards the end of most sessions.

The hypnotic sessions should end with reorienting, and patients should be given the time needed for this. The end of orienting instructions

marks the end of the hypnosis component of the treatment session. Normally, the clinician would debrief the patient at this time to identify the content of the session that was most (and least) useful for the patient, taking notes with a plan to use this information to improve positive responses to future sessions.

Chapter 12 *Summary and Consolidation*

This therapist guide describes everything the clinician needs to know to provide patients with self-hypnosis training for chronic pain management. Because the scripts and protocols presented are based on those used in recently published studies, clinicians following this guide should be able to anticipate beneficial effects that are at least as strong as those found in clinical trials (Jensen, Barber, Romano, Hanley, et al., 2009; Jensen, Barber, Romano, Molton, et al., 2009; Jensen et al., 2011). As the clinician gains experience and is able to more effectively tailor inductions and suggestions to each patient's needs, even better outcomes can be anticipated. This final chapter provides a summary of the entire guide and discusses some additional issues that should be considered when providing pain treatment that includes hypnosis.

Therapist Guide Summary

The Biological Basis of Pain

The key finding from research conducted on the biological basis of pain is counterintuitive for many: there is no "pain center" in the brain that shows a one-to-one association with physical damage or nociceptive input from physical damage. Rather, pain is the end result of complex interactions between multiple peripheral and neurophysiologic systems. The experience of pain is influenced by nociceptive input *plus* a patient's beliefs about the pain, coping responses, and learning history. Over time in individuals with chronic pain the brain can become more responsive to nociception, requiring less input for the patient to experience

significant pain. For some neuropathic pain conditions, a light wind or mere touch can trigger a painful sensation. *For all people and for all pain problems, the single and most important "pain generator" is the brain.* This understanding helps explain how interventions that alter brain activity, such as hypnosis, can have such profound effects on pain and its consequences.

Psychological Factors that Influence Pain

Research supports the conclusion that psychological factors, including pain-related cognitions and coping responses, influence pain. Consequently, such psychological factors are viable treatment targets. Maladaptive cognitions contribute to higher levels of pain and dysfunction. These include catastrophizing cognitions and the beliefs that (1) one is necessarily disabled by pain, (2) pain signals damage, (3) what healthcare providers do is more important than what the patient does for managing pain, (4) medications are appropriate for chronic pain management, and (5) family members should be solicitous when the patient experiences pain. Maladaptive coping responses include guarding, resting, and asking for assistance. Adaptive beliefs that contribute to improved function include a sense of control over pain, beliefs in the ability to function despite pain, and pain acceptance. Adaptive coping includes coping self-statements, pacing, task persistence, exercise, and seeking social support.

The importance of these beliefs and coping factors has been demonstrated in many chronic pain conditions. Thus, regardless of the pain diagnosis, pain-related cognitions and coping responses should be assessed in all patients seeking treatment. When an excess of maladaptive responses or a deficiency of adaptive responses is identified, treatment should include interventions to decrease the frequency of the former and increase the frequency of the latter. Psychosocial interventions (including hypnosis) that address dysfunctional coping or cognitions should not be considered *only* when biomedical treatments fail. They should be considered "first-line" interventions that should be provided right along with appropriate biomedical interventions.

What Is Hypnosis?

Hypnosis has been viewed from a number of different theoretical perspectives, each of which tends to have its own preferred definition of hypnosis. In general, clinicians who prefer sociocognitive models define hypnosis as a procedure; hypnosis occurs when a clinician provides a hypnotic induction inviting the subject to focus his or her attention, followed by suggestions to change thoughts, feelings, or behavior. Clinicians favoring psychoanalytic or hypnosis-as-trait concepts tend to focus on hypnosis as a response: hypnosis happens when the patient experiences hypnosis, whether following a hypnotic induction or spontaneously in daily life.

No single theoretical viewpoint adequately explains all hypnotic phenomena. However, each viewpoint provides a useful insight into a different aspect of hypnosis. Also, despite differences in theoretical orientation, there is a consensus that hypnotic treatments are effective for providing pain relief and altering beliefs and behavior. A neurophysiologic model of hypnotic analgesia, which seeks to explain hypnosis' effects on pain via its effects on the neurophysiologic processes that underlie the experience of pain, may be the most useful model for explaining hypnosis to patients. Use of such a model (1) can help to demystify hypnosis, (2) is easily understood by most patients, (3) is consistent with how many patients think about their pain, (4) can be communicated via images from research demonstrating hypnosis' effects on brain structures, and (5) can offer a certain amount of scientific legitimacy to this treatment approach that counteracts lay misunderstanding.

What Hypnosis Does

Hypnotic analgesia has been shown to have measurable effects on all components of the pain matrix, from the periphery to the cortex. Moreover, those effects influence brain areas as a function of the hypnotic suggestion. For example, suggestions to experience a decrease in pain *unpleasantness* result in decreases in perceived pain unpleasantness

but not intensity, and decrease activity in the anterior cingulate cortex, but not the sensory cortices. Suggestions to experience a decrease in pain *intensity* result in decreases in perceived pain intensity, and decrease activity in the primary sensory cortex, but the not anterior cingulate cortex. Based on these findings, clinicians using hypnosis should consider offering suggestions that target the entire pain matrix as we currently understand it: (1) primary and secondary sensory cortices (pain intensity and pain quality), (2) anterior cingulate cortex (pain's affective dimension), (3) prefrontal cortex (pain-related beliefs), (4) insula (motivational aspects of pain), and (5) dorsal horn of the spinal cord (modulation of nociceptive input). Suggestions that target pain's multiple dimensions and underlying processes are likely to be more effective for more patients than suggestions that target only a single pain domain. That said, however, clinicians need not have an in-depth understanding of brain function in order to have clinical success. Providing a variety of inductions and suggestions, including those presented in this guide, observing patient responses, and tailoring future inductions and suggestions based on the patient's responses should result in significant benefits for many patients.

Clinical trials published over the past 20 years support the specific effects of hypnotic interventions for reducing chronic pain, over and above their effects on patient expectancies. Moreover, the benefits of hypnosis treatments last well after treatment has stopped—at least as long as 12 months. Although not *all* participants in these studies report marked decreases in clinical pain severity—the response rates for clinically meaningful decreases in daily average pain vary from 22% (for individuals with spinal cord injury and chronic pain) to 60% (for individuals with chronic pain associated with acquired amputation)—the great majority (70–80%) of patients report continued use of the self-hypnosis skills they were taught during treatment. These findings suggest that self-hypnosis training for chronic pain has two primary effects: (1) a long-lasting (and possibly permanent) change in the way the person and brain processes pain information, such that patients experience a significant decrease in ongoing average daily pain, and (2) the provision of specific skills that patients can use on a regular basis to experience periods of comfort. More patients report the latter benefit than the former one, but clinicians should seek to achieve both benefits in all

patients by (1) providing post-hypnotic suggestions that beneficial changes will become permanent and automatic and (2) teaching and encouraging the use of self-hypnosis on a daily basis.

Patient Assessment and Preparation

Every patient with chronic pain seeking treatment deserves both a thorough medical *and* psychological evaluation. The goal of these evaluations is to identify the biological and psychological factors contributing to the patient's pain, suffering, and disability. It is not appropriate to focus on one type of evaluation or treatment at the expense of the other.

The goals of the psychological evaluation include (1) establishment of rapport, (2) identification of psychosocial treatment goals, (3) negotiation of a treatment plan (which might or might not include hypnosis), and (4) collection of baseline outcome data. Central to the psychosocial evaluation is the clinical interview, in which a series of questions are asked to determine (1) the type of pain (neuropathic vs. nonneuropathic), (2) the patient's approach to pain management (adaptive vs. maladaptive pain cognitions and coping), and (3) the presence of motivating factors for adopting a pain self-management approach. Standardized measures can, and often should, be used to supplement the clinical interview and to obtain baseline levels of treatment outcome domains. Using validated measures, clinicians should assess (1) pain intensity, (2) pain beliefs, (3) pain coping responses, (4) pain-related catastrophizing, (5) depression, (6) pain interference, and (7) sleep quality.

