

VARICOCELE

A MEDICAL DICTIONARY, BIBLIOGRAPHY,
AND ANNOTATED RESEARCH GUIDE TO
INTERNET REFERENCES



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The collective knowledge generated from academic and applied research summarized in various references has been critical in the creation of this book which is best viewed as a comprehensive compilation and collection of information prepared by various official agencies which produce publications on varicocele. Books in this series draw from various agencies and institutions associated with the United States Department of Health and Human Services, and in particular, the Office of the Secretary of Health and Human Services (OS), the Administration for Children and Families (ACF), the Administration on Aging (AOA), the Agency for Healthcare Research and Quality (AHRQ), the Agency for Toxic Substances and Disease Registry (ATSDR), the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), the Healthcare Financing Administration (HCFA), the Health Resources and Services Administration (HRSA), the Indian Health Service (IHS), the institutions of the National Institutes of Health (NIH), the Program Support Center (PSC), and the Substance Abuse and Mental Health Services Administration (SAMHSA). In addition to these sources, information gathered from the National Library of Medicine, the United States Patent Office, the European Union, and their related organizations has been invaluable in the creation of this book. Some of the work represented was financially supported by the Research and Development Committee at INSEAD. This support is gratefully acknowledged. Finally, special thanks are owed to Tiffany Freeman for her excellent editorial support.

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FORWARD

In March 2001, the National Institutes of Health issued the following warning: "The number of Web sites offering health-related resources grows every day. Many sites provide valuable information, while others may have information that is unreliable or misleading."¹ Furthermore, because of the rapid increase in Internet-based information, many hours can be wasted searching, selecting, and printing. Since only the smallest fraction of information dealing with varicocele is indexed in search engines, such as **www.google.com** or others, a non-systematic approach to Internet research can be not only time consuming, but also incomplete. This book was created for medical professionals, students, and members of the general public who want to know as much as possible about varicocele, using the most advanced research tools available and spending the least amount of time doing so.

In addition to offering a structured and comprehensive bibliography, the pages that follow will tell you where and how to find reliable information covering virtually all topics related to varicocele, from the essentials to the most advanced areas of research. Public, academic, government, and peer-reviewed research studies are emphasized. Various abstracts are reproduced to give you some of the latest official information available to date on varicocele. Abundant guidance is given on how to obtain free-of-charge primary research results via the Internet. **While this book focuses on the field of medicine, when some sources provide access to non-medical information relating to varicocele, these are noted in the text.**

E-book and electronic versions of this book are fully interactive with each of the Internet sites mentioned (clicking on a hyperlink automatically opens your browser to the site indicated). If you are using the hard copy version of this book, you can access a cited Web site by typing the provided Web address directly into your Internet browser. You may find it useful to refer to synonyms or related terms when accessing these Internet databases. **NOTE:** At the time of publication, the Web addresses were functional. However, some links may fail due to URL address changes, which is a common occurrence on the Internet.

For readers unfamiliar with the Internet, detailed instructions are offered on how to access electronic resources. For readers unfamiliar with medical terminology, a comprehensive glossary is provided. For readers without access to Internet resources, a directory of medical libraries, that have or can locate references cited here, is given. We hope these resources will prove useful to the widest possible audience seeking information on varicocele.

The Editors

¹ From the NIH, National Cancer Institute (NCI): <http://www.cancer.gov/cancerinfo/ten-things-to-know>.

CHAPTER 1. STUDIES ON VARICOCELE

Overview

In this chapter, we will show you how to locate peer-reviewed references and studies on varicocele.

The Combined Health Information Database

The Combined Health Information Database summarizes studies across numerous federal agencies. To limit your investigation to research studies and varicocele, you will need to use the advanced search options. First, go to <http://chid.nih.gov/index.html>. From there, select the “Detailed Search” option (or go directly to that page with the following hyperlink: <http://chid.nih.gov/detail/detail.html>). The trick in extracting studies is found in the drop boxes at the bottom of the search page where “You may refine your search by.” Select the dates and language you prefer, and the format option “Journal Article.” At the top of the search form, select the number of records you would like to see (we recommend 100) and check the box to display “whole records.” We recommend that you type “varicocele” (or synonyms) into the “For these words:” box. Consider using the option “anywhere in record” to make your search as broad as possible. If you want to limit the search to only a particular field, such as the title of the journal, then select this option in the “Search in these fields” drop box. The following is what you can expect from this type of search:

- **Varicocele: Current Concepts and Controversies**

Source: Current Opinion in Urology. 2(6): 463-466. December 1992.

Summary: A **varicocele** is a dilatation of the scrotal portion of the internal spermatic venous system that drains the testicle. This article discusses current concepts and controversies surrounding the **varicocele**, reviewing current developments regarding the etiology, pathophysiology, diagnosis, and therapy of varicoceles. The authors stress that varicoceles are common, particularly in men being evaluated for infertility. Varicocelectomy has been reported to result in an improvement in seminal parameters, testicular size, and testicular histology. The authors conclude that despite new and sophisticated means of identifying varicoceles, assessing impaired testicular function, and treating varicoceles, several basic questions remain regarding the role of **varicocele** in male infertility. 22 annotated references.

- **Surety of Surgical Repair of Varicoceles**

Source: Contemporary Urology. 3(4): 68-74. April 1991.

Summary: A **varicocele** is an enlargement of several veins of the spermatic cord. The condition may be significant because of its association with infertility and testicular failure. The aim of **varicocele** therapy is to occlude retrograde flow of venous blood to the testicles. Both surgical and percutaneous methods of repair have few complications and low morbidity. This article attempts to ascertain which method is preferable and when one should be considered over the other. The author concludes that because of the high occurrence of bilateral varicoceles, the unacceptable high failure rates of percutaneous embolization, and the simplicity of the surgical procedure, surgery remains the treatment of choice for **varicocele** repair. 4 figures. 22 references.

- **Adolescent Varicocele**

Source: Current Opinion in Urology. 6(6): 305-311. November 1996.

Contact: Available from Rapid Science Publishers. 400 Market Street, Suite 750, Philadelphia, PA 19106. (800) 552-5866 or (215) 574-2210. Fax (215) 574-3533.

Summary: This article addresses controversies on the treatment of adolescent **varicocele** because of the variability in the onset of testicular damage and the degree of destruction. Testicular damage of adolescent **varicocele** can be prevented by prophylactic surgery, but not all adolescents with **varicocele** require such measures. However, semen analysis cannot serve as an indicator of damage in these patients, and size and symptoms are also not sufficient. Therefore, both testicular volume and a gonadotropin-releasing hormone stimulation test are being used for early detection of testicular damage. The operative techniques for **varicocele** are numerous, but can be categorized into retroperitoneal high ligation and artery-sparing inguinal ligation. Laparoscopic ligation is gaining popularity, and for selected cases interventional radiographic embolization can also be used. Currently, no single test or group of tests can accurately predict whether an adolescent with **varicocele** will be fertile. Thus, at least yearly followup of those patients who are not initially indicated for surgery should be recommended. 61 references (6 annotated). (AA-M).

- **Adolescent Varicocele: Treatment and Outcome**

Source: Current Urology Reports. 3(2): 100-106. April 2002.

Contact: Current Science, Inc. 400 Market Street, Suite 700, Philadelphia, PA 19106 (800) 427-1796. Fax (215) 574-2225. E-mail: info@current-reports.com. Website: <http://www.current-reports.com>.

Summary: This article discusses the treatment and outcome of adolescent varicoceles (a dilation in the spermatic cord). The author notes that, at present, it is reasonable to counsel all patients, as well as family members of patients, who have a palpable **varicocele** about the long term risks for impaired fertility. Currently, no one can predict with absolute certainty if any adolescent with a **varicocele** will be at risk for future infertility. Based on existing data, however, it is not reasonable simply to ignore the potential for such a problem until infertility becomes an issue, because by that time the chance for reversibility may be lost. It is important to present a balanced discussion because the majority of men with a **varicocele** will be fertile, and no one is suggesting that all men with a **varicocele** undergo surgical treatment. Current recommendations for repair are based on the findings of impaired testicular growth or impaired spermatogenesis. With early evaluation and selective treatment, health care providers

can reduce the potential for future fertility problems in adolescents with a **varicocele**. 2 tables. 45 references.

Federally Funded Research on Varicocele

The U.S. Government supports a variety of research studies relating to varicocele. These studies are tracked by the Office of Extramural Research at the National Institutes of Health.² CRISP (Computerized Retrieval of Information on Scientific Projects) is a searchable database of federally funded biomedical research projects conducted at universities, hospitals, and other institutions.

Search the CRISP Web site at http://crisp.cit.nih.gov/crisp/crisp_query.generate_screen. You will have the option to perform targeted searches by various criteria, including geography, date, and topics related to varicocele.

For most of the studies, the agencies reporting into CRISP provide summaries or abstracts. As opposed to clinical trial research using patients, many federally funded studies use animals or simulated models to explore varicocele. The following is typical of the type of information found when searching the CRISP database for varicocele:

- **Project Title: EPIDEMIOLOGIC AND BIOLOGIC PREDICTORS OF IVF SUCCESS**

Principal Investigator & Institution: Cramer, Daniel W.; Professor; Brigham and Women's Hospital 75 Francis Street Boston, Ma 02115

Timing: Fiscal Year 2002; Project Start 01-AUG-1994; Project End 31-JUL-2004

Summary: In 1994, more than 39,000 cycles involving ART were performed in the United States. Given the cost of approximately 8,000 per cycle, studies are needed which could improve the likelihood that ART will result in a successful pregnancy. In 1994, the investigators initiated a study of couples seeking ART that involved collect of baseline epidemiologic data, treatment variables, and biological specimens. The preliminary data collected on 927 couples, support published findings and suggest exciting new ones. Only 8 percent of women over the age of 39 years became pregnant other first ART cycle and the number of eggs retrieved during ART decline more rapidly after the age of 33 years. Key exposure examined in men and women included caffeine, alcohol, and tobacco. In women, smoking was the principal exposure that decreased number of eggs retrieved. The decrease occurred in both current and former smokers. In men, caffeine use decreased ART success. This association was not present if the ART cycle involved direct injection of sperm in eggs which suggests that caffeine (or tannins in coffee or tea) could be affecting ART success (or natural fertility) by interfering with sperm-egg penetration. Women with the primary diagnosis of endometriosis had fewer eggs retrieved, whereas diagnosis of hernia or **varicocele** was linked to decreased sperm concentration. Use of a gonadotropin releasing hormone agonist in a long or down regulation fashion prior to ovarian stimulation was associated with markedly better ART success and egg retrieval than used in the short or flare regimen. The joint effect of these female, male and treatment variables will be examined in discrete failure application, the investigators propose continuation of the study, anticipating that in

² Healthcare projects are funded by the National Institutes of Health (NIH), Substance Abuse and Mental Health Services (SAMHSA), Health Resources and Services Administration (HRSA), Food and Drug Administration (FDA), Centers for Disease Control and Prevention (CDCP), Agency for Healthcare Research and Quality (AHRQ), and Office of Assistant Secretary of Health (OASH).

increase in the sample size of 3,000 would allow them to examine important associations in diagnostic or treatment subgroups, as well as expand the power to study other intriguing preliminary findings. These include an association between endometriosis and a polymorphic variant, known as N314D, a key gene in galactose metabolism; evidence that acetaminophen use may lower follicle stimulating hormone levels; and evidence that alcohol use in men adversely affect sperm morphology. The investigators' ability to study male factor infertility will be enhanced by collection of a blood specimen from men and retrieval of residual semen after ART. The continued goal is to assess the effect of epidemiologic and biologic markers and treatment-related variables of ART success and to address broader aspects of reproductive physiology by examining gamete number and quality as outcomes.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: INCREASED TESTICULAR Cd2+ & INFERTILITY WITH VARICOCELE**

Principal Investigator & Institution: Benoff, Susan H.; Associate Professor; North Shore University Hospital 300 Community Dr Manhasset, Ny 11030

Timing: Fiscal Year 2002; Project Start 01-MAY-2000; Project End 30-APR-2005

Summary: Varicocele-associated human male infertility (VAI) represents greater than 20 percent of male infertility in the US. Surgical repair of **varicocele** restores fertility only 1/3 of time. Identification of VAI likely to benefit from surgical correction offers health cost savings. In preliminary studies, VAI patients' seminal plasma and testes biopsies contain significantly higher cadmium (Cd2+) than other infertile males, though blood levels were indistinguishable. VAI sperm lose normal sperm surface proteins binding actin, including mannose and progesterone receptors, and normal sperm head cytoskeletal structures. In vitro incubation of fertile human sperm in Cd2+ containing media replicate VAI cytoskeletal defects. Autometallographic imaging of biopsies confirmed high Cd2+ in VAI testes. Probing serial testes sections revealed decreased actin expression with differentiation stage, and increased frequency of apoptotic nuclei in VAI tubules. Sperm voltage-dependent calcium channels (VDCC) are an apparent entry point for Cd2+ VDCC isoform expression variability correlates with mannose receptor function. VAI patient partners became pregnant within three years only if surgical correction restored normal mannose receptor function. Therefore Cd2+ may be a cofactor with heat in producing VAI. In an expanded prospective study we will determine if seminal Cd2+ correlates with testicular Cd2+, and if seminal Cd2+, testicular Cd2+ and scrotal temperature are biomarkers for VAI reversal assessed by pregnancy and birth, taking one testicular biopsy and duplicate semen samples before and 3 months after correction. Intermediate endpoints for characterizing VAI will include: seminal plasma and testicular Zn2+, testicular Cd2+ and Zn2+ distributions by autometallography, sperm response to capacitating incubation (mannose receptor assay) and to acrosome-reaction induction by polyvalent mannose, assessment of actin distributions, levels of apoptosis and VDCC expression. Controls will include men from couples undergoing IVF/ICSI for non-obstructive azoospermia and males with primary VAI who refuse correction. To further characterize VAI, abnormalities in intermediate endpoints among individuals (e.g. apoptosis and actin loss) will be correlated with changes in VDCC primary structure in regions affecting metal ion sensitivity, channel gating potential and Ca2+ channel blocker binding as assessed from VDCC mRNA present in mature sperm, and with changes in a region of VDCC channel precursor sensitive to mannose-induced proteolysis, assessed by Western blot of sperm membrane proteins. Controls will include fertile donors and fertile men with **varicocele**.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

E-Journals: PubMed Central³

PubMed Central (PMC) is a digital archive of life sciences journal literature developed and managed by the National Center for Biotechnology Information (NCBI) at the U.S. National Library of Medicine (NLM).⁴ Access to this growing archive of e-journals is free and unrestricted.⁵ To search, go to <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Pmc>, and type “varicocele” (or synonyms) into the search box. This search gives you access to full-text articles. The following is a sample of items found for varicocele in the PubMed Central database:

- **Influence of surgically induced varicocele on testicular blood flow, temperature, and histology in adult rats and dogs.** by Saypol DC, Howards SS, Turner TT, Miller ED Jr.; 1981 Jul;
<http://www.pubmedcentral.gov/picrender.fcgi?tool=pmcentrez&action=stream&blobtype=pdf&artid=370770>

The National Library of Medicine: PubMed

One of the quickest and most comprehensive ways to find academic studies in both English and other languages is to use PubMed, maintained by the National Library of Medicine.⁶ The advantage of PubMed over previously mentioned sources is that it covers a greater number of domestic and foreign references. It is also free to use. If the publisher has a Web site that offers full text of its journals, PubMed will provide links to that site, as well as to sites offering other related data. User registration, a subscription fee, or some other type of fee may be required to access the full text of articles in some journals.

To generate your own bibliography of studies dealing with varicocele, simply go to the PubMed Web site at <http://www.ncbi.nlm.nih.gov/pubmed>. Type “varicocele” (or synonyms) into the search box, and click “Go.” The following is the type of output you can expect from PubMed for varicocele (hyperlinks lead to article summaries):

- **A potential role for cadmium in the etiology of varicocele-associated infertility.**
Author(s): Benoff S, Hurley IR, Barcia M, Mandel FS, Cooper GW, Hershlag A.
Source: Fertility and Sterility. 1997 February; 67(2): 336-47.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=9022613

³ Adapted from the National Library of Medicine: <http://www.pubmedcentral.nih.gov/about/intro.html>.

⁴ With PubMed Central, NCBI is taking the lead in preservation and maintenance of open access to electronic literature, just as NLM has done for decades with printed biomedical literature. PubMed Central aims to become a world-class library of the digital age.

⁵ The value of PubMed Central, in addition to its role as an archive, lies in the availability of data from diverse sources stored in a common format in a single repository. Many journals already have online publishing operations, and there is a growing tendency to publish material online only, to the exclusion of print.

⁶ PubMed was developed by the National Center for Biotechnology Information (NCBI) at the National Library of Medicine (NLM) at the National Institutes of Health (NIH). The PubMed database was developed in conjunction with publishers of biomedical literature as a search tool for accessing literature citations and linking to full-text journal articles at Web sites of participating publishers. Publishers that participate in PubMed supply NLM with their citations electronically prior to or at the time of publication.

- **Abnormal expression of acid glycosidases in seminal plasma and spermatozoa from infertile men with varicocele.**
 Author(s): Corrales JJ, Burgo RM, Galindo P, Munoz-Barroso I, Miralles JM, Villar E.
 Source: Reproduction (Cambridge, England). 2002 March; 123(3): 411-7.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=11882018
- **Adolescent varicocele.**
 Author(s): Kass EJ.
 Source: Pediatric Clinics of North America. 2001 December; 48(6): 1559-69. Review.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=11732130
- **Adolescent varicocele: careful examination considerations.**
 Author(s): Derrick FC Jr.
 Source: J S C Med Assoc. 1995 June; 91(6): 278. No Abstract Available.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=7630109
- **Adolescent varicocele: emerging understanding.**
 Author(s): Diamond DA.
 Source: Bju International. 2003 October; 92 Suppl 1: 48-51. Review.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12969010
- **Adolescent varicocele: is it a unilateral disease?**
 Author(s): Gat Y, Zukerman ZV, Bachar GN, Feldberg DO, Gornish M.
 Source: Urology. 2003 October; 62(4): 742-6; Discussion 746-7.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14550455
- **Adolescent varicocele: operative anatomy and tricks for successful correction.**
 Author(s): Belloli G, D'Agostino S, Musi L, Campobasso P.
 Source: European Journal of Pediatric Surgery : Official Journal of Austrian Association of Pediatric Surgery . [et Al] = Zeitschrift Fur Kinderchirurgie. 1995 August; 5(4): 219-21.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=7577860
- **Adolescent varicocele: Tauber antegrade sclerotherapy versus Palomo repair.**
 Author(s): Mazzoni G, Spagnoli A, Lucchetti MC, Villa M, Capitanucci ML, Ferro F.
 Source: The Journal of Urology. 2001 October; 166(4): 1462-4.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=11547113
- **Adolescent varicocele: treatment by antegrade sclerotherapy.**
 Author(s): Mazzoni G.
 Source: Journal of Pediatric Surgery. 2001 October; 36(10): 1546-50.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=11584406

- Adolescents with varicocele have an impaired sperm-zona pellucida binding capacity.**
 Author(s): Cedenho AP, Spaine DM, Barradas V, Srougi M, Oehninger S.
 Source: Fertility and Sterility. 2002 December; 78(6): 1339-40.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12477540
- Adrenal cortical carcinoma presenting as right varicocele.**
 Author(s): Brand TC, Morgan TO, Chatham JR, Kennon WG, Schwartz BF.
 Source: The Journal of Urology. 2001 February; 165(2): 503.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=11176405
- Analysis of radiation doses in the percutaneous treatment of varicocele in adolescents.**
 Author(s): Pieri S, Agresti P, Morucci M, De Medici L, Fiocca G, Calisti A, Santini E.
 Source: Radiol Med (Torino). 2003 May-June; 105(5-6): 500-10. English, Italian.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12949461
- Antegrade scrotal sclerotherapy and varicocele.**
 Author(s): Ficarra V, Sarti A, Novara G, Artibani W.
 Source: Asian Journal of Andrology. 2002 September; 4(3): 221-4. Review.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12364980
- Antegrade scrotal sclerotherapy for the treatment of varicocele in childhood and adolescence.**
 Author(s): Mottrie AM, Matani Y, Baert J, Voges GE, Hohenfellner R.
 Source: British Journal of Urology. 1995 July; 76(1): 21-4.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=7648061
- Antegrade scrotal sclerotherapy in the treatment of varicocele: a prospective study.**
 Author(s): Ficarra V, Porcaro AB, Righetti R, Cerruto MA, Pilloni S, Cavalleri S, Malossini G, Artibani W.
 Source: Bju International. 2002 February; 89(3): 264-8.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=11856108
- Apoptosis-related proteins in the testes of infertile men with varicocele.**
 Author(s): Tanaka H, Fujisawa M, Tanaka H, Okada H, Kamidono S.
 Source: Bju International. 2002 June; 89(9): 905-9.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12010237
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http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstr&list_uids=3410109
- **What is the incidence of varicocele in a fertile population?**
 Author(s): Kursh ED.
 Source: Fertility and Sterility. 1987 September; 48(3): 510-1.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstr&list_uids=3622800
- **When to treat varicocele?**
 Author(s): Haidl G, Maass C, Schill WB.
 Source: Acta Chir Hung. 1994; 34(3-4): 309-14.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstr&list_uids=7618384
- **Wilms' tumor presenting as a varicocele.**
 Author(s): Auldish AW.
 Source: Journal of Pediatric Surgery. 1976 June; 11(3): 471-2.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstr&list_uids=182952
- **X-ray findings on the testicular artery in varicocele.**
 Author(s): Malatinsky E, Zajac R, Bilicky J, Samal V.
 Source: International Urology and Nephrology. 1988; 20(3): 275-9.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstr&list_uids=3403197

CHAPTER 2. NUTRITION AND VARICOCELE

Overview

In this chapter, we will show you how to find studies dedicated specifically to nutrition and varicocele.

Finding Nutrition Studies on Varicocele

The National Institutes of Health's Office of Dietary Supplements (ODS) offers a searchable bibliographic database called the IBIDS (International Bibliographic Information on Dietary Supplements; National Institutes of Health, Building 31, Room 1B29, 31 Center Drive, MSC 2086, Bethesda, Maryland 20892-2086, Tel: 301-435-2920, Fax: 301-480-1845, E-mail: ods@nih.gov). The IBIDS contains over 460,000 scientific citations and summaries about dietary supplements and nutrition as well as references to published international, scientific literature on dietary supplements such as vitamins, minerals, and botanicals.⁷ The IBIDS includes references and citations to both human and animal research studies.

