

COLD SORES

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 cold sores. 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 cold sores 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 cold sores, 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 cold sores, 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 cold sores. 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 cold sores, 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 cold sores.

The Editors

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

CHAPTER 1. STUDIES ON COLD SORES

Overview

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

The Combined Health Information Database

The Combined Health Information Database summarizes studies across numerous federal agencies. To limit your investigation to research studies and cold sores, 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 "cold sores" (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:

- **Update on Treatments for Oral Herpes Simplex Viral Infections (Cold Sores and Fever Blisters)**

Source: Today's Therapeutic Trends: The Journal of New Developments in Clinical Medicine. 19(1): 39-58. 1st Quarter 2001.

Contact: Available from Communications Media for Education, Inc. PO Box 712, Princeton Junction, NJ 08550. (800) 221-3899. Fax (609) 275-8745. Website: www.cmeglobal.com.

Summary: Infection with herpes simplex virus (HSV) 1 or 2, which causes cold sores or fever blisters on the mouth, is common and usually mild. This article offers an update on the treatments used for oral herpes simplex viral infections. Unlike other common viral infections, infection with HSV is lifelong. Recurrent outbreaks are troublesome and

treatment has typically been limited to palliation of symptoms. However, recent advances in antiviral therapies, most notably a new non prescription (over the counter) agent docosanol (Abreva), promise to provide many more patients with effective treatment alternatives for cold sores. The author reviews the transmission and pathogenesis of HSV 1, the clinical manifestations of HSV 1 infection (during the stages of initial outbreaks, latency, and recurrence), diagnosis, and treatment options, including prescription and nonprescription treatments. The author notes that for most people, the social and emotional impact of herpes is greater than the physical distress. Patients need support and education in making an educated choice about treatment options. Appendices include information about practical treatment and transmission issues, answers to frequently asked questions about herpes simplex, and a list of web sites with information on herpes simplex. 2 tables. 42 references.

- **Cold Sore Comfort**

Source: POZ. 38-41. April 2001.

Contact: Available from POZ Publishing, LLC. 349 West 12th Street, New York, NY 10014. (815) 734-4151. E-mail: subscription@poz.com.

Summary: This article offers information about herpes simplex virus (HSV) and its implications for patients who are living with human immunodeficiency virus (HIV). Transmitted through contact with mucous membranes or small breaks in the skin, herpes (type 1 or 2) is usually marked by red, painful sores on the lips, genitals or anal area, swollen lymph nodes, or flu-like symptoms. After the initial outbreak, HSV takes refuge in the ganglia, the mass of nerve tissue at the base of the vertebrae, waiting to reemerge at a moment of immune stress. For people with HIV, even a dormant virus can be damaging. However, drugs to prevent herpes activity are nontoxic and may also help prevent HIV related lymphoma, a potentially fatal cancer showing up in more and more healthy people with HIV. Herpes' most serious medical consequence for people with HIV may be sustained increases in HIV viral load, though this matter is still subject to some debate. The article discusses the three available antivirals (acyclovir, valacyclovir, and famciclovir) that can help make sores go away faster, prevent outbreaks by suppressing HSV, and suppress Epstein Barr virus (EBV). One sidebar reviews the family of herpes viruses, to help readers differentiate them; another covers treatment strategies to try in addition to the antiviral drugs when coping with HSV outbreaks. The article concludes with a hotline number from the American Social Health Association (919-361-8488, or www.ashastd.org).

- **Cold Sores**

Source: RDH. Registered Dental Hygienist. 21(8): 82. August 2001.

Contact: Available from Penwell Corporation. 1421 South Sheridan, Tulsa, OK 74112.

Summary: This brief article brings dental hygienists up to date on the current thinking regarding cold sores (herpes simplex virus). Cold sores due to herpes simplex virus 1 (HSV1) are a common cause of infections of the skin around the lips and mucous membranes. A number of factors may be involved in triggering the virus, once it is present in the body, including sunlight, wind, fever, local physical injury, menstruation, suppression of the immune system, or emotional stress. Symptoms of the infections vary during the three stages: primary outbreak, latency, and recurrence. The author reviews the treatment options, including antiviral creams (Denavir and Zovirax), and Zilactin, an anesthetic cream. The problem with antivirals, as with antibiotics, is that they may result in viral resistance to the medications. The author also notes that there is a new

over the counter remedy that speeds healing of HSV1 outbreaks. Abreva contains 10 percent docosanol cream that blocks the virus from entering adjoining cells, thus offering hope of effectively lessening the severity and duration of the HSV1 sore.

Federally Funded Research on Cold Sores

The U.S. Government supports a variety of research studies relating to cold sores. 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 cold sores.

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 cold sores. The following is typical of the type of information found when searching the CRISP database for cold sores:

- **Project Title: ASSEMBLY OF THE HERPES SIMPLEX VIRUS CAPSID**

Principal Investigator & Institution: Brown, Jay C.; Professor; Microbiology; University of Virginia Charlottesville Box 400195 Charlottesville, Va 22904

Timing: Fiscal Year 2002; Project Start 01-JUL-1997; Project End 30-JUN-2007

Summary: (provided by applicant): Herpes simplex virus (HSV-1) is the cause of important human illnesses including disseminated disease in the newborn, **cold sores**, genital lesions, non-epidemic encephalitis in adults, retinitis and diseases in the immunosuppressed. The goal of the proposed project is to study assembly of the virus capsid with the aim of identifying novel targets against which small molecule anti-HSV-1 therapeutics might be directed. Studies will be carried out with HSV-1, but it is expected that the results will illuminate the steps of capsid formation as they occur in other herpesviruses as well. Like all herpesviruses, HSV-1 consists of an icosahedral capsid surrounded by a membrane envelope. The capsid contains the virus DNA. Assembly of progeny virions begins with formation of the capsid, a process that takes place in the infected cell nucleus. A DNA-free capsid shell is first formed and later packaged with DNA. The proposed studies are focused on the portal complex (a 12-mer of the UL6 gene product) through which DNA enters the capsid, and on the major capsid protein, VP5. Studies with UL6 will be devoted to testing the idea that it is involved in initiation of capsid assembly. Function of UL6 in initiation would solve the problem of how it becomes incorporated at a unique site in the capsid. Studies with VP5 are devoted to clarifying the extensive conformational re-arrangement it undergoes as it becomes incorporated into the nascent capsid and as the capsid matures. Specific goals of the project are to: (1) examine the capsid location and structure in solution of UL6, the subunit protein of the portal complex; (2) test the idea that HSV-1 capsid formation is

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).

initiated by structures composed of the scaffolding and portal proteins; (3) determine the mechanism of action of WAY-150138, a small molecule (a substituted thiourea) that inhibits HSV-1 growth in cell culture by blocking DNA encapsidation; and (4) use sensitivity to trypsin digestion to clarify the structural transformation of the HSV-1 major capsid protein, VP5, as it participates in procapsid assembly and maturation.

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

- **Project Title: HERPES SIMPLEX VIRUS ENTRY INTO CELLS OF NEURAL ORIGIN**

Principal Investigator & Institution: Eisenberg, Roselyn J.; Professor; University of Pennsylvania 3451 Walnut Street Philadelphia, Pa 19104

Timing: Fiscal Year 2001; Project Start 01-JUL-2001; Project End 30-JUN-2002

Summary: Herpes simplex viruses (HSVs) cause a variety of human diseases, including **cold sores**, eye and genital infections, neonatal infections and encephalitis. The nervous system plays a central role in the pathogenesis of HSV. Both serotypes of the virus, HSV-1 (the oral form) and HSV-2 (the genital form) establish life-long latent infections within sensory ganglia. In addition, the nervous system is the major target of morbidity and mortality resulting from herpetic encephalitis and neonatal herpes. The central role of the neuron in the pathogenesis of HSV argues for experimental approaches that focus on this aspect of HSV infection. This proposal concerns the mechanism by which HSV enter cells of neural origin to initiate infection. Of the eleven virion-encoded glycoproteins, four, including gB, gD and a complex of gH-gL, are essential for virus entry. A fifth, gC though not essential, is important for facilitating initial attachment by binding to cell surface heparan sulfate proteoglycans (HSPG). A major function of gD is to interact with specific cellular receptors. One of these, called herpes virus entry mediator or HVEM, is a member of the tumor necrosis factor receptor (TNFR) superfamily of membrane proteins and is found primarily on T cells and other cells of the immune system. Recently, two additional mediators that allow HSV entry into otherwise non-permissive cells have been identified. Both are orphan receptors with the Ig superfamily of proteins and are homologues of the human polio-virus receptor (hPVR). They have been termed human polio-virus related receptors 1 and 2, or hPRR1 and hPRR2. We found that soluble hPRR1 binds saturably and specifically to soluble forms of gD and to gD in virions. No other virion glycoproteins are needed for this interaction. Furthermore, binding of hPRR1 depends on gD conformation but does not involve the N-glycans of gD. Thus, like HVEM, hPRR1 satisfies our expectations for the properties of a bona-fide gD-receptor. We hypothesize that hPRR1 is a major receptor for HSV on cells of neural origin. To test this hypothesis, two specific aims are proposed: 1) to characterize the interaction between purified forms of gD and hPRR1; and 2) to examine the gD-receptor interaction in viruses, cells, and tissues of human neural origin.