Following the initial assessment, the clinician should be able to determine whether the patient is an appropriate candidate for hypnotic interventions and should have a clear sense of the initial treatment goals. The list of possible treatment goals should almost always include goals that extend beyond just a reduction in perceived pain intensity. They may also include a decrease in maladaptive pain-related beliefs or coping responses or an increase in adaptive beliefs, coping responses, or sleep quality. It is important to review the outcome of the evaluation with the patient and identify the specific goals that the patient is most interested in achieving. At that point, the patient and clinician can determine

together which intervention(s) to use to achieve the goals, and whether or not to include hypnosis.

Hypnosis for Chronic Pain Management: The Basics

If hypnosis is going to be a part of treatment, before the first hypnotic session is provided, the clinician should determine whether the patient has any misconceptions or concerns about hypnosis. The key message to provide patients is that hypnosis invites patients to experience a state of focused awareness that (1) is natural and common and (2) can be highly beneficial for helping them feel more comfortable and in control. Clinicians should ask patients to describe their responses to previous inductions and suggestions, with a plan to selectively repeat those that were most helpful. Hypnosis sessions should be audio recorded for the patient to listen to between sessions. Patients should also be encouraged to practice self-hypnosis several times each day. Finally, hypnosis does not need to be a stand-alone treatment; it can also be used to enhance the efficacy of other psychological treatments.

The Individual Hypnotic Session

A typical hypnotic session involves three components: (1) an induction inviting the patient to focus his or her awareness on a single stimulus (spot on a wall, clinician's voice, breathing, internally generated image), (2) a hypnotic suggestion or series of suggestions for changes in perceptual experiences, thoughts, or behavior, and (3) post-hypnotic suggestions for extending benefits into the patient's daily life.

Clinicians new to hypnosis are sometimes unsure which of many possible inductions they should use. Patients who are highly hypnotizable will respond to most inductions. Patients with less hypnotic talent will likely benefit from longer inductions tailored to their individual preferences and abilities. Inductions can involve any number of combinations of suggestions for sensory awareness, imagery, and relaxation. Inductions that contain relaxation suggestions are particularly useful for patients with pain, because a feeling of relaxed comfort is inconsistent with the suffering associated with severe pain.

The suggestions offered during the suggestion phase of the session will depend entirely on the goals of treatment. Because most of the suggestions in this guide have demonstrated efficacy, they should at least be considered for use with patients whose goals include changes in the perception of or focus on pain, and changes in pain-related thoughts or behavior. But clinicians need not limit their suggestions to *only* those presented in this guide; each patient's unique situation and goals will inform the content of any suggestions made.

The post-hypnotic suggestions should usually focus on both of the overarching treatment goals of self-hypnosis training for chronic pain management. Thus, they should include suggestions that any benefits experienced during the hypnosis session will last beyond the session, even becoming permanent, at least as long as they continue to be beneficial for the patient. Second, the post-hypnotic suggestions should include a reminder that the patient can cue self-hypnosis at any appropriate time, and that when the patient uses the cue (in this guide, the cue is taking a deep breath, holding it for a moment, and letting it go) the benefits of hypnosis will occur automatically.

Multiple Hypnosis Sessions: Treatment Plans and Programs

Self-hypnosis training can be provided as an integrated component of a much larger treatment plan that also includes other psychosocial and medical treatments, or as a focused stand-alone intervention. The approach the clinician chooses depends in part on the treatment setting (e.g., private outpatient clinic vs. an inpatient multidisciplinary pain treatment program), the other psychological treatments that the clinician has the training and experience to provide, and the treatment goals that were negotiated with the patient.

When the primary treatment goal is a reduction in perceived pain, and the patient's situation is otherwise relatively uncomplicated, self-hypnosis training can often be provided in four treatment sessions or less. Patients with more extensive treatment goals, such as decreased symptoms of depression, increased adaptive cognitions and coping responses, and improved sleep quality, would likely benefit from more than four sessions of self-hypnosis training. Such patients would also

likely require additional psychological interventions, with hypnosis integrated into treatment. The remainder of this chapter presents both (1) a basic four-session protocol that might be offered to relatively uncomplicated patients and (2) an example of an integrated 12-session intervention that incorporates both cognitive restructuring and hypnosis components.

Basic Four-Session Hypnosis Treatment Protocol for Pain Management

This section describes a typical four-session hypnosis pain treatment program for relatively uncomplicated patients with chronic pain. These patients tend to be functioning fairly well (e.g., they are likely working). For these patients, daily activities are not profoundly affected by pain, nor are they likely to meet criteria for any psychiatric diagnosis, such as major depression. The primary pain-related problem typically faced might include annoyance associated with ongoing (usually mild or moderate) chronic pain, with perhaps some occasional sleeping difficulties due to pain. A thorough psychological evaluation is needed to confirm these conclusions, however. If confirmed, then the focus of treatment will likely be on self-hypnosis training for pain symptom management with only a few additional suggestions added to address other problems (e.g., for improved sleep quality), as indicated.

In research studies testing the efficacy of hypnosis for reducing chronic pain intensity, the number of sessions has varied from a few as three (Friedman & Taub, 1984) to as many as 50 or more (Spiegel & Bloom, 1983). However, most of these clinical trials have studied treatment protocols with four to 10 sessions, and the most common number of treatment sessions is four (Patterson & Jensen, 2003). At this point in time, there is no empirical evidence that provides clear guidance concerning the ideal "dose" (number of sessions) of hypnosis for chronic pain, although presumably there is an upper limit beyond which most patients will not obtain further benefit.

Complicating the decision regarding the number of treatments to provide is the fact that patients will be asked to practice self-hypnosis regularly between sessions and, after treatment ends, both on their own (without an audio recording) and with audio recordings of the sessions.

If the number of sessions is important, then it is likely that the number of times that patients listen to the audio recordings may influence outcome as well.

Until there is empirical evidence to decide differently, a reasonable approach would be to plan to provide relatively uncomplicated patients with four sessions of self-hypnosis training, and determine at the fourth session whether additional sessions are warranted. This conclusion is reasonable given the empirical evidence that four sessions have been shown to result in significant decreases in pain (Patterson & Jensen, 2003) *and* four sessions should be enough to provide and make audio recordings of the basic pain-reduction suggestions provided in this guide, plus one or two additional suggestions that might be needed or indicated. Also, four sessions is enough to give the patients a variety of audio recordings to listen to during and following treatment, and should provide the clinician and the patient with enough information regarding the patient's ability to benefit from this treatment.

Many relatively uncomplicated patients will find that four sessions is enough, and can end treatment with the four audio recordings and continue to practice on their own. A small minority of patients will report that they obtain little or no benefit from self-hypnosis training even after four sessions, and the clinician and patient may elect to discontinue treatment at this time for this reason. On the other hand, some patients will find that they are making slow but steady improvements, or an issue may emerge that could benefit from some additional treatment sessions. In collaboration with the patient, the clinician may decide that an additional number of treatment sessions would provide further benefit. In this case, and providing significant issues did not emerge during treatment that were not identified during the initial evaluation, one or two additional sessions will often suffice.

Table 12.1 provides an outline of what might be considered a typical self-hypnosis training treatment protocol for a relatively uncomplicated patient with chronic pain. Goals might include learning strategies for experiencing less pain, learning to ignore what pain is experienced, and perhaps addressing one or two additional pain-related issues, such as fatigue or sleep difficulties. It also lists the chapter(s) where information and scripts can be found for addressing the goals of each session.