As a service of the ODS, access to the IBIDS database is available free of charge at the following Web address: <http://ods.od.nih.gov/databases/ibids.html>. After entering the search area, you have three choices: (1) IBIDS Consumer Database, (2) Full IBIDS Database, or (3) Peer Reviewed Citations Only.

Now that you have selected a database, click on the "Advanced" tab. An advanced search allows you to retrieve up to 100 fully explained references in a comprehensive format. Type "varicocele" (or synonyms) into the search box, and click "Go." To narrow the search, you can also select the "Title" field.

⁷ Adapted from <http://ods.od.nih.gov>. IBIDS is produced by the Office of Dietary Supplements (ODS) at the National Institutes of Health to assist the public, healthcare providers, educators, and researchers in locating credible, scientific information on dietary supplements. IBIDS was developed and will be maintained through an interagency partnership with the Food and Nutrition Information Center of the National Agricultural Library, U.S. Department of Agriculture.

The following information is typical of that found when using the “Full IBIDS Database” to search for “varicocele” (or a synonym):

- **A potential role for cadmium in the etiology of varicocele-associated infertility.**
 Author(s): North Shore University Hospital, Boas-Marks Biomedical Science Research Center, New York 11030, USA.
 Source: Benoff, S Hurley, I R Barcia, M Mandel, F S Cooper, G W Hershlag, A Fertil-Steril. 1997 February; 67(2): 336-47 0015-0282
- **Coenzyme Q10 levels in idiopathic and varicocele-associated asthenozoospermia.**
 Author(s): Division of Endocrinology, School of Medicine, University of Ancona, Italy. clendo@popcsi.unian.it
 Source: Balercia, G Arnaldi, G Fazioli, F Serresi, M Alleva, R Mancini, A Mosca, F Lamonica, G R Mantero, F Littarru, G P Andrologia. 2002 April; 34(2): 107-11 0303-4569
- **Effects of guizhi-fuling-wan on male infertility with varicocele.**
 Author(s): Department of Urology, Ichikawa General Hospital, Tokyo Dental College, Chiba, Japan.
 Source: Ishikawa, H Ohashi, M Hayakawa, K Kaneko, S Hata, M Am-J-Chin-Med. 1996; 24(3-4): 327-31 0192-415X
- **Effects of thymosin on the secretion of the sexual hormone in rats with experimental varicocele.**
 Author(s): Department of Urology, Tongji Hospital, Tongji Medical University, Wuhan.
 Source: Zeng, J Zhang, Y S Zhuang, Q Y Zhou, S W J-Tongji-Med-Univolume 1993; 13(1): 40-4 0257-716X
- **FSH treatment improves sperm function in patients after varicocelectomy.**
 Author(s): Dipartimento di Endocrinologia ed Oncologia Molecolare e Clinica, University of Napoli Federico II, Italy.
 Source: Zarrilli, S Paesano, L Colao, A Mirone, V Lombardi, G De Rosa, M J-Endocrinol-Invest. 2000 February; 23(2): 68-73 0391-4097
- **Human chorionic gonadotropin adjuvant therapy for patients with Leydig cell dysfunction after varicocelectomy.**
 Author(s): Department of Urology, Nagoya University School of Medicine, Japan.
 Source: Yamamoto, M Hibi, H Katsuno, S Miyake, K Arch-Androl. 1995 Jul-August; 35(1): 49-55 0148-5016
- **Influence of thymosin on the level of cyclic nucleotides in rats with experimental varicocele.**
 Author(s): Department of Urology, Tongji Hospital, Tongji Medical University, Wuhan.
 Source: Zeng, J Zhang, Y S Zhuang, Q Y Li, J G J-Tongji-Med-Univolume 1993; 13(1): 56-9 0257-716X
- **Late results after sclerotherapy of varicocele.**
 Author(s): Department of Urology, Bundeswehrkrankenhaus Ulm, FRG.
 Source: Bach, D Bahren, W Gall, H Altwein, J E Eur-Urol. 1988; 14(2): 115-9 0302-2838
- **Oxidative damage to proteins and decrease of antioxidant capacity in patients with varicocele.**
 Author(s): Institute of Clinical Medicine, National Yang-Ming University, Taipei, Republic of Taiwan, China.
 Source: Chen, S S Chang, L S Wei, Y H Free-Radic-Biol-Med. 2001 June 1; 30(11): 1328-34 0891-5849

- **Percutaneous sclerotherapy of idiopathic varicocele in childhood: a preliminary report.**
 Author(s): Department of Urology, Military Hospital of Ulm, Federal Republic of Germany.
 Source: Thon, W F Gall, H Danz, B Bahren, W Sigmund, G J-Urol. 1989 April; 141(4): 913-5 0022-5347
- **Polymorphisms of glutathione S-transferase M1 and male infertility in Taiwanese patients with varicocele.**
 Author(s): Institute of Clinical Medicine, School of Medicine, National Yang-Ming University, No. 155 Li-Nong Street, Sec. 2, Taichung, Taiwan, Republic of China.
 Source: Chen, Shiou Sheng Chang, Luke S Chen, Haw Wen Wei, Yau Huei Hum-Reprod. 2002 March; 17(3): 718-25 0268-1161
- **Relationship between sperm cell ubiquinone and seminal parameters in subjects with and without varicocele.**
 Author(s): Institute of Endocrinology, Catholic University School of Medicine, Rome, Italy.
 Source: Mancini, A Conte, G Milardi, D De Marinis, L Littarru, G P Andrologia. 1998 Feb-Mar; 30(1): 1-4 0303-4569
- **Right varicocelectomy in selected infertile patients who have failed to improve after previous left varicocelectomy.**
 Source: Amelar, R D Dubin, L Fertil-Steril. 1987 May; 47(5): 833-7 0015-0282
- **Role of lipid peroxidation in the testicular damage in experimentally varicocele induced rats.**
 Source: Aybek, Z. Koseoglu, M.H. Aslan, D. Duzcan, E. Saydam, N. Guner, G. Biochem-Soc-trans. London : Portland Press. August 1998. volume 26 (3) page S220. 0300-5127
- **The cofactor effect: varicocele and infertility.**
 Author(s): Department of Urology, College of Physicians and Surgeons, Columbia University, New York, New York.
 Source: Peng, B C Tomashefsky, P Nagler, H M Fertil-Steril. 1990 July; 54(1): 143-8 0015-0282
- **The endocrinology of varicoceles.**
 Author(s): Faculty of Medicine, Queen's University, Kingston, Ontario, Canada.
 Source: Hudson, R W Fertil-Steril. 1988 February; 49(2): 199-208 0015-0282
- **The evaluation of free-L-carnitine, zinc and fructose in the seminal plasma of patients with varicocele and normozoospermia.**
 Author(s): Dipartimento di Biologia Cellulare, Universita della Calabria Arcavacata di Rende (Cosenza), Italy.
 Source: Ando, S Carpino, A Buffone, M Maggiolini, M Sisci, D Andrologia. 1989 Mar-April; 21(2): 155-60 0303-4569
- **Varicocele: medical and surgical treatment.**
 Author(s): Department of Urology, Hospital Beneficencia Portuguesa de Sao Paulo, Brazil.
 Source: Netto, N R Lemos, G C Claro, J F Int-J-Fertil. 1987 Nov-December; 32(6): 432-5 0020-725X
- **Zinc sulfate therapy for infertile male with or without varicocelectomy.**
 Source: Takihara, H Cosentino, M J Cockett, A T Urology. 1987 June; 29(6): 638-41 0090-4295

Federal Resources on Nutrition

In addition to the IBIDS, the United States Department of Health and Human Services (HHS) and the United States Department of Agriculture (USDA) provide many sources of information on general nutrition and health. Recommended resources include:

- healthfinder®, HHS's gateway to health information, including diet and nutrition: <http://www.healthfinder.gov/scripts/SearchContext.asp?topic=238&page=0>
- The United States Department of Agriculture's Web site dedicated to nutrition information: www.nutrition.gov
- The Food and Drug Administration's Web site for federal food safety information: www.foodsafety.gov
- The National Action Plan on Overweight and Obesity sponsored by the United States Surgeon General: <http://www.surgeongeneral.gov/topics/obesity/>
- The Center for Food Safety and Applied Nutrition has an Internet site sponsored by the Food and Drug Administration and the Department of Health and Human Services: <http://vm.cfsan.fda.gov/>
- Center for Nutrition Policy and Promotion sponsored by the United States Department of Agriculture: <http://www.usda.gov/cnpp/>
- Food and Nutrition Information Center, National Agricultural Library sponsored by the United States Department of Agriculture: <http://www.nal.usda.gov/fnic/>
- Food and Nutrition Service sponsored by the United States Department of Agriculture: <http://www.fns.usda.gov/fns/>

Additional Web Resources

A number of additional Web sites offer encyclopedic information covering food and nutrition. The following is a representative sample:

- AOL: <http://search.aol.com/cat.adp?id=174&layer=&from=subcats>
- Family Village: http://www.familyvillage.wisc.edu/med_nutrition.html
- Google: <http://directory.google.com/Top/Health/Nutrition/>
- Healthnotes: <http://www.healthnotes.com/>
- Open Directory Project: <http://dmoz.org/Health/Nutrition/>
- Yahoo.com: <http://dir.yahoo.com/Health/Nutrition/>
- WebMD® Health: <http://my.webmd.com/nutrition>
- WholeHealthMD.com: <http://www.wholehealthmd.com/reflib/0,1529,00.html>

CHAPTER 3. ALTERNATIVE MEDICINE AND VARICOCELE

Overview

In this chapter, we will begin by introducing you to official information sources on complementary and alternative medicine (CAM) relating to varicocele. At the conclusion of this chapter, we will provide additional sources.

National Center for Complementary and Alternative Medicine

The National Center for Complementary and Alternative Medicine (NCCAM) of the National Institutes of Health (<http://nccam.nih.gov/>) has created a link to the National Library of Medicine's databases to facilitate research for articles that specifically relate to varicocele and complementary medicine. To search the database, go to the following Web site: <http://www.nlm.nih.gov/nccam/camonpubmed.html>. Select "CAM on PubMed." Enter "varicocele" (or synonyms) into the search box. Click "Go." The following references provide information on particular aspects of complementary and alternative medicine that are related to varicocele:

- **Application of current research data in the diagnosis and clinical management of male subfertility.**
 Author(s): GETZOFF PL.
 Source: Fertility and Sterility. 1963 September-October; 14: 507-14.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14057787
- **Effects of guizhi-fuling-wan on male infertility with varicocele.**
 Author(s): Ishikawa H, Ohashi M, Hayakawa K, Kaneko S, Hata M.
 Source: The American Journal of Chinese Medicine. 1996; 24(3-4): 327-31.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=8982445
- **Effects of Panax Ginseng C.A. Meyer saponins on male fertility.**
 Author(s): Salvati G, Genovesi G, Marcellini L, Paolini P, De Nuccio I, Pepe M, Re M.

Source: Panminerva Medica. 1996 December; 38(4): 249-54.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=9063034

- **Laparoscopic management of testicular pain after embolotherapy of varicocele.**
 Author(s): Brooks JD, Moore RG, Kavoussi LR.
 Source: Journal of Endourology / Endourological Society. 1994 October; 8(5): 361-3.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=7858624
- **Male fertility.**
 Author(s): Tresidder GC.
 Source: Proc R Soc Med. 1975 May; 68(5): 291-8. Review. No Abstract Available.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=766012
- **Preventable causes of male infertility.**
 Author(s): Thompson ST.
 Source: World Journal of Urology. 1993; 11(2): 111-9. Review.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=8343795
- **Quantitative ultramorphological (QUM) analysis of human sperm: diagnosis and management of male infertility.**
 Author(s): Bartoov B, Eltes F, Reichart M, Langzam J, Lederman H, Zabludovsky N.
 Source: Archives of Andrology. 1999 May-June; 42(3): 161-77.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=10407647
- **Quantitative ultramorphological analysis of human sperm: fifteen years of experience in the diagnosis and management of male factor infertility.**
 Author(s): Bartoov B, Eltes F, Reichart M, Langzam J, Lederman H, Zabludovsky N.
 Source: Archives of Andrology. 1999 July-August; 43(1): 13-25.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=10445101
- **The role of the expanded function nurse in fertility preservation.**
 Author(s): Keating CE.
 Source: Naacogs Clin Issu Perinat Womens Health Nurs. 1992; 3(2): 293-300.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=1596437
- **Thermographic recording of the reaction of normal and varicocele scrotum to increased temperature.**
 Author(s): Korman M, Kahanpaa K, Tahti E.
 Source: Andrologie. 1973; 5(3): 201-5.

Additional Web Resources

A number of additional Web sites offer encyclopedic information covering CAM and related topics. The following is a representative sample:

- Alternative Medicine Foundation, Inc.: <http://www.herbmed.org/>
- AOL: <http://search.aol.com/cat.adp?id=169&layer=&from=subcats>
- Chinese Medicine: <http://www.newcenturynutrition.com/>
- drkoop.com®: <http://www.drkoop.com/InteractiveMedicine/IndexC.html>
- Family Village: http://www.familyvillage.wisc.edu/med_altn.htm
- Google: <http://directory.google.com/Top/Health/Alternative/>
- Healthnotes: <http://www.healthnotes.com/>
- MedWebPlus:
http://medwebplus.com/subject/Alternative_and_Complementary_Medicine
- Open Directory Project: <http://dmoz.org/Health/Alternative/>
- HealthGate: <http://www.tnp.com/>
- WebMD®Health: http://my.webmd.com/drugs_and_herbs
- WholeHealthMD.com: <http://www.wholehealthmd.com/reflib/0,1529,00.html>
- Yahoo.com: http://dir.yahoo.com/Health/Alternative_Medicine/

The following is a specific Web list relating to varicocele; please note that any particular subject below may indicate either a therapeutic use, or a contraindication (potential danger), and does not reflect an official recommendation:

- **Herbs and Supplements**

- **Saw Palmetto**

- Source: The Canadian Internet Directory for Holistic Help, WellNet, Health and Wellness Network; www.wellnet.ca

General References

A good place to find general background information on CAM is the National Library of Medicine. It has prepared within the MEDLINEplus system an information topic page dedicated to complementary and alternative medicine. To access this page, go to the MEDLINEplus site at <http://www.nlm.nih.gov/medlineplus/alternativemedicine.html>. This Web site provides a general overview of various topics and can lead to a number of general sources.

CHAPTER 4. BOOKS ON VARICOCELE

Overview

This chapter provides bibliographic book references relating to varicocele. In addition to online booksellers such as **www.amazon.com** and **www.bn.com**, excellent sources for book titles on varicocele include the Combined Health Information Database and the National Library of Medicine. Your local medical library also may have these titles available for loan.

Book Summaries: Federal Agencies

The Combined Health Information Database collects various book abstracts from a variety of healthcare institutions and federal agencies. To access these summaries, go directly to the following hyperlink: <http://chid.nih.gov/detail/detail.html>. You will need to use the "Detailed Search" option. To find book summaries, use the drop boxes at the bottom of the search page where "You may refine your search by." Select the dates and language you prefer. For the format option, select "Monograph/Book." Now type "varicocele" (or synonyms) into the "For these words:" box. You should check back periodically with this database which is updated every three months. The following is a typical result when searching for books on varicocele:

- **Laparoscopy in Children**

Source: Heidelberg, Germany: Springer-Verlag. 2003. 147 p.

Contact: Available from Springer-Verlag. Tiergartenstr. 17, D-69121 Heidelberg, Germany. (49)6221-487-0. Website: www.springer.de. E-mail: orders@springer.de.
PRICE: \$69.95 plus shipping and handling. ISBN: 3540429751.

Summary: Most surgeons are familiar with the techniques of laparoscopic surgery, however, in children there are variations in size and technical approach. This book describes the differences and characteristic aspects of laparoscopy in small children. The book is an atlas of numerous drawings, accompanied by textual descriptions. Technical guidelines are given on how to perform laparoscopy safely, even in small children. Topics include patient selection, anesthesia, insufflation, trocar insertion, instruments, ligating, needle insertion, suturing, adhesiolysis, appendectomy, cholecystectomy (gallbladder removal), cryptorchidism, fundoplication, inguinal hernia, intussusception,

liver biopsy, Meckel's diverticulum, ovary, pyloromyotomy, sigmoid resection, splenectomy, **varicocele**, thoracoscopy, and postoperative care. The aim of the book is to provide surgeons with the knowledge to extend their expertise in adult laparoscopy to children. A subject index concludes the textbook.

- **Guide to Laparoscopic Surgery**

Source: Malden, MA: Blackwell Science, Inc. 1998. 169 p.

Contact: Available from Blackwell Science, Inc. 350 Main Street, Commerce Place, Malden, MA 02148. (800) 215-1000 or (617) 388-8250. Fax (617) 388-8270. E-mail: books@blacksci.com. Website: www.blackwell-science.com. PRICE: \$54.95. ISBN: 086542649X.

Summary: This book reviews the important aspects of laparoscopy that every surgeon needs to know. The authors address the needs of trainees in all surgical disciplines, as well as the concerns of qualified surgeons, urologists, and gynecologists. The emphasis is on procedures and practical approaches; four sections are included. In the introduction, the authors review the advantages and disadvantages of laparoscopy, risk factors, combined laparoscopy and open surgery, physiological changes during laparoscopy, anesthesia during the procedures, and postoperative management. The second section on equipment, instruments, basic techniques, problems and solutions includes: imaging and viewing, sterilization and maintenance of optics and the camera, creation of the pneumoperitoneum access, gasless laparoscopy, Veress needle procedures, primary cannula insertion, open cannulation (Hasson's technique), secondary cannula, extraperitoneal laparoscopy, instruments for dissection, diathermy and electrocautery, hemostasis, laser, ultrasound, high velocity water jet, ligation and suturing, and specimen extraction. The section on setting up in the operating theater covers hand instruments, equipment, patient position and preparation, and setting up for the procedure. The final section on laparoscopic procedures themselves, covers diagnostic laparoscopy, laparoscopic ultrasonography, adhesiolysis, cholecystectomy (gallbladder removal), management of common bile duct stones, appendectomy, laparoscopic Nissen's fundoplication, gastroenterostomy, truncal vagotomy, laparoscopy for perforated duodenal ulcer, splenectomy, laparoscopy for undescended testicles, **varicocele**, laparoscopic simple nephrectomy (kidney removal), and inguinal hernia repair. The book is illustrated with numerous line drawings of the equipment and procedures being discussed. A subject index concludes the book.

- **Pediatric Urology Practice**

Source: Philadelphia, PA: Lippincott Williams and Wilkins. 1999. 736 p.

Contact: Available from Lippincott Williams and Wilkins. P.O. Box 1600, Hagerstown, MD 21741. (800) 638-3030 or (301) 714-2300. Fax (301) 824-7390. Website: lww.com. PRICE: \$150.00 plus shipping and handling. ISBN: 0397513682.

Summary: This textbook on pediatric urology practice defines pediatric urology, provides an understanding of the physiology of the maturing urinary tract, considers the psychological impact that reconstruction has on the child and his or her family, and encourages a compassion for and a willingness to undertake and manage the many nonsurgical urologic conditions that are common to pediatric urologic practice (e.g., dysfunctional voiding and urinary infection). The text begins with a thorough chapter on the pediatric physical examination. The remaining 39 chapters cover pediatric anesthesia, the surgical physiology of the neonate, the workup of hematuria and tubular disorders, the management of renal failure in children, prenatal diagnosis and therapy,

imaging the urinary tract in children, the molecular basis of pediatric urologic disease, clinical genetics, ureteropelvic junction obstruction, megaureter, posterior urethral valves and other obstructions of the urethra, the effect of obstruction on the detrusor, nonvirilizing adrenal disease, disorders of renal position and parenchymal development, ureteral ectopy, ureterocele, anatomic abnormalities of the bladder, bladder and cloacal exstrophy, pediatric neurogenic bladder, the surgical and nonsurgical management of the neurogenic bladder, physiology of micturition (urination) and dysfunctional voiding, urinary infection in children, vesicoureteral reflex, hypospadias, cryptorchidism (undescended testicle), adolescent **varicocele**, anomalies of the penis and scrotum, intersex states, menstrual problems in the adolescent, urolithiasis (urinary stones) in children, pediatric oncology, hydrocele and hernia, imperforate anus and caudal regression syndrome, urogenital sinus and cloaca, the role of urinary diversion in childhood, and indications for laparoscopic procedures in pediatric urology. Each chapter is written by specialists in the field and includes references, black and white photographs, tables, and figures. A subject index concludes the textbook.