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

- **Project Title: VIRAL AND HOST FACTORS IN HERPETIC REACTIVATION**

Principal Investigator & Institution: Leib, David A.; Associate Professor; Ophthalmology and Visual Sci; Washington University Lindell and Skinker Blvd St. Louis, Mo 63130

Timing: Fiscal Year 2001; Project Start 09-JAN-1992; Project End 30-JUN-2003

Summary: (summarized from abstract) Herpes simplex virus (HSV) keratitis is a leading cause of non-traumatic blindness in the US, with more than 200,000 cases per year. HSV can cause a variety of ocular diseases in humans ranging from self-limiting dendritic epithelial keratitis, conjunctivitis, and blepharitis to necrotizing stromal keratitis. In

addition, HSV commonly causes **cold sores**, genital sores, and is a leading cause of viral encephalitis. The life cycles of HSV and other neurotropic herpesviruses are characterized by a lytic phase of infection at peripheral sites such as the cornea, and skin during which all virus genes are expressed, and a latent phase of infection in neurons, during which gene expression is extremely limited. Latency represents a lifelong source of virus which can reactivate periodically causing severe ocular and other mucocutaneous damage, and the ability to establish lifelong latency renders HSV resistant to cure. The unique regulatory switch between lytic and latent infection is poorly understood. The broad goals of this proposal are to elucidate host and viral factors involved in the various stages of latency. To this end, recombinant viruses will be created with lesions in DNA replication and latency-related genes are tested in a mouse ocular model for their ability to establish and reactivate from latency in mice. These studies will be performed in conjunction with knockout mice with lesions in host genes such as interferons, which may play key roles in controlling HSV infection. This will allow the elucidation of the possible interplay between host and viral genes. In addition, the PI will engineer a transgenic mouse line which will allow us to specifically target viral genes for deletion during latency in the mouse. Viruses will therefore be wild-type during infection, but genetically altered during latency. This entirely novel approach to the field of herpes pathogenesis will allow us to dissect the precise roles for certain viral genes during the stages of the life cycle of the virus. A better understanding of both viral and host factors and their interplay in HSV pathogenesis will allow further insight into the mechanisms by which HSV can persist for the lifetime of its host and indicate novel therapeutic approaches and targets for control of this blinding disease.

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

- **Project Title: VIRUS-CELL INTERACTIONS & HERPES SIMPLEX VIRUS INFECTION**

Principal Investigator & Institution: Montgomery, Rebecca I.; Inst for Molecular Virology; University of Wisconsin Madison 750 University Ave Madison, WI 53706

Timing: Fiscal Year 2001; Project Start 01-JUL-2001; Project End 31-MAY-2006

Summary: (provided by applicant): The ultimate goal of this project is to define the mechanism of herpes simplex virus (HSV) invasion of human cells to establish productive infection. The two serotypes of HSV combined, infect ~80 percent of the world adult population. Once infected, a person is infected with these viruses for life. HSV causes a variety of diseases: **cold sores**, genital lesions resulting from sexually transmitted virus, blindness from ocular infection, severe disseminated disease in newborns, and encephalitis. Disease can result from initial infection or re-occurring infection by HSV. Understanding how the virus gains entry into cells to initiate infection can lead to new therapies to block virus infection, prevent disease due to re-occurring infection, or help in the design of vaccines to promote immunity to HSV infection. In this grant we will further characterize the HveA co-receptor, a human protein that mediates HSV entry into cells, to determine areas of the molecule necessary for virus interactions and promotion of virus entry. We will identify biologically relevant glycosaminoglycans and proteoglycans that enhance virus entry via HveA and characterize their role in the HSV entry pathway. In addition, we will continue the search for other cell products used by HSV to gain entry into cells. The results obtained from these studies will advance our understanding of the cellular components HSV interacts with to gain entry into cells, the cell-virus interactions that promote entry, and methods of enhancing or preventing HSV entry.

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 “cold sores” (or synonyms) into the search box. This search gives you access to full-text articles. The following is a sample of items found for cold sores in the PubMed Central database:

- **High-Dose, Short-Duration, Early Valacyclovir Therapy for Episodic Treatment of Cold Sores: Results of Two Randomized, Placebo-Controlled, Multicenter Studies.** by Spruance SL, Jones TM, Blatter MM, Vargas-Cortes M, Barber J, Hill J, Goldstein D, Schultz M.; 2003 Mar;
<http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=149313>

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

- **Alzheimer's disease, herpes simplex virus type 1, cold sores and apolipoprotein E4.**
Author(s): Lin WR, Shang D, Wilcock GK, Itzhaki RF.
Source: Biochemical Society Transactions. 1995 November; 23(4): 594S.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8654779&dopt=Abstract

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.

- **An open-label study conducted to evaluate the efficacy of Betadine cold sore paint.**
 Author(s): Simmons A.
 Source: Dermatology (Basel, Switzerland). 1997; 195 Suppl 2: 85-8.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9403262&dopt=Abstract

- **Association of HLA-A1 antigen and susceptibility to recurrent cold sores.**
 Author(s): Russell AS, Schlaut J.
 Source: Archives of Dermatology. 1977 December; 113(12): 1721-2.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=596908&dopt=Abstract

- **Cold sore and target-like papules.**
 Author(s): Levine N.
 Source: Geriatrics. 1998 September; 53(9): 25.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9745623&dopt=Abstract

- **Cold sores and safer sex.**
 Author(s): McKenna JG, McMillan A, Blakely A, Smith IW.
 Source: Lancet. 1991 September 7; 338(8767): 632.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1679168&dopt=Abstract

- **Cold sores and shingles.**
 Author(s): Holley WC.
 Source: Aust Fam Physician. 1995 June; 24(6): 1167-8. No Abstract Available.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7625954&dopt=Abstract

- **Cold sores-an epidemiological survey.**
 Author(s): Grout P, Barber VE.
 Source: J R Coll Gen Pract. 1976 June; 26(167): 428-34. No Abstract Available.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=957310&dopt=Abstract

- **Epidemic cold sore.**
 Author(s): Nelson HG.
 Source: Ir Med J. 1975 November 22; 68(21): 527-34. No Abstract Available.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1052484&dopt=Abstract

- **From gnats to cold sores.**
 Author(s): Vanamee P.
 Source: Jama : the Journal of the American Medical Association. 1970 February 2; 211(5): 830.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=4394859&dopt=Abstract

- **Herpes simplex (cold sores).**
Author(s): Murtagh J.
Source: Aust Fam Physician. 1983 November; 12(11): 812. No Abstract Available.
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Author(s): Spruance SL, Jones TM, Blatter MM, Vargas-Cortes M, Barber J, Hill J, Goldstein D, Schultz M.
Source: Antimicrobial Agents and Chemotherapy. 2003 March; 47(3): 1072-80.
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Author(s): Simon HB.
Source: Harvard Men's Health Watch. 2003 February; 7(7): 8.
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Author(s): Mayne DG.
Source: British Medical Journal. 1979 November 24; 2(6201): 1368-9.
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- **Possible treatment for cold sores.**
Author(s): Skinner GR, Hartley CE, Millar D, Bishop E.
Source: British Medical Journal. 1979 September 22; 2(6192): 704.
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- **Self-treatment of cold sores with ice.**
Author(s): Wilson IJ.
Source: Lancet. 1979 March 17; 1(8116): 613.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=85203&dopt=Abstract
- **Self-treatment of cold sores with ice.**
Author(s): Russell AS.
Source: Lancet. 1979 February 10; 1(8111): 325.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=84976&dopt=Abstract
- **Self-treatment of cold sores with ice.**
Author(s): Zimmerman DR.
Source: Lancet. 1978 December 9; 2(8102): 1260.
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CHAPTER 2. PATENTS ON COLD SORES

Overview

Patents can be physical innovations (e.g. chemicals, pharmaceuticals, medical equipment) or processes (e.g. treatments or diagnostic procedures). The United States Patent and Trademark Office defines a patent as a grant of a property right to the inventor, issued by the Patent and Trademark Office.⁷ Patents, therefore, are intellectual property. For the United States, the term of a new patent is 20 years from the date when the patent application was filed. If the inventor wishes to receive economic benefits, it is likely that the invention will become commercially available within 20 years of the initial filing. It is important to understand, therefore, that an inventor's patent does not indicate that a product or service is or will be commercially available. The patent implies only that the inventor has "the right to exclude others from making, using, offering for sale, or selling" the invention in the United States. While this relates to U.S. patents, similar rules govern foreign patents.

In this chapter, we show you how to locate information on patents and their inventors. If you find a patent that is particularly interesting to you, contact the inventor or the assignee for further information. **IMPORTANT NOTE:** When following the search strategy described below, you may discover non-medical patents that use the generic term "cold sores" (or a synonym) in their titles. To accurately reflect the results that you might find while conducting research on cold sores, we have not necessarily excluded non-medical patents in this bibliography.

Patents on Cold Sores

By performing a patent search focusing on cold sores, you can obtain information such as the title of the invention, the names of the inventor(s), the assignee(s) or the company that owns or controls the patent, a short abstract that summarizes the patent, and a few excerpts from the description of the patent. The abstract of a patent tends to be more technical in nature, while the description is often written for the public. Full patent descriptions contain much more information than is presented here (e.g. claims, references, figures, diagrams, etc.). We will tell you how to obtain this information later in the chapter. The following is an

⁷Adapted from the United States Patent and Trademark Office:
<http://www.uspto.gov/web/offices/pac/doc/general/whatis.htm>.

example of the type of information that you can expect to obtain from a patent search on cold sores:

- **Anti-infective compositions for treating disordered tissue such as cold sores**

Inventor(s): Johnson; B. Ron (4061 Canyon View Pl., Sandy, UT 84092)

Assignee(s): none reported

Patent Number: 6,414,032

Date filed: September 22, 2000

Abstract: The present invention relates to the treatment of disordered epithelial tissues such as **cold sores** and other complications resulting from disorders such as herpes, and the like. The invention relates to the use of an anti-infective and/or antimicrobial active agent in a carrier, with vigorous agitation of the disordered epithelial tissue for topical treatment thereof under such conditions sufficient to achieve clinically discernable improvement of the disordered epithelial tissue. The preferred anti-infective and/or antimicrobial active agent is an organohalide such as a quaternary ammonium compound, preferably benzalkonium chloride. The inventive method may be used also in connection with a preferred applicator configuration.