Table 12.1 Typical Self-Hypnosis Treatment Protocol for a Relatively Uncomplicated Patient with Chronic Pain

Session	Goals	Chapter(s)
Evaluation	Identify factors contributing to the pain problem	5
	Negotiate treatment plan, including the identification of treatment goals	5
	Determine whether self-hypnosis training is indicated	5
	Address hypnosis myths and misconceptions	6
Session 1	Address hypnosis myths and misconceptions	6
	Provide initial induction (often relaxation), suggestions (usually 2 or 3 pain suggestions), and post-hypnotic suggestions; audio record the session	7, 8, 11
	Discuss response to the induction and suggestions; take notes on the patient's comments	6
	Give the patient an audio recording of the session, and ask him or her to listen to the recording at least once a day and also to practice self-hypnosis without the recording at least four times a day	6
Sessions 2 and 3	Discuss response to home practice with and without the audio recording; take notes on the patient's comments	6
	Based on the patient's responses to previous inductions and suggestions, select the induction and suggestions to be offered in today's session; consider whether addressing an issue in addition to pain sensations is warranted	6
	Provide new induction, suggestions, and post-hypnotic suggestions; audio record the session	7, 8, 9, 10, 11
	Discuss response to hypnotic sessions, provide the patient with new audio recording, and ask patient to practice self-hypnosis	6
Session 4	Provide final induction and suggestions; audio record the session and provide recording to the patient	7, 8, 9, 10, 11
	Review treatment gains; either end treatment or plan for and provide additional sessions if both the clinician and patient agree that additional sessions are warranted	12

The protocol includes an initial evaluation session to confirm that the focus of treatment should be on reduced pain or pain unpleasantness and reduced focus on pain. The four treatment sessions then provide hypnosis treatment, four audio recordings, and enough training allowing the patient to be able to enter a state of focused attention at will. This treatment protocol is geared towards giving an increased sense of control over the experience of pain.

An Integrated Pain Treatment Protocol that Includes Hypnosis and Cognitive Therapy

This section describes a more extended treatment program appropriate for individuals presenting with more complicated pain problems. These patients have more issues to address than merely the presence or experience of chronic pain. They may evidence significant maladaptive pain-related cognitions and/or coping responses and a lack of adaptive cognitions and coping responses. These individuals would report higher levels of pain interference in day-to-day activities than less complicated patients. They would also likely meet criteria for one or more psychiatric diagnosis, such as major depression. Given the greater complexity and larger number of treatment goals, treatment would probably include at least 10 sessions.

For such patients, clinicians would also be well advised to consider incorporating other psychosocial pain interventions into the treatment program. Depending on the specific complicating factors that are present, additional treatments might include operant treatment (Fordyce, 1976) including in vivo graded activation (Vlaeyen et al., 2002), cognitive therapy (Thorn, 2004), motivational interviewing (Jensen, 2000), or one of a number of various forms of cognitive behavior therapy, such as pain coping skills training (Carson et al., 2006), spouse-assisted coping skills training (Keefe et al., 2004) and/or acceptance-based cognitive behavior therapy (Dahl et al., 2005; McCracken, 2005). In fact, the most effective clinician is probably one who is well versed in *all* of these psychosocial interventions. Clinicians who insist that one approach or model is superior to the others (e.g., clinicians who provide only operant treatment or who offer only one form of cognitive behavior therapy) are likely to be less effective than clinicians who are able to

provide treatment from different perspectives, adapting their approach to each patient's needs.

Operant treatment and motivational interviewing are appropriate when a treatment goal involves behavioral change. In vivo graded treatment is indicated when the patient is deactivated or engages in guarded movement, and it is determined that fear of movement is a key factor contributing to the deactivation or guarding. Cognitive behavior therapy, which often includes cognitive therapy to address maladaptive cognitive content or processes, is indicated when the patient endorses significant maladaptive beliefs about his or her pain, or endorses one maladaptive belief ("I am disabled by pain") very strongly. Couples-based cognitive behavior therapy would be indicated when the patient's spouse or partner could serve as an important source of support as the patient learns adaptive pain coping skills.

In addition to providing the patient with specific skills to manage pain, hypnosis can and should be used as an adjunct to enhance the efficacy of whichever additional treatments are provided. Thus, for many patients, the four-session self-hypnosis training treatment protocol described in the previous section might be considered as one component or module of treatment. Other sessions might consist exclusively or almost exclusively of non-hypnotic treatments, while a number of sessions might include both hypnotic and non-hypnotic pain interventions.

Table 12.2 provides an example of a 12-session treatment program that incorporates and integrates hypnosis and cognitive therapy. It is based on a module-based treatment program that was originally developed to compare the efficacy of self-hypnosis training focusing on pain management, cognitive therapy focusing on increasing adaptive cognitions, and a hypnotic cognitive therapy intervention designed to use hypnosis to enhance the effects of cognitive therapy (Jensen et al., 2011). Such a series of sessions might be particularly useful in individuals who present with moderate to severe pain and who endorse significant maladaptive pain-related cognitions. Thus, the patient for whom this treatment protocol would be appropriate would likely have two primary treatment goals: (1) decreases in daily pain severity and decreased focus on any pain that remains after treatment and (2) increases in the frequency of and focus on adaptive and reassuring pain-related beliefs (which would by

Table 12.2 Example of a Extended Treatment Protocol

Session	Goals	Chapter(s)
Evaluation	Identify factors contributing to the pain problem	5
	Negotiate treatment plan, including the identification of treatment goals	5
	Determine which interventions are indicated	5
	Address hypnosis myths and misconceptions	6
Session 1	Address hypnosis myths and misconceptions	6
	Provide initial induction (often relaxation), suggestions (2 or 3 pain suggestions), and post-hypnotic suggestions; audio record the session	7, 8, 11
	Discuss response to the induction and suggestions; take notes on the patient's comments	6
	Give the patient an audio recording of the session, and ask him or her to listen to the recording at least once a day and also to practice self-hypnosis without the recording at least four times a day	6
Sessions 2, 3, and 4	Discuss response to home practice with and without the audio recording; take notes on the patient's comments	6
	Determine what changes, if any, are needed in the induction and suggestions based on the patient's comments from the previous session and response during home practice; consider whether addressing an issue in addition to pain sensations is warranted	6
	Provide new induction, suggestions, and post-hypnotic suggestions; audio record the session	7, 8, 11
	Discuss response to hypnotic sessions, provide the patient with new audio recording, and ask patient to practice self-hypnosis	6
Sessions 5, 6, 7, and 8	Cognitive therapy to teach the patient to be aware of cognitions, label them appropriately (as adaptive or maladaptive), and identify, develop, and focus on adaptive cognitions (e.g., Thorn, 2004)	

(Continued)

Table 12.2 Example of a Extended Treatment Protocol (*Cont'd*)

Session	Goals	Chapter(s)
Session 9	Teach the patient about the concept of ambiguity tolerance and provide suggestions to enhance this tolerance; audio record session and provide audio recording for the patient	7, 9, 11
Sessions 10 and 11	Provide hypnosis sessions to suggest the incorporation of the adaptive beliefs identified by the patient in sessions 5–8 as most helpful and useful	7, 9, 11
Session 12	Provide a hypnosis session to suggest time progression, allowing the patient to see himself or herself as doing well, and incorporating the thoughts and feelings associated with this to the present	7, 9, 11
	Review treatment gains; either end treatment or plan to and provide additional sessions if both the clinician and patient agree they would be useful	12

definition decrease the frequency and focus on maladaptive pain cognitions, such as catastrophizing).