Book Summaries: Online Booksellers

Commercial Internet-based booksellers, such as Amazon.com and Barnes&Noble.com, offer summaries which have been supplied by each title's publisher. Some summaries also include customer reviews. Your local bookseller may have access to in-house and commercial databases that index all published books (e.g. Books in Print®). **IMPORTANT NOTE:** Online booksellers typically produce search results for medical and non-medical books. When searching for "varicocele" at online booksellers' Web sites, you may discover non-medical books that use the generic term "varicocele" (or a synonym) in their titles. The following is indicative of the results you might find when searching for "varicocele" (sorted alphabetically by title; follow the hyperlink to view more details at Amazon.com):

- **Varicocele and Male Infertility II** by M. Glezerman, E.W. Jecht (Editor); ISBN: 0387129855;
<http://www.amazon.com/exec/obidos/ASIN/0387129855/icongroupinterna>
- **Vascular Andrology: Erectile Dysfunction/Priapism Varicocele** by A. Ledda (Editor); ISBN: 3540594728;
<http://www.amazon.com/exec/obidos/ASIN/3540594728/icongroupinterna>

The National Library of Medicine Book Index

The National Library of Medicine at the National Institutes of Health has a massive database of books published on healthcare and biomedicine. Go to the following Internet site, <http://locatorplus.gov/>, and then select "Search LOCATORplus." Once you are in the search area, simply type "varicocele" (or synonyms) into the search box, and select "books only." From there, results can be sorted by publication date, author, or relevance. The following was recently catalogued by the National Library of Medicine:⁸

⁸ In addition to LOCATORPlus, in collaboration with authors and publishers, the National Center for Biotechnology Information (NCBI) is currently adapting biomedical books for the Web. The books may be accessed in two ways: (1) by searching directly using any search term or phrase (in the same way as the bibliographic database PubMed), or (2) by following the links to PubMed abstracts. Each PubMed abstract has a "Books" button that displays a facsimile of the abstract in which some phrases are hypertext links. These phrases are also found in

- **Cure of rupture, reducible and irreducible, also of varicocele and hydrocele, by new methods.** By George Heaton. Arranged and ed. by J. Henry Davenport. Author: Heaton, George, 1808-1879; Year: 1877
- **Equable scrotal compressor, or resolvent suspensory, for the relief and cure of varicocele and vascular swellings of the testicles and scrotum.** Author: Miliano, G; Year: 1899
- **Inguinal hernia, the imperfectly descended testicle and varicocele, by Philip Turner. with 22 illustrations.** Author: Turner, Philip, 1873-; Year: 1919
- **Injection treatment of hernia, hydrocele, ganglion, hemorrhoids, prostate gland, angioma, varicocele, varicose veins, bursae, and joints, by Penn Riddle. with 153 illustrations.** Author: Riddle, Penn, 1896-; Year: 1940
- **Radical cure of hernia, hydrocele, and varicocele.** Author: Lockwood, Charles Barrett, 1856-1914; Year: 1898
- **Rupture and its radical cure; with a full description of the parts involved, also, of falling of the womb, varicocele, enlarged veins of the legs, piles, curved spine, bow-legs, club-feet, and other deformities.** Author: Marsh, S. N; Year: 1855
- **Varicocele.** Author: Kay, Thomas Wiles, 1858-; Year: 1889

Chapters on Varicocele

In order to find chapters that specifically relate to varicocele, an excellent source of abstracts is the Combined Health Information Database. You will need to limit your search to book chapters and varicocele using the "Detailed Search" option. Go to the following hyperlink: <http://chid.nih.gov/detail/detail.html>. To find book chapters, use the drop boxes at the bottom of the search page where "You may refine your search by." Select the dates and language you prefer, and the format option "Book Chapter." Type "varicocele" (or synonyms) into the "For these words:" box.

the books available at NCBI. Click on hyperlinked results in the list of books in which the phrase is found. Currently, the majority of the links are between the books and PubMed. In the future, more links will be created between the books and other types of information, such as gene and protein sequences and macromolecular structures. See <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Books>.

CHAPTER 5. MULTIMEDIA ON VARICOCELE

Overview

In this chapter, we show you how to keep current on multimedia sources of information on varicocele. We start with sources that have been summarized by federal agencies, and then show you how to find bibliographic information catalogued by the National Library of Medicine.

Video Recordings

An excellent source of multimedia information on varicocele is the Combined Health Information Database. You will need to limit your search to "Videorecording" and "varicocele" using the "Detailed Search" option. Go directly to the following hyperlink: <http://chid.nih.gov/detail/detail.html>. To find video productions, use the drop boxes at the bottom of the search page where "You may refine your search by." Select the dates and language you prefer, and the format option "Videorecording (videotape, videocassette, etc.)." Type "varicocele" (or synonyms) into the "For these words:" box. The following is a typical result when searching for video recordings on varicocele:

- **Laparoscopic Surgery in Evolution**

Source: Bellaire, TX: American Urological Association (AUA) Office of Education. 1993. (videocassette).

Contact: Available from Karol Media. 350 North Pennsylvania Avenue, P.O. Box 7600, Wilkes-Barre, PA 18773-7600. (800) 608-0096. Fax (717) 822-8226. PRICE: \$20.00. Item number 919-2068.

Summary: This videocassette program, one of a series from the American Urological Association, presents six laparoscopic techniques. Techniques featured are laparoscopic partial nephrectomy in an animal model; laparoscopic ureterolysis; laparoscopic orchiectomy; laparoscopic **varicocele** ligation; and laparoscopic ileal loop conduit. The program begins with a group discussion of clinical experiences with laparoscopic nephrectomy. The video also features interviews with five of the urologists, who describe patient indications, details of the procedures they performed, and potential complications.

CHAPTER 6. PERIODICALS AND NEWS ON VARICOCELE

Overview

In this chapter, we suggest a number of news sources and present various periodicals that cover varicocele.

News Services and Press Releases

One of the simplest ways of tracking press releases on varicocele is to search the news wires. In the following sample of sources, we will briefly describe how to access each service. These services only post recent news intended for public viewing.

PR Newswire

To access the PR Newswire archive, simply go to <http://www.prnewswire.com/>. Select your country. Type “varicocele” (or synonyms) into the search box. You will automatically receive information on relevant news releases posted within the last 30 days. The search results are shown by order of relevance.

Reuters Health

The Reuters’ Medical News and Health eLine databases can be very useful in exploring news archives relating to varicocele. While some of the listed articles are free to view, others are available for purchase for a nominal fee. To access this archive, go to <http://www.reutershealth.com/en/index.html> and search by “varicocele” (or synonyms). The following was recently listed in this archive for varicocele:

- **Varicocele repair does not improve male infertility**
Source: Reuters Industry Briefing
Date: May 29, 2003
- **J - Spermatic vein varicocele treatable with minimally invasive approach**
Source: Reuters Medical News
Date: March 25, 1999

- **Assisted Reproduction Not Cost-Effective For Varicocele-Associated Infertility**

Source: Reuters Medical News

Date: February 14, 1997

The NIH

Within MEDLINEplus, the NIH has made an agreement with the New York Times Syndicate, the AP News Service, and Reuters to deliver news that can be browsed by the public. Search news releases at http://www.nlm.nih.gov/medlineplus/alphaneews_a.html. MEDLINEplus allows you to browse across an alphabetical index. Or you can search by date at the following Web page: <http://www.nlm.nih.gov/medlineplus/newsbydate.html>. Often, news items are indexed by MEDLINEplus within its search engine.

Business Wire

Business Wire is similar to PR Newswire. To access this archive, simply go to <http://www.businesswire.com/>. You can scan the news by industry category or company name.

Market Wire

Market Wire is more focused on technology than the other wires. To browse the latest press releases by topic, such as alternative medicine, biotechnology, fitness, healthcare, legal, nutrition, and pharmaceuticals, access Market Wire's Medical/Health channel at http://www.marketwire.com/mw/release_index?channel=MedicalHealth. Or simply go to Market Wire's home page at <http://www.marketwire.com/mw/home>, type "varicocele" (or synonyms) into the search box, and click on "Search News." As this service is technology oriented, you may wish to use it when searching for press releases covering diagnostic procedures or tests.

Search Engines

Medical news is also available in the news sections of commercial Internet search engines. See the health news page at Yahoo (http://dir.yahoo.com/Health/News_and_Media/), or you can use this Web site's general news search page at <http://news.yahoo.com/>. Type in "varicocele" (or synonyms). If you know the name of a company that is relevant to varicocele, you can go to any stock trading Web site (such as <http://www.etrade.com/>) and search for the company name there. News items across various news sources are reported on indicated hyperlinks. Google offers a similar service at <http://news.google.com/>.

BBC

Covering news from a more European perspective, the British Broadcasting Corporation (BBC) allows the public free access to their news archive located at <http://www.bbc.co.uk/>. Search by "varicocele" (or synonyms).

Academic Periodicals covering Varicocele

Numerous periodicals are currently indexed within the National Library of Medicine's PubMed database that are known to publish articles relating to varicocele. In addition to these sources, you can search for articles covering varicocele that have been published by any of the periodicals listed in previous chapters. To find the latest studies published, go to <http://www.ncbi.nlm.nih.gov/pubmed>, type the name of the periodical into the search box, and click "Go."

If you want complete details about the historical contents of a journal, you can also visit the following Web site: <http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi>. Here, type in the name of the journal or its abbreviation, and you will receive an index of published articles. At <http://locatorplus.gov/>, you can retrieve more indexing information on medical periodicals (e.g. the name of the publisher). Select the button "Search LOCATORplus." Then type in the name of the journal and select the advanced search option "Journal Title Search."

APPENDICES

APPENDIX A. PHYSICIAN RESOURCES

Overview

In this chapter, we focus on databases and Internet-based guidelines and information resources created or written for a professional audience.

NIH Guidelines

Commonly referred to as “clinical” or “professional” guidelines, the National Institutes of Health publish physician guidelines for the most common diseases. Publications are available at the following by relevant Institute⁹:

- Office of the Director (OD); guidelines consolidated across agencies available at <http://www.nih.gov/health/consumer/conkey.htm>
- National Institute of General Medical Sciences (NIGMS); fact sheets available at <http://www.nigms.nih.gov/news/facts/>
- National Library of Medicine (NLM); extensive encyclopedia (A.D.A.M., Inc.) with guidelines: <http://www.nlm.nih.gov/medlineplus/healthtopics.html>
- National Cancer Institute (NCI); guidelines available at <http://www.cancer.gov/cancerinfo/list.aspx?viewid=5f35036e-5497-4d86-8c2c-714a9f7c8d25>
- National Eye Institute (NEI); guidelines available at <http://www.nei.nih.gov/order/index.htm>
- National Heart, Lung, and Blood Institute (NHLBI); guidelines available at <http://www.nhlbi.nih.gov/guidelines/index.htm>
- National Human Genome Research Institute (NHGRI); research available at <http://www.genome.gov/page.cfm?pageID=10000375>
- National Institute on Aging (NIA); guidelines available at <http://www.nia.nih.gov/health/>

⁹ These publications are typically written by one or more of the various NIH Institutes.

- National Institute on Alcohol Abuse and Alcoholism (NIAAA); guidelines available at <http://www.niaaa.nih.gov/publications/publications.htm>
- National Institute of Allergy and Infectious Diseases (NIAID); guidelines available at <http://www.niaid.nih.gov/publications/>
- National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS); fact sheets and guidelines available at <http://www.niams.nih.gov/hi/index.htm>
- National Institute of Child Health and Human Development (NICHD); guidelines available at <http://www.nichd.nih.gov/publications/pubskey.cfm>
- National Institute on Deafness and Other Communication Disorders (NIDCD); fact sheets and guidelines at <http://www.nidcd.nih.gov/health/>
- National Institute of Dental and Craniofacial Research (NIDCR); guidelines available at <http://www.nidr.nih.gov/health/>
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK); guidelines available at <http://www.niddk.nih.gov/health/health.htm>
- National Institute on Drug Abuse (NIDA); guidelines available at <http://www.nida.nih.gov/DrugAbuse.html>
- National Institute of Environmental Health Sciences (NIEHS); environmental health information available at <http://www.niehs.nih.gov/external/facts.htm>
- National Institute of Mental Health (NIMH); guidelines available at <http://www.nimh.nih.gov/practitioners/index.cfm>
- National Institute of Neurological Disorders and Stroke (NINDS); neurological disorder information pages available at http://www.ninds.nih.gov/health_and_medical/disorder_index.htm
- National Institute of Nursing Research (NINR); publications on selected illnesses at <http://www.nih.gov/ninr/news-info/publications.html>
- National Institute of Biomedical Imaging and Bioengineering; general information at http://grants.nih.gov/grants/becon/becon_info.htm
- Center for Information Technology (CIT); referrals to other agencies based on keyword searches available at http://kb.nih.gov/www_query_main.asp
- National Center for Complementary and Alternative Medicine (NCCAM); health information available at <http://nccam.nih.gov/health/>
- National Center for Research Resources (NCRR); various information directories available at <http://www.ncrr.nih.gov/publications.asp>
- Office of Rare Diseases; various fact sheets available at http://rarediseases.info.nih.gov/html/resources/rep_pubs.html
- Centers for Disease Control and Prevention; various fact sheets on infectious diseases available at <http://www.cdc.gov/publications.htm>

NIH Databases

In addition to the various Institutes of Health that publish professional guidelines, the NIH has designed a number of databases for professionals.¹⁰ Physician-oriented resources provide a wide variety of information related to the biomedical and health sciences, both past and present. The format of these resources varies. Searchable databases, bibliographic citations, full-text articles (when available), archival collections, and images are all available. The following are referenced by the National Library of Medicine:¹¹

- **Bioethics:** Access to published literature on the ethical, legal, and public policy issues surrounding healthcare and biomedical research. This information is provided in conjunction with the Kennedy Institute of Ethics located at Georgetown University, Washington, D.C.: http://www.nlm.nih.gov/databases/databases_bioethics.html
- **HIV/AIDS Resources:** Describes various links and databases dedicated to HIV/AIDS research: <http://www.nlm.nih.gov/pubs/factsheets/aidsinfo.html>
- **NLM Online Exhibitions:** Describes “Exhibitions in the History of Medicine”: <http://www.nlm.nih.gov/exhibition/exhibition.html>. Additional resources for historical scholarship in medicine: <http://www.nlm.nih.gov/hmd/hmd.html>
- **Biotechnology Information:** Access to public databases. The National Center for Biotechnology Information conducts research in computational biology, develops software tools for analyzing genome data, and disseminates biomedical information for the better understanding of molecular processes affecting human health and disease: <http://www.ncbi.nlm.nih.gov/>
- **Population Information:** The National Library of Medicine provides access to worldwide coverage of population, family planning, and related health issues, including family planning technology and programs, fertility, and population law and policy: http://www.nlm.nih.gov/databases/databases_population.html
- **Cancer Information:** Access to cancer-oriented databases: http://www.nlm.nih.gov/databases/databases_cancer.html
- **Profiles in Science:** Offering the archival collections of prominent twentieth-century biomedical scientists to the public through modern digital technology: <http://www.profiles.nlm.nih.gov/>
- **Chemical Information:** Provides links to various chemical databases and references: <http://sis.nlm.nih.gov/Chem/ChemMain.html>
- **Clinical Alerts:** Reports the release of findings from the NIH-funded clinical trials where such release could significantly affect morbidity and mortality: http://www.nlm.nih.gov/databases/alerts/clinical_alerts.html
- **Space Life Sciences:** Provides links and information to space-based research (including NASA): http://www.nlm.nih.gov/databases/databases_space.html
- **MEDLINE:** Bibliographic database covering the fields of medicine, nursing, dentistry, veterinary medicine, the healthcare system, and the pre-clinical sciences: http://www.nlm.nih.gov/databases/databases_medline.html

¹⁰ Remember, for the general public, the National Library of Medicine recommends the databases referenced in MEDLINEplus (<http://medlineplus.gov/> or <http://www.nlm.nih.gov/medlineplus/databases.html>).

¹¹ See <http://www.nlm.nih.gov/databases/databases.html>.

- **Toxicology and Environmental Health Information (TOXNET):** Databases covering toxicology and environmental health: <http://sis.nlm.nih.gov/Tox/ToxMain.html>
- **Visible Human Interface:** Anatomically detailed, three-dimensional representations of normal male and female human bodies:
http://www.nlm.nih.gov/research/visible/visible_human.html

The NLM Gateway¹²

The NLM (National Library of Medicine) Gateway is a Web-based system that lets users search simultaneously in multiple retrieval systems at the U.S. National Library of Medicine (NLM). It allows users of NLM services to initiate searches from one Web interface, providing one-stop searching for many of NLM's information resources or databases.¹³ To use the NLM Gateway, simply go to the search site at <http://gateway.nlm.nih.gov/gw/Cmd>. Type "varicocele" (or synonyms) into the search box and click "Search." The results will be presented in a tabular form, indicating the number of references in each database category.

Results Summary

Category	Items Found
Journal Articles	2898
Books / Periodicals / Audio Visual	67
Consumer Health	1
Meeting Abstracts	0
Other Collections	2
Total	2968

HSTAT¹⁴

HSTAT is a free, Web-based resource that provides access to full-text documents used in healthcare decision-making.¹⁵ These documents include clinical practice guidelines, quick-reference guides for clinicians, consumer health brochures, evidence reports and technology assessments from the Agency for Healthcare Research and Quality (AHRQ), as well as AHRQ's Put Prevention Into Practice.¹⁶ Simply search by "varicocele" (or synonyms) at the following Web site: <http://text.nlm.nih.gov>.

¹² Adapted from NLM: <http://gateway.nlm.nih.gov/gw/Cmd?Overview.x>.

¹³ The NLM Gateway is currently being developed by the Lister Hill National Center for Biomedical Communications (LHNCBC) at the National Library of Medicine (NLM) of the National Institutes of Health (NIH).

¹⁴ Adapted from HSTAT: <http://www.nlm.nih.gov/pubs/factsheets/hstat.html>.

¹⁵ The HSTAT URL is <http://hstat.nlm.nih.gov/>.

¹⁶ Other important documents in HSTAT include: the National Institutes of Health (NIH) Consensus Conference Reports and Technology Assessment Reports; the HIV/AIDS Treatment Information Service (ATIS) resource documents; the Substance Abuse and Mental Health Services Administration's Center for Substance Abuse Treatment (SAMHSA/CSAT) Treatment Improvement Protocols (TIP) and Center for Substance Abuse Prevention (SAMHSA/CSAP) Prevention Enhancement Protocols System (PEPS); the Public Health Service (PHS) Preventive Services Task Force's *Guide to Clinical Preventive Services*; the independent, nonfederal Task Force on Community Services' *Guide to Community Preventive Services*; and the Health Technology Advisory Committee (HTAC) of the Minnesota Health Care Commission (MHCC) health technology evaluations.

Coffee Break: Tutorials for Biologists¹⁷

Coffee Break is a general healthcare site that takes a scientific view of the news and covers recent breakthroughs in biology that may one day assist physicians in developing treatments. Here you will find a collection of short reports on recent biological discoveries. Each report incorporates interactive tutorials that demonstrate how bioinformatics tools are used as a part of the research process. Currently, all Coffee Breaks are written by NCBI staff.¹⁸ Each report is about 400 words and is usually based on a discovery reported in one or more articles from recently published, peer-reviewed literature.¹⁹ This site has new articles every few weeks, so it can be considered an online magazine of sorts. It is intended for general background information. You can access the Coffee Break Web site at the following hyperlink: <http://www.ncbi.nlm.nih.gov/Coffeebreak/>.

Other Commercial Databases

In addition to resources maintained by official agencies, other databases exist that are commercial ventures addressing medical professionals. Here are some examples that may interest you:

- **CliniWeb International:** Index and table of contents to selected clinical information on the Internet; see <http://www.ohsu.edu/clinweb/>.
- **Medical World Search:** Searches full text from thousands of selected medical sites on the Internet; see <http://www.mwsearch.com/>.

¹⁷ Adapted from <http://www.ncbi.nlm.nih.gov/Coffeebreak/Archive/FAQ.html>.

¹⁸ The figure that accompanies each article is frequently supplied by an expert external to NCBI, in which case the source of the figure is cited. The result is an interactive tutorial that tells a biological story.

¹⁹ After a brief introduction that sets the work described into a broader context, the report focuses on how a molecular understanding can provide explanations of observed biology and lead to therapies for diseases. Each vignette is accompanied by a figure and hypertext links that lead to a series of pages that interactively show how NCBI tools and resources are used in the research process.

APPENDIX B. PATIENT RESOURCES

Overview

Official agencies, as well as federally funded institutions supported by national grants, frequently publish a variety of guidelines written with the patient in mind. These are typically called “Fact Sheets” or “Guidelines.” They can take the form of a brochure, information kit, pamphlet, or flyer. Often they are only a few pages in length. Since new guidelines on varicocele can appear at any moment and be published by a number of sources, the best approach to finding guidelines is to systematically scan the Internet-based services that post them.

Patient Guideline Sources

The remainder of this chapter directs you to sources which either publish or can help you find additional guidelines on topics related to varicocele. Due to space limitations, these sources are listed in a concise manner. Do not hesitate to consult the following sources by either using the Internet hyperlink provided, or, in cases where the contact information is provided, contacting the publisher or author directly.

The National Institutes of Health

The NIH gateway to patients is located at <http://health.nih.gov/>. From this site, you can search across various sources and institutes, a number of which are summarized below.

Topic Pages: MEDLINEplus

The National Library of Medicine has created a vast and patient-oriented healthcare information portal called MEDLINEplus. Within this Internet-based system are “health topic pages” which list links to available materials relevant to varicocele. To access this system, log on to <http://www.nlm.nih.gov/medlineplus/healthtopics.html>. From there you can either search using the alphabetical index or browse by broad topic areas. Recently, MEDLINEplus listed the following when searched for “varicocele”:

Circulatory Disorders

<http://www.nlm.nih.gov/medlineplus/circulatorydisorders.html>

Male Genital Disorders

<http://www.nlm.nih.gov/medlineplus/malegenitaldisorders.html>

Pulmonary Embolism

<http://www.nlm.nih.gov/medlineplus/pulmonaryembolism.html>

Stroke

<http://www.nlm.nih.gov/medlineplus/stroke.html>

Teen Sexual Health

<http://www.nlm.nih.gov/medlineplus/teensexualhealth.html>

Testicular Cancer

<http://www.nlm.nih.gov/medlineplus/testicularcancer.html>

Varicose Veins

<http://www.nlm.nih.gov/medlineplus/varicoseveins.html>

You may also choose to use the search utility provided by MEDLINEplus at the following Web address: <http://www.nlm.nih.gov/medlineplus/>. Simply type a keyword into the search box and click "Search." This utility is similar to the NIH search utility, with the exception that it only includes materials that are linked within the MEDLINEplus system (mostly patient-oriented information). It also has the disadvantage of generating unstructured results. We recommend, therefore, that you use this method only if you have a very targeted search.

The Combined Health Information Database (CHID)

CHID Online is a reference tool that maintains a database directory of thousands of journal articles and patient education guidelines on varicocele. CHID offers summaries that describe the guidelines available, including contact information and pricing. CHID's general Web site is <http://chid.nih.gov/>. To search this database, go to <http://chid.nih.gov/detail/detail.html>. In particular, you can use the advanced search options to look up pamphlets, reports, brochures, and information kits. The following was recently posted in this archive:

- **Varicocele: Enlarged Veins in the Scrotum**

Source: San Bruno, CA: StayWell Company. 2002. [2 p.].