Excerpt(s): The present invention relates to the treatment of disordered tissue with anti-infective compositions especially antiviral and antimicrobial compositions. More particularly, the treatment compositions include quaternary amine medicament compounds or organochlorides. The present invention provides a novel combination of treatment compositions and modes of applying them to treat tissue disorders, particularly epithelial tissue disorders such as herpes infections. Tissue disorders, particularly those which impact epithelial tissue such as Herpes Simplex types I and II, candida albicans, acne, psoriasis, eczema, seborrhea, dermatitis, and pink eye are common and are often difficult to treat symptoms. Such disorders are more likely to develop in people living with compromised sanitary conditions, the elderly, and the chronically ill. Others susceptible to such disorders include workers in health care, agricultural workers, chemical industry workers, individuals working with industrial cleaners, and painters, where chronic exposure to chemicals, pathogens, and unsanitary conditions tend to weaken and irritate epithelial tissue. Herpes simplex virus (HSV) and Herpes Zoster, commonly referred to as "herpes virus" or "herpes," is an infectious disease which has reached crisis proportions nationally with estimated numbers of infected people at 70%-80% of U.S. population as reported by the American Social Health Association (ASHA) and growing annually by 500,000 people or more. There are two common types of herpes: herpes simplex virus 1 (HSV 1) and herpes simplex virus 2 (HSV 2).

Web site: http://www.delphion.com/details?pn=US06414032__

- **Antimicrobial composition**

Inventor(s): Morris; Sandra (Norfolk, GB), Ryan; Robert Eugene (Norfolk, GB)

Assignee(s): Barrier Biotech Limited (Norfolk, GB)

Patent Number: 6,352,702

Date filed: May 26, 2000

Abstract: There is disclosed an antimicrobial composition comprising an antimicrobially effective amount of clove bud oil and two or more of eucalyptus oil, cajaput oil, lemongrass, lavender or tea tree oils. Use of the composition as a treatment for **cold sores**, head lice, vaginal thrush, verruca, warts, athletes foot, an antimicrobial mouth wash in addition to a surface cleaner are also disclosed.

Excerpt(s): The present invention is concerned with an antimicrobial composition, and in particular with such a composition the active ingredient of which comprises natural or essential oils. Essential oils have been used previously for use as antiviral or antibacterial agents. For example, clove bud oils have been previously described having antiseptic, antiviral and larvicidal capabilities. The present inventors have surprisingly found that a composition having a particular blend of essential oils exhibits a particularly synergistic and broad spectrum antimicrobial effect, and which composition has never previously been described.

Web site: http://www.delphion.com/details?pn=US06352702__

- **Cold sore treatment method**

Inventor(s): Crawford; Horace R. (7227 Oakbluff, Dallas, TX 75240)

Assignee(s): none reported

Patent Number: 4,250,168

Date filed: July 13, 1979

Abstract: A method is provided for treating **cold sores** in which a carbonate salt is orally ingested, thereby eliminating soreness caused by the **cold sore** and curing the **cold sore**. According to the invention, the preferred carbonate salt is sodium bicarbonate and it is preferably ingested in dosages of from about 200 milligrams to about 4 grams, the dosage being repeated about every four to twelve hours and continued for a period up to about four days. The carbonate salt may be ingested by any suitable manner such as tablet, capsule, powder or in an aqueous solution.

Excerpt(s): This invention relates to treatment of **cold sores** or fever blisters. Fever blisters or **cold sores** are generally believed to be caused by a certain type of the herpes simplex virus. This type of virus usually affects the mouth, causing recurrent sores on the lips and areas around and in the mouth. On occasion, this virus gets into the blood stream and causes a serious infection in babies. In addition to their unattractive appearance, recurrent fever blisters may burn and be quite sore. There is also some danger of secondary bacterial infection in the open ulcer.

Web site: http://www.delphion.com/details?pn=US04250168__

- **Composition for treatment of cold sores**

Inventor(s): Jack; Bruce A. (Albuquerque, NM), White; B. Thomas (Albuquerque, NM)

Assignee(s): Professional Pharmaceutical Inc. (Albuquerque, NM)

Patent Number: 5,294,440

Date filed: May 21, 1992

Abstract: A pharmaceutical composition of water, water soluble vinyl polymer gel, amine alcohol dispersant and 1H-imidazole-4-ethanamine, phosphate (IEP) is used topically to treat herpes labialis lesions.

Excerpt(s): The invention relates to compositions and methods for treatment of **cold sores** or fever blisters, and canker sores, herpes labialis and aphthous stomatitis lesions. There are a number of over-the-counter medications for **cold sores**, fever blisters and the like, including BLISTEX, ZILACTIN, and CAMPHO PHENIQUE. A prescription medication also is available, under the trademark ZOVIRAX. However, for many persons suffering from **cold sores**, fever blisters, etc., none of these medications is very effective. Histamine phosphate previously has been used as a diagnostic agent for determining how much acid the human stomach produces. Histamine phosphate also has been used for injection in human skin to cause a flare-up reaction indicative of the ability of certain drugs to inhibit histamine-induced wheals, thereby indicating clinical response in allergic diseases.

Web site: http://www.delphion.com/details?pn=US05294440__

- **Herbal dietary supplement**

Inventor(s): Emanuel-King; Rosalba (630 First Ave. (22M)

Assignee(s): none reported

Patent Number: 5,248,503

Date filed: January 3, 1992

Abstract: Dietary supplements containing in solution at least two herbal ingredients selected from a group consisting of: mullen leaf, witch hazel, baptisia (wild indigo), marshmallow root (*Althea officianales*), *Potentilla tormentilla*, myrrh, agrimony, blood root (*sanguinaria*), bistort, echinacea, parsley, eucalyptus, wintergreen, rosemary, ginger, sandalwood, sweet almond, sassafrass, linseed and castor. When ingested transcutaneously the product is holistically effective for reduction of plaque and for treating symptoms of gingivitis, gum disorders, **cold sores**, oral boils, herpes simplex, pimples and acne vulgaris. The holistic product is carried in a treatment medium which may be a liquid solution, drops, gum drops, lozenges, chewing gum, breath dots, toothpaste, a skin patch, an oral rinse, a cream, a poultice, a suppository, a vapor, an inhaler and/or a douche.

Excerpt(s): The Inventor has experimented for years with combinations of herbs for use as dietary supplements. She has discovered such combinations, as claimed herein, with herbs contributing therapeutically to vigorous well being of humans. This invention relates to herbal dietary supplements as well as to herbal holistic therapeutic products for human ingestion via gums, skin and other cutaneous membranes. More particularly the holistic aspects of this invention deal therapeutically with plaque, gingivitis, gum disorders, **cold sores**, oral boils, herpes simplex, pimples, acne vulgaris and other disorders susceptible to transcutaneous treatment. As foods, the dietary supplements of this invention are of course eaten. As a holistic therapeutically effective product, the active ingredients are carried in a treatment medium such as a liquid solution, drops, gumdrops, lozenges, chewing gum, breath dots, toothpaste, a skin patch, an oral rinse, a cream, a poultice, a suppository, an inhaler and/or a douche. Applicant teaches a food product, preferably in liquid form, containing in solution two or more ingredients selected from a group consisting of: mullen leaf, witch hazel, baptisia (wild indigo), marshmallow root (*Althea officianales*), *Potentilla tormentilla*, myrrh, agrimony, blood

root (sanguinaria), bistort, echinacea, parsley, eucalyptus, wintergreen, rosemary, ginger, sandalwood, sweet almond, sassafrass, linseed oil and castor oil.

Web site: http://www.delphion.com/details?pn=US05248503__

- **Medication for herpes simplex and canker sores**

Inventor(s): Elderbaum; Gilbert J. (380 Main St., Wakefield, MA 01880)

Assignee(s): none reported

Patent Number: 4,117,120

Date filed: February 11, 1977

Abstract: A medication for the relief of the discomfort associated with **cold sores**, lesions of the mouth commonly known as canker sores, and herpes simplex virus, which medication is a mixture of kelp and a vehicle which may be glycerin that acts as a carrier for the active ingredients of kelp.

Excerpt(s): This invention pertains to medications for the relief of the discomfort associated with **cold sores**, lesions of the mouth commonly known as canker sores, and herpes simplex virus. It utilizes kelp as an active agent which processes the active ingredients. Heretofore, preparations offered for the relief of the discomfort of irritations of the mucous membranes, primarily related to the mouth, contained substances such as benzocaine used as a local anesthetic; or substances such as myrrh, a bitter gum resin, used as a remedy by local application; or other preparations such as alum which has a sweetish, sourish astringent taste. These preparations including silver nitrate used to cauterize the sore and others commercially available for medicinal purposes pertaining to the cure of herpes simplex virus, **cold sores** on the lips and skin, and canker sores have been found by the inventor to be ineffective in giving adequate relief from the discomfort associated therewith. The period of time required for a lesion to heal itself is approximately two weeks, even with the use of standard commercially available medicines. In contrast thereto, the substance which is the subject of the present invention has been found to bring relief and to effect healing much more quickly. In one test by the inventor, relief was obtained within two minutes and a cure within twenty-four hours. Prior art medications act primarily as an antiseptic and as an anesthetic and not as a cure, while the lesions, blisters, and sores heal by themselves. The medication of this invention is an effective cure. This invention pertains to a medication for the relief of the discomfort associated with **cold sores**, herpes simplex virus, and lesion associated with the skin and mucous membrane linings of the body primarily, but not necessarily, occurring within the mouth commonly known as canker sores, which medication is a mixture of kelp, the active agent, and a vehicle such as glycerin which acts as a carrier for the active agent.

Web site: http://www.delphion.com/details?pn=US04117120__

- **Method for retarding and ameliorating fever blisters and canker sores**

Inventor(s): Lorenz; R. Todd (Kailua-Kona, HI)

Assignee(s): Cyanotech Corporation (Kailua-Kona, HI)

Patent Number: 6,344,214

Date filed: December 13, 1999

Abstract: Astaxanthin is a potent antioxidant, over 500 times more powerful than Vitamin E and 10 times stronger than other carotenoids such as zeaxanthin, lutein, canthaxanthin and beta-carotene. Astaxanthin has also been shown to enhance and modulate the immune system and diminish the damaging effects of UVA sunlight. Disclosed is a method for retarding and ameliorating fever blisters (cold sores) and canker sores. The method comprises administering a source of astaxanthin in a therapeutically effective amount to prevent, retard and ameliorate fever blisters and canker sores. The astaxanthin may be administered orally, topically, or in a combination of oral and topical dosage.