Depending upon which goal (pain reduction, adaptive thought increases) would be of most interest to the patient, the first four sessions could provide self-hypnosis training in pain management (sessions 1–4 in Table 12.2; note that these are basically the same as the four-session protocol outlined in Table 12.1) or cognitive therapy (sessions 5–8 in Table 12.2). Some patients prefer cognitive therapy to hypnosis and others prefer hypnosis to cognitive therapy. Often, however, patients elect to begin with hypnosis because of the immediate sensory changes and comfort that this intervention produces—the benefits of hypnosis are often experienced immediately, while the benefits of cognitive therapy can sometimes take days or weeks for patients to notice.

In the treatment protocol presented in Table 12.2, the cognitive therapy module has two goals: (1) to increase focus on adaptive cognitions, which itself is hypothesized to result in reductions in negative mood, and (2) to identify specific cognitions to be encouraged during the

hypnotic cognitive therapy module that follows. The final four sessions in this treatment protocol provide suggestions to increase tolerance for ambiguity (session 9), enhance reassuring and realistic thoughts (sessions 10 and 11), and enhance self-efficacy cognitions and positive affect via time progression (session 12).

The number of sessions need not necessarily be limited to 12. For example, cognitive therapy is often provided as 10-session protocols (e.g., Thorn, 2004), and four sessions of cognitive therapy may not be enough for some patients to gain the maximum benefit of this intervention. Depending on the progress of the patient and perhaps the degree to which any maladaptive beliefs are entrenched at the beginning of treatment, eight or even 10 sessions of the cognitive therapy component may be indicated. Alternatively, the clinician may elect to split some of the sessions to provide cognitive therapy—for example, identifying adaptive and maladaptive cognitions and completing thought worksheets (see Thorn, 2004) in the first half of a session, and then using hypnosis to help the patient incorporate and absorb what is learned in the second half.

The treatment protocol described above and listed in Table 12.2 can be emulated for any other treatment. For example, patients whose primary treatment goals are (1) decreases in daily pain severity and decreased focus on any pain that remains after treatment and (2) return to or increases in meaningful activity might be offered four sessions of self-hypnosis for pain self-management, four or more sessions of acceptance-based cognitive behavior therapy targeting increased activity (e.g., McCracken, 2005), and then two to four sessions of hypnosis that specifically suggest increased focus on and participation in meaningful activity (see Chapter 10).

Concluding Comments

Hypnosis is probably the psychological pain treatment with the longest history, with the earliest case reports of its effects first published in 1850 by Esdaile (Esdaile, 1957/2008). However, despite the publication of hundreds of additional case reports and case series since that time, it is only in the past two decades that controlled trials have established

its efficacy for helping patients with chronic pain. Myths and misunderstandings regarding the effects of hypnosis have also contributed to its lack of acceptance as a mainstream tool.

However, the results of recently published imaging studies and controlled trials have improved the credibility of hypnotic approaches to pain management. From these results, we can conclude that:

1. The effects of hypnotic analgesia on pain are real, in that they can be observed to affect activity in the brain areas known to underlie pain processing (the "pain matrix"), and changes in activity in these areas following hypnosis are associated with changes in reported pain levels.

2. Hypnosis has specific effects beyond any nonspecific ("placebo") effects due to its influence on patient motivation or outcome expectancies. Hypnosis is more than just a fancy placebo.

3. Response to hypnotic treatment is *variable*. Some patients report profound benefits and effects and others report no or very few benefits. Most patients who learn self-hypnosis skills report at least some benefit, and most continue to use the skills taught even as long as 12 months after treatment.

4. Hypnosis can be used to increase the efficacy of other psychosocial treatments.

Enough is known about the efficacy of hypnosis and self-hypnosis training to recommend that this treatment be made more available to individuals with chronic pain. Increasing its availability requires that more clinicians be trained in its use and application for chronic pain management. A primary goal of this guide is to facilitate this training by providing a step-by-step guide for clinicians who wish to incorporate hypnotic approaches into their clinical practice. Based on the research that has been published to date, clinicians who add hypnotic interventions to their repertoire can anticipate that their patients will derive more benefit from treatment.

Appendix 1: Pain Evaluation Form

Today's date:
Patient Information
Patient name:
Age:
Sex:
Pain Description and History
Where do you experience pain?
On a 0-to-10 scale, where 0 is "No pain" and 10 is "Pain as bad as you can imagine," how would you rate your average pain intensity in the past week? At its least in the past week? At its worst in the past week?
How important is decreasing your daily average pain intensity to you? If this is important, and if we are unable to decrease the intensity to "0," what level of average pain intensity could you live more comfortably with?
How important is it to you to learn skills that might reduce your experience of pain intensity (and how much the pain bothers you) for short periods of time?
What words would you use to describe your pain?
When did the pain begin?
What else was happening in your life?
Course of pain since onset:

Course of pain in the past six months:
What treatments have you tried or been given for pain (including surgeries, passive physical therapy, active physical therapy, medications)? Which of these were helpful? Which of these made the problem worse?
What is the usual daily time course of the pain?
What makes your pain worse?
What makes your pain better?
What do you do for exercise (how much, how often)?
Some people with pain tell me that they get so tired of being inactive that on days that they feel even a little better, they try and do too much, only to pay for this with a big increase in pain. Then they have to rest, sometimes for days. Does this ever happen to you?
How do the people you live or spend time with know when you are hurting? What do you do or say?
How do the people you live or spend time with respond when they think you are hurting? What do they do or say?
How do the people you live or spend time with know when you are doing particularly well? What do you do or say?
How do the people you live or spend time with respond when you are doing well? What do they do or say?
Comparing your life now to your life before the pain, what have you *stopped doing completely* that you used to do? Which of these activities would you like to do again?
Comparing your life now to your life before the pain, what are you *doing less of* that you used to do more of? Which of these activities would you like start doing more of again?

Comparing your life now to your life before the pain, what are you *doing more of* that you used to not do or do much less of? Which of these activities would you like to do less of?
What do you do now to cope with the pain (if medications, what ones, and at what doses)? How well do these coping strategies work for you?
What have you been told is the cause of your pain? What do you think about this?
What effects, if any, does your pain have on your sleep? Would you be interested in learning some skills that could make it easier for you to fall and stay asleep?
Education and Work History
How far did you get in school?
Are you currently not working because of pain?
When did you last work? What was your job?
[If not working] Is returning to work a realistic goal for you? How important is returning to work to you?
Are you currently receiving any financial compensation due to disability because of the pain? [If so] How much per month, and from what sources?
Are there any litigation issues in this case? [If so] At what stage is the litigation?
Social Status and History
Where were you raised?
By whom were you raised?
Description of childhood?
Were you ever abused physically, sexually, psychologically, emotionally? [If so] Can you tell me more about that?

How would you describe your mother? What kind of a parent was she?
How would you describe your father? What kind of a parent was he?
Are you married? [If so] How long have you been married? How would you describe the quality of your relationship? What effects, if any, has the pain had on your relationship? [If not] Have you been married in the past? How many times? How did that/those relationship(s) end?
Do you have any children? [If so] How many? Do(es) he/she/they live with you? What effects, if any, has the pain had on your relationship with your children?
Psychological/Psychiatric Status and History
Presence and history of depression:
Presence and history of post-traumatic stress disorder:
Presence and history of anxiety/panic disorder:
Presence and history of psychotic or delusional symptoms:
Treatment history for any current or past psychological or psychiatric problems:
Drug and Alcohol Use Status and History
How much do you usually drink each week?
Do you currently use other drugs?
Have you had problems with alcohol or drug use in the past? [If yes] Can you tell me more about that?
Have you ever been treated for drug or alcohol abuse? [If yes] Can you tell me more about that?

Appendix 2: Self-Report Measures Assessing Pain, Pain-Related Beliefs and Coping, and Clinical Success

This appendix provides descriptions of measures recommended for assessing pain, pain-related beliefs and coping, and other important pain-related domains for evaluating the patient and the effects of pain treatment. The information presented for each measure includes (1) a reproduction of the specific measure (when permission from the copyright holder has been granted or when such permission is not needed) or sample items from the measure, (2) source document information, and (3) scoring instructions.