Contact: StayWell Company: Krames Health and Safety Education. 780 Township Line Road, Yardley, PA 19067. (800) 333-3032. Fax (415) 244-4512. E-mail: info@krames.com. Website: www.staywell.com. PRICE: \$21.95 per pack of 50; plus shipping and handling. Order number 91864.

Summary: This brochure describes **varicocele**, defined as a swelling in the veins above the testicles. It is similar to having varicose veins in the legs. The swelling occurs when too much blood collects in the veins. **Varicocele** often causes no symptoms at all, or it may cause an achy or heavy feeling in the scrotum. **Varicocele** can be diagnosed during a physical exam, or may be diagnosed when the man is tested for fertility problems. **Varicocele** can lower sperm count; treatment is often useful in improving sperm count. The brochure describes the treatments available for **varicocele**, including watchful waiting, surgery (varicocelectomy), and other procedures, which can include clamping

or sealing off the enlarged veins. The brochure briefly outlines problems that may occur after treatment, including ongoing pain, bruising around the incision, bleeding from the incision, swelling in the scrotum, or a fever above 100.2 degrees Fahrenheit. One section of the brochure describes the anatomy of the testicles, the cardiovascular system that feeds them, and how problems can occur. The brochure is illustrated with full color line drawings. 6 figures.

The National Guideline Clearinghouse™

The National Guideline Clearinghouse™ offers hundreds of evidence-based clinical practice guidelines published in the United States and other countries. You can search this site located at <http://www.guideline.gov/> by using the keyword “varicocele” (or synonyms). The following was recently posted:

- **Report on varicocele and infertility**

Source: American Society for Reproductive Medicine - Private Nonprofit Organization; 2001 April; 9 pages

http://www.guideline.gov/summary/summary.aspx?doc_id=2921&nbr=2147&string=varicocele

The NIH Search Utility

The NIH search utility allows you to search for documents on over 100 selected Web sites that comprise the NIH-WEB-SPACE. Each of these servers is “crawled” and indexed on an ongoing basis. Your search will produce a list of various documents, all of which will relate in some way to varicocele. The drawbacks of this approach are that the information is not organized by theme and that the references are often a mix of information for professionals and patients. Nevertheless, a large number of the listed Web sites provide useful background information. We can only recommend this route, therefore, for relatively rare or specific disorders, or when using highly targeted searches. To use the NIH search utility, visit the following Web page: <http://search.nih.gov/index.html>.

Additional Web Sources

A number of Web sites are available to the public that often link to government sites. These can also point you in the direction of essential information. The following is a representative sample:

- AOL: <http://search.aol.com/cat.adp?id=168&layer=&from=subcats>
- Family Village: <http://www.familyvillage.wisc.edu/specific.htm>
- Google: http://directory.google.com/Top/Health/Conditions_and_Diseases/
- Med Help International: <http://www.medhelp.org/HealthTopics/A.html>
- Open Directory Project: http://dmoz.org/Health/Conditions_and_Diseases/
- Yahoo.com: http://dir.yahoo.com/Health/Diseases_and_Conditions/
- WebMD®Health: http://my.webmd.com/health_topics

Finding Associations

There are several Internet directories that provide lists of medical associations with information on or resources relating to varicocele. By consulting all of associations listed in this chapter, you will have nearly exhausted all sources for patient associations concerned with varicocele.

The National Health Information Center (NHIC)

The National Health Information Center (NHIC) offers a free referral service to help people find organizations that provide information about varicocele. For more information, see the NHIC's Web site at <http://www.health.gov/NHIC/> or contact an information specialist by calling 1-800-336-4797.

Directory of Health Organizations

The Directory of Health Organizations, provided by the National Library of Medicine Specialized Information Services, is a comprehensive source of information on associations. The Directory of Health Organizations database can be accessed via the Internet at <http://www.sis.nlm.nih.gov/Dir/DirMain.html>. It is composed of two parts: DIRLINE and Health Hotlines.

The DIRLINE database comprises some 10,000 records of organizations, research centers, and government institutes and associations that primarily focus on health and biomedicine. To access DIRLINE directly, go to the following Web site: <http://dirline.nlm.nih.gov/>. Simply type in "varicocele" (or a synonym), and you will receive information on all relevant organizations listed in the database.

Health Hotlines directs you to toll-free numbers to over 300 organizations. You can access this database directly at <http://www.sis.nlm.nih.gov/hotlines/>. On this page, you are given the option to search by keyword or by browsing the subject list. When you have received your search results, click on the name of the organization for its description and contact information.

The Combined Health Information Database

Another comprehensive source of information on healthcare associations is the Combined Health Information Database. Using the "Detailed Search" option, you will need to limit your search to "Organizations" and "varicocele". Type the following hyperlink into your Web browser: <http://chid.nih.gov/detail/detail.html>. To find associations, use the drop boxes at the bottom of the search page where "You may refine your search by." For publication date, select "All Years." Then, select your preferred language and the format option "Organization Resource Sheet." Type "varicocele" (or synonyms) into the "For these words:" box. You should check back periodically with this database since it is updated every three months.

The National Organization for Rare Disorders, Inc.

The National Organization for Rare Disorders, Inc. has prepared a Web site that provides, at no charge, lists of associations organized by health topic. You can access this database at the following Web site: <http://www.rarediseases.org/search/orgsearch.html>. Type “varicocele” (or a synonym) into the search box, and click “Submit Query.”

APPENDIX C. FINDING MEDICAL LIBRARIES

Overview

In this Appendix, we show you how to quickly find a medical library in your area.

Preparation

Your local public library and medical libraries have interlibrary loan programs with the National Library of Medicine (NLM), one of the largest medical collections in the world. According to the NLM, most of the literature in the general and historical collections of the National Library of Medicine is available on interlibrary loan to any library. If you would like to access NLM medical literature, then visit a library in your area that can request the publications for you.²⁰

Finding a Local Medical Library

The quickest method to locate medical libraries is to use the Internet-based directory published by the National Network of Libraries of Medicine (NN/LM). This network includes 4626 members and affiliates that provide many services to librarians, health professionals, and the public. To find a library in your area, simply visit <http://nnlm.gov/members/adv.html> or call 1-800-338-7657.

Medical Libraries in the U.S. and Canada

In addition to the NN/LM, the National Library of Medicine (NLM) lists a number of libraries with reference facilities that are open to the public. The following is the NLM's list and includes hyperlinks to each library's Web site. These Web pages can provide information on hours of operation and other restrictions. The list below is a small sample of

²⁰ Adapted from the NLM: <http://www.nlm.nih.gov/psd/cas/interlibrary.html>.

libraries recommended by the National Library of Medicine (sorted alphabetically by name of the U.S. state or Canadian province where the library is located)²¹:

- **Alabama:** Health InfoNet of Jefferson County (Jefferson County Library Cooperative, Lister Hill Library of the Health Sciences), <http://www.uab.edu/infonet/>
- **Alabama:** Richard M. Scrushy Library (American Sports Medicine Institute)
- **Arizona:** Samaritan Regional Medical Center: The Learning Center (Samaritan Health System, Phoenix, Arizona), <http://www.samaritan.edu/library/bannerlibs.htm>
- **California:** Kris Kelly Health Information Center (St. Joseph Health System, Humboldt), <http://www.humboldt1.com/~kkhic/index.html>
- **California:** Community Health Library of Los Gatos, <http://www.healthlib.org/orgresources.html>
- **California:** Consumer Health Program and Services (CHIPS) (County of Los Angeles Public Library, Los Angeles County Harbor-UCLA Medical Center Library) - Carson, CA, <http://www.colapublib.org/services/chips.html>
- **California:** Gateway Health Library (Sutter Gould Medical Foundation)
- **California:** Health Library (Stanford University Medical Center), <http://www-med.stanford.edu/healthlibrary/>
- **California:** Patient Education Resource Center - Health Information and Resources (University of California, San Francisco), <http://sfghdean.ucsf.edu/barnett/PERC/default.asp>
- **California:** Redwood Health Library (Petaluma Health Care District), <http://www.phcd.org/rdwdlib.html>
- **California:** Los Gatos PlaneTree Health Library, <http://planetreesanjose.org/>
- **California:** Sutter Resource Library (Sutter Hospitals Foundation, Sacramento), <http://suttermedicalcenter.org/library/>
- **California:** Health Sciences Libraries (University of California, Davis), <http://www.lib.ucdavis.edu/healthsci/>
- **California:** ValleyCare Health Library & Ryan Comer Cancer Resource Center (ValleyCare Health System, Pleasanton), <http://gaelnet.stmarys-ca.edu/other.libs/gbal/east/vchl.html>
- **California:** Washington Community Health Resource Library (Fremont), <http://www.healthlibrary.org/>
- **Colorado:** William V. Gervasini Memorial Library (Exempla Healthcare), <http://www.saintjosephdenver.org/yourhealth/libraries/>
- **Connecticut:** Hartford Hospital Health Science Libraries (Hartford Hospital), <http://www.harthosp.org/library/>
- **Connecticut:** Healthnet: Connecticut Consumer Health Information Center (University of Connecticut Health Center, Lyman Maynard Stowe Library), <http://library.uchc.edu/departm/hnet/>

²¹ Abstracted from <http://www.nlm.nih.gov/medlineplus/libraries.html>.

- **Connecticut:** Waterbury Hospital Health Center Library (Waterbury Hospital, Waterbury), <http://www.waterburyhospital.com/library/consumer.shtml>
- **Delaware:** Consumer Health Library (Christiana Care Health System, Eugene du Pont Preventive Medicine & Rehabilitation Institute, Wilmington), http://www.christianacare.org/health_guide/health_guide_pmri_health_info.cfm
- **Delaware:** Lewis B. Flinn Library (Delaware Academy of Medicine, Wilmington), <http://www.delamed.org/chls.html>
- **Georgia:** Family Resource Library (Medical College of Georgia, Augusta), http://cmc.mcg.edu/kids_families/fam_resources/fam_res_lib/frl.htm
- **Georgia:** Health Resource Center (Medical Center of Central Georgia, Macon), <http://www.mccg.org/hrc/hrchome.asp>
- **Hawaii:** Hawaii Medical Library: Consumer Health Information Service (Hawaii Medical Library, Honolulu), <http://hml.org/CHIS/>
- **Idaho:** DeArmond Consumer Health Library (Kootenai Medical Center, Coeur d'Alene), <http://www.nicon.org/DeArmond/index.htm>
- **Illinois:** Health Learning Center of Northwestern Memorial Hospital (Chicago), http://www.nmh.org/health_info/hlc.html
- **Illinois:** Medical Library (OSF Saint Francis Medical Center, Peoria), <http://www.osfsaintfrancis.org/general/library/>
- **Kentucky:** Medical Library - Services for Patients, Families, Students & the Public (Central Baptist Hospital, Lexington), <http://www.centralbap.com/education/community/library.cfm>
- **Kentucky:** University of Kentucky - Health Information Library (Chandler Medical Center, Lexington), <http://www.mc.uky.edu/PatientEd/>
- **Louisiana:** Alton Ochsner Medical Foundation Library (Alton Ochsner Medical Foundation, New Orleans), <http://www.ochsner.org/library/>
- **Louisiana:** Louisiana State University Health Sciences Center Medical Library-Shreveport, <http://lib-sh.lsuhscc.edu/>
- **Maine:** Franklin Memorial Hospital Medical Library (Franklin Memorial Hospital, Farmington), <http://www.fchn.org/fmh/lib.htm>
- **Maine:** Gerrish-True Health Sciences Library (Central Maine Medical Center, Lewiston), <http://www.cmmc.org/library/library.html>
- **Maine:** Hadley Parrot Health Science Library (Eastern Maine Healthcare, Bangor), <http://www.emh.org/hll/hpl/guide.htm>
- **Maine:** Maine Medical Center Library (Maine Medical Center, Portland), <http://www.mmc.org/library/>
- **Maine:** Parkview Hospital (Brunswick), <http://www.parkviewhospital.org/>
- **Maine:** Southern Maine Medical Center Health Sciences Library (Southern Maine Medical Center, Biddeford), <http://www.smmc.org/services/service.php3?choice=10>
- **Maine:** Stephens Memorial Hospital's Health Information Library (Western Maine Health, Norway), <http://www.wmhcc.org/Library/>

- **Manitoba, Canada:** Consumer & Patient Health Information Service (University of Manitoba Libraries), <http://www.umanitoba.ca/libraries/units/health/reference/chis.html>
- **Manitoba, Canada:** J.W. Crane Memorial Library (Deer Lodge Centre, Winnipeg), http://www.deerlodge.mb.ca/crane_library/about.asp
- **Maryland:** Health Information Center at the Wheaton Regional Library (Montgomery County, Dept. of Public Libraries, Wheaton Regional Library), <http://www.mont.lib.md.us/healthinfo/hic.asp>
- **Massachusetts:** Baystate Medical Center Library (Baystate Health System), <http://www.baystatehealth.com/1024/>
- **Massachusetts:** Boston University Medical Center Alumni Medical Library (Boston University Medical Center), <http://med-libwww.bu.edu/library/lib.html>
- **Massachusetts:** Lowell General Hospital Health Sciences Library (Lowell General Hospital, Lowell), <http://www.lowellgeneral.org/library/HomePageLinks/WWW.htm>
- **Massachusetts:** Paul E. Woodard Health Sciences Library (New England Baptist Hospital, Boston), http://www.nebh.org/health_lib.asp
- **Massachusetts:** St. Luke's Hospital Health Sciences Library (St. Luke's Hospital, Southcoast Health System, New Bedford), <http://www.southcoast.org/library/>
- **Massachusetts:** Treadwell Library Consumer Health Reference Center (Massachusetts General Hospital), <http://www.mgh.harvard.edu/library/chrcindex.html>
- **Massachusetts:** UMass HealthNet (University of Massachusetts Medical School, Worcester), <http://healthnet.umassmed.edu/>
- **Michigan:** Botsford General Hospital Library - Consumer Health (Botsford General Hospital, Library & Internet Services), <http://www.botsfordlibrary.org/consumer.htm>
- **Michigan:** Helen DeRoy Medical Library (Providence Hospital and Medical Centers), <http://www.providence-hospital.org/library/>
- **Michigan:** Marquette General Hospital - Consumer Health Library (Marquette General Hospital, Health Information Center), <http://www.mgh.org/center.html>
- **Michigan:** Patient Education Resource Center - University of Michigan Cancer Center (University of Michigan Comprehensive Cancer Center, Ann Arbor), <http://www.cancer.med.umich.edu/learn/leares.htm>
- **Michigan:** Sladen Library & Center for Health Information Resources - Consumer Health Information (Detroit), <http://www.henryford.com/body.cfm?id=39330>
- **Montana:** Center for Health Information (St. Patrick Hospital and Health Sciences Center, Missoula)
- **National:** Consumer Health Library Directory (Medical Library Association, Consumer and Patient Health Information Section), <http://caphis.mlanet.org/directory/index.html>
- **National:** National Network of Libraries of Medicine (National Library of Medicine) - provides library services for health professionals in the United States who do not have access to a medical library, <http://nnlm.gov/>
- **National:** NN/LM List of Libraries Serving the Public (National Network of Libraries of Medicine), <http://nnlm.gov/members/>

- **Nevada:** Health Science Library, West Charleston Library (Las Vegas-Clark County Library District, Las Vegas), http://www.lvcld.org/special_collections/medical/index.htm
- **New Hampshire:** Dartmouth Biomedical Libraries (Dartmouth College Library, Hanover), <http://www.dartmouth.edu/~biomed/resources.html#conshealth.html#d/>
- **New Jersey:** Consumer Health Library (Rahway Hospital, Rahway), <http://www.rahwayhospital.com/library.htm>
- **New Jersey:** Dr. Walter Phillips Health Sciences Library (Englewood Hospital and Medical Center, Englewood), <http://www.englewoodhospital.com/links/index.htm>
- **New Jersey:** Meland Foundation (Englewood Hospital and Medical Center, Englewood), <http://www.geocities.com/ResearchTriangle/9360/>
- **New York:** Choices in Health Information (New York Public Library) - NLM Consumer Pilot Project participant, <http://www.nypl.org/branch/health/links.html>
- **New York:** Health Information Center (Upstate Medical University, State University of New York, Syracuse), <http://www.upstate.edu/library/hic/>
- **New York:** Health Sciences Library (Long Island Jewish Medical Center, New Hyde Park), <http://www.lij.edu/library/library.html>
- **New York:** ViaHealth Medical Library (Rochester General Hospital), <http://www.nyam.org/library/>
- **Ohio:** Consumer Health Library (Akron General Medical Center, Medical & Consumer Health Library), <http://www.akrongeneral.org/hwlibrary.htm>
- **Oklahoma:** The Health Information Center at Saint Francis Hospital (Saint Francis Health System, Tulsa), <http://www.sfh-tulsa.com/services/healthinfo.asp>
- **Oregon:** Planetree Health Resource Center (Mid-Columbia Medical Center, The Dalles), <http://www.mcmc.net/phrc/>
- **Pennsylvania:** Community Health Information Library (Milton S. Hershey Medical Center, Hershey), <http://www.hmc.psu.edu/commhealth/>
- **Pennsylvania:** Community Health Resource Library (Geisinger Medical Center, Danville), <http://www.geisinger.edu/education/commmlib.shtml>
- **Pennsylvania:** HealthInfo Library (Moses Taylor Hospital, Scranton), <http://www.mth.org/healthwellness.html>
- **Pennsylvania:** Hopwood Library (University of Pittsburgh, Health Sciences Library System, Pittsburgh), http://www.hsls.pitt.edu/guides/chi/hopwood/index_html
- **Pennsylvania:** Koop Community Health Information Center (College of Physicians of Philadelphia), <http://www.collphyphil.org/kooppg1.shtml>
- **Pennsylvania:** Learning Resources Center - Medical Library (Susquehanna Health System, Williamsport), <http://www.shscares.org/services/lrc/index.asp>
- **Pennsylvania:** Medical Library (UPMC Health System, Pittsburgh), <http://www.upmc.edu/passavant/library.htm>
- **Quebec, Canada:** Medical Library (Montreal General Hospital), <http://www.mghlib.mcgill.ca/>

- **South Dakota:** Rapid City Regional Hospital Medical Library (Rapid City Regional Hospital), <http://www.rcrh.org/Services/Library/Default.asp>
- **Texas:** Houston HealthWays (Houston Academy of Medicine-Texas Medical Center Library), <http://hhw.library.tmc.edu/>
- **Washington:** Community Health Library (Kittitas Valley Community Hospital), <http://www.kvch.com/>
- **Washington:** Southwest Washington Medical Center Library (Southwest Washington Medical Center, Vancouver), <http://www.swmedicalcenter.com/body.cfm?id=72>

ONLINE GLOSSARIES

The Internet provides access to a number of free-to-use medical dictionaries. The National Library of Medicine has compiled the following list of online dictionaries:

- ADAM Medical Encyclopedia (A.D.A.M., Inc.), comprehensive medical reference:
<http://www.nlm.nih.gov/medlineplus/encyclopedia.html>
- MedicineNet.com Medical Dictionary (MedicineNet, Inc.):
<http://www.medterms.com/Script/Main/hp.asp>
- Merriam-Webster Medical Dictionary (Inteli-Health, Inc.):
<http://www.intelihealth.com/IH/>
- Multilingual Glossary of Technical and Popular Medical Terms in Eight European Languages (European Commission) - Danish, Dutch, English, French, German, Italian, Portuguese, and Spanish: <http://allserv.rug.ac.be/~rvdstich/eugloss/welcome.html>
- On-line Medical Dictionary (CancerWEB): <http://cancerweb.ncl.ac.uk/omd/>
- Rare Diseases Terms (Office of Rare Diseases):
<http://ord.aspensys.com/asp/diseases/diseases.asp>
- Technology Glossary (National Library of Medicine) - Health Care Technology:
<http://www.nlm.nih.gov/nichsr/ta101/ta10108.htm>

Beyond these, MEDLINEplus contains a very patient-friendly encyclopedia covering every aspect of medicine (licensed from A.D.A.M., Inc.). The ADAM Medical Encyclopedia can be accessed at <http://www.nlm.nih.gov/medlineplus/encyclopedia.html>. ADAM is also available on commercial Web sites such as drkoop.com (<http://www.drkoop.com/>) and Web MD (http://my.webmd.com/adam/asset/adam_disease_articles/a_to_z/a). The NIH suggests the following Web sites in the ADAM Medical Encyclopedia when searching for information on varicocele:

- **Basic Guidelines for Varicocele**

Varicocele

Web site: <http://www.nlm.nih.gov/medlineplus/ency/article/001284.htm>

- **Signs & Symptoms for Varicocele**

Scrotal swelling

Web site: <http://www.nlm.nih.gov/medlineplus/ency/article/003161.htm>

Swelling

Web site: <http://www.nlm.nih.gov/medlineplus/ency/article/003103.htm>

Testicle lump

Web site: <http://www.nlm.nih.gov/medlineplus/ency/article/003162.htm>

- **Background Topics for Varicocele**

Asymptomatic

Web site: <http://www.nlm.nih.gov/medlineplus/ency/article/002217.htm>

Blood clot

Web site: <http://www.nlm.nih.gov/medlineplus/ency/article/001124.htm>

Incidence

Web site: <http://www.nlm.nih.gov/medlineplus/ency/article/002387.htm>

Renal

Web site: <http://www.nlm.nih.gov/medlineplus/ency/article/002289.htm>

Scrotum

Web site: <http://www.nlm.nih.gov/medlineplus/ency/article/002296.htm>

Testis

Web site: <http://www.nlm.nih.gov/medlineplus/ency/article/002334.htm>

Online Dictionary Directories

The following are additional online directories compiled by the National Library of Medicine, including a number of specialized medical dictionaries:

- Medical Dictionaries: Medical & Biological (World Health Organization):
<http://www.who.int/hlt/virtuallibrary/English/diction.htm#Medical>
- MEL-Michigan Electronic Library List of Online Health and Medical Dictionaries (Michigan Electronic Library): <http://mel.lib.mi.us/health/health-dictionaries.html>
- Patient Education: Glossaries (DMOZ Open Directory Project):
http://dmoz.org/Health/Education/Patient_Education/Glossaries/
- Web of Online Dictionaries (Bucknell University):
<http://www.yourdictionary.com/diction5.html#medicine>

VARICOCELE DICTIONARY

The definitions below are derived from official public sources, including the National Institutes of Health [NIH] and the European Union [EU].