Excerpt(s): This invention relates to the treatment and prevention of fever blisters (cold sores) and canker sores. More particularly the invention relates to a method for treatment and prevention of fever blisters and canker sores using, as a basis, the protective properties of astaxanthin. Most particularly the invention relates to treatment and prevention of fever blisters and canker sores using orally and/or topically administered astaxanthin. Fever blisters and canker sores are two of the most common disorders of the mouth, causing discomfort and annoyance to millions of Americans. Both cause small sores to develop in or around the mouth, and often are confused with each other. Canker sores occur only inside the mouth, on the tongue and the inside linings of the cheeks, lips and throat. Fever blisters, also called **cold sores**, usually occur outside the mouth--on the lips, chin, cheeks or in the nostrils. When fever blisters do occur inside the mouth, it is usually on the gums or the roof of the mouth. Inside the mouth, fever blisters are smaller than canker sores, heal more quickly, and often begin as a blister. Both canker sores and fever blisters have plagued mankind for thousands of years. Scientists at the National Institute of Dental Research, one of the federal government's National Institutes of Health, are seeking ways to better control and ultimately prevent these and other oral disorders. Today fever blisters still occur in epidemic proportions, about 100 million episodes of recurrent fever blisters occur yearly in the United States alone. An estimated 45 to 80 percent of adults and children in this country have had at least one bout with the blisters. Fever blisters are caused by a contagious virus called herpes simplex of which there are two types. Type 1 usually causes oral herpes, or fever blisters. Type 2 usually causes genital herpes. Although both type 1 and type 2 viruses can infect oral tissues, more than 95 percent of recurrent fever blister outbreaks are caused by the type 1 virus. Herpes simplex virus is highly contagious when fever blisters are present, and the virus frequently is spread by kissing. Children often become infected by contact with parents, siblings or other close relatives who have fever blisters. A child can spread the virus by rubbing his or her **cold sore** and then touching other children. About 10 percent of oral herpes infections in adults result from oral-genital sex with a person who has active genital herpes (type 2). These infections, however, usually do not result in repeat bouts of fever blisters. Most people infected with the type 1 herpes simplex virus became infected before they were 10 years old. The virus usually invades the moist membrane cells of the lips, throat or mouth. In most people, the initial infection causes no symptoms. About 15 percent of patients, however, develop many fluid-filled blisters inside and outside the mouth 3 to 5 days after they are infected with the virus. These may be accompanied by fever, swollen neck glands and general aches. The blisters tend to merge and then collapse. Often a yellowish crust forms over the sores, which usually heal without scarring within 2 weeks.

Web site: http://www.delphion.com/details?pn=US06344214__

- **Method of therapy for oral herpes simplex**

Inventor(s): Leeds; Robert (9425 S.W. 142 St., Miami, FL 33176)

Assignee(s): none reported

Patent Number: 4,466,956

Date filed: November 21, 1983

Abstract: There is disclosed a method for the treatment of oral herpes simplex that manifests itself as ulcerations and ulcers of the type that appear in or near the mouth or other mucous membranes or other such conditions as canker sores, **cold sores**, fever blisters, aptheous ulcerations and the like. Said method comprises the serial application of povidone-iodine and then application immediately thereafter of triamcinolone acetonide used as an anti-inflammatory agent and adhesive. The foregoing serial treatment is preferably repeated on a once or twice per day basis for two or more days and it results in a highly accelerated relief of pain in a matter of minutes or hours, and complete elimination of the ulceration in a matter of a week or less.

Excerpt(s): The present invention relates to the field of a method of therapy of a condition known as oral herpes simplex which manifests itself as an ulceration of the type that appear in or near the mouth or in other mucous membranes, including such conditions as canker sores, **cold sores**, fever blisters and the like. The invention is particularly directed to a method for treating same using serial application of two compositions of matter to eliminate the ulceration and to relieve pain suffered by the patient much sooner than is available with conventional therapy, the inventive method using compositions of matter for which contraindication is suggested by the prior art. A condition known as oral herpes simplex manifests itself as ulcerations and ulcers of the type that appear in the mouth or other mucous membranes. Similar conditions such as canker sores, **cold sores**, fever blisters and the like produce pain in the affected areas, which is believed caused by viral infections. These conditions generally persist for a period of twelve to fourteen days if untreated and produce considerable discomfort for the patient during most of that period. The pain and persistence of the condition can be reduced somewhat with usual anti-microbial agents, but there is no method known to Applicant involving serial application of two compositions of matter as therapy for this condition nor any technique for the treatment of this condition which results in relief of pain generally in a matter for minutes, and where the affected area occurs on the lip, results in virtual elimination of the pain after the first treatment. Prior art has included treatment utilizing the commercially available campho-phenique which is manufactured by Winthrop Chemical, the application of a lotion inown as Dalidyne available from Dalin Pharmaceuticals, utilized as a treatment for the oral cavity, Polydine, available from Century Pharmaceuticals which may be used in the oral cavity only if not swallowed. Prepodyne swabs, a polozamer iodine solution available from West Chemical and povidone-iodine compositions not used in combination with serial application of another composition as in the subject invention, and available under the well known registered trademark Betadine from the Purdue Frederick Company.

Web site: http://www.delphion.com/details?pn=US04466956__

- **Pharmacological/cosmetic preparation**

Inventor(s): Rudov; David (6 Tracey Crescent, Brighton, Victoria, 3186, AU)

Assignee(s): none reported

Patent Number: 4,943,433

Date filed: November 30, 1987

Abstract: A pharmacologically effective or cosmetic substance for external application to treat e.g. acne, pimples, ulcers, **cold sores**. The substance includes an extract from plants of the grass family of plants particularly cereals, the extract including juice from green components of the plants at the unjointed stage. The extract is carried in a pharmaceutically acceptable aqueous carrier or excipient, the carrier preserving the extract against deterioration and being capable of at least partial absorption by tissues so as to carry the extract to sub-surface tissues. An anti-microbial agent is included. The substance may comprise ascorbic acid and beta-carotene, both present in the range 0.1 to 10 mg per gram of the substance. Biotin, trypsin and chlorophyll are also present.

Excerpt(s): This invention relates to substances and processes for cosmetic or medicinal treatment. It is known to extract the juice of cereal grasses and to drink this juice as a source of dietary nutrients. The juice can be freshly extracted, previously frozen, or reconstituted juice from dehydrated cereal grass extract. Dehydrated extract from cereal grass leaves has been pressed into tablets for direct consumption or incorporation into foods and beverages. However these extracts have not been effectively used for medicinal or cosmetic purposes. It is an object of the present invention to provide a pharmacologically effective substance and a cosmetic substance and processes for manufacturing and using such substances.

Web site: http://www.delphion.com/details?pn=US04943433__

- **Skin care compositions and use**

Inventor(s): Wikholm, deceased; Hugo Allan (late of Ludvika, SE)

Assignee(s): Scandinavian-American Import/Export Corporation (Glendora, CA)

Patent Number: 6,096,326

Date filed: August 15, 1997

Abstract: The invention provides compositions containing dermaphile oils and methods for their use. Preferred composition contain Purcellin Oil and are useful in treating a wide variety of adverse skin conditions, including disorders manifesting inflammatory and non-inflammatory symptoms and having a variety of etiologies. The compositions are especially useful in treating psoriasis, eczema, acne, surgical scars and sunburn, but are also useful in treating cuts, insect bites, pruritis, **cold sores** and dry skin. Methods for the use of these compositions are also provided.

Excerpt(s): One such condition is psoriasis, which alone affects approximately 8 million Americans. Psoriasis is a chronic proliferative skin disorder of unknown etiology. Symptoms include thickening of both dermal and epidermal layers, with cellular proliferation and inflammation. The symptoms of psoriasis range from relatively mild irritation to death. Currently treatment of psoriasis is generally topical, using emollients, keratolytics and corticosteroids. In severe cases, however, systemic corticosteroids and antimetabolites, such as methotrexate, are used. In view, however of the unknown etiology of the disease, rationale design of effective therapeutics for use in treatment

regimes has been unavailing. Accordingly, there exists an unmet need for effective compositions for the treatment of psoriasis. Another such disorder is eczema. Eczema, sometimes known as dermatitis, results from an inflammatory response to either endogenous or exogenous agents. The disorder is characterized by erythema, vesicles, scales and itching. More advanced symptoms include edema, serous discharge and crusting. In chronic eczema, the skin becomes thickened, leathery and hyperpigmented. Although medicaments exist for the treatment of eczema, none is completely satisfactory or universally accepted. Thus, there is an ongoing need for additional effective agents for treating this disease. Further examples of skin disorders for which adequate treatment is unavailable or insufficient include acne, **cold sores**, dry skin, sunburn, cuts, insect bites, pruritic lesions and other inflammatory and non-inflammatory lesions of the skin. Accordingly, there is a need for a safe and effective agent, suitable for topical delivery, that is useful in treating this wide variety of skin conditions.

Web site: http://www.delphion.com/details?pn=US06096326__

- **Synergistic antimicrobial preparations containing chlorite and hydrogen peroxide**

Inventor(s): Karageozian; Hampar L. (31021 Marbella Vista, San Juan Capistrano, CA 92675)

Assignee(s): none reported

Patent Number: 6,488,965

Date filed: November 27, 2000

Abstract: Antimicrobial/pharmaceutical preparations (e.g., solutions, gels, ointments, creams, sustained release preparations, etc.) which comprise chlorite (e.g., a metal salt of a chlorite) in combination with a peroxy compound (e.g., hydrogen peroxide), and methods for using such preparations for disinfection of articles or surfaces (e.g., contact lenses, counter tops, etc.), antiseptics of skin or other body parts, prevention or deterrence of scar formation and/or treatment and prophylaxis of dermal (i.e., skin or mucous membrane) disorders (e.g., wounds, burns, infections, **cold sores**, ulcerations, psoriasis, acne, or other scar-forming lesions).