The 0-to-10 Numerical Rating Scale (NRS)

Instructions: Please [*paper-and-pencil*: circle the number, *interview:* tell me the number] that best represents [your current pain intensity, the least intensity of your pain in the past (24 hours, seven days), the worst pain intensity in the past (24 hours, seven days), the average intensity of your pain in the past (24 hours, past seven days)] on a 0-to-10 scale, where 0 = No pain and 10 = Pain as intense as you can imagine. [*Note:* Respondents can be allowed the option to select a number between two integers, such as "7.5" or "3.5" if they view these as better representing their pain intensity than an integer.]

Please circle the number that best represents your ***current pain intensity*** on a 0-to-10 scale where 0 = No pain and 10 = Pain as intense as you can imagine.

0 1 2 3 4 5 6 7 8 9 10

No pain — Pain as intense as you can imagine

Please circle the number that best represents the ***least intensity*** of your pain in the past (24 hours, 7 days) on a 0-to-10 scale where 0 = No pain and 10 = Pain as intense as you can imagine.

0 1 2 3 4 5 6 7 8 9 10

No pain — Pain as intense as you can imagine

Please circle the number that best represents the ***worst intensity*** of your pain in the past (24 hours, 7 days) on a 0-to-10 scale where 0 = No pain and 10 = Pain as intense as you can imagine.

0 1 2 3 4 5 6 7 8 9 10

No pain — Pain as intense as you can imagine

Please circle the number that best represents the ***average intensity*** of your pain in the past (24 hours, 7 days) on a 0-to-10 scale where 0 = No pain and 10 = Pain as intense as you can imagine.

0 1 2 3 4 5 6 7 8 9 10

No pain — Pain as intense as you can imagine

Primary Source Document for 0-to-10 NRSs

There is no single primary source document for the 0-to-10 NRS of pain intensity, but Dworkin et al. (2005) can be cited as a source that recommends the NRS over other pain intensity measures, and Jensen (2010) can be cited as a review article that summarizes the evidence supporting the reliability and validity of 0-to-10 NRSs for assessing pain intensity.

Scoring instructions for 0-to-10 NRSs

The number that the respondent selects is that respondent's NRS score. Pain intensity can be classified into mild, moderate, and severe levels based on the NRS score. Mild pain intensity is pain that noticeable but has little effect on day-to-day functioning. Moderate pain is pain that is starting to interfere with some areas of functioning, such as socializing, sleep, and mood, but does not produce marked interference across a broad range of activities. Severe pain intensity is pain that has become a central aspect of the patient's life and that produces significant interference across a wide range of activities. Although 100% consistency across multiple pain populations regarding the 0-to-10 ratings that represent mild, moderate, and severe pain has not been found, most often pain ratings between 1 and 4 indicate mild pain, scores of 5 or 6 indicate moderate pain, and ratings of 7 to 10 indicate severe pain (Serlin et al., 1995). When differences are found between pain populations, the cutoffs tend to differ with respect to the ratings that indicate moderate pain; that is, ratings of 3 and/or 7 are sometimes viewed as moderate pain (Dihle et al., 2006; Jensen, Smith, et al., 2001; Paul et al., 2005), although in one study a rating of 6 was viewed as severe pain by the study participants (Dihle et al., 2006). Consistency is mostly found for the extremes and middle scores; ratings of 1 or 2 are almost always considered mild pain, ratings of 5 almost are always considered moderate pain, and ratings of 8 to 10 are almost always considered severe.

The 0-to-3 Verbal Rating Scale (VRS)

Instructions: Please [*paper-and-pencil*: select; *interview*: tell the word or phrase] that best represents [your current pain intensity, the least intensity of your pain in the past (24 hours, seven days), the worst pain intensity in the past (24 hours, seven days), and the average intensity of your pain in the past (24 hours, past seven days)].

( ) No pain

( ) Mild pain

( ) Moderate pain

( ) Severe pain

Primary source document for VRSs

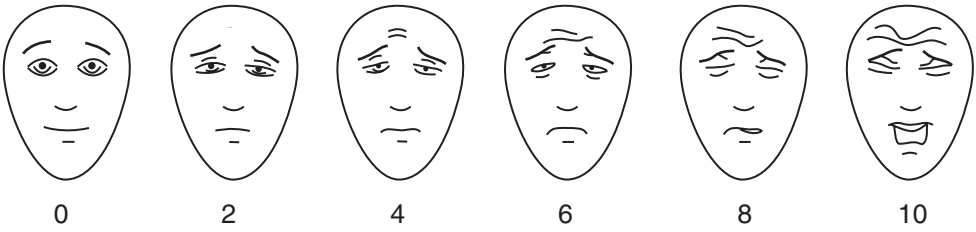
There is no "official" source document for the VRS, but see Jensen (2010) for a review of evidence supporting the reliability and validity of the VRS, including the findings that it may be more useful than other pain intensity scales for assessing pain in elderly patients or in individuals who have significant cognitive deficits.

Scoring instructions for VRSs

The word or phrase selected by the respondent represents that respondent's pain intensity. If a number is needed for analysis, VRSs are usually scored so that "No pain" is given a 0, "Mild pain" = 1, "Moderate pain" = 2, and "Severe pain" = 3. All else being equal, the NRS should usually be administered instead of the VRS, as the NRS provides more response categories and may therefore be more sensitive to changes in pain than the VRS (Jensen, 2010). However, the rare individual, such as someone who is elderly or who has advanced disease (e.g., advanced cancer), may have difficulty understanding or using the NRS and may find the VRS easier to understand and use.

The FACES Scale

Instructions: [In the following instructions, say "hurt" or "pain," whichever seems right for a particular patient. Do not use words like "happy" and "sad." This scale is intended to measure how respondents feel inside, not how their face looks.] These faces show how much something can hurt. This face [point to left-most face] shows *no pain*. The faces show more and more pain [point to each from left to right] up to this one [point to right-most face]—it shows *very much pain*. Point to the face that shows how much you hurt [right now].



Note. Reprinted from "The Faces Pain Scale-Revised: Toward a common metric in pediatric pain measurement" by C. L. Hicks, C. L. von Baeyer, P. Spafford, I. van Korlaar, and B. Goodenough, (2001), *Pain*, *93*, pp. 173–183. This figure has been reproduced with permission of the International Association for the Study of Pain® (IASP®). The figure may not be reproduced for any other purpose without permission.

Source document for the FACES scale

Hicks, C.L., von Baeyer, C.L., Spafford, P.A., van Korlaar, I., Goodenough, B. (2001) The Faces Pain Scale-Revised: toward a common metric in pediatric pain measurement. *Pain, 93*(2), 173–83.

Scoring instructions for the FACES scale

Score the chosen face 0, 2, 4, 6, 8, or 10, counting left to right, so that 0 = No pain and 10 = Very much pain.

Survey of Pain Attitudes

The pain belief measure most commonly used in research and clinical settings in individuals with chronic pain is the 57-item Survey of Pain Attitudes (SOPA; Jensen & Karoly, 2008). Brief 42-item [Romano, Jensen, & Turner, 2003) and very brief 1-item and 2-item (Jensen, Keefe, Lefebvre, Romano, & Turner, 2003) versions of the SOPA are also available. Sample items from each of the SOPA scales are listed below.

Control scale item: I have learned to control my pain.

Harm scale item: The pain I usually experience is a signal that damage is being done.

Disability scale item: My pain would stop anyone from leading an active life.

Emotion scale item: Anxiety increases the pain I feel.

Solicitude scale item: When I hurt, I want my family to treat me better.

Medication scale item: I will probably always have to take pain medications.

Cure scale item: I pay doctors so they will cure me of my pain.