Abdomen: That portion of the body that lies between the thorax and the pelvis. [NIH]

Abdominal: Having to do with the abdomen, which is the part of the body between the chest and the hips that contains the pancreas, stomach, intestines, liver, gallbladder, and other organs. [NIH]

Acceptor: A substance which, while normally not oxidized by oxygen or reduced by hydrogen, can be oxidized or reduced in presence of a substance which is itself undergoing oxidation or reduction. [NIH]

Acetaminophen: Analgesic antipyretic derivative of acetanilide. It has weak anti-inflammatory properties and is used as a common analgesic, but may cause liver, blood cell, and kidney damage. [NIH]

Acetylcholine: A neurotransmitter. Acetylcholine in vertebrates is the major transmitter at neuromuscular junctions, autonomic ganglia, parasympathetic effector junctions, a subset of sympathetic effector junctions, and at many sites in the central nervous system. It is generally not used as an administered drug because it is broken down very rapidly by cholinesterases, but it is useful in some ophthalmological applications. [NIH]

Acrosome: Cap-like structure covering the nucleus and anterior part of the sperm head. [NIH]

Actin: Essential component of the cell skeleton. [NIH]

Adenocarcinoma: A malignant epithelial tumor with a glandular organization. [NIH]

Adenosine: A nucleoside that is composed of adenine and d-ribose. Adenosine or adenosine derivatives play many important biological roles in addition to being components of DNA and RNA. Adenosine itself is a neurotransmitter. [NIH]

Adjuvant: A substance which aids another, such as an auxiliary remedy; in immunology, nonspecific stimulator (e.g., BCG vaccine) of the immune response. [EU]

Adjuvant Therapy: Treatment given after the primary treatment to increase the chances of a cure. Adjuvant therapy may include chemotherapy, radiation therapy, or hormone therapy. [NIH]

Adolescence: The period of life beginning with the appearance of secondary sex characteristics and terminating with the cessation of somatic growth. The years usually referred to as adolescence lie between 13 and 18 years of age. [NIH]

Adrenal Cortex: The outer layer of the adrenal gland. It secretes mineralocorticoids, androgens, and glucocorticoids. [NIH]

Aerobic: In biochemistry, reactions that need oxygen to happen or happen when oxygen is present. [NIH]

Aetiology: Study of the causes of disease. [EU]

Affinity: 1. Inherent likeness or relationship. 2. A special attraction for a specific element, organ, or structure. 3. Chemical affinity; the force that binds atoms in molecules; the tendency of substances to combine by chemical reaction. 4. The strength of noncovalent chemical binding between two substances as measured by the dissociation constant of the complex. 5. In immunology, a thermodynamic expression of the strength of interaction

between a single antigen-binding site and a single antigenic determinant (and thus of the stereochemical compatibility between them), most accurately applied to interactions among simple, uniform antigenic determinants such as haptens. Expressed as the association constant (K litres mole⁻¹), which, owing to the heterogeneity of affinities in a population of antibody molecules of a given specificity, actually represents an average value (mean intrinsic association constant). 6. The reciprocal of the dissociation constant. [EU]

Agonist: In anatomy, a prime mover. In pharmacology, a drug that has affinity for and stimulates physiologic activity at cell receptors normally stimulated by naturally occurring substances. [EU]

Aldehydes: Organic compounds containing a carbonyl group in the form -CHO. [NIH]

Alertness: A state of readiness to detect and respond to certain specified small changes occurring at random intervals in the environment. [NIH]

Algorithms: A procedure consisting of a sequence of algebraic formulas and/or logical steps to calculate or determine a given task. [NIH]

Alkaline: Having the reactions of an alkali. [EU]

Alpha Particles: Positively charged particles composed of two protons and two neutrons, i.e., helium nuclei, emitted during disintegration of very heavy isotopes; a beam of alpha particles or an alpha ray has very strong ionizing power, but weak penetrability. [NIH]

Alpha-1: A protein with the property of inactivating proteolytic enzymes such as leucocyte collagenase and elastase. [NIH]

Alternative medicine: Practices not generally recognized by the medical community as standard or conventional medical approaches and used instead of standard treatments. Alternative medicine includes the taking of dietary supplements, megadose vitamins, and herbal preparations; the drinking of special teas; and practices such as massage therapy, magnet therapy, spiritual healing, and meditation. [NIH]

Ambulatory Care: Health care services provided to patients on an ambulatory basis, rather than by admission to a hospital or other health care facility. The services may be a part of a hospital, augmenting its inpatient services, or may be provided at a free-standing facility. [NIH]

Amino Acid Sequence: The order of amino acids as they occur in a polypeptide chain. This is referred to as the primary structure of proteins. It is of fundamental importance in determining protein conformation. [NIH]

Amino Acids: Organic compounds that generally contain an amino (-NH₂) and a carboxyl (-COOH) group. Twenty alpha-amino acids are the subunits which are polymerized to form proteins. [NIH]

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Anaesthesia: Loss of feeling or sensation. Although the term is used for loss of tactile sensibility, or of any of the other senses, it is applied especially to loss of the sensation of pain, as it is induced to permit performance of surgery or other painful procedures. [EU]

Anal: Having to do with the anus, which is the posterior opening of the large bowel. [NIH]

Analgesic: An agent that alleviates pain without causing loss of consciousness. [EU]

Anastomosis: A procedure to connect healthy sections of tubular structures in the body after the diseased portion has been surgically removed. [NIH]

Androgenic: Producing masculine characteristics. [EU]

Androstenedione: A steroid with androgenic properties that is produced in the testis, ovary, and adrenal cortex. It is a precursor to testosterone and other androgenic hormones. [NIH]

Anechoic: Almost totally sound-absorbent at a very wide range of frequencies. An anechoic chamber gives almost free field conditions. [NIH]

Anesthesia: A state characterized by loss of feeling or sensation. This depression of nerve function is usually the result of pharmacologic action and is induced to allow performance of surgery or other painful procedures. [NIH]

Angiography: Radiography of blood vessels after injection of a contrast medium. [NIH]

Angioma: A tumor composed of lymphatic or blood vessels. [NIH]

Animal model: An animal with a disease either the same as or like a disease in humans. Animal models are used to study the development and progression of diseases and to test new treatments before they are given to humans. Animals with transplanted human cancers or other tissues are called xenograft models. [NIH]

Anions: Negatively charged atoms, radicals or groups of atoms which travel to the anode or positive pole during electrolysis. [NIH]

Ankle: That part of the lower limb directly above the foot. [NIH]

Anomalies: Birth defects; abnormalities. [NIH]

Antagonism: Interference with, or inhibition of, the growth of a living organism by another living organism, due either to creation of unfavorable conditions (e. g. exhaustion of food supplies) or to production of a specific antibiotic substance (e. g. penicillin). [NIH]

Antibodies: Immunoglobulin molecules having a specific amino acid sequence by virtue of which they interact only with the antigen that induced their synthesis in cells of the lymphoid series (especially plasma cells), or with an antigen closely related to it. [NIH]

Antibody: A type of protein made by certain white blood cells in response to a foreign substance (antigen). Each antibody can bind to only a specific antigen. The purpose of this binding is to help destroy the antigen. Antibodies can work in several ways, depending on the nature of the antigen. Some antibodies destroy antigens directly. Others make it easier for white blood cells to destroy the antigen. [NIH]

Antigen: Any substance which is capable, under appropriate conditions, of inducing a specific immune response and of reacting with the products of that response, that is, with specific antibody or specifically sensitized T-lymphocytes, or both. Antigens may be soluble substances, such as toxins and foreign proteins, or particulate, such as bacteria and tissue cells; however, only the portion of the protein or polysaccharide molecule known as the antigenic determinant (q.v.) combines with antibody or a specific receptor on a lymphocyte. Abbreviated Ag. [EU]

Anti-inflammatory: Having to do with reducing inflammation. [NIH]

Antioxidant: A substance that prevents damage caused by free radicals. Free radicals are highly reactive chemicals that often contain oxygen. They are produced when molecules are split to give products that have unpaired electrons. This process is called oxidation. [NIH]

Antipyretic: An agent that relieves or reduces fever. Called also antifebrile, antithermic and febrifuge. [EU]

Anus: The opening of the rectum to the outside of the body. [NIH]

Aponeurosis: Tendinous expansion consisting of a fibrous or membranous sheath which serves as a fascia to enclose or bind a group of muscles. [NIH]

Apoptosis: One of the two mechanisms by which cell death occurs (the other being the pathological process of necrosis). Apoptosis is the mechanism responsible for the

physiological deletion of cells and appears to be intrinsically programmed. It is characterized by distinctive morphologic changes in the nucleus and cytoplasm, chromatin cleavage at regularly spaced sites, and the endonucleolytic cleavage of genomic DNA (DNA fragmentation) at internucleosomal sites. This mode of cell death serves as a balance to mitosis in regulating the size of animal tissues and in mediating pathologic processes associated with tumor growth. [NIH]

Appendectomy: An operation to remove the appendix. [NIH]

Arginine: An essential amino acid that is physiologically active in the L-form. [NIH]

Arterial: Pertaining to an artery or to the arteries. [EU]

Arteries: The vessels carrying blood away from the heart. [NIH]

Artery: Vessel-carrying blood from the heart to various parts of the body. [NIH]

Aseptic: Free from infection or septic material; sterile. [EU]

Assay: Determination of the amount of a particular constituent of a mixture, or of the biological or pharmacological potency of a drug. [EU]

Asymptomatic: Having no signs or symptoms of disease. [NIH]

Atrophy: Decrease in the size of a cell, tissue, organ, or multiple organs, associated with a variety of pathological conditions such as abnormal cellular changes, ischemia, malnutrition, or hormonal changes. [NIH]

Azoospermia: Absence of spermatozoa in the semen, or failure of formation of spermatozoa. [EU]

Bacteria: Unicellular prokaryotic microorganisms which generally possess rigid cell walls, multiply by cell division, and exhibit three principal forms: round or coccil, rodlike or bacillary, and spiral or spirochetal. [NIH]

Basal Ganglia: Large subcortical nuclear masses derived from the telencephalon and located in the basal regions of the cerebral hemispheres. [NIH]

Base: In chemistry, the nonacid part of a salt; a substance that combines with acids to form salts; a substance that dissociates to give hydroxide ions in aqueous solutions; a substance whose molecule or ion can combine with a proton (hydrogen ion); a substance capable of donating a pair of electrons (to an acid) for the formation of a coordinate covalent bond. [EU]

Benign: Not cancerous; does not invade nearby tissue or spread to other parts of the body. [NIH]

Bilateral: Affecting both the right and left side of body. [NIH]

Bile: An emulsifying agent produced in the liver and secreted into the duodenum. Its composition includes bile acids and salts, cholesterol, and electrolytes. It aids digestion of fats in the duodenum. [NIH]

Bile Acids: Acids made by the liver that work with bile to break down fats. [NIH]

Bile Acids and Salts: Steroid acids and salts. The primary bile acids are derived from cholesterol in the liver and usually conjugated with glycine or taurine. The secondary bile acids are further modified by bacteria in the intestine. They play an important role in the digestion and absorption of fat. They have also been used pharmacologically, especially in the treatment of gallstones. [NIH]

Biliary: Having to do with the liver, bile ducts, and/or gallbladder. [NIH]

Biochemical: Relating to biochemistry; characterized by, produced by, or involving chemical reactions in living organisms. [EU]

Biomarkers: Substances sometimes found in an increased amount in the blood, other body

fluids, or tissues and that may suggest the presence of some types of cancer. Biomarkers include CA 125 (ovarian cancer), CA 15-3 (breast cancer), CEA (ovarian, lung, breast, pancreas, and GI tract cancers), and PSA (prostate cancer). Also called tumor markers. [NIH]

Biopsy: Removal and pathologic examination of specimens in the form of small pieces of tissue from the living body. [NIH]

Biotechnology: Body of knowledge related to the use of organisms, cells or cell-derived constituents for the purpose of developing products which are technically, scientifically and clinically useful. Alteration of biologic function at the molecular level (i.e., genetic engineering) is a central focus; laboratory methods used include transfection and cloning technologies, sequence and structure analysis algorithms, computer databases, and gene and protein structure function analysis and prediction. [NIH]

Bladder: The organ that stores urine. [NIH]

Blastocyst: The mammalian embryo in the post-morula stage in which a fluid-filled cavity, enclosed primarily by trophoblast, contains an inner cell mass which becomes the embryonic disc. [NIH]

Blood Coagulation: The process of the interaction of blood coagulation factors that results in an insoluble fibrin clot. [NIH]

Blood Platelets: Non-nucleated disk-shaped cells formed in the megakaryocyte and found in the blood of all mammals. They are mainly involved in blood coagulation. [NIH]

Blood pressure: The pressure of blood against the walls of a blood vessel or heart chamber. Unless there is reference to another location, such as the pulmonary artery or one of the heart chambers, it refers to the pressure in the systemic arteries, as measured, for example, in the forearm. [NIH]

Blood vessel: A tube in the body through which blood circulates. Blood vessels include a network of arteries, arterioles, capillaries, venules, and veins. [NIH]

Blot: To transfer DNA, RNA, or proteins to an immobilizing matrix such as nitrocellulose. [NIH]

Body Fluids: Liquid components of living organisms. [NIH]

Bradykinin: A nonapeptide messenger that is enzymatically produced from kallidin in the blood where it is a potent but short-lived agent of arteriolar dilation and increased capillary permeability. Bradykinin is also released from mast cells during asthma attacks, from gut walls as a gastrointestinal vasodilator, from damaged tissues as a pain signal, and may be a neurotransmitter. [NIH]

Branch: Most commonly used for branches of nerves, but applied also to other structures. [NIH]

Breakdown: A physical, metal, or nervous collapse. [NIH]

Cadmium: An element with atomic symbol Cd, atomic number 48, and atomic weight 114. It is a metal and ingestion will lead to cadmium poisoning. [NIH]

Cadmium Poisoning: Poisoning occurring after exposure to cadmium compounds or fumes. It may cause gastrointestinal syndromes, anemia, or pneumonitis. [NIH]

Caffeine: A methylxanthine naturally occurring in some beverages and also used as a pharmacological agent. Caffeine's most notable pharmacological effect is as a central nervous system stimulant, increasing alertness and producing agitation. It also relaxes smooth muscle, stimulates cardiac muscle, stimulates diuresis, and appears to be useful in the treatment of some types of headache. Several cellular actions of caffeine have been observed, but it is not entirely clear how each contributes to its pharmacological profile. Among the most important are inhibition of cyclic nucleotide phosphodiesterases,

antagonism of adenosine receptors, and modulation of intracellular calcium handling. [NIH]

Calcium: A basic element found in nearly all organized tissues. It is a member of the alkaline earth family of metals with the atomic symbol Ca, atomic number 20, and atomic weight 40. Calcium is the most abundant mineral in the body and combines with phosphorus to form calcium phosphate in the bones and teeth. It is essential for the normal functioning of nerves and muscles and plays a role in blood coagulation (as factor IV) and in many enzymatic processes. [NIH]

Calcium Channels: Voltage-dependent cell membrane glycoproteins selectively permeable to calcium ions. They are categorized as L-, T-, N-, P-, Q-, and R-types based on the activation and inactivation kinetics, ion specificity, and sensitivity to drugs and toxins. The L- and T-types are present throughout the cardiovascular and central nervous systems and the N-, P-, Q-, & R-types are located in neuronal tissue. [NIH]

Cannula: A tube for insertion into a duct or cavity; during insertion its lumen is usually occupied by a trocar. [EU]

Capillary: Any one of the minute vessels that connect the arterioles and venules, forming a network in nearly all parts of the body. Their walls act as semipermeable membranes for the interchange of various substances, including fluids, between the blood and tissue fluid; called also vas capillare. [EU]

Carbon Dioxide: A colorless, odorless gas that can be formed by the body and is necessary for the respiration cycle of plants and animals. [NIH]

Carcinoma: Cancer that begins in the skin or in tissues that line or cover internal organs. [NIH]

Cardiac: Having to do with the heart. [NIH]

Cardiovascular: Having to do with the heart and blood vessels. [NIH]

Cardiovascular System: The heart and the blood vessels by which blood is pumped and circulated through the body. [NIH]

Carnitine: Constituent of striated muscle and liver. It is used therapeutically to stimulate gastric and pancreatic secretions and in the treatment of hyperlipoproteinemias. [NIH]

Caudal: Denoting a position more toward the cauda, or tail, than some specified point of reference; same as inferior, in human anatomy. [EU]

Cell: The individual unit that makes up all of the tissues of the body. All living things are made up of one or more cells. [NIH]

Cell Cycle: The complex series of phenomena, occurring between the end of one cell division and the end of the next, by which cellular material is divided between daughter cells. [NIH]

Cell Death: The termination of the cell's ability to carry out vital functions such as metabolism, growth, reproduction, responsiveness, and adaptability. [NIH]

Cell membrane: Cell membrane = plasma membrane. The structure enveloping a cell, enclosing the cytoplasm, and forming a selective permeability barrier; it consists of lipids, proteins, and some carbohydrates, the lipids thought to form a bilayer in which integral proteins are embedded to varying degrees. [EU]

Cell Size: The physical dimensions of a cell. It refers mainly to changes in dimensions correlated with physiological or pathological changes in cells. [NIH]

Central Nervous System: The main information-processing organs of the nervous system, consisting of the brain, spinal cord, and meninges. [NIH]

Cerebrospinal: Pertaining to the brain and spinal cord. [EU]

Cerebrospinal fluid: CSF. The fluid flowing around the brain and spinal cord. Cerebrospinal fluid is produced in the ventricles in the brain. [NIH]

Cervix: The lower, narrow end of the uterus that forms a canal between the uterus and vagina. [NIH]

Chemotherapy: Treatment with anticancer drugs. [NIH]

Cholecystectomy: Surgical removal of the gallbladder. [NIH]

Cholesterol: The principal sterol of all higher animals, distributed in body tissues, especially the brain and spinal cord, and in animal fats and oils. [NIH]

Chromatin: The material of chromosomes. It is a complex of DNA, histones, and nonhistone proteins (chromosomal proteins, non-histone) found within the nucleus of a cell. [NIH]

Chromosome: Part of a cell that contains genetic information. Except for sperm and eggs, all human cells contain 46 chromosomes. [NIH]

Chronic: A disease or condition that persists or progresses over a long period of time. [NIH]

Clinical Medicine: The study and practice of medicine by direct examination of the patient. [NIH]

Clinical trial: A research study that tests how well new medical treatments or other interventions work in people. Each study is designed to test new methods of screening, prevention, diagnosis, or treatment of a disease. [NIH]

Cloaca: The common chamber into which the intestinal, urinary, and genital tracts discharge in birds, reptiles, amphibians and many fishes; also a phylogenetically related embryonic structure in mammals. [NIH]

Cloning: The production of a number of genetically identical individuals; in genetic engineering, a process for the efficient replication of a great number of identical DNA molecules. [NIH]

Coagulation: 1. The process of clot formation. 2. In colloid chemistry, the solidification of a sol into a gelatinous mass; an alteration of a disperse phase or of a dissolved solid which causes the separation of the system into a liquid phase and an insoluble mass called the clot or curd. Coagulation is usually irreversible. 3. In surgery, the disruption of tissue by physical means to form an amorphous residuum, as in electrocoagulation and photocoagulation. [EU]

Cofactor: A substance, microorganism or environmental factor that activates or enhances the action of another entity such as a disease-causing agent. [NIH]

Common Bile Duct: The largest biliary duct. It is formed by the junction of the cystic duct and the hepatic duct. [NIH]

Complement: A term originally used to refer to the heat-labile factor in serum that causes immune cytolysis, the lysis of antibody-coated cells, and now referring to the entire functionally related system comprising at least 20 distinct serum proteins that is the effector not only of immune cytolysis but also of other biologic functions. Complement activation occurs by two different sequences, the classic and alternative pathways. The proteins of the classic pathway are termed 'components of complement' and are designated by the symbols C1 through C9. C1 is a calcium-dependent complex of three distinct proteins C1q, C1r and C1s. The proteins of the alternative pathway (collectively referred to as the properdin system) and complement regulatory proteins are known by semisystematic or trivial names. Fragments resulting from proteolytic cleavage of complement proteins are designated with lower-case letter suffixes, e.g., C3a. Inactivated fragments may be designated with the suffix 'i', e.g. C3bi. Activated components or complexes with biological activity are designated by a bar over the symbol e.g. C1 or C4b,2a. The classic pathway is activated by the binding of C1

to classic pathway activators, primarily antigen-antibody complexes containing IgM, IgG1, IgG3; C1q binds to a single IgM molecule or two adjacent IgG molecules. The alternative pathway can be activated by IgA immune complexes and also by nonimmunologic materials including bacterial endotoxins, microbial polysaccharides, and cell walls. Activation of the classic pathway triggers an enzymatic cascade involving C1, C4, C2 and C3; activation of the alternative pathway triggers a cascade involving C3 and factors B, D and P. Both result in the cleavage of C5 and the formation of the membrane attack complex. Complement activation also results in the formation of many biologically active complement fragments that act as anaphylatoxins, opsonins, or chemotactic factors. [EU]

Complementary and alternative medicine: CAM. Forms of treatment that are used in addition to (complementary) or instead of (alternative) standard treatments. These practices are not considered standard medical approaches. CAM includes dietary supplements, megadose vitamins, herbal preparations, special teas, massage therapy, magnet therapy, spiritual healing, and meditation. [NIH]

Complementary medicine: Practices not generally recognized by the medical community as standard or conventional medical approaches and used to enhance or complement the standard treatments. Complementary medicine includes the taking of dietary supplements, megadose vitamins, and herbal preparations; the drinking of special teas; and practices such as massage therapy, magnet therapy, spiritual healing, and meditation. [NIH]

Computational Biology: A field of biology concerned with the development of techniques for the collection and manipulation of biological data, and the use of such data to make biological discoveries or predictions. This field encompasses all computational methods and theories applicable to molecular biology and areas of computer-based techniques for solving biological problems including manipulation of models and datasets. [NIH]

Conception: The onset of pregnancy, marked by implantation of the blastocyst; the formation of a viable zygote. [EU]