Excerpt(s): The present invention relates generally to medical compositions and methods, and more particularly to certain disinfectant/antimicrobial preparations and methods for using such preparations i) to disinfect articles or surfaces, ii) as a topical antiseptic for application to body parts, and iii) to prevent or deter scar formation and iv) to treat dermatological disorders such as wounds, burns, ulcers, psoriasis, acne and other scar forming lesions. The prior art has included numerous antimicrobial agents which have purportedly been useable for disinfection of various articles and/or for topical application to a living being for antiseptics and/or treatment of dermal disorders (e.g., wounds, burns, abrasions, infections) wherein it is desirable to prevent or deter microbial growth to aid in healing. Such topical antimicrobial agents have contained a variety of active microbicidal ingredients such as iodine, mercurochrome, hydrogen peroxide, and chlorine dioxide. Chlorite, a precursor of chlorine dioxide, is known to be useable as a disinfectant for drinking water and as a preservative for contact lens care solutions. However, chlorite exhibits only weak microbicidal activity within a concentration range that is acceptable and safe for topical application to the skin (e.g., 200-1000 parts per million). Thus, chlorite has not been routinely used as an active microbicidal ingredient in preparations for topical application to the skin.

Web site: http://www.delphion.com/details?pn=US06488965__

- **Target therapies for treating common viral infections**

Inventor(s): Andreakos; George (HC 1 Box 207, Honesdale, PA 18431)

Assignee(s): none reported

Patent Number: 6,362,225

Date filed: January 6, 2000

Abstract: Therapies and compositions are described for use in the treatment of a variety of common viral infections such as those of the upper respiratory tract, eye, stomach and intestines, and such viral lesions as **cold sores**, canker sores and those caused by genital herpes. The effective ingredient in the various therapies and compositions is the compound L-Lysine monohydrochloride (lysine). The crystalline lysine is ground into a fine powder and dispersed in a variety of aqueous media and other carrier systems. A solution in the form of a spray is administered to the nasal membranes, the mouth and throat, and to the lungs. Lozenges are designed to be dissolved in the mouth, both above the tongue and sublingually, and gels and solutions are applied directly to the lesions. Lysine is also administered in the form of drops, chewing gum, suppositories and by enema. In microcrystalline powder form the lysine may be administered directly into the lungs. When used at specified time intervals throughout each 24 hour period the duration of the symptoms of the viral infections is noticeably diminished. There are no side effects and no toxic levels of lysine. The various compositions are quite stable.

Excerpt(s): The instant invention relates to therapies and compositions for treating a variety of viral infections, most specifically viral infections that affect mucous membranes. Most people, at one time or another, are at risk for a variety of viral infections, some resulting in running nose, cough, sinus inflammation, sore throat, and ear fullness. These symptoms are often a part of what is usually called "the common cold" and are also associated with many forms of influenza. A variety of digestive problems or stomach upsets may also be associated with influenza or may be associated with other viral infections. We are told that colds, flus and intestinal viral infections must run their course and that other than rest and fluids there is not much to be done to speed the healing process. The various symptoms can be treated individually with a plethora of prescription and over-the-counter remedies. The cold itself has not yielded to any medication. Additionally, many of the over-the-counter medications given to treat cold and other flu symptoms may cause drowsiness and other side effects which make them undesirable for many potential users. Vitamin C has been widely used to prevent and treat colds, but recent studies have shown that its effects are questionable at best. The time-worn remedy of chicken soup has been found to actually provide some benefits to cold and flu sufferers.

Web site: http://www.delphion.com/details?pn=US06362225__

- **Topical demulcent for viral and inflammatory diseases of the skin**

Inventor(s): Vedros; Neylan A. (Alameda, CA)

Assignee(s): Choice Pharmaceuticals (San Leandro, CA)

Patent Number: 5,198,217

Date filed: September 24, 1991

Abstract: The composition of the present invention is a topical protectant and can be used in a method for the relief of discomfort due to **cold sores** (Herpes virus outbreaks).

The combination of ingredients softens and soothes the **cold sore**, preventing cracking, and is most effect when the recurrent herpes infection just begins (mild burning and itching). The composition of the present invention can also be applied for the treatment of skin irritations due to chapping, sunburn, windburn, scrapes, abrasions, cracked lips, or other skin disorders.

Excerpt(s): The present invention describes a composition, comprising tannic acid, licorice root extract, and carrageenan, which acts as a topical demulcent for the relief of discomfort due to skin diseases and disorders. The present invention further describes methods of treatment for such skin disorders. Baba et al., *Antiviral Research*, 7:99 (1987). Deig, E. F., et al., *Antimicrob. Agents and Chemoth.* 6(4):524-525 (1974).

Web site: http://www.delphion.com/details?pn=US05198217__

- **Topical pharmaceutical preparation for fever blisters and other viral infections and method of use**

Inventor(s): Matheson, Jr.; Joe G. (419 Mitchell St., Ahoskie, NC 27910), Mizelle, Jr.; Louis E. (Rte. 2, Box 175, Ahoskie, NC 27910), Riddick; Kenneth B. (918 Liberty St., Ahoskie, NC 27910)

Assignee(s): none reported

Patent Number: 5,331,012

Date filed: March 5, 1992

Abstract: The present invention relates to a method and pharmaceutical composition for treating fever blisters or **cold sores** in mammals, and particularly in humans, by topically administering a pharmaceutical composition comprising ethyl alcohol in a concentration of at least 85% W/V and lidocaine in a concentration of 0.5-10% W/V at a periodicity of at least 10 to 12 times daily.

Excerpt(s): This invention relates to a method and pharmaceutical composition for topically treating fever blisters or **cold sores** and other vital infections in mammals, and in particular in humans. In an effort to address the discomfort of fever blisters, **cold sores** and other lesions caused by Herpes-type viruses, many home remedies have been used over the years without any significant success. Also, commercial products have been developed in recent years to attempt to treat the vital infections. Representative of such products are the following: CAMPHO-PHENIQUE manufactured by Winthrop Consumer Products of New York, N.Y.; HERPECIN-L manufactured by Campbell Labs of New York, N.Y.; and BLISTEX manufactured by Blistex Incorporated of Oakbrook, Ill. Unfortunately, none of the commercial formulations have been found to be entirely satisfactory when used as topical preparations for treating humans for fever blisters or **cold sores** and other vital infections of both the single occurrence as well as recurrent type. Of interest, U.S. Pat. No. 4,628,063 to Haynes et al. discloses that the use of lidocaine, and particularly lidocaine in combination with a pantothenic acid, is an effective anti-vital agent in use to treat Herpes virus infections in mammals and is particularly effective in the treatment of HSV oral and genital lesions on humans. Haynes et al. discloses that lidocaine, a local anesthetic agent, and pantothenic acid (Vitamin B5) have an anti-vital effect on mammals, including human beings. It is further disclosed that lidocaine administered in the form of a pharmaceutical formulation comprising lidocaine and pantothenic acid together with a pharmaceutically acceptable carrier is particularly effective when injected in a single daily dosage or topically applied in an ointment or solution form 3 to 4 times daily. Unfortunately, this

formulation is not entirely satisfactory due to the inconvenience of injections and the lengthy time of therapy required for topical treatment.

Web site: http://www.delphion.com/details?pn=US05331012__

- **Topical virucidal composition for treatment of mucocutaneous tissue**

Inventor(s): Kim; Wendy Y. (968 E. Green Oaks Dr., Bountiful, UT 84010), Marcus; Stanley (1400 E. Federal Way, Salt Lake City, UT 84102)

Assignee(s): none reported

Patent Number: 5,182,104

Date filed: July 16, 1991

Abstract: This invention pertains to a topically applied composition with a virucidal impact on mucocutaneous tissue. Ingredients essential to the efficacy of the formulated combination include a polyethylene glycol polymer known as Nonoxynol-9("N-9")in admixture with selected fat soluble vitamins A, D and E in the form of vegetable oil (and) retynyl palmitate (and) ergocalciferol together with tocopherol acetate. The invention is directed particularly to inactivation of herpes virus and human papilloma virus as manifested in **cold sores**, lesions, fever blisters, canker sores and warts. The N-9 contains viral activity while the vitamins effect restoration and strengthening of the damaged tissue cells.

Excerpt(s): This invention relates to an improved anti-microbial agent. More particularly, this invention is specifically directed to an additive for water-based polymerized compositions and provides an ethylene glycol-based composition for topical anti-viral treatment of mucocutaneous tissue. Ethylene glycol, an inexpensively available organic chemical, is readily polymerized. Polyethylene glycol (PEG) is widely used in our society. A PEG polymer with the molecular weight of 968, commonly referred to as nonoxynol-9 or N-9, is a viscous liquid that has long been used as a lubricant and spermicide in concentrations of 2%-5% in over-the-counter (OTC) preparations, e.g., Ortho-creme, Gentials, Delfen. Products known commercially as ViroNox-9 and aidsPLUS+ marketed by MicroBio Products, Inc. of Tempe, Ariz. and Medical Diagnostic Technologies, Inc. dba MeDiTech of Ventura, Calif. respectively, though directed toward cleansing of body surfaces based on other active ingredients, also contain N-9 in concentrations of approximately 2% and are known to provide additional protection against microbiological contamination. The safety, absence of toxicity and freedom from any harmful side effects of these preparations is attested to by long, continued and repeated use. The spermicide N-9 has been shown to be virucidal and to reduce the frequency of infections due to both viral and bacterial sexually transmitted diseases. It has been suggested that this anti-viral action of N-9 may be the reason why women who use spermicides are far less likely to have cervical cancer in view of the fact that a leading cause of cervical cancer is almost undoubtedly herpes virus. A recent review of scientific archival reports by B. North in *Journal of Reproductive Medicine*, 33:307, 1988, concludes that the advice of former U.S. Surgeon General Everett Koop be followed for widespread use of N-9 in contraceptive devices as an aid in reducing risk from bacterial and viral infection passed by sexual intercourse. Of course, this includes herpes infection.

Web site: http://www.delphion.com/details?pn=US05182104__

- **Treatment of herpes simplex**

Inventor(s): Parkinson; Richard W. (863 S. Carterville Rd., Orem, UT 84057)

Assignee(s): none reported

Patent Number: 4,424,232

Date filed: May 19, 1982

Abstract: Herpes simplex, **cold sores**, lesions, warts, blisters, burns, ulcers, and other painful skin conditions are treated by topical application of a composition comprising L-lysine, gibberellic acid, and urea in an inert carrier comprising water. The composition can additionally contain L-ascorbic acid, and a member selected from the group consisting of methyl paraben, propyl paraben, and mixtures thereof.