Note. SOPA items reproduced by special permission of the Publisher, Psychological Assessment Resources, Inc., 16204 North Florida Avenue, Lutz, Florida 33549 from the Survey of Pain Attitudes by Mark P. Jensen, PhD, and Paul Karoly, PhD, Copyright 1987, 1991, 1994, 2007 by PAR, Inc. Further reproduction is prohibited without permission of PAR, Inc.

Source document for the SOPA

Jensen, M.P., & Karoly, P. (2008). *Survey of Pain Attitudes: Professional Manual*. Lutz, FL: Psychological Assessment Resources.

Scoring instructions for the SOPA

Detailed scoring instruction and interpretation information for the SOPA subscales can be found in the SOPA Manual (Jensen & Karoly, 2008). The SOPA Manual and response and scoring forms are available from the Psychological Assessment Resources Web site (http://www3.parinc.com/).

Chronic Pain Acceptance Questionnaire begins on the next page

Chronic Pain Acceptance Questionnaire

Directions: Below you will find a list of statements. Please rate the truth of each statement as it applies to you. Use the following rating scale to make your choices. For instance, if you believe a statement is "always true," you would write a 6 in the blank next to that statement

0	1	2	3	4	5	6
Never true	Very rarely true	Seldom true	Sometimes true	Often true	Almost always true	Always true

1. I am getting on with the business of living no matter what my level of pain is. . . . . _____
2. My life is going well, even though I have chronic pain . . . . . _____
3. It's OK to experience pain . . . . . _____
4. I would gladly sacrifice important things in my life to control this pain better . . . . . _____
5. It's not necessary for me to control my pain in order to handle my life well . . . . _____
6. Although things have changed, I am living a normal life despite my chronic pain . . . . . _____
7. I need to concentrate on getting rid of my pain . . . . . _____
8. There are many activities I do when I feel pain . . . . . _____
9. I lead a full life even though I have chronic pain. . . . . _____
10. Controlling pain is less important than any other goals in my life. . . . . _____
11. My thoughts and feelings about pain must change before I can take important steps in my life. . . . . _____
12. Despite the pain, I am now sticking to a certain course in my life . . . . . _____
13. Keeping my pain level under control takes first priority whenever I'm doing something . . . . . _____
14. Before I can make any serious plans, I have to get some control over my pain . . . . . _____

15. When my pain increases, I can still take care of my responsibilities. . . . . _____

16. I will have better control over my life if I can control my negative thoughts about pain . . . . . _____

17. I avoid putting myself in situations where my pain might increase . . . . . _____

18. My worries and fears about what pain will do to me are true . . . . . _____

19. It's a relief to realize that I don't have to change my pain to get on with my life . . . . . _____

20. I have to struggle to do things when I have pain . . . . . _____

Note. Reprinted from "The Chronic Pain Acceptance Questionnaire" by L.M. McCracken, K. E. Vowels, C. Eccleston, (2004), *Pain*, *107*(1), pp. 271–277. This figure has been reproduced with permission of the International Association for the Study of Pain® (ISAP®). The items may not be reproduced for any other purpose without permission.

Source document for the Chronic Pain Acceptance Questionnaire

McCracken, L. M., Vowles, K. E., & Eccleston, C. (2004). Acceptance of chronic pain: component analysis and a revised assessment method. *Pain*, 107, 159–166.

Scoring instructions for the Chronic Pain Acceptance Questionnaire

Activities Engagement: Sum items 1, 2, 3, 5, 6, 8, 9, 10, 12, 15, 19. Pain Willingness: reverse score items 4, 7, 11, 13, 14, 16, 17, 18, 20 and sum. Total: Activity Engagement + Pain Willingness.

Chronic Pain Coping Inventory

The pain coping measure most commonly used in research and clinical settings is the 70-item Chronic Pain Coping Inventory (Jensen et al., 2008). Very brief (1-item and 2-item per scale [Jensen, et al., 2003]) versions of the CPCI are also available. Sample items from each of the CPCI scales are listed below.

Relaxation scale item: Focused on relaxing my muscles.

Task Persistence scale item: I didn't let the pain interfere with my activities.

Exercise/Stretch scale item: Exercised to strengthen the muscles in my legs for at least 1 minute.

Resting scale item: I took a rest.

Seeking Social Support scale item: I got support from a friend.

Pacing scale item: I broke up my tasks into manageable pieces so I could still get a lot done despite pain.

Asking for Assistance scale item: Asked for help with a chore or task.

Coping Self-Statements scale item: Told myself things will get better.

Guarding scale item: Avoided using part of my body (e.g., hand, arm, leg).

Source document for the CPCI

Jensen, M. P., Turner, J. A., Romano, J. M., & Nielson, W. R. (2008). *Chronic Pain Coping Inventory: Professional Manual*. Lutz, FL: Psychological Assessment Resources.

Scoring instructions for the CPCI

Detailed scoring instruction and interpretation information for the CPCI subscales can be found in the CPCI Manual (Jensen et al., 2008). The CPCI Manual and response and scoring forms are available from Psychological Assessment Resources Web site (http://www3.parinc.com/).

The Pain Catastrophizing Scale (PCS)

Instructions: We are interested in the types of thoughts and feelings that you have when you are in pain. Listed below are 13 statements describing different thoughts and feelings that may be associated with pain. Using the following scale, please indicate the degree to which you have these thoughts and feelings when you are experiencing pain.

0	1	2	3	4
Not at all	To a slight degree	To a moderate degree	To a great degree	All the time

When I'm in pain. . .

1. I worry all the time about whether the pain will end . . . . . _____
2. I feel I can't go on . . . . . _____
3. It's terrible and I think it's never going to get any better . . . . . _____
4. It's awful and I feel that it overwhelms me . . . . . _____
5. I feel I can't stand it anymore . . . . . _____
6. I become afraid that the pain will get worse . . . . . _____
7. I keep thinking of other painful events . . . . . _____
8. I anxiously want the pain to go away . . . . . _____
9. I can't seem to keep it out of my mind . . . . . _____
10. I keep thinking about how much it hurts . . . . . _____
11. I keep thinking about how badly I want the pain to stop . . . . . _____
12. There's nothing I can do to reduce the intensity of the pain . . . . . _____
13. I wonder whether something serious may happen . . . . . _____

Note. Reprinted from "The Pain Catastrophizing Scale: development and validation" by M. J. L. Sullivan, S. Bishop, and J. Pivik, (1995), *Psychological Assessment*, *7*, pp. 524–532. Copyright 1995 by Michael J. L. Sullivan. Reprinted with permission.

Source document for the Pain Catastrophizing Scale

Sullivan, M., Bishop, S., & Pivik, J. (1995). *The Pain Catastrophizing Scale: development and validation. Psychological Assessment, 7,* 524–532.

Scoring instructions for the Pain Catastrophizing Scale

The PCS total score is computed by summing responses to all 13 items. PCS total scores range from 0 to 52. The PCS subscales are computed by summing the responses to the following items: Rumination: sum of items 8, 9, 10, 11; Magnification: sum of items 6, 7, 13; Helplessness: sum of items 1, 2, 3, 4, 5, 12.

Patient Health Questionnaire-9 (PHQ-9) Measure of Depression

Instructions: Over the *last 2 weeks*, how often have you been bothered by any of the following problems?

		Not at all	Several days	More than half the days	Nearly every day
1.	Little interest or pleasure in doing things	( )	( )	( )	( )
2.	Feeling down, depressed, or hopeless	( )	( )	( )	( )
3.	Trouble falling or staying asleep, or sleeping too much	( )	( )	( )	( )
4.	Feeling tired or having little energy	( )	( )	( )	( )
5.	Poor appetite or overeating	( )	( )	( )	( )
6.	Feeling bad about yourself—or that you are a failure or have let yourself or your family down	( )	( )	( )	( )
7.	Trouble concentrating on things, such as reading the newspaper or watching television	( )	( )	( )	( )
8.	Moving or speaking so slowly that other people could have noticed. Or the opposite—being so fidgety or restless that you have been moving around a lot more than usual	( )	( )	( )	( )
9.	Thoughts that you would be better off dead, or of hurting yourself in some way	( )	( )	( )	( )

Source document for the PHQ-9

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of General Internal Medicine 16*(9), 606–613.