Concomitant: Accompanying; accessory; joined with another. [EU]

Congestion: Excessive or abnormal accumulation of blood in a part. [EU]

Contraindications: Any factor or sign that it is unwise to pursue a certain kind of action or treatment, e. g. giving a general anesthetic to a person with pneumonia. [NIH]

Contralateral: Having to do with the opposite side of the body. [NIH]

Controlled study: An experiment or clinical trial that includes a comparison (control) group. [NIH]

Coronary: Encircling in the manner of a crown; a term applied to vessels; nerves, ligaments, etc. The term usually denotes the arteries that supply the heart muscle and, by extension, a pathologic involvement of them. [EU]

Coronary Thrombosis: Presence of a thrombus in a coronary artery, often causing a myocardial infarction. [NIH]

Corpus: The body of the uterus. [NIH]

Corpus Luteum: The yellow glandular mass formed in the ovary by an ovarian follicle that has ruptured and discharged its ovum. [NIH]

Cortex: The outer layer of an organ or other body structure, as distinguished from the internal substance. [EU]

Cortical: Pertaining to or of the nature of a cortex or bark. [EU]

Cost Savings: Reductions in all or any portion of the costs of providing goods or services. Savings may be incurred by the provider or the consumer. [NIH]

Cranial: Pertaining to the cranium, or to the anterior (in animals) or superior (in humans) end of the body. [EU]

Cryptorchidism: A condition in which one or both testicles fail to move from the abdomen, where they develop before birth, into the scrotum. Cryptorchidism may increase the risk for development of testicular cancer. Also called undescended testicles. [NIH]

Cyclic: Pertaining to or occurring in a cycle or cycles; the term is applied to chemical compounds that contain a ring of atoms in the nucleus. [EU]

Cystic Duct: The tube that carries bile from the gallbladder into the common bile duct and the small intestine. [NIH]

Cytoplasm: The protoplasm of a cell exclusive of that of the nucleus; it consists of a continuous aqueous solution (cytosol) and the organelles and inclusions suspended in it (phaneroplasm), and is the site of most of the chemical activities of the cell. [EU]

Databases, Bibliographic: Extensive collections, reputedly complete, of references and citations to books, articles, publications, etc., generally on a single subject or specialized subject area. Databases can operate through automated files, libraries, or computer disks. The concept should be differentiated from factual databases which is used for collections of data and facts apart from bibliographic references to them. [NIH]

Deletion: A genetic rearrangement through loss of segments of DNA (chromosomes), bringing sequences, which are normally separated, into close proximity. [NIH]

Density: The logarithm to the base 10 of the opacity of an exposed and processed film. [NIH]

Diagnostic procedure: A method used to identify a disease. [NIH]

Diathermy: The induction of local hyperthermia by either short radio waves or high-frequency sound waves. [NIH]

Digestion: The process of breakdown of food for metabolism and use by the body. [NIH]

Dilatation: The act of dilating. [NIH]

Dilation: A process by which the pupil is temporarily enlarged with special eye drops (mydriatic); allows the eye care specialist to better view the inside of the eye. [NIH]

Direct: 1. Straight; in a straight line. 2. Performed immediately and without the intervention of subsidiary means. [EU]

Discrete: Made up of separate parts or characterized by lesions which do not become blended; not running together; separate. [NIH]

Dissection: Cutting up of an organism for study. [NIH]

Diuresis: Increased excretion of urine. [EU]

Diverticulum: A pathological condition manifested as a pouch or sac opening from a tubular or sacular organ. [NIH]

Doppler Ultrasonography: An examination that shows occlusive lesions of the neck arteries. [NIH]

Dorsal: 1. Pertaining to the back or to any dorsum. 2. Denoting a position more toward the back surface than some other object of reference; same as posterior in human anatomy; superior in the anatomy of quadrupeds. [EU]

Dorsum: A plate of bone which forms the posterior boundary of the sella turcica. [NIH]

Duct: A tube through which body fluids pass. [NIH]

Duodenal Ulcer: An ulcer in the lining of the first part of the small intestine (duodenum). [NIH]

Duodenum: The first part of the small intestine. [NIH]

Efficacy: The extent to which a specific intervention, procedure, regimen, or service produces a beneficial result under ideal conditions. Ideally, the determination of efficacy is based on the results of a randomized control trial. [NIH]

Ejaculation: The release of semen through the penis during orgasm. [NIH]

Elective: Subject to the choice or decision of the patient or physician; applied to procedures that are advantageous to the patient but not urgent. [EU]

Electrolytes: Substances that break up into ions (electrically charged particles) when they are dissolved in body fluids or water. Some examples are sodium, potassium, chloride, and calcium. Electrolytes are primarily responsible for the movement of nutrients into cells, and the movement of wastes out of cells. [NIH]

Electrons: Stable elementary particles having the smallest known negative charge, present in all elements; also called negatrons. Positively charged electrons are called positrons. The numbers, energies and arrangement of electrons around atomic nuclei determine the chemical identities of elements. Beams of electrons are called cathode rays or beta rays, the latter being a high-energy biproduct of nuclear decay. [NIH]

Emboli: Bit of foreign matter which enters the blood stream at one point and is carried until it is lodged or impacted in an artery and obstructs it. It may be a blood clot, an air bubble, fat or other tissue, or clumps of bacteria. [NIH]

Embolization: The blocking of an artery by a clot or foreign material. Embolization can be done as treatment to block the flow of blood to a tumor. [NIH]

Embryo: The prenatal stage of mammalian development characterized by rapid morphological changes and the differentiation of basic structures. [NIH]

Embryo Transfer: Removal of a mammalian embryo from one environment and replacement in the same or a new environment. The embryo is usually in the pre-nidation phase, i.e., a blastocyst. The process includes embryo or blastocyst transplantation or transfer after in vitro fertilization and transfer of the inner cell mass of the blastocyst. It is not used for transfer of differentiated embryonic tissue, e.g., germ layer cells. [NIH]

Endocrine System: The system of glands that release their secretions (hormones) directly into the circulatory system. In addition to the endocrine glands, included are the chromaffin system and the neurosecretory systems. [NIH]

Endocrinology: A subspecialty of internal medicine concerned with the metabolism, physiology, and disorders of the endocrine system. [NIH]

Endometrial: Having to do with the endometrium (the layer of tissue that lines the uterus). [NIH]

Endometriosis: A condition in which tissue more or less perfectly resembling the uterine mucous membrane (the endometrium) and containing typical endometrial granular and stromal elements occurs aberrantly in various locations in the pelvic cavity. [NIH]

Endometrium: The layer of tissue that lines the uterus. [NIH]

Endorphin: Opioid peptides derived from beta-lipotropin. Endorphin is the most potent naturally occurring analgesic agent. It is present in pituitary, brain, and peripheral tissues. [NIH]

Endothelium: A layer of epithelium that lines the heart, blood vessels (endothelium, vascular), lymph vessels (endothelium, lymphatic), and the serous cavities of the body. [NIH]

Endothelium, Lymphatic: Unbroken cellular lining (intima) of the lymph vessels (e.g., the high endothelial lymphatic venules). It is more permeable than vascular endothelium, lacking selective absorption and functioning mainly to remove plasma proteins that have filtered through the capillaries into the tissue spaces. [NIH]

Endothelium, Vascular: Single pavement layer of cells which line the luminal surface of the entire vascular system and regulate the transport of macromolecules and blood components from interstitium to lumen; this function has been most intensively studied in the blood capillaries. [NIH]

Endothelium-derived: Small molecule that diffuses to the adjacent muscle layer and relaxes it. [NIH]

Environmental Health: The science of controlling or modifying those conditions, influences, or forces surrounding man which relate to promoting, establishing, and maintaining health. [NIH]

Enzymatic: Phase where enzyme cuts the precursor protein. [NIH]

Enzyme: A protein that speeds up chemical reactions in the body. [NIH]

Enzyme-Linked Immunosorbent Assay: An immunoassay utilizing an antibody labeled with an enzyme marker such as horseradish peroxidase. While either the enzyme or the antibody is bound to an immunosorbent substrate, they both retain their biologic activity; the change in enzyme activity as a result of the enzyme-antibody-antigen reaction is proportional to the concentration of the antigen and can be measured spectrophotometrically or with the naked eye. Many variations of the method have been developed. [NIH]

Epigastric: Having to do with the upper middle area of the abdomen. [NIH]

Epithelial: Refers to the cells that line the internal and external surfaces of the body. [NIH]

Epithelium: One or more layers of epithelial cells, supported by the basal lamina, which covers the inner or outer surfaces of the body. [NIH]

Erectile: The inability to get or maintain an erection for satisfactory sexual intercourse. Also called impotence. [NIH]

Erection: The condition of being made rigid and elevated; as erectile tissue when filled with blood. [EU]

Esophageal: Having to do with the esophagus, the muscular tube through which food passes from the throat to the stomach. [NIH]

Esophageal Varices: Stretched veins in the esophagus that occur when the liver is not working properly. If the veins burst, the bleeding can cause death. [NIH]

Esophagus: The muscular tube through which food passes from the throat to the stomach. [NIH]

Estradiol: The most potent mammalian estrogenic hormone. It is produced in the ovary, placenta, testis, and possibly the adrenal cortex. [NIH]

Estrogens: A class of sex hormones associated with the development and maintenance of secondary female sex characteristics and control of the cyclical changes in the reproductive cycle. They are also required for pregnancy maintenance and have an anabolic effect on protein metabolism and water retention. [NIH]

Excitation: An act of irritation or stimulation or of responding to a stimulus; the addition of energy, as the excitation of a molecule by absorption of photons. [EU]

Extraction: The process or act of pulling or drawing out. [EU]

Fallopian Tubes: Two long muscular tubes that transport ova from the ovaries to the uterus. They extend from the horn of the uterus to the ovaries and consist of an ampulla, an infundibulum, an isthmus, two ostia, and a pars uterina. The walls of the tubes are composed of three layers: mucosal, muscular, and serosal. [NIH]

Family Planning: Programs or services designed to assist the family in controlling

reproduction by either improving or diminishing fertility. [NIH]

Fat: Total lipids including phospholipids. [NIH]

Femoral: Pertaining to the femur, or to the thigh. [EU]

Femur: The longest and largest bone of the skeleton, it is situated between the hip and the knee. [NIH]

Fertilization in Vitro: Fertilization of an egg outside the body when the egg is normally fertilized in the body. [NIH]

Fetus: The developing offspring from 7 to 8 weeks after conception until birth. [NIH]

Fibrosis: Any pathological condition where fibrous connective tissue invades any organ, usually as a consequence of inflammation or other injury. [NIH]

Fine-needle aspiration: The removal of tissue or fluid with a needle for examination under a microscope. Also called needle biopsy. [NIH]

Flow Cytometry: Technique using an instrument system for making, processing, and displaying one or more measurements on individual cells obtained from a cell suspension. Cells are usually stained with one or more fluorescent dyes specific to cell components of interest, e.g., DNA, and fluorescence of each cell is measured as it rapidly transverses the excitation beam (laser or mercury arc lamp). Fluorescence provides a quantitative measure of various biochemical and biophysical properties of the cell, as well as a basis for cell sorting. Other measurable optical parameters include light absorption and light scattering, the latter being applicable to the measurement of cell size, shape, density, granularity, and stain uptake. [NIH]

Fluorescence: The property of emitting radiation while being irradiated. The radiation emitted is usually of longer wavelength than that incident or absorbed, e.g., a substance can be irradiated with invisible radiation and emit visible light. X-ray fluorescence is used in diagnosis. [NIH]

Fluorescent Dyes: Dyes that emit light when exposed to light. The wave length of the emitted light is usually longer than that of the incident light. Fluorochromes are substances that cause fluorescence in other substances, i.e., dyes used to mark or label other compounds with fluorescent tags. They are used as markers in biochemistry and immunology. [NIH]

Follicles: Shafts through which hair grows. [NIH]

Fructose: A type of sugar found in many fruits and vegetables and in honey. Fructose is used to sweeten some diet foods. It is considered a nutritive sweetener because it has calories. [NIH]

Gallbladder: The pear-shaped organ that sits below the liver. Bile is concentrated and stored in the gallbladder. [NIH]

Ganglion: 1. A knot, or knotlike mass. 2. A general term for a group of nerve cell bodies located outside the central nervous system; occasionally applied to certain nuclear groups within the brain or spinal cord, e.g. basal ganglia. 3. A benign cystic tumour occurring on a aponeurosis or tendon, as in the wrist or dorsum of the foot; it consists of a thin fibrous capsule enclosing a clear mucinous fluid. [EU]

Gas: Air that comes from normal breakdown of food. The gases are passed out of the body through the rectum (flatus) or the mouth (burp). [NIH]

Gas exchange: Primary function of the lungs; transfer of oxygen from inhaled air into the blood and of carbon dioxide from the blood into the lungs. [NIH]

Gastric: Having to do with the stomach. [NIH]

Gastrin: A hormone released after eating. Gastrin causes the stomach to produce more acid.

[NIH]

Gastroenterostomy: Surgical construction of a channel between the stomach and intestines. [NIH]

Gastrointestinal: Refers to the stomach and intestines. [NIH]

Gastrointestinal tract: The stomach and intestines. [NIH]

Gene: The functional and physical unit of heredity passed from parent to offspring. Genes are pieces of DNA, and most genes contain the information for making a specific protein. [NIH]

Genetic Code: The specifications for how information, stored in nucleic acid sequence (base sequence), is translated into protein sequence (amino acid sequence). The start, stop, and order of amino acids of a protein is specified by consecutive triplets of nucleotides called codons (codon). [NIH]

Genetics: The biological science that deals with the phenomena and mechanisms of heredity. [NIH]

Genital: Pertaining to the genitalia. [EU]

Genitourinary: Pertaining to the genital and urinary organs; urogenital; urinosexual. [EU]

Germ Cells: The reproductive cells in multicellular organisms. [NIH]

Gland: An organ that produces and releases one or more substances for use in the body. Some glands produce fluids that affect tissues or organs. Others produce hormones or participate in blood production. [NIH]

Glomerular: Pertaining to or of the nature of a glomerulus, especially a renal glomerulus. [EU]

Glucose: D-Glucose. A primary source of energy for living organisms. It is naturally occurring and is found in fruits and other parts of plants in its free state. It is used therapeutically in fluid and nutrient replacement. [NIH]

Glycogen: A sugar stored in the liver and muscles. It releases glucose into the blood when cells need it for energy. Glycogen is the chief source of stored fuel in the body. [NIH]

Glycoside: Any compound that contains a carbohydrate molecule (sugar), particularly any such natural product in plants, convertible, by hydrolytic cleavage, into sugar and a nonsugar component (aglycone), and named specifically for the sugar contained, as glucoside (glucose), pentoside (pentose), fructoside (fructose) etc. [EU]

Glycosidic: Formed by elimination of water between the anomeric hydroxyl of one sugar and a hydroxyl of another sugar molecule. [NIH]

Gonad: A sex organ, such as an ovary or a testicle, which produces the gametes in most multicellular animals. [NIH]

Gonadal: Pertaining to a gonad. [EU]

Gonadotropin: The water-soluble follicle stimulating substance, by some believed to originate in chorionic tissue, obtained from the serum of pregnant mares. It is used to supplement the action of estrogens. [NIH]

Governing Board: The group in which legal authority is vested for the control of health-related institutions and organizations. [NIH]

Grade: The grade of a tumor depends on how abnormal the cancer cells look under a microscope and how quickly the tumor is likely to grow and spread. Grading systems are different for each type of cancer. [NIH]

Granulosa Cells: Cells of the membrana granulosa lining the vesicular ovarian follicle which become luteal cells after ovulation. [NIH]

Groin: The external junctural region between the lower part of the abdomen and the thigh. [NIH]

Growth: The progressive development of a living being or part of an organism from its earliest stage to maturity. [NIH]

Guanylate Cyclase: An enzyme that catalyzes the conversion of GTP to 3',5'-cyclic GMP and pyrophosphate. It also acts on ITP and dGTP. (From Enzyme Nomenclature, 1992) EC 4.6.1.2. [NIH]

Headache: Pain in the cranial region that may occur as an isolated and benign symptom or as a manifestation of a wide variety of conditions including subarachnoid hemorrhage; craniocerebral trauma; central nervous system infections; intracranial hypertension; and other disorders. In general, recurrent headaches that are not associated with a primary disease process are referred to as headache disorders (e.g., migraine). [NIH]

Hematuria: Presence of blood in the urine. [NIH]

Hemorrhage: Bleeding or escape of blood from a vessel. [NIH]

Hemorrhoids: Varicosities of the hemorrhoidal venous plexuses. [NIH]

Hemostasis: The process which spontaneously arrests the flow of blood from vessels carrying blood under pressure. It is accomplished by contraction of the vessels, adhesion and aggregation of formed blood elements, and the process of blood or plasma coagulation. [NIH]

Hepatic: Refers to the liver. [NIH]

Heredity: 1. The genetic transmission of a particular quality or trait from parent to offspring. 2. The genetic constitution of an individual. [EU]

Hernia: Protrusion of a loop or knuckle of an organ or tissue through an abnormal opening. [NIH]

Histology: The study of tissues and cells under a microscope. [NIH]

Hormonal: Pertaining to or of the nature of a hormone. [EU]

Hormone: A substance in the body that regulates certain organs. Hormones such as gastrin help in breaking down food. Some hormones come from cells in the stomach and small intestine. [NIH]

Hormone therapy: Treatment of cancer by removing, blocking, or adding hormones. Also called endocrine therapy. [NIH]

Horseradish Peroxidase: An enzyme isolated from horseradish which is able to act as an antigen. It is frequently used as a histochemical tracer for light and electron microscopy. Its antigenicity has permitted its use as a combined antigen and marker in experimental immunology. [NIH]

Hydrogen: The first chemical element in the periodic table. It has the atomic symbol H, atomic number 1, and atomic weight 1. It exists, under normal conditions, as a colorless, odorless, tasteless, diatomic gas. Hydrogen ions are protons. Besides the common H1 isotope, hydrogen exists as the stable isotope deuterium and the unstable, radioactive isotope tritium. [NIH]

Hydrogen Peroxide: A strong oxidizing agent used in aqueous solution as a ripening agent, bleach, and topical anti-infective. It is relatively unstable and solutions deteriorate over time unless stabilized by the addition of acetanilide or similar organic materials. [NIH]

Hyperthermia: A type of treatment in which body tissue is exposed to high temperatures to damage and kill cancer cells or to make cancer cells more sensitive to the effects of radiation and certain anticancer drugs. [NIH]

Hypertrophy: General increase in bulk of a part or organ, not due to tumor formation, nor to an increase in the number of cells. [NIH]

Hypospadias: A developmental anomaly in the male in which the urethra opens on the underside of the penis or on the perineum. [NIH]

Hypoxanthine: A purine and a reaction intermediate in the metabolism of adenosine and in the formation of nucleic acids by the salvage pathway. [NIH]

Id: The part of the personality structure which harbors the unconscious instinctive desires and strivings of the individual. [NIH]

Idiopathic: Describes a disease of unknown cause. [NIH]

Ileal: Related to the ileum, the lowest end of the small intestine. [NIH]

Ileum: The lower end of the small intestine. [NIH]

Immune response: The activity of the immune system against foreign substances (antigens). [NIH]

Immunoassay: Immunochemical assay or detection of a substance by serologic or immunologic methods. Usually the substance being studied serves as antigen both in antibody production and in measurement of antibody by the test substance. [NIH]

Immunodeficiency: The decreased ability of the body to fight infection and disease. [NIH]

Immunology: The study of the body's immune system. [NIH]

Imperforate Anus: A birth defect in which the anal canal fails to develop. The condition is treated with an operation. [NIH]

Implantation: The insertion or grafting into the body of biological, living, inert, or radioactive material. [EU]

Impotence: The inability to perform sexual intercourse. [NIH]

In situ: In the natural or normal place; confined to the site of origin without invasion of neighbouring tissues. [EU]

Incision: A cut made in the body during surgery. [NIH]

Incubation: The development of an infectious disease from the entrance of the pathogen to the appearance of clinical symptoms. [EU]

Indicative: That indicates; that points out more or less exactly; that reveals fairly clearly. [EU]

Induction: The act or process of inducing or causing to occur, especially the production of a specific morphogenetic effect in the developing embryo through the influence of evocators or organizers, or the production of anaesthesia or unconsciousness by use of appropriate agents. [EU]

Infancy: The period of complete dependency prior to the acquisition of competence in walking, talking, and self-feeding. [NIH]

Infarction: A pathological process consisting of a sudden insufficient blood supply to an area, which results in necrosis of that area. It is usually caused by a thrombus, an embolus, or a vascular torsion. [NIH]

Infection: 1. Invasion and multiplication of microorganisms in body tissues, which may be clinically unapparent or result in local cellular injury due to competitive metabolism, toxins, intracellular replication, or antigen-antibody response. The infection may remain localized, subclinical, and temporary if the body's defensive mechanisms are effective. A local infection may persist and spread by extension to become an acute, subacute, or chronic clinical infection or disease state. A local infection may also become systemic when the microorganisms gain access to the lymphatic or vascular system. 2. An infectious disease.