Excerpt(s): The invention relates to medical treatment of herpes simplex infections, burns, ulcers and other painful skin conditions by topical application of a medicant composition. Herpes simplex virus type 1 is known as the "skin" or "above the umbilicus" virus and type 2 is known as the "genital" or "below the umbilicus" virus. The two types cannot be distinguished in a culture, but can be distinguished on the basis of the antibodies generated upon exposure to the virus. The two types cross react with one another in the laboratory and are, thus, very closely related to each other. Various treatments of herpes simplex have been proposed. U.S. Pat. No. 4,147,803 discloses the topical application of lauric diethanolamide to the area affected. Application of a mixture of boric acid, tannic acid, and salicylic acid is taught in U.S. Pat. No. 4,285,934. The use of lignosulfonate as a topical treating agent is disclosed in U.S. Pat. No. 4,185,097, and the application of kelp to the affected area is proposed in U.S. Pat. No. 4,117,120.

Web site: http://www.delphion.com/details?pn=US04424232__

Patent Applications on Cold Sores

As of December 2000, U.S. patent applications are open to public viewing.⁸ Applications are patent requests which have yet to be granted. (The process to achieve a patent can take several years.) The following patent applications have been filed since December 2000 relating to cold sores:

- **Anti-infective compositions, methods and systems for treating disordered tissue**

Inventor(s): Johnson, B. Ron; (Sandy, UT)

Correspondence: Jesus Juanos I Timoneda, PH.D; Workman, Nydegger & Seeley; 1000 Eagle Gate Tower; 60 East South Temple; Salt Lake City; UT; 84111; US

Patent Application Number: 20020188028

Date filed: July 22, 2002

Abstract: The present invention relates to the treatment of disordered epithelial tissues such as **cold sores** and other complications resulting from disorders such as herpes, and the like. The invention relates to the use of an anti-infective and/or antimicrobial active agent in a carrier, with vigorous agitation of the disordered epithelial tissue for topical treatment thereof under such conditions sufficient to achieve clinically discernable

⁸ This has been a common practice outside the United States prior to December 2000.

improvement of the disordered epithelial tissue. The preferred anti-infective and/or antimicrobial active agent comprises an organohalide, such as a quaternary ammonium compound, preferably benzalkonium chloride. The inventive method may be used also in connection with a preferred applicator configuration.

Excerpt(s): This application is a continuation-in-part of U.S. patent application Ser. No. 09/668,953 which was filed on Sep. 22, 2000, entitled Systems for Delivering Anti-Infective Compositions From Frangible Ampules To Treat Disordered Tissue Such As **Cold Sores**, which is a continuation-in-part of U.S. patent application Ser. No. 09/401,076 which was filed on Sep. 22, 1999, entitled Methods For Treating **Cold Sores** With Anti-Infective Compositions, now U.S. Pat. No. 6,211,243 B1. The present invention relates to the treatment of disordered tissue with anti-infective compositions especially antiviral and antimicrobial compositions. More particularly, the treatment compositions include at least one of substances such as quaternary amine medicament compounds and organic compounds that have at least one carbon-halogen bond. The present invention provides a novel combination of treatment compositions and modes of applying them to treat tissue disorders, particularly epithelial tissue disorders such as herpes infections. Tissue disorders, particularly those which impact epithelial tissue caused by all types of Herpes, such as Herpes Simplex types I and II and Herpes Zoster (shingles), candida albicans, acne, psoriasis, eczema, seborrhea, dermatitis, and pink eye are common and are often difficult to treat symptoms. Such disorders are more likely to develop in people living with compromised sanitary conditions, the elderly, and the chronically ill. Others susceptible to such disorders include workers in health care, agricultural workers, chemical industry workers, individuals working with industrial cleaners, and painters, where chronic exposure to chemicals, pathogens, and unsanitary conditions tend to weaken and irritate epithelial tissue.

Web site: <http://appft1.uspto.gov/netahhtml/PTO/search-bool.html>

- **Use of doxycycline for treatment of certain skin and mouth ailments**

Inventor(s): Heesch, Gary V.; (Salt Lake City, UT)

Correspondence: Foster & Foster Llc; MR. Lynn G. Foster; 602 E. 300 S.; Salt Lake City; UT; 84102; US

Patent Application Number: 20030092682

Date filed: July 20, 2001

Abstract: A method of treating (a) **cold sores** in and out of the mouth, (b) canker sores, (c) cancer wounds including but not limited to wounds such as those which fail to heal due to chemotherapy and radiation therapy, (d) surgical wounds of all types, (e) diabetes wounds, (f) decubitus ulcers, (g) athletes foot including chronic athletes foot and (h) scarring with doxycycline and/or cefaclor is disclosed.

Excerpt(s): The present invention relates generally to the treatment of skin and mouth disorders and, more particularly, to the use of doxycycline and/or cefaclor to eradicate or significantly alleviate certain skin disorders. In the past, it has been difficult and often impossible to eradicate certain skin and mouth disorders, including various types of sores, wounds, skin ulcers, scarring and severe chronic athletes foot and infections. Most often, if not always, treatments of the past have either failed to cure the disorder or only offered temporary relief followed by reoccurrence of the ailment. The skin disorders in question comprise **cold sores** in and out of the mouth, canker sores, cancer wounds including surgical wounds (which fail to heal due to chemotherapy and radiation

therapy), other types of surgical wounds, diabetes sores, decubitus ulcers, sores, scarring and athletes foot including chronic athletes foot.

Web site: <http://appft1.uspto.gov/netahtml/PTO/search-bool.html>

Keeping Current

In order to stay informed about patents and patent applications dealing with cold sores, you can access the U.S. Patent Office archive via the Internet at the following Web address: <http://www.uspto.gov/patft/index.html>. You will see two broad options: (1) Issued Patent, and (2) Published Applications. To see a list of issued patents, perform the following steps: Under "Issued Patents," click "Quick Search." Then, type "cold sores" (or synonyms) into the "Term 1" box. After clicking on the search button, scroll down to see the various patents which have been granted to date on cold sores.

You can also use this procedure to view pending patent applications concerning cold sores. Simply go back to <http://www.uspto.gov/patft/index.html>. Select "Quick Search" under "Published Applications." Then proceed with the steps listed above.

CHAPTER 3. BOOKS ON COLD SORES

Overview

This chapter provides bibliographic book references relating to cold sores. In addition to online booksellers such as www.amazon.com and www.bn.com, excellent sources for book titles on cold sores 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: 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 "cold sores" at online booksellers' Web sites, you may discover non-medical books that use the generic term "cold sores" (or a synonym) in their titles. The following is indicative of the results you might find when searching for "cold sores" (sorted alphabetically by title; follow the hyperlink to view more details at Amazon.com):

- **Nature cure for shingles and cold sores** by Harry Clements; ISBN: 0722504055;
<http://www.amazon.com/exec/obidos/ASIN/0722504055/icongroupinterna>
- **Self Help Shingles and Cold Sores** by H. Clements; ISBN: 0317072811;
<http://www.amazon.com/exec/obidos/ASIN/0317072811/icongroupinterna>

Chapters on Cold Sores

In order to find chapters that specifically relate to cold sores, an excellent source of abstracts is the Combined Health Information Database. You will need to limit your search to book chapters and cold sores 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 "cold sores" (or

synonyms) into the “For these words:” box. The following is a typical result when searching for book chapters on cold sores:

- **Mouth and Dental Problems**

Source: in Mettler, M. and Kemper, D.W. *Healthwise for Life: Medical Self Care for Healthy Aging*. Boise, ID: Healthwise, Incorporated. 1996. p. 201-210.

Contact: Available from Healthwise, Incorporated. P.O. Box 1989, Boise, ID 82701. (800) 706-9646 or (208) 345-1161. Fax (208) 345-1897. E-mail: moreinfo@healthwise.org.
Website: www.healthwise.com. PRICE: \$14.35. ISBN: 2877930385.

Summary: This chapter on mouth and dental problems is from a manual of self care for health aging. The authors outline the aspects of aging that may impact the mouth and teeth, including a dryer mouth, receding gums, and loss of teeth. The authors also discuss a variety of specific problems, focusing on prevention and self-care strategies for coping with those problems. Topics include canker sores, **cold sores** (herpes virus), plaque and tooth decay, plaque and gum (periodontal) disease, dry mouth, oral cancer, and temporomandibular joint (TMJ) problems. For each topic, the authors note when to consult with a health care professional. Sidebars offer strategies for adapting toothbrushes for easier handling, denture care, and managing taste changes. The book is printed in large print for ease of use and written in non-technical language. 3 figures.