Scoring instructions for the PHQ-9

For all items, Not at all = 0, Several days = 1, More than half the days = 2, and Nearly every day = 3. If there are at least four 3s, a depressive disorder is highly likely. Sum responses to all of the items to determine severity. If there are at least five 3s, and at least one of them is in response to item 1 or 2, consider a major depressive disorder diagnosis. Consider other depressive disorder diagnosis if there are two to four 3s, and at least one of them is in response to item 1 or 2.

In terms of overall depression severity, PHQ-9 scores from 1 to 4 can be viewed as representing minimal depression. Scores from 5 to 9 represent mild depression, and scores from 10 to 14 represent moderate depression. Scores from 15 to 19 represent moderately severe depression, and scores from 20 to 27 represent severe depression.

PROMIS Depression Short-Form

Instructions: Please respond to each item by marking one box per item.

In the past 7 days. . .

		Never	Rarely	Sometimes	Often	Always
1.	I felt worthless	( )	( )	( )	( )	( )
2.	I felt that I had nothing to look forward to	( )	( )	( )	( )	( )
3.	I felt helpless	( )	( )	( )	( )	( )
4.	I felt sad	( )	( )	( )	( )	( )
5.	I felt like a failure	( )	( )	( )	( )	( )
6.	I felt depressed	( )	( )	( )	( )	( )
7.	I felt unhappy.	( )	( )	( )	( )	( )
8.	I felt hopeless	( )	( )	( )	( )	( )

Source document for the PROMIS Depression Short-Form

A source document for the PROMIS Depression Short-Form is not available, but information about this PROMIS measure (and other PROMIS measures) is available on the PROMIS Web site: http://www.nihpromis.org.

Scoring instructions for the PROMIS Depression Short-Form

For all items, Never = 1, Rarely = 2, Sometimes = 3, Often = 4, and Always = 5. First, sum responses to all of the items (possible range, 8–40) to obtain a raw score. Next, using the T-score Conversion Table for the Depression scale (below), compute the "trait" score associated with the patient's raw score. This trait score can vary from 0 to 100, with 50 representing the standardized sample mean, and 10 units representing one standard deviation. Thus, a patient with a trait score of 60 has a score one SD above the mean. It is important to remember, though, that the conversion table can be used only when an examinee responds to all of the items in the set. *One or more missing responses will render such scoring tables unusable*.

The conversion table below allows a user to convert simple summed raw scores from PROMIS 8-item short form Depression scale into T-score values. These conversions work accurately only when all questions on the short form have been answered. T-score distributions are standardized such that a 50 represents the average (mean) for the U.S. general population, and the standard deviation around that mean is 10 points. Thus, a person who has a Depression scale T-score of 60 is reporting one SD more depression than the average person in the general population.

Depression Short-Form Conversion Table

Raw Score	T-Score	SE*
8	37.1	5.5
9	43.3	3.4
10	46.2	2.8
11	48.2	2.4
12	49.8	2.2
13	51.2	2.0
14	52.3	1.9
15	53.4	1.8
16	54.3	1.8
17	55.3	1.7
18	56.2	1.7
19	57.1	1.7
20	57.9	1.7
21	58.8	1.7
22	59.7	1.8
23	60.7	1.8
24	61.6	1.8
25	62.5	1.8
26	63.5	1.8
27	64.4	1.8
28	65.4	1.8
29	66.4	1.8
30	67.4	1.8
31	68.3	1.8
32	69.3	1.8
33	70.4	1.8
34	71.4	1.8
35	72.5	1.8
36	73.6	1.8
37	74.8	1.9
38	76.2	2.0
39	77.9	2.4
40	81.1	3.4

*Standard error

Brief Pain Inventory–Pain Interference Scale

Instructions: Circle the one number that describes how, during the past week, pain has interfered with your:

A. General Activity

0 1 2 3 4 5 6 7 8 9 10

Does not interfere — Completely interferes

B. Mood

0 1 2 3 4 5 6 7 8 9 10

Does not interfere — Completely interferes

C. Walking ability

0 1 2 3 4 5 6 7 8 9 10

Does not interfere — Completely interferes

D. Normal work (includes both work outside the home and housework)

0 1 2 3 4 5 6 7 8 9 10

Does not interfere — Completely interferes

E. Relations with other people

0 1 2 3 4 5 6 7 8 9 10

Does not interfere — Completely interferes

F. Sleep

0 1 2 3 4 5 6 7 8 9 10

Does not interfere — Completely interferes

G. Enjoyment of life

0 1 2 3 4 5 6 7 8 9 10

Does not interfere — Completely interferes

Note.

Modified (12-item) Brief Pain Inventory–Pain Interference Scale

Instructions: Circle the one number that describes how, during the past week, pain has interfered with your:

A. General Activity

0 1 2 3 4 5 6 7 8 9 10

Does not interfere — Completely interferes

B. Mood

0 1 2 3 4 5 6 7 8 9 10

Does not interfere — Completely interferes

C. Mobility (ability to get around)

0 1 2 3 4 5 6 7 8 9 10

Does not interfere — Completely interferes

D. Normal work (includes both work outside the home and housework)

0 1 2 3 4 5 6 7 8 9 10

Does not interfere — Completely interferes

E. Relations with other people

0 1 2 3 4 5 6 7 8 9 10

Does not interfere — Completely interferes

F. Sleep

0 1 2 3 4 5 6 7 8 9 10

Does not interfere — Completely interferes

G. Enjoyment of life

0 1 2 3 4 5 6 7 8 9 10

Does not interfere — Completely interferes

H. Self-care

0 1 2 3 4 5 6 7 8 9 10

Does not interfere Completely interferes

I. Recreational activities

0 1 2 3 4 5 6 7 8 9 10

Does not interfere Completely interferes

J. Social activities

0 1 2 3 4 5 6 7 8 9 10

Does not interfere Completely interferes

K. Communication with others

0 1 2 3 4 5 6 7 8 9 10

Does not interfere Completely interferes

L. Learning new information or skills

0 1 2 3 4 5 6 7 8 9 10

Does not interfere Completely interferes

Note.

Source document for the Brief Pain Inventory Pain Interference Scales

The primary source document for the Brief Pain Inventory is the *Brief Pain Inventory User's Guide*, which can be downloaded from: http://www.mdanderson.org/education-and-research/departments-programs-and-labs/departments-and-divisions/symptom-research/index.html. The source documents for the modified Brief Pain Inventory Scale include: (1) Tyler, E. J., Jensen, M. P., Engel, J. M., & Schwartz, L. (2002). The reliability and validity of pain interference measures in persons with cerebral palsy. *Archives of Physical Medicine and Rehabilitation, 83*, 236–239; (2) Hanley, M. A., Masedo, A., Jensen, M. P., Cardenas, D. D., & Turner, J. A. (2006). Pain interference in persons with spinal cord injury: Classification of mild, moderate, and severe pain. *Journal of Pain, 7*, 129–133; and (3) Raichle, K. R., Osborne, T. L., Jensen, M. P., & Cardenas, D. (2006). The reliability and validity of pain interference measures in persons with spinal cord injury. *Journal of Pain, 7*, 179–186.

Scoring instructions for the Brief Pain Inventory Pain Interference Scales

For both the original and modified Brief Pain Inventory Pain Interference Scales, the interference score is the average of interference ratings across all items.