[EU]

Inferior vena cava: A large vein that empties into the heart. It carries blood from the legs and feet, and from organs in the abdomen and pelvis. [NIH]

Infertility: The diminished or absent ability to conceive or produce an offspring while sterility is the complete inability to conceive or produce an offspring. [NIH]

Infusion: A method of putting fluids, including drugs, into the bloodstream. Also called intravenous infusion. [NIH]

Ingestion: Taking into the body by mouth [NIH]

Inguinal: Pertaining to the inguen, or groin. [EU]

Inguinal Hernia: A small part of the large or small intestine or bladder that pushes into the groin. May cause pain and feelings of pressure or burning in the groin. Often requires surgery. [NIH]

Inhibin: Glyceroprotein hormone produced in the seminiferous tubules by the Sertoli cells in the male and by the granulosa cells in the female follicles. The hormone inhibits FSH and LH synthesis and secretion by the pituitary cells thereby affecting sexual maturation and fertility. [NIH]

Insufflation: The act of blowing a powder, vapor, or gas into any body cavity for experimental, diagnostic, or therapeutic purposes. [NIH]

Internal Medicine: A medical specialty concerned with the diagnosis and treatment of diseases of the internal organ systems of adults. [NIH]

Interstitial: Pertaining to or situated between parts or in the interspaces of a tissue. [EU]

Intestinal: Having to do with the intestines. [NIH]

Intestines: The section of the alimentary canal from the stomach to the anus. It includes the large intestine and small intestine. [NIH]

Intracellular: Inside a cell. [NIH]

Intracellular Membranes: Membranes of subcellular structures. [NIH]

Intraperitoneal: IP. Within the peritoneal cavity (the area that contains the abdominal organs). [NIH]

Intravascular: Within a vessel or vessels. [EU]

Intussusception: A rare disorder. A part of the intestines folds into another part of the intestines, causing blockage. Most common in infants. Can be treated with an operation. [NIH]

Invasive: 1. Having the quality of invasiveness. 2. Involving puncture or incision of the skin or insertion of an instrument or foreign material into the body; said of diagnostic techniques. [EU]

Involuntary: Reaction occurring without intention or volition. [NIH]

Ions: An atom or group of atoms that have a positive or negative electric charge due to a gain (negative charge) or loss (positive charge) of one or more electrons. Atoms with a positive charge are known as cations; those with a negative charge are anions. [NIH]

Ischemia: Deficiency of blood in a part, due to functional constriction or actual obstruction of a blood vessel. [EU]

Joint: The point of contact between elements of an animal skeleton with the parts that surround and support it. [NIH]

Kb: A measure of the length of DNA fragments, 1 Kb = 1000 base pairs. The largest DNA fragments are up to 50 kilobases long. [NIH]

Kinetics: The study of rate dynamics in chemical or physical systems. [NIH]

Laparoscopy: Examination, therapy or surgery of the abdomen's interior by means of a laparoscope. [NIH]

Lectin: A complex molecule that has both protein and sugars. Lectins are able to bind to the outside of a cell and cause biochemical changes in it. Lectins are made by both animals and plants. [NIH]

Lesion: An area of abnormal tissue change. [NIH]

Leucocyte: All the white cells of the blood and their precursors (myeloid cell series, lymphoid cell series) but commonly used to indicate granulocytes exclusive of lymphocytes. [NIH]

Library Services: Services offered to the library user. They include reference and circulation. [NIH]

Ligament: A band of fibrous tissue that connects bones or cartilages, serving to support and strengthen joints. [EU]

Ligation: Application of a ligature to tie a vessel or strangulate a part. [NIH]

Lipid: Fat. [NIH]

Lipid Peroxidation: Peroxidase catalyzed oxidation of lipids using hydrogen peroxide as an electron acceptor. [NIH]

Liver: A large, glandular organ located in the upper abdomen. The liver cleanses the blood and aids in digestion by secreting bile. [NIH]

Localization: The process of determining or marking the location or site of a lesion or disease. May also refer to the process of keeping a lesion or disease in a specific location or site. [NIH]

Localized: Cancer which has not metastasized yet. [NIH]

Loop: A wire usually of platinum bent at one end into a small loop (usually 4 mm inside diameter) and used in transferring microorganisms. [NIH]

Lumen: The cavity or channel within a tube or tubular organ. [EU]

Lymph: The almost colorless fluid that travels through the lymphatic system and carries cells that help fight infection and disease. [NIH]

Lymph node: A rounded mass of lymphatic tissue that is surrounded by a capsule of connective tissue. Also known as a lymph gland. Lymph nodes are spread out along lymphatic vessels and contain many lymphocytes, which filter the lymphatic fluid (lymph). [NIH]

Lymphatic: The tissues and organs, including the bone marrow, spleen, thymus, and lymph nodes, that produce and store cells that fight infection and disease. [NIH]

Lymphocyte: A white blood cell. Lymphocytes have a number of roles in the immune system, including the production of antibodies and other substances that fight infection and diseases. [NIH]

Lymphoid: Referring to lymphocytes, a type of white blood cell. Also refers to tissue in which lymphocytes develop. [NIH]

Malformation: A morphologic defect resulting from an intrinsically abnormal developmental process. [EU]

Malignant: Cancerous; a growth with a tendency to invade and destroy nearby tissue and spread to other parts of the body. [NIH]

Malnutrition: A condition caused by not eating enough food or not eating a balanced diet.

[NIH]

Mediator: An object or substance by which something is mediated, such as (1) a structure of the nervous system that transmits impulses eliciting a specific response; (2) a chemical substance (transmitter substance) that induces activity in an excitable tissue, such as nerve or muscle; or (3) a substance released from cells as the result of the interaction of antigen with antibody or by the action of antigen with a sensitized lymphocyte. [EU]

MEDLINE: An online database of MEDLARS, the computerized bibliographic Medical Literature Analysis and Retrieval System of the National Library of Medicine. [NIH]

Membrane: A very thin layer of tissue that covers a surface. [NIH]

Membrane Proteins: Proteins which are found in membranes including cellular and intracellular membranes. They consist of two types, peripheral and integral proteins. They include most membrane-associated enzymes, antigenic proteins, transport proteins, and drug, hormone, and lectin receptors. [NIH]

Menstrual Cycle: The period of the regularly recurring physiologic changes in the endometrium occurring during the reproductive period in human females and some primates and culminating in partial sloughing of the endometrium (menstruation). [NIH]

Mental Health: The state wherein the person is well adjusted. [NIH]

Mercury: A silver metallic element that exists as a liquid at room temperature. It has the atomic symbol Hg (from hydrargyrum, liquid silver), atomic number 80, and atomic weight 200.59. Mercury is used in many industrial applications and its salts have been employed therapeutically as purgatives, antisyphilitics, disinfectants, and astringents. It can be absorbed through the skin and mucous membranes which leads to mercury poisoning. Because of its toxicity, the clinical use of mercury and mercurials is diminishing. [NIH]

MI: Myocardial infarction. Gross necrosis of the myocardium as a result of interruption of the blood supply to the area; it is almost always caused by atherosclerosis of the coronary arteries, upon which coronary thrombosis is usually superimposed. [NIH]

Microorganism: An organism that can be seen only through a microscope. Microorganisms include bacteria, protozoa, algae, and fungi. Although viruses are not considered living organisms, they are sometimes classified as microorganisms. [NIH]

Microscopy: The application of microscope magnification to the study of materials that cannot be properly seen by the unaided eye. [NIH]

Micturition: The passage of urine; urination. [EU]

Milliliter: A measure of volume for a liquid. A milliliter is approximately 950-times smaller than a quart and 30-times smaller than a fluid ounce. A milliliter of liquid and a cubic centimeter (cc) of liquid are the same. [NIH]

Mitosis: A method of indirect cell division by means of which the two daughter nuclei normally receive identical complements of the number of chromosomes of the somatic cells of the species. [NIH]

Molecular: Of, pertaining to, or composed of molecules : a very small mass of matter. [EU]

Molecule: A chemical made up of two or more atoms. The atoms in a molecule can be the same (an oxygen molecule has two oxygen atoms) or different (a water molecule has two hydrogen atoms and one oxygen atom). Biological molecules, such as proteins and DNA, can be made up of many thousands of atoms. [NIH]

Monitor: An apparatus which automatically records such physiological signs as respiration, pulse, and blood pressure in an anesthetized patient or one undergoing surgical or other procedures. [NIH]

Morphological: Relating to the configuration or the structure of live organs. [NIH]

Morphology: The science of the form and structure of organisms (plants, animals, and other forms of life). [NIH]

Motility: The ability to move spontaneously. [EU]

Mucinous: Containing or resembling mucin, the main compound in mucus. [NIH]

Multicenter study: A clinical trial that is carried out at more than one medical institution. [NIH]

Mydriatic: 1. Dilating the pupil. 2. Any drug that dilates the pupil. [EU]

Myocardium: The muscle tissue of the heart composed of striated, involuntary muscle known as cardiac muscle. [NIH]

Necrosis: A pathological process caused by the progressive degradative action of enzymes that is generally associated with severe cellular trauma. It is characterized by mitochondrial swelling, nuclear flocculation, uncontrolled cell lysis, and ultimately cell death. [NIH]

Need: A state of tension or dissatisfaction felt by an individual that impels him to action toward a goal he believes will satisfy the impulse. [NIH]

Needle biopsy: The removal of tissue or fluid with a needle for examination under a microscope. Also called fine-needle aspiration. [NIH]

Nephrectomy: Surgery to remove a kidney. Radical nephrectomy removes the kidney, the adrenal gland, nearby lymph nodes, and other surrounding tissue. Simple nephrectomy removes only the kidney. Partial nephrectomy removes the tumor but not the entire kidney. [NIH]

Nephrotic: Pertaining to, resembling, or caused by nephrosis. [EU]

Nephrotic Syndrome: Clinical association of heavy proteinuria, hypoalbuminemia, and generalized edema. [NIH]

Nerve: A cordlike structure of nervous tissue that connects parts of the nervous system with other tissues of the body and conveys nervous impulses to, or away from, these tissues. [NIH]

Neurogenic: Loss of bladder control caused by damage to the nerves controlling the bladder. [NIH]

Neuronal: Pertaining to a neuron or neurons (= conducting cells of the nervous system). [EU]

Neutrons: Electrically neutral elementary particles found in all atomic nuclei except light hydrogen; the mass is equal to that of the proton and electron combined and they are unstable when isolated from the nucleus, undergoing beta decay. Slow, thermal, epithermal, and fast neutrons refer to the energy levels with which the neutrons are ejected from heavier nuclei during their decay. [NIH]

Nitric Oxide: A free radical gas produced endogenously by a variety of mammalian cells. It is synthesized from arginine by a complex reaction, catalyzed by nitric oxide synthase. Nitric oxide is endothelium-derived relaxing factor. It is released by the vascular endothelium and mediates the relaxation induced by some vasodilators such as acetylcholine and bradykinin. It also inhibits platelet aggregation, induces disaggregation of aggregated platelets, and inhibits platelet adhesion to the vascular endothelium. Nitric oxide activates cytosolic guanylate cyclase and thus elevates intracellular levels of cyclic GMP. [NIH]

Nuclear: A test of the structure, blood flow, and function of the kidneys. The doctor injects a mildly radioactive solution into an arm vein and uses x-rays to monitor its progress through the kidneys. [NIH]

Nuclei: A body of specialized protoplasm found in nearly all cells and containing the

chromosomes. [NIH]

Nucleic acid: Either of two types of macromolecule (DNA or RNA) formed by polymerization of nucleotides. Nucleic acids are found in all living cells and contain the information (genetic code) for the transfer of genetic information from one generation to the next. [NIH]

Nucleus: A body of specialized protoplasm found in nearly all cells and containing the chromosomes. [NIH]

Oligo: Chemical and mineral elements that exist in minimal (oligo) quantities in the body, in foods, in the air, in soil; name applied to any element observed as a microconstituent of plant or animal tissue and of beneficial, harmful, or even doubtful significance. [NIH]

Oncology: The study of cancer. [NIH]

Orchiectomy: The surgical removal of one or both testicles. [NIH]

Orgasm: The crisis of sexual excitement in either humans or animals. [NIH]

Outpatient: A patient who is not an inmate of a hospital but receives diagnosis or treatment in a clinic or dispensary connected with the hospital. [NIH]

Ovaries: The pair of female reproductive glands in which the ova, or eggs, are formed. The ovaries are located in the pelvis, one on each side of the uterus. [NIH]

Ovary: Either of the paired glands in the female that produce the female germ cells and secrete some of the female sex hormones. [NIH]

Ovum: A female germ cell extruded from the ovary at ovulation. [NIH]

Oxidation: The act of oxidizing or state of being oxidized. Chemically it consists in the increase of positive charges on an atom or the loss of negative charges. Most biological oxidations are accomplished by the removal of a pair of hydrogen atoms (dehydrogenation) from a molecule. Such oxidations must be accompanied by reduction of an acceptor molecule. Univalent o. indicates loss of one electron; divalent o., the loss of two electrons. [EU]

Paediatric: Of or relating to the care and medical treatment of children; belonging to or concerned with paediatrics. [EU]

Palpation: Application of fingers with light pressure to the surface of the body to determine consistence of parts beneath in physical diagnosis; includes palpation for determining the outlines of organs. [NIH]

Pancreas: A mixed exocrine and endocrine gland situated transversely across the posterior abdominal wall in the epigastric and hypochondriac regions. The endocrine portion is comprised of the Islets of Langerhans, while the exocrine portion is a compound acinar gland that secretes digestive enzymes. [NIH]

Pancreatic: Having to do with the pancreas. [NIH]

Pathogen: Any disease-producing microorganism. [EU]

Pathogenesis: The cellular events and reactions that occur in the development of disease. [NIH]

Pathologic: 1. Indicative of or caused by a morbid condition. 2. Pertaining to pathology (= branch of medicine that treats the essential nature of the disease, especially the structural and functional changes in tissues and organs of the body caused by the disease). [EU]

Pathologic Processes: The abnormal mechanisms and forms involved in the dysfunctions of tissues and organs. [NIH]

Pathophysiology: Altered functions in an individual or an organ due to disease. [NIH]

Patient Education: The teaching or training of patients concerning their own health needs. [NIH]

Patient Selection: Criteria and standards used for the determination of the appropriateness of the inclusion of patients with specific conditions in proposed treatment plans and the criteria used for the inclusion of subjects in various clinical trials and other research protocols. [NIH]

Pedigree: A record of one's ancestors, offspring, siblings, and their offspring that may be used to determine the pattern of certain genes or disease inheritance within a family. [NIH]

Pelvic: Pertaining to the pelvis. [EU]

Penis: The external reproductive organ of males. It is composed of a mass of erectile tissue enclosed in three cylindrical fibrous compartments. Two of the three compartments, the corpus cavernosa, are placed side-by-side along the upper part of the organ. The third compartment below, the corpus spongiosum, houses the urethra. [NIH]

Peptic: Pertaining to pepsin or to digestion; related to the action of gastric juices. [EU]

Peptic Ulcer: An ulceration of the mucous membrane of the esophagus, stomach or duodenum, caused by the action of the acid gastric juice. [NIH]

Peptic Ulcer Hemorrhage: Bleeding from a peptic ulcer. [NIH]

Peptide: Any compound consisting of two or more amino acids, the building blocks of proteins. Peptides are combined to make proteins. [NIH]

Percutaneous: Performed through the skin, as injection of radiopaque material in radiological examination, or the removal of tissue for biopsy accomplished by a needle. [EU]

Perineum: The area between the anus and the sex organs. [NIH]

Peripheral blood: Blood circulating throughout the body. [NIH]

Peritoneal: Having to do with the peritoneum (the tissue that lines the abdominal wall and covers most of the organs in the abdomen). [NIH]

Peritoneal Cavity: The space enclosed by the peritoneum. It is divided into two portions, the greater sac and the lesser sac or omental bursa, which lies behind the stomach. The two sacs are connected by the foramen of Winslow, or epiploic foramen. [NIH]

Peritoneum: Endothelial lining of the abdominal cavity, the parietal peritoneum covering the inside of the abdominal wall and the visceral peritoneum covering the bowel, the mesentery, and certain of the organs. The portion that covers the bowel becomes the serosal layer of the bowel wall. [NIH]

Pharmacologic: Pertaining to pharmacology or to the properties and reactions of drugs. [EU]

Phlebography: Radiographic visualization or recording of a vein after the injection of contrast medium. [NIH]

Phosphorus: A non-metallic element that is found in the blood, muscles, nerves, bones, and teeth, and is a component of adenosine triphosphate (ATP; the primary energy source for the body's cells.) [NIH]

Phosphorylase: An enzyme of the transferase class that catalyzes the phosphorylysis of a terminal alpha-1,4-glycosidic bond at the non-reducing end of a glycogen molecule, releasing a glucose 1-phosphate residue. Phosphorylase should be qualified by the natural substance acted upon. EC 2.4.1.1. [NIH]

Phosphorylase a: The phosphorylated and more active form of phosphorylase that functions as a regulatory enzyme during glycogen breakdown. The phosphate groups are hydrolytically removed by phosphorylase phosphatase to form phosphorylase B and orthophosphate. EC 2.4.1.-. [NIH]

Phosphorylase Phosphatase: An enzyme that deactivates glycogen phosphorylase a by releasing inorganic phosphate and phosphorylase b, the inactive form. EC 3.1.3.17. [NIH]

Phosphorylated: Attached to a phosphate group. [NIH]

Physical Examination: Systematic and thorough inspection of the patient for physical signs of disease or abnormality. [NIH]

Physiologic: Having to do with the functions of the body. When used in the phrase "physiologic age," it refers to an age assigned by general health, as opposed to calendar age. [NIH]

Physiology: The science that deals with the life processes and functions of organismus, their cells, tissues, and organs. [NIH]

Placenta: A highly vascular fetal organ through which the fetus absorbs oxygen and other nutrients and excretes carbon dioxide and other wastes. It begins to form about the eighth day of gestation when the blastocyst adheres to the decidua. [NIH]

Plants: Multicellular, eukaryotic life forms of the kingdom Plantae. They are characterized by a mainly photosynthetic mode of nutrition; essentially unlimited growth at localized regions of cell divisions (meristems); cellulose within cells providing rigidity; the absence of organs of locomotion; absence of nervous and sensory systems; and an alteration of haploid and diploid generations. [NIH]

Plasma: The clear, yellowish, fluid part of the blood that carries the blood cells. The proteins that form blood clots are in plasma. [NIH]

Plasma cells: A type of white blood cell that produces antibodies. [NIH]

Platelet Aggregation: The attachment of platelets to one another. This clumping together can be induced by a number of agents (e.g., thrombin, collagen) and is part of the mechanism leading to the formation of a thrombus. [NIH]

Platelets: A type of blood cell that helps prevent bleeding by causing blood clots to form. Also called thrombocytes. [NIH]

Platinum: Platinum. A heavy, soft, whitish metal, resembling tin, atomic number 78, atomic weight 195.09, symbol Pt. (From Dorland, 28th ed) It is used in manufacturing equipment for laboratory and industrial use. It occurs as a black powder (platinum black) and as a spongy substance (spongy platinum) and may have been known in Pliny's time as "alutiae". [NIH]

Plethysmography: Recording of change in the size of a part as modified by the circulation in it. [NIH]

Pleural: A circumscribed area of hyaline whorled fibrous tissue which appears on the surface of the parietal pleura, on the fibrous part of the diaphragm or on the pleura in the interlobar fissures. [NIH]

Pleural cavity: A space enclosed by the pleura (thin tissue covering the lungs and lining the interior wall of the chest cavity). It is bound by thin membranes. [NIH]

Polymerase: An enzyme which catalyses the synthesis of DNA using a single DNA strand as a template. The polymerase copies the template in the 5'-3' direction provided that sufficient quantities of free nucleotides, dATP and dTTP are present. [NIH]

Polymorphic: Occurring in several or many forms; appearing in different forms at different stages of development. [EU]

Polypeptide: A peptide which on hydrolysis yields more than two amino acids; called tripeptides, tetrapeptides, etc. according to the number of amino acids contained. [EU]

Polysaccharide: A type of carbohydrate. It contains sugar molecules that are linked together

chemically. [NIH]

Port: An implanted device through which blood may be withdrawn and drugs may be infused without repeated needle sticks. Also called a port-a-cath. [NIH]

Port-a-cath: An implanted device through which blood may be withdrawn and drugs may be infused without repeated needle sticks. Also called a port. [NIH]

Posterior: Situated in back of, or in the back part of, or affecting the back or dorsal surface of the body. In lower animals, it refers to the caudal end of the body. [EU]

Postoperative: After surgery. [NIH]

Practice Guidelines: Directions or principles presenting current or future rules of policy for the health care practitioner to assist him in patient care decisions regarding diagnosis, therapy, or related clinical circumstances. The guidelines may be developed by government agencies at any level, institutions, professional societies, governing boards, or by the convening of expert panels. The guidelines form a basis for the evaluation of all aspects of health care and delivery. [NIH]

Precursor: Something that precedes. In biological processes, a substance from which another, usually more active or mature substance is formed. In clinical medicine, a sign or symptom that heralds another. [EU]

Pregnancy Outcome: Results of conception and ensuing pregnancy, including live birth, stillbirth, spontaneous abortion, induced abortion. The outcome may follow natural or artificial insemination or any of the various reproduction techniques, such as embryo transfer or fertilization in vitro. [NIH]

Prenatal: Existing or occurring before birth, with reference to the fetus. [EU]

Prenatal Diagnosis: Determination of the nature of a pathological condition or disease in the postimplantation embryo, fetus, or pregnant female before birth. [NIH]

Progesterone: Pregn-4-ene-3,20-dione. The principal progestational hormone of the body, secreted by the corpus luteum, adrenal cortex, and placenta. Its chief function is to prepare the uterus for the reception and development of the fertilized ovum. It acts as an antiovarian agent when administered on days 5-25 of the menstrual cycle. [NIH]

Prognostic factor: A situation or condition, or a characteristic of a patient, that can be used to estimate the chance of recovery from a disease, or the chance of the disease recurring (coming back). [NIH]

Progression: Increase in the size of a tumor or spread of cancer in the body. [NIH]

Progressive: Advancing; going forward; going from bad to worse; increasing in scope or severity. [EU]

Proliferating Cell Nuclear Antigen: Nuclear antigen with a role in DNA synthesis, DNA repair, and cell cycle progression. PCNA is required for the coordinated synthesis of both leading and lagging strands at the replication fork during DNA replication. PCNA expression correlates with the proliferation activity of several malignant and non-malignant cell types. [NIH]

Proportional: Being in proportion : corresponding in size, degree, or intensity, having the same or a constant ratio; of, relating to, or used in determining proportions. [EU]

Prospective study: An epidemiologic study in which a group of individuals (a cohort), all free of a particular disease and varying in their exposure to a possible risk factor, is followed over a specific amount of time to determine the incidence rates of the disease in the exposed and unexposed groups. [NIH]

Prostate: A gland in males that surrounds the neck of the bladder and the urethra. It secretes

a substance that liquifies coagulated semen. It is situated in the pelvic cavity behind the lower part of the pubic symphysis, above the deep layer of the triangular ligament, and rests upon the rectum. [NIH]

Prostate gland: A gland in the male reproductive system just below the bladder. It surrounds part of the urethra, the canal that empties the bladder, and produces a fluid that forms part of semen. [NIH]