CHAPTER 4. PERIODICALS AND NEWS ON COLD SORES

Overview

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

News Services and Press Releases

One of the simplest ways of tracking press releases on cold sores 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 “cold sores” (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 cold sores. 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 “cold sores” (or synonyms). The following was recently listed in this archive for cold sores:

- **Biopharm gains Middle Eastern rights to Avanir cold sore cream**
Source: Reuters Industry Breifing
Date: January 30, 2002
- **Acyclovir cream speeds cold sore healing: study**
Source: Reuters Health eLine
Date: April 11, 2001

- **Launch of Avanir's cold sore treatment Abrexa drives Q1 net income**
Source: Reuters Industry Briefing
Date: February 14, 2001
- **Cold sores linked to heart attack risk**
Source: Reuters Health eLine
Date: November 06, 2000
- **Avanir seeks Canadian approval for its cold sore treatment Abrexa**
Source: Reuters Industry Briefing
Date: October 03, 2000
- **Compound from red wine could treat cold sores**
Source: Reuters Health eLine
Date: September 19, 2000
- **FDA OKs over-the-counter cream for cold sores**
Source: Reuters Health eLine
Date: July 27, 2000
- **FDA clears Avanir's non-prescription docosanol 10% cream for cold sores**
Source: Reuters Industry Briefing
Date: July 27, 2000
- **FDA approves Glaxo's Zovirax cream for cold sores**
Source: Reuters Industry Briefing
Date: December 30, 2002
- **Glaxo's Valtrex approved as one-day cold sore treatment**
Source: Reuters Industry Briefing
Date: September 10, 2002
- **FDA OKs herpes drug for cold sores**
Source: Reuters Health eLine
Date: September 10, 2002
- **Avanir gets approval to sell cold sore cream in Israel**
Source: Reuters Industry Briefing
Date: May 31, 2002
- **Avanir cold sore treatment approved for OTC sale in Canada**
Source: Reuters Industry Briefing
Date: May 29, 2002
- **FDA deems Avanir's docosanol OTC cold sore cream "approvable"**
Source: Reuters Industry Briefing
Date: June 02, 2000
- **Cold sore virus mimics Alzheimer's protein**
Source: Reuters Health eLine
Date: May 15, 2000
- **SmithKline to market Avanir's OTC Docosonal cream for cold sores**
Source: Reuters Industry Briefing
Date: April 04, 2000
- **SmithKline to market Avanir's OTC cold sore treatment**
Source: Reuters Medical News
Date: December 22, 1999

- **"Cold sore" virus can also cause genital herpes**
Source: Reuters Health eLine
Date: November 04, 1999
- **Penciclovir Cream Provides Symptomatic Relief From Cold Sores**
Source: Reuters Medical News
Date: May 07, 1997
- **Cold Sore Cream Speeds Healing**
Source: Reuters Health eLine
Date: May 06, 1997
- **Cold Sore Virus Linked To Alzheimer's**
Source: Reuters Health eLine
Date: January 24, 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 "cold sores" (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 "cold sores" (or synonyms). If you know the name of a company that is relevant to cold sores, 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 “cold sores” (or synonyms).

Newsletter Articles

Use the Combined Health Information Database, and limit your search criteria to “newsletter articles.” Again, you will need to use the “Detailed Search” option. Go directly to the following hyperlink: <http://chid.nih.gov/detail/detail.html>. Go to the bottom of the search page where “You may refine your search by.” Select the dates and language that you prefer. For the format option, select “Newsletter Article.” Type “cold sores” (or synonyms) into the “For these words:” box. You should check back periodically with this database as it is updated every three months. The following is a typical result when searching for newsletter articles on cold sores:

- **Warning Signs in the Mouth**

Source: Closing the Gap. p. 13. July 1999.

Contact: Available from Office of Minority Health Resource Center. P.O. Box 37337, Washington, DC 20013-7337. (800) 444-6472.

Summary: This brief newsletter article describes the warning signs and symptoms that may show up in the mouth with systemic diseases such as kidney disease, anemia, hemophilia and other bleeding disorders, adrenal gland disorders, and inflammatory bowel diseases. Chronic renal (kidney) disease has several early oral signs, including a metallic taste in the mouth, dry mouth, swelling glands, and frequent infection of the soft tissues. In the early stages of anemia, patients often complain about their tongue becoming smooth and glistening and feeling like it is burning. Unprovoked bleeding of the gums is a warning sign of bleeding disorders such as hemophilia, von Willebrand's disease, leukemia, and lymphomas. Brown or black splotches on the inner lining of the cheeks and lips are seen in the early stages of Addison's disease and other adrenal gland disorders. A cobblestone appearance of the soft tissue of the mouth and a generalized swelling of the linings of the cheeks and lips are early signs of inflamed bowels and Crohn's disease. Patients with ulcers often have a history of oral **cold sores** because mouth and intestinal tissues are closely related.

Academic Periodicals covering Cold Sores

Numerous periodicals are currently indexed within the National Library of Medicine's PubMed database that are known to publish articles relating to cold sores. In addition to these sources, you can search for articles covering cold sores 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."

CHAPTER 5. RESEARCHING MEDICATIONS

Overview

While a number of hard copy or CD-ROM resources are available for researching medications, a more flexible method is to use Internet-based databases. Broadly speaking, there are two sources of information on approved medications: public sources and private sources. We will emphasize free-to-use public sources.

U.S. Pharmacopeia

Because of historical investments by various organizations and the emergence of the Internet, it has become rather simple to learn about the medications recommended for cold sores. One such source is the United States Pharmacopeia. In 1820, eleven physicians met in Washington, D.C. to establish the first compendium of standard drugs for the United States. They called this compendium the U.S. Pharmacopeia (USP). Today, the USP is a non-profit organization consisting of 800 volunteer scientists, eleven elected officials, and 400 representatives of state associations and colleges of medicine and pharmacy. The USP is located in Rockville, Maryland, and its home page is located at <http://www.usp.org/>. The USP currently provides standards for over 3,700 medications. The resulting USP DI[®] Advice for the Patient[®] can be accessed through the National Library of Medicine of the National Institutes of Health. The database is partially derived from lists of federally approved medications in the Food and Drug Administration's (FDA) Drug Approvals database, located at <http://www.fda.gov/cder/da/da.htm>.

While the FDA database is rather large and difficult to navigate, the Pharmacopeia is both user-friendly and free to use. It covers more than 9,000 prescription and over-the-counter medications. To access this database, simply type the following hyperlink into your Web browser: <http://www.nlm.nih.gov/medlineplus/druginformation.html>. To view examples of a given medication (brand names, category, description, preparation, proper use, precautions, side effects, etc.), simply follow the hyperlinks indicated within the United States Pharmacopeia (USP).

Below, we have compiled a list of medications associated with cold sores. If you would like more information on a particular medication, the provided hyperlinks will direct you to ample documentation (e.g. typical dosage, side effects, drug-interaction risks, etc.). The

following drugs have been mentioned in the Pharmacopeia and other sources as being potentially applicable to cold sores:

Anesthetics

- **Dental - U.S. Brands:** Anbesol Maximum Strength Gel; Anbesol Maximum Strength Liquid; Anbesol Regular Strength Gel; Anbesol Regular Strength Liquid; Anbesol, Baby; Benzodent; Chloraseptic Lozenges; Chloraseptic Lozenges, Children's; Dentapaine; Dent-Zel-Itte; Hurracaine; Numzi
<http://www.nlm.nih.gov/medlineplus/druginfo/uspdi/202038.html>

Penciclovir

- **Topical - U.S. Brands:** Denavir
<http://www.nlm.nih.gov/medlineplus/druginfo/uspdi/203495.html>

Commercial Databases

In addition to the medications listed in the USP above, a number of commercial sites are available by subscription to physicians and their institutions. Or, you may be able to access these sources from your local medical library.

Mosby's Drug Consult™

Mosby's Drug Consult™ database (also available on CD-ROM and book format) covers 45,000 drug products including generics and international brands. It provides prescribing information, drug interactions, and patient information. Subscription information is available at the following hyperlink: <http://www.mosbysdrugconsult.com/>.

PDRhealth

The PDRhealth database is a free-to-use, drug information search engine that has been written for the public in layman's terms. It contains FDA-approved drug information adapted from the Physicians' Desk Reference (PDR) database. PDRhealth can be searched by brand name, generic name, or indication. It features multiple drug interactions reports. Search PDRhealth at http://www.pdrhealth.com/drug_info/index.html.

Other Web Sites

Drugs.com (www.drugs.com) reproduces the information in the Pharmacopeia as well as commercial information. You may also want to consider the Web site of the Medical Letter, Inc. (<http://www.medletter.com/>) which allows users to download articles on various drugs and therapeutics for a nominal fee.

If you have any questions about a medical treatment, the FDA may have an office near you. Look for their number in the blue pages of the phone book. You can also contact the FDA through its toll-free number, 1-888-INFO-FDA (1-888-463-6332), or on the World Wide Web at www.fda.gov.

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/aidsinfs.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 Combined Health Information Database

A comprehensive source of information on clinical guidelines written for professionals is the Combined Health Information Database. You will need to limit your search to one of the following: Brochure/Pamphlet, Fact Sheet, or Information Package, and “cold sores” using the “Detailed Search” option. Go directly to the following hyperlink: <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 the publication date, select “All Years.” Select your preferred language and the format option “Fact Sheet.” Type “cold sores” (or synonyms) into the “For these words:” box. The following is a sample result:

- **AIDS - Related Herpes Simplex Virus Infection**

Contact: US Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute of Allergy and Infectious Diseases, 31 Center Dr MSC 2520, Bethesda, MD, 20892-2520, (301) 496-5717, <http://www.niaid.nih.gov>.

Summary: This report looks at herpes simplex virus (HSV) infection associated with Acquired immunodeficiency syndrome (AIDS). Longstanding HSV infection is considered one of the first symptoms of AIDS, but even on persons with Human immunodeficiency virus (HIV) infection, the sores remained localized. Herpes lesions or sores are caused by two types of viruses; Type 1 causes oral herpes, also known as fever blisters or **cold sores**, while Type 2 causes genital herpes. In Persons with AIDS (PWA's), strains of herpes that resist treatment are becoming more and more common. Traditionally, acyclovir by mouth or intravenously is used both as a treatment and as a preventive therapy. Even in persons with healthy immune systems, some strains of herpes resist treatment, but that can usually be overcome with higher doses of medicine. However, some HIV-infected persons have herpes lesions that resist even the highest dosage. Foscarnet has shown some success in treating herpes, and presently, the National Institute of Allergy and Infectious Diseases (NIAID) has one clinical trial ongoing which involves it.

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>.

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).

Type “cold sores” (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	863
Books / Periodicals / Audio Visual	1
Consumer Health	974
Meeting Abstracts	5
Other Collections	0
Total	1843

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 “cold sores” (or synonyms) at the following Web site: <http://text.nlm.nih.gov>.

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/>.

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.

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.

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/>.