MOS Sleep Scale begins on the next page

MOS Sleep Scale

1. How long did it usually take for you to fall asleep during the past 4 weeks?

(Circle one)

0–15 minutes……1

16–30 minutes……..2

31–45 minutes……..3

46–60 minutes……..4

More than 60 minutes …….5

2. On the average, how many hours did you sleep each night during the past 4 weeks? Write in number of hours per night: _____

How often during the <u>past 4 weeks</u> did you . . .

(Circle one number on each line)

1	2	3	4	5	6
All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time

3. feel that your sleep was not quiet (moving restlessly, feeling tense, speaking, etc., while sleeping)?

1 2 3 4 5 6

4. get enough sleep to feel rested upon waking in the morning?

1 2 3 4 5 6

5. awaken short of breath of with a headache?

1 2 3 4 5 6

6. feel drowsy or sleepy during the day?

1 2 3 4 5 6

7. have trouble falling asleep?

1 2 3 4 5 6

8. awaken during your sleep time and have trouble falling asleep again?

1 2 3 4 5 6

9. have trouble staying awake during the day?

1 2 3 4 5 6

10. snore during your sleep?

1 2 3 4 5 6

11. take naps (5 minutes or longer) during the day?

1 2 3 4 5 6

12. get the amount of sleep you need?

1 2 3 4 5 6

Note. Reprinted from "Sleep measures" by R. D. Hays and A. K. Stewart, (1992), in A. L. Stewart & J. E. Ware (eds.), *Measuring functioning and well-being: The Medical Outcomes Study approach* (pp. 235–259). Durham, NC: Duke University Press. MOS- Sleep Scale is reproduced here with permission from the RAND Corporation.

Source document for the MOS Sleep Scales

Hays, R. D., & Stewart, A. L. (1992). Sleep measures. In A. L. Stewart & J. E. Ware (eds.), *Measuring functioning and well-being: The Medical Outcomes Study approach* (pp. 235–259). Durham, NC: Duke University Press.

Scoring instructions for the MOS Sleep Scales

Scoring the MOS Sleep Survey is a two-step process. First, original numeric values from the survey are recoded following the scoring rules as follows:

Items 4 and 12 when scored as reversed[1]: 1 = 0, 2 = 20, 3 = 40, 4 = 60, 5 = 80, 6 = 100.

Item 1: 1 = 0, 2 = 25, 3 = 50, 4 = 75, 5 = 100.

Items 3, 5, 6, 7, 8, 9, 10, and 11: 1 = 100, 2 = 80, 3 = 60, 4 = 40, 5 = 20, 6 = 0.

Items 4 and 12 when scored as not reversed: 1 = 100, 2 = 80, 3 = 60, 4 = 40, 5 = 20, 6 = 0.

All items are scored so that a high score reflects more of the attribute implied by the scale name. Each item is then converted to a 0-to-100 possible range so that the lowest and highest possible scores are set at 0 and 100, respectively. In this format, scores represent the achieved percentage of the total possible score. For example, a score of 50 represents 50% of the highest possible score.

In the second step, the items within each scale are averaged together to create the seven MOS scale scores. Table on page 257 indicates which items contribute to each scale. Scales with at least one item answered can be used to generate a scale score. Items that are left blank (missing data) are not taken into account when calculating the scale scores. Scores represent the average for all items in the scale that the respondent answered.

[1] Items 4 and 12 are scored both reversed and as not reversed. The reversed and not reversed scores are used in different scales (see Table on page 257).

Averaging Items to Generate Scores for the MOS Sleep Scales

Scale	Number of items	Scoring rules (after recoding in step 1): Average of
Sleep disturbance	4	1, 3 (R), 7 (R), 8 (R)
Snoring	1	10 (R)
Sleep shortness of breath or headache	1	5 (R)
Sleep adequacy	2	4 (R), 12 (R)
Sleep somnolence	3	6 (R), 9 (R), 11 (R)
Sleep problem index I	6	3 (R), 5 (R), 7 (R), 8 (R), 9 (R), 12
Sleep problems index II	9	1, 3 (R), 4, 5 (R), 6 (R), 7 (R), 8 (R), 9 (R), 12

(R) refers to a reversed item.

PROMIS Sleep Disturbance Scale

Instructions: Please respond to each item by marking one box per item.

In the past 7 days. . .

	Not at all	A little bit	Somewhat	Quite a bit	Very much
1. My sleep was restless.	( )	( )	( )	( )	( )
2. I was satisfied with my sleep	( )	( )	( )	( )	( )
3. My sleep was refreshing	( )	( )	( )	( )	( )
4. I had difficulty falling asleep.	( )	( )	( )	( )	( )

In the past 7 days. . .

	Never	Rarely	Sometimes	Often	Always
5. I had trouble staying asleep.	( )	( )	( )	( )	( )
6. I had trouble sleeping.	( )	( )	( )	( )	( )
7. I got enough sleep	( )	( )	( )	( )	( )

In the past 7 days. . .

	Very poor	Poor	Fair	Good	Very good
8. My sleep quality was.	( )	( )	( )	( )	( )

Source document for the PROMIS Sleep Disturbance scale

A source document for the PROMIS Sleep Disturbance scale is not available, but information about this PROMIS measure (and other PROMIS measures) is available on the PROMIS Web site: http://www.nihpromis.org.

Scoring instructions and score interpretation information for the PROMIS Sleep Disturbance scale

For items 1 and 4, Not at all = 1, A little bit = 2, Somewhat = 3, Quite a bit = 4, Very much do = 5. For items 2 and 3, Not at all = 5, A little bit = 4, Somewhat = 3, Quite a bit = 2, Very much = 1. For items 5 and 6, Never = 1, Rarely = 2, Sometimes = 3, Often = 4, Always = 5. For item 7, Never = 5, Rarely = 4, Sometimes = 3, Often = 2, Always = 1. For item 8, Very poor = 5, Poor = 4, Fair = 3, Good = 2, Very good = 1. After scoring each item, sum responses (possible range, 8–40) to obtain a raw score. Next, using the T-score Conversion Table for the Sleep Disturbance scale, below, select the "trait" score associated with the patient's raw score. This trait score can vary from 0 to 100, with 50 representing the standardized sample mean, and 10 units representing 1 standard deviation. Thus, a patient with a trait score of 60 has a score one SD above the mean. It is important to remember, though, that the conversion table can be used only when an examinee responds to all of the items in the set. *One or more missing responses will render such scoring tables unusable*.

The following conversion table allows a user to convert simple summed raw scores from PROMIS 8-item Sleep Disturbance short form into T-score values. Remember, these conversions work accurately only when all questions on the short form have been answered. T-score distributions are standardized such that a 50 represents the average (mean) for the U.S. general population, and the standard deviation around that mean is 10 points. Thus, for example, a person who has a Sleep Disturbance scale T-score of 60 is reporting a one SD more sleep disturbance than the average person in the general population.

Sleep Disturbance Short Form Conversion Table

Raw Score	T-Score	SE*
8	28.9	4.8
9	33.1	3.7
10	35.9	3.3
11	38	3
12	39.8	2.9
13	41.4	2.8
14	42.9	2.7
15	44.2	2.7
16	45.5	2.6
17	46.7	2.6
18	47.9	2.6
19	49	2.6
20	50.1	2.5
21	51.2	2.5
22	52.2	2.5
23	53.3	2.5
24	54.3	2.5
25	55.3	2.5
26	56.3	2.5
27	57.3	2.5
28	58.3	2.5
29	59.4	2.5

Sleep Disturbance Short Form Conversion Table (*cont'd*)

Raw Score	T-Score	SE*
30	60.4	2.5
31	61.5	2.5
32	62.6	2.5
33	63.7	2.6
34	64.9	2.6
35	66.1	2.7
36	67.5	2.8
37	69	3
38	70.8	3.2
39	73	3.5
40	76.5	4.4

*Standard error

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