Protein S: The vitamin K-dependent cofactor of activated protein C. Together with protein C, it inhibits the action of factors VIIIa and Va. A deficiency in protein S can lead to recurrent venous and arterial thrombosis. [NIH]

Proteins: Polymers of amino acids linked by peptide bonds. The specific sequence of amino acids determines the shape and function of the protein. [NIH]

Proteolytic: 1. Pertaining to, characterized by, or promoting proteolysis. 2. An enzyme that promotes proteolysis (= the splitting of proteins by hydrolysis of the peptide bonds with formation of smaller polypeptides). [EU]

Protons: Stable elementary particles having the smallest known positive charge, found in the nuclei of all elements. The proton mass is less than that of a neutron. A proton is the nucleus of the light hydrogen atom, i.e., the hydrogen ion. [NIH]

Puberty: The period during which the secondary sex characteristics begin to develop and the capability of sexual reproduction is attained. [EU]

Public Health: Branch of medicine concerned with the prevention and control of disease and disability, and the promotion of physical and mental health of the population on the international, national, state, or municipal level. [NIH]

Public Policy: A course or method of action selected, usually by a government, from among alternatives to guide and determine present and future decisions. [NIH]

Publishing: "The business or profession of the commercial production and issuance of literature" (Webster's 3d). It includes the publisher, publication processes, editing and editors. Production may be by conventional printing methods or by electronic publishing. [NIH]

Pupil: The aperture in the iris through which light passes. [NIH]

Purines: A series of heterocyclic compounds that are variously substituted in nature and are known also as purine bases. They include adenine and guanine, constituents of nucleic acids, as well as many alkaloids such as caffeine and theophylline. Uric acid is the metabolic end product of purine metabolism. [NIH]

Radiation: Emission or propagation of electromagnetic energy (waves/rays), or the waves/rays themselves; a stream of electromagnetic particles (electrons, neutrons, protons, alpha particles) or a mixture of these. The most common source is the sun. [NIH]

Radiation therapy: The use of high-energy radiation from x-rays, gamma rays, neutrons, and other sources to kill cancer cells and shrink tumors. Radiation may come from a machine outside the body (external-beam radiation therapy), or it may come from radioactive material placed in the body in the area near cancer cells (internal radiation therapy, implant radiation, or brachytherapy). Systemic radiation therapy uses a radioactive substance, such as a radiolabeled monoclonal antibody, that circulates throughout the body. Also called radiotherapy. [NIH]

Radio Waves: That portion of the electromagnetic spectrum beyond the microwaves, with wavelengths as high as 30 KM. They are used in communications, including television. Short Wave or HF (high frequency), UHF (ultrahigh frequency) and VHF (very high frequency) waves are used in citizen's band communication. [NIH]

Radioactive: Giving off radiation. [NIH]

Radiological: Pertaining to radiodiagnostic and radiotherapeutic procedures, and interventional radiology or other planning and guiding medical radiology. [NIH]

Radiology: A specialty concerned with the use of x-ray and other forms of radiant energy in the diagnosis and treatment of disease. [NIH]

Randomized: Describes an experiment or clinical trial in which animal or human subjects are assigned by chance to separate groups that compare different treatments. [NIH]

Receptor: A molecule inside or on the surface of a cell that binds to a specific substance and causes a specific physiologic effect in the cell. [NIH]

Receptors, Serotonin: Cell-surface proteins that bind serotonin and trigger intracellular changes which influence the behavior of cells. Several types of serotonin receptors have been recognized which differ in their pharmacology, molecular biology, and mode of action. [NIH]

Rectum: The last 8 to 10 inches of the large intestine. [NIH]

Recurrence: The return of a sign, symptom, or disease after a remission. [NIH]

Red blood cells: RBCs. Cells that carry oxygen to all parts of the body. Also called erythrocytes. [NIH]

Refer: To send or direct for treatment, aid, information, or decision. [NIH]

Reflex: An involuntary movement or exercise of function in a part, excited in response to a stimulus applied to the periphery and transmitted to the brain or spinal cord. [NIH]

Reflux: The term used when liquid backs up into the esophagus from the stomach. [NIH]

Regimen: A treatment plan that specifies the dosage, the schedule, and the duration of treatment. [NIH]

Remission: A decrease in or disappearance of signs and symptoms of cancer. In partial remission, some, but not all, signs and symptoms of cancer have disappeared. In complete remission, all signs and symptoms of cancer have disappeared, although there still may be cancer in the body. [NIH]

Renal failure: Progressive renal insufficiency and uremia, due to irreversible and progressive renal glomerular tubular or interstitial disease. [NIH]

Renal vein thrombosis: Blood clots in the vessel that carries blood away from the kidney. This can occur in people with the nephrotic syndrome. [NIH]

Renal Veins: Short thick veins which return blood from the kidneys to the vena cava. [NIH]

Reproduction Techniques: Methods pertaining to the generation of new individuals. [NIH]

Reproductive cells: Egg and sperm cells. Each mature reproductive cell carries a single set of 23 chromosomes. [NIH]

Reproductive system: In women, this system includes the ovaries, the fallopian tubes, the uterus (womb), the cervix, and the vagina (birth canal). The reproductive system in men includes the prostate, the testes, and the penis. [NIH]

Resection: Removal of tissue or part or all of an organ by surgery. [NIH]

Restoration: Broad term applied to any inlay, crown, bridge or complete denture which restores or replaces loss of teeth or oral tissues. [NIH]

Retrograde: 1. Moving backward or against the usual direction of flow. 2. Degenerating, deteriorating, or catabolic. [EU]

Retroperitoneal: Having to do with the area outside or behind the peritoneum (the tissue that lines the abdominal wall and covers most of the organs in the abdomen). [NIH]

Risk factor: A habit, trait, condition, or genetic alteration that increases a person's chance of developing a disease. [NIH]

Saponins: Sapogenin glycosides. A type of glycoside widely distributed in plants. Each consists of a sapogenin as the aglycon moiety, and a sugar. The sapogenin may be a steroid or a triterpene and the sugar may be glucose, galactose, a pentose, or a methylpentose. Sapogenins are poisonous towards the lower forms of life and are powerful hemolytics when injected into the blood stream able to dissolve red blood cells at even extreme dilutions. [NIH]

Sclerotherapy: Treatment of varicose veins, hemorrhoids, gastric and esophageal varices, and peptic ulcer hemorrhage by injection or infusion of chemical agents which cause localized thrombosis and eventual fibrosis and obliteration of the vessels. [NIH]

Screening: Checking for disease when there are no symptoms. [NIH]

Scrotum: In males, the external sac that contains the testicles. [NIH]

Secretion: 1. The process of elaborating a specific product as a result of the activity of a gland; this activity may range from separating a specific substance of the blood to the elaboration of a new chemical substance. 2. Any substance produced by secretion. [EU]

Semen: The thick, yellowish-white, viscid fluid secretion of male reproductive organs discharged upon ejaculation. In addition to reproductive organ secretions, it contains spermatozoa and their nutrient plasma. [NIH]

Seminal fluid: Fluid from the prostate and other sex glands that helps transport sperm out of the man's body during orgasm. Seminal fluid contains sugar as an energy source for sperm. [NIH]

Seminiferous tubule: Tube used to transport sperm made in the testes. [NIH]

Serotonin: A biochemical messenger and regulator, synthesized from the essential amino acid L-tryptophan. In humans it is found primarily in the central nervous system, gastrointestinal tract, and blood platelets. Serotonin mediates several important physiological functions including neurotransmission, gastrointestinal motility, hemostasis, and cardiovascular integrity. Multiple receptor families (receptors, serotonin) explain the broad physiological actions and distribution of this biochemical mediator. [NIH]

Serous: Having to do with serum, the clear liquid part of blood. [NIH]

Serum: The clear liquid part of the blood that remains after blood cells and clotting proteins have been removed. [NIH]

Sex Characteristics: Those characteristics that distinguish one sex from the other. The primary sex characteristics are the ovaries and testes and their related hormones. Secondary sex characteristics are those which are masculine or feminine but not directly related to reproduction. [NIH]

Shunt: A surgically created diversion of fluid (e.g., blood or cerebrospinal fluid) from one area of the body to another area of the body. [NIH]

Side effect: A consequence other than the one(s) for which an agent or measure is used, as the adverse effects produced by a drug, especially on a tissue or organ system other than the one sought to be benefited by its administration. [EU]

Sigmoid: 1. Shaped like the letter S or the letter C. 2. The sigmoid colon. [EU]

Sigmoid Colon: The lower part of the colon that empties into the rectum. [NIH]

Skeleton: The framework that supports the soft tissues of vertebrate animals and protects many of their internal organs. The skeletons of vertebrates are made of bone and/or cartilage. [NIH]

Small intestine: The part of the digestive tract that is located between the stomach and the large intestine. [NIH]

Smooth muscle: Muscle that performs automatic tasks, such as constricting blood vessels. [NIH]

Somatic: 1. Pertaining to or characteristic of the soma or body. 2. Pertaining to the body wall in contrast to the viscera. [EU]

Sound wave: An alteration of properties of an elastic medium, such as pressure, particle displacement, or density, that propagates through the medium, or a superposition of such alterations. [NIH]

Specialist: In medicine, one who concentrates on 1 special branch of medical science. [NIH]

Specificity: Degree of selectivity shown by an antibody with respect to the number and types of antigens with which the antibody combines, as well as with respect to the rates and the extents of these reactions. [NIH]

Sperm: The fecundating fluid of the male. [NIH]

Sperm Count: A count of sperm in the ejaculum, expressed as number per milliliter. [NIH]

Sperm Head: The anterior, usually ovoid, nucleus-containing part of spermatozoa. [NIH]

Sperm Motility: Ability of the spermatozoon to move by flagellate swimming. [NIH]

Spermatic: A cord-like structure formed by the vas deferens and the blood vessels, nerves and lymphatics of the testis. [NIH]

Spermatogenesis: Process of formation and development of spermatozoa, including spermatocytogenesis and spermiogenesis. [NIH]

Spermatozoa: Mature male germ cells that develop in the seminiferous tubules of the testes. Each consists of a head, a body, and a tail that provides propulsion. The head consists mainly of chromatin. [NIH]

Spermatozoon: The mature male germ cell. [NIH]

Spinal cord: The main trunk or bundle of nerves running down the spine through holes in the spinal bone (the vertebrae) from the brain to the level of the lower back. [NIH]

Spleen: An organ that is part of the lymphatic system. The spleen produces lymphocytes, filters the blood, stores blood cells, and destroys old blood cells. It is located on the left side of the abdomen near the stomach. [NIH]

Splenectomy: An operation to remove the spleen. [NIH]

Spontaneous Abortion: The non-induced birth of an embryo or of fetus prior to the stage of viability at about 20 weeks of gestation. [NIH]

Steel: A tough, malleable, iron-based alloy containing up to, but no more than, two percent carbon and often other metals. It is used in medicine and dentistry in implants and instrumentation. [NIH]

Sterile: Unable to produce children. [NIH]

Sterility: 1. The inability to produce offspring, i.e., the inability to conceive (female s.) or to induce conception (male s.). 2. The state of being aseptic, or free from microorganisms. [EU]

Sterilization: The destroying of all forms of life, especially microorganisms, by heat, chemical, or other means. [NIH]

Steroid: A group name for lipids that contain a hydrogenated cyclopentanoperhydrophenanthrene ring system. Some of the substances included in this group are progesterone, adrenocortical hormones, the gonadal hormones, cardiac aglycones, bile acids, sterols (such as cholesterol), toad poisons, saponins, and some of the carcinogenic

hydrocarbons. [EU]

Stillbirth: The birth of a dead fetus or baby. [NIH]

Stimulant: 1. Producing stimulation; especially producing stimulation by causing tension on muscle fibre through the nervous tissue. 2. An agent or remedy that produces stimulation. [EU]

Stimulus: That which can elicit or evoke action (response) in a muscle, nerve, gland or other excitable issue, or cause an augmenting action upon any function or metabolic process. [NIH]

Stomach: An organ of digestion situated in the left upper quadrant of the abdomen between the termination of the esophagus and the beginning of the duodenum. [NIH]

Strand: DNA normally exists in the bacterial nucleus in a helix, in which two strands are coiled together. [NIH]

Stress: Forcibly exerted influence; pressure. Any condition or situation that causes strain or tension. Stress may be either physical or psychologic, or both. [NIH]

Stroke: Sudden loss of function of part of the brain because of loss of blood flow. Stroke may be caused by a clot (thrombosis) or rupture (hemorrhage) of a blood vessel to the brain. [NIH]

Stromal: Large, veil-like cell in the bone marrow. [NIH]

Subacute: Somewhat acute; between acute and chronic. [EU]

Subclinical: Without clinical manifestations; said of the early stage(s) of an infection or other disease or abnormality before symptoms and signs become apparent or detectable by clinical examination or laboratory tests, or of a very mild form of an infection or other disease or abnormality. [EU]

Substance P: An eleven-amino acid neurotransmitter that appears in both the central and peripheral nervous systems. It is involved in transmission of pain, causes rapid contractions of the gastrointestinal smooth muscle, and modulates inflammatory and immune responses. [NIH]

Substrate: A substance upon which an enzyme acts. [EU]

Superoxide: Derivative of molecular oxygen that can damage cells. [NIH]

Superoxide Dismutase: An oxidoreductase that catalyzes the reaction between superoxide anions and hydrogen to yield molecular oxygen and hydrogen peroxide. The enzyme protects the cell against dangerous levels of superoxide. EC 1.15.1.1. [NIH]

Suspensory: Supporting a part. [NIH]

Symphysis: A secondary cartilaginous joint. [NIH]

Systemic: Affecting the entire body. [NIH]

Testicle: The male gonad where, in adult life, spermatozoa develop; the testis. [NIH]

Testicular: Pertaining to a testis. [EU]

Testis: Either of the paired male reproductive glands that produce the male germ cells and the male hormones. [NIH]

Testosterone: A hormone that promotes the development and maintenance of male sex characteristics. [NIH]

Thermography: Measurement of the regional temperature of the body or an organ by infrared sensing devices, based on self-emanating infrared radiation. [NIH]

Thigh: A leg; in anatomy, any elongated process or part of a structure more or less comparable to a leg. [NIH]

Thoracoscopy: Endoscopic examination, therapy or surgery of the pleural cavity. [NIH]

Thrombosis: The formation or presence of a blood clot inside a blood vessel. [NIH]

Thymosin: A family of heat-stable, polypeptide hormones secreted by the thymus gland. Their biological activities include lymphocytopoiesis, restoration of immunological competence and enhancement of expression of T-cell characteristics and function. They have therapeutic potential in patients having primary or secondary immunodeficiency diseases, cancer or diseases related to aging. [NIH]

Thymus: An organ that is part of the lymphatic system, in which T lymphocytes grow and multiply. The thymus is in the chest behind the breastbone. [NIH]

Thymus Gland: A single, unpaired primary lymphoid organ situated in the mediastinum, extending superiorly into the neck to the lower edge of the thyroid gland and inferiorly to the fourth costal cartilage. It is necessary for normal development of immunologic function early in life. By puberty, it begins to involute and much of the tissue is replaced by fat. [NIH]

Tissue: A group or layer of cells that are alike in type and work together to perform a specific function. [NIH]

Toxic: Having to do with poison or something harmful to the body. Toxic substances usually cause unwanted side effects. [NIH]

Toxicology: The science concerned with the detection, chemical composition, and pharmacologic action of toxic substances or poisons and the treatment and prevention of toxic manifestations. [NIH]

Toxins: Specific, characterizable, poisonous chemicals, often proteins, with specific biological properties, including immunogenicity, produced by microbes, higher plants, or animals. [NIH]

Transfection: The uptake of naked or purified DNA into cells, usually eukaryotic. It is analogous to bacterial transformation. [NIH]

Translocation: The movement of material in solution inside the body of the plant. [NIH]

Truncal: The bilateral dissection of the abdominal branches of the vagus nerve. [NIH]

Tryptophan: An essential amino acid that is necessary for normal growth in infants and for nitrogen balance in adults. It is a precursor serotonin and niacin. [NIH]

Tumor marker: A substance sometimes found in an increased amount in the blood, other body fluids, or tissues and which may mean that a certain type of cancer is in the body. Examples of tumor markers include CA 125 (ovarian cancer), CA 15-3 (breast cancer), CEA (ovarian, lung, breast, pancreas, and gastrointestinal tract cancers), and PSA (prostate cancer). Also called biomarker. [NIH]

Tumour: 1. Swelling, one of the cardinal signs of inflammations; morbid enlargement. 2. A new growth of tissue in which the multiplication of cells is uncontrolled and progressive; called also neoplasm. [EU]

Tungsten: A metallic element with the atomic symbol W, atomic number 74, and atomic weight 183.85. It is used in many manufacturing applications, including increasing the hardness, toughness, and tensile strength of steel; manufacture of filaments for incandescent light bulbs; and in contact points for automotive and electrical apparatus. [NIH]

Ubiquinone: A lipid-soluble benzoquinone which is involved in electron transport in mitochondrial preparations. The compound occurs in the majority of aerobic organisms, from bacteria to higher plants and animals. [NIH]

Ulcer: A localized necrotic lesion of the skin or a mucous surface. [NIH]

Ultrasonography: The visualization of deep structures of the body by recording the reflections of echoes of pulses of ultrasonic waves directed into the tissues. Use of

ultrasound for imaging or diagnostic purposes employs frequencies ranging from 1.6 to 10 megahertz. [NIH]

Unconscious: Experience which was once conscious, but was subsequently rejected, as the "personal unconscious". [NIH]

Uremia: The illness associated with the buildup of urea in the blood because the kidneys are not working effectively. Symptoms include nausea, vomiting, loss of appetite, weakness, and mental confusion. [NIH]

Ureters: Tubes that carry urine from the kidneys to the bladder. [NIH]

Urethra: The tube through which urine leaves the body. It empties urine from the bladder. [NIH]

Urinary: Having to do with urine or the organs of the body that produce and get rid of urine. [NIH]

Urinary tract: The organs of the body that produce and discharge urine. These include the kidneys, ureters, bladder, and urethra. [NIH]

Urine: Fluid containing water and waste products. Urine is made by the kidneys, stored in the bladder, and leaves the body through the urethra. [NIH]

Urogenital: Pertaining to the urinary and genital apparatus; genitourinary. [EU]

Urolithiasis: Stones in the urinary system. [NIH]

Urology: A surgical specialty concerned with the study, diagnosis, and treatment of diseases of the urinary tract in both sexes and the genital tract in the male. It includes the specialty of andrology which addresses both male genital diseases and male infertility. [NIH]

Uterus: The small, hollow, pear-shaped organ in a woman's pelvis. This is the organ in which a fetus develops. Also called the womb. [NIH]

Vaccine: A substance or group of substances meant to cause the immune system to respond to a tumor or to microorganisms, such as bacteria or viruses. [NIH]

Vagina: The muscular canal extending from the uterus to the exterior of the body. Also called the birth canal. [NIH]

Vagotomy: The interruption or removal of any part of the vagus (10th cranial) nerve. Vagotomy may be performed for research or for therapeutic purposes. [NIH]

Vagus Nerve: The 10th cranial nerve. The vagus is a mixed nerve which contains somatic afferents (from skin in back of the ear and the external auditory meatus), visceral afferents (from the pharynx, larynx, thorax, and abdomen), parasympathetic efferents (to the thorax and abdomen), and efferents to striated muscle (of the larynx and pharynx). [NIH]

Valves: Flap-like structures that control the direction of blood flow through the heart. [NIH]

Varicocele: A complex of dilated veins which surround the testicle, usually on the left side. [NIH]

Varicose: The common ulcer in the lower third of the leg or near the ankle. [NIH]

Varicose vein: An abnormal swelling and tortuosity especially of the superficial veins of the legs. [EU]

Vas Deferens: The excretory duct of the testes that carries spermatozoa. It rises from the scrotum and joins the seminal vesicles to form the ejaculatory duct. [NIH]

Vascular: Pertaining to blood vessels or indicative of a copious blood supply. [EU]

Vasectomy: An operation to cut or tie off the two tubes that carry sperm out of the testicles. [NIH]

Vasodilators: Any nerve or agent which induces dilatation of the blood vessels. [NIH]

VE: The total volume of gas either inspired or expired in one minute. [NIH]

Vein: Vessel-carrying blood from various parts of the body to the heart. [NIH]

Vena: A vessel conducting blood from the capillary bed to the heart. [NIH]

Venous: Of or pertaining to the veins. [EU]

Venous blood: Blood that has given up its oxygen to the tissues and carries carbon dioxide back for gas exchange. [NIH]

Venous Pressure: The blood pressure in a vein. It is usually measured to assess the filling pressure to the ventricle. [NIH]

Ventricle: One of the two pumping chambers of the heart. The right ventricle receives oxygen-poor blood from the right atrium and pumps it to the lungs through the pulmonary artery. The left ventricle receives oxygen-rich blood from the left atrium and pumps it to the body through the aorta. [NIH]

Vesicoureteral: An abnormal condition in which urine backs up into the ureters, and occasionally into the kidneys, raising the risk of infection. [NIH]

Veterinary Medicine: The medical science concerned with the prevention, diagnosis, and treatment of diseases in animals. [NIH]

Vitro: Descriptive of an event or enzyme reaction under experimental investigation occurring outside a living organism. Parts of an organism or microorganism are used together with artificial substrates and/or conditions. [NIH]

Watchful waiting: Closely monitoring a patient's condition but withholding treatment until symptoms appear or change. Also called observation. [NIH]

Womb: A hollow, thick-walled, muscular organ in which the impregnated ovum is developed into a child. [NIH]

Xanthine: An urinary calculus. [NIH]

Xanthine Oxidase: An iron-molybdenum flavoprotein containing FAD that oxidizes hypoxanthine, some other purines and pterins, and aldehydes. Deficiency of the enzyme, an autosomal recessive trait, causes xanthinuria. EC 1.1.3.22. [NIH]

Xenograft: The cells of one species transplanted to another species. [NIH]

X-ray: High-energy radiation used in low doses to diagnose diseases and in high doses to treat cancer. [NIH]

Zona Pellucida: The transport non-cellular envelope surrounding the mammalian ovum. [NIH]

Zygote: The fertilized ovum. [NIH]

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