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 cold sores 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 cold sores. 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 cold sores. 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 “cold sores”:

- Other guides

- **Common Cold**

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

- **Herpes Simplex**

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

- **Influenza**

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

- **Mouth Disorders**

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

- **Throat Disorders**

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

Within the health topic page dedicated to cold sores, the following was listed:

- Diagnosis/Symptoms

- **Mouth Problems: Self-Care Flowcharts**

- Source: American Academy of Family Physicians

- <http://familydoctor.org/flowcharts/509.html>

- Treatment

- **Oral Complications of Chemotherapy and Head/Neck Radiation (PDQ)**

- Source: National Cancer Institute

- <http://www.cancer.gov/cancerinfo/pdq/supportivecare/oralcomplications/patient/>

- **What Is Oral and Maxillofacial Surgery?**

- <http://www.aaoms.org/public/Pamphlets/whatisoms.pdf>

- Nutrition

- **Dry Mouth or Thick Saliva**

- Source: American Cancer Society

- http://www.cancer.org/docroot/MBC/content/MBC_6_2X_Dry_Mouth_or_Thick_Saliva.asp?sitearea=MBC

- Specific Conditions/Aspects

- **Bad Breath (Halitosis): Frequently Asked Questions**

- Source: American Dental Association

- http://www.ada.org/public/topics/bad_breath_faq.asp

- **Black, Hairy Tongue**

- Source: Mayo Foundation for Medical Education and Research

- <http://www.mayoclinic.com/invoke.cfm?id=HQ00325>

- **Burning Mouth Syndrome**

- Source: Mayo Foundation for Medical Education and Research

- <http://www.mayoclinic.com/invoke.cfm?id=DS00462>

Canker Sore

Source: Mayo Foundation for Medical Education and Research
<http://www.mayoclinic.com/invoke.cfm?id=DS00354>

Cold Sore

Source: Mayo Foundation for Medical Education and Research
<http://www.mayoclinic.com/invoke.cfm?id=DS00358>

Dry Mouth

Source: Mayo Foundation for Medical Education and Research
<http://www.mayoclinic.com/invoke.cfm?id=HA00034>

Dry Mouth

Source: National Institute of Dental and Craniofacial Research
<http://www.nohic.nidcr.nih.gov/pubs/drymouth/dmouth.htm>

Geographic Tongue

Source: Mayo Foundation for Medical Education and Research
<http://www.mayoclinic.com/invoke.cfm?id=HQ00747>

Melkersson-Rosenthal Syndrome

Source: National Institute of Neurological Disorders and Stroke
http://www.ninds.nih.gov/health_and_medical/disorders/melkersson.htm

Oral Thrush

Source: Mayo Foundation for Medical Education and Research
<http://www.mayoclinic.com/invoke.cfm?id=DS00408>

Oropharyngeal Candidiasis (OPC, Thrush)

Source: National Center for Infectious Diseases
http://www.cdc.gov/ncidod/dbmd/diseaseinfo/candidiasis_opc_g.htm

Parry-Romberg Syndrome

Source: National Institute of Neurological Disorders and Stroke
http://www.ninds.nih.gov/health_and_medical/disorders/parry_romberg.htm

Sore or Irritated Mouth or Throat

Source: American Cancer Society
http://www.cancer.org/docroot/MBC/content/MBC_6_2x_Sore_or_Irritated_Mouth_or_Throat.asp?sitearea=MBC

- Children

Candidiasis: Diaper Rash, Oral Thrush, Vaginal Yeast Infection

Source: Nemours Foundation
<http://kidshealth.org/parent/infections/common/candidiasis.html>

Herpes Simplex

Source: Nemours Foundation
http://kidshealth.org/parent/infections/bacterial_viral/herpes.html

Mouth Problems in Infants and Children: Self-Care Flowcharts

Source: American Academy of Family Physicians
<http://familydoctor.org/flowcharts/510.html>

- Organizations

- **American Academy of Otolaryngology--Head and Neck Surgery**

- <http://www.entnet.org/>

- **National Institute on Deafness and Other Communication Disorders**

- <http://www.nidcd.nih.gov/>

- **National Oral Health Information Clearinghouse**

- Source: National Institute of Dental and Craniofacial Research

- <http://www.nohic.nidcr.nih.gov/>

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 cold sores. 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:

- **Fever Blisters and Canker Sores**

- Source: Alexandria, VA: American Academy of Otolaryngology-Head and Neck Surgery, Inc. 1994. [2 p.].

- Contact: Available from American Academy of Otolaryngology-Head and Neck Surgery, Inc. One Prince Street, Alexandria, VA 22314. (703) 519-1528. PRICE: Single copy free (send self-addressed, stamped envelope); \$20.00 per 100 copies for members, \$25.00 for nonmembers. Virginia orders require sales tax.

- Summary: This brochure describes two of the most common recurrent oral lesions, fever blisters (also called cold sores) and canker sores (aphthous ulcers). Topics covered include a description of fever blisters and their causes; how fever blisters are spread; treatment with antiviral agents such as acyclovir; and a description of canker sores, their causes, and treatment. The brochure concludes with a brief description of the specialty of otolaryngology-head and neck surgery. One sidebar lists prevention tips.

- **Herpes Simplex**

- Source: Schaumburg, IL: American Academy of Dermatology. 1999. 8 p.

- Contact: Available from American Academy of Dermatology. 930 N. Meacham Road, P.O. Box 4014, Schaumburg, IL 60168. (888)462-DERM ext. 22. Website: www.aad.org. PRICE: Single copy free.

Summary: This brochure discusses herpes simplex, a condition caused by the herpes simplex virus (HSV) that causes blisters and sores on the skin. Type 1 HSV causes clear, fluid-filled blisters (known as fever blisters or cold sores) to appear on the face. Type 2 HSV causes sores on the buttocks, penis, vagina, or cervix and is most commonly transmitted by sexual intercourse. Sores in both forms of the disease may be primary and recurrent. Physical examination and laboratory tests are used to diagnose HSV infections. Oral anti-viral medications such as acyclovir, famciclovir, and valacyclovir are used to treat herpes infections. Complications of HSV include eye infections and infections to babies during pregnancy. Precautions for avoiding complications for newborns and people who are seriously ill are listed. 2 figures.

- **Your Skin and Your Dermatologist**

Source: Schaumburg, IL: American Academy of Dermatology.

Contact: Available from American Academy of Dermatology. 930 N. Meacham Road, P.O. Box 4014, Schaumburg, IL 60168. (888)462-DERM ext. 22. Website: www.aad.org. PRICE: Single copy free.

Summary: This brochure discusses the importance of skin care, the functions performed by the skin, steps to protect the skin, and the role of the dermatologist in skin care. Skin serves as a protective barrier between the body and bacteria, viruses, chemicals, and the outside environment. In addition, skin helps to regulate body temperature and reflects any health problems that might be occurring within the body. Individuals can protect their skin by using gentle cleansers; applying moisturizers; using sunscreens; wearing protective gloves; and checking skin for any changes in moles, discoloration, or lumps. Dermatologists can help individuals take care of their skin by diagnosing skin diseases, preventing skin damage, and performing surgery and cosmetic procedures. Dermatologists treat conditions including acne, aging skin, scarring, **cold sores**, hair loss, hives, nail problems, itching, psoriasis, warts, and skin cancer.

- **Chemical Peeling**

Source: Schaumburg, IL: American Academy of Dermatology. 2002. 8 p.

Contact: Available from American Academy of Dermatology. 930 N. Meacham Road, P.O. Box 4014, Schaumburg, IL 60168. (888)462-DERM ext. 22. Website: www.aad.org. PRICE: Single copy free.

Summary: This brochure discusses the use of chemical peels for improving the appearance of skin. Chemical peels can reduce fine lines, wrinkles, mild scarring, and acne, and improve the color and texture of skin damaged by the sun. Dermatologists apply a solution to the skin, causing the skin to peel off and new skin to grow. Chemical peels can be performed on the face, neck, chest, arms, and legs. Chemical peels can be superficial, medium, or deep, and in general the deeper the peel, the longer the recovery time. The amount of peeling, swelling, and blistering after the procedure depends upon the type of peel. Complications include temporary or permanent skin color change, persistent redness, scarring, and in patients with a history of fever blisters, reactivation of **cold sores** or herpes simplex infection.

- **What Should I Know About Common Mouth Sores?**

Source: St. Charles, IL: American Dental Association (ADA). 1996. [2 p.].

Contact: Available from American Dental Association (ADA). Catalog Sales, P.O. Box 776, St. Charles, IL 60174. (800) 947-4746; Fax (630) 443-9970; <http://www.ada.org>. PRICE: \$18.00 per 50 copies; bulk orders available. Order Number W158.

Summary: This brochure from the American Dental Association familiarizes readers with the causes and treatments of common mouth sores. It emphasizes that any mouth sore that persists for a week or more should be examined by a dentist. The brochure then describes canker sores (aphthous ulcers), **cold sores**, leukoplakia, candidiasis, and treatment options for each type of mouth sore. Canker sores usually heal after a week or two. To reduce the irritation, the brochure recommends rinsing with antimicrobial mouthrinses, using topical anesthetics, and avoiding irritating foods. Cold sore blisters usually heal in about a week; topical anesthetics or prescription antiviral drugs may reduce these kinds of infections. For leukoplakia, treatment begins with removing the factors that contribute to the lesion. These factors can include tobacco use, ill-fitting dentures or bridges, or a habit of chewing on one's cheek. Candidiasis is treated by controlling the conditions that caused the outbreak. Each of the four conditions are illustrated with a small, full-color photograph. (AA-M).

- **Information About Mouth Sores**

Source: Phoenix, AZ: Zila Pharmaceuticals, Inc. 1996. 2 p.

Contact: Available from Zila Pharmaceuticals, Inc. 5227 North 7th Street, Phoenix, AZ 85014. (800) 922-7887 or (602) 266-6700; Fax (602) 234-2264; [Http://www.zila.com](http://www.zila.com). PRICE: Single copy free.

Summary: This brochure provides basic information about mouth sores, including canker sores and **cold sores**. Canker sores appear to be caused by stress, nicks (trauma) and diet. Canker sores start as small circular reddish swellings that usually rupture within a day. The ruptured sores are covered by thin whitish areas that are surrounded by reddish inflammation. **Cold sores** are caused by a chickenpox-like virus called herpes simplex I. **Cold sores** are liquid filled blisters that erupt around the lips and sometimes under the nose or around the chin. The brochure describes other mouth sores that can result from injuries to the mouth, including those from eating utensils, braces, and dentures. The brochure then provides suggestions for preventing mouth sores. The brochure concludes with a list of treatment recommendations for canker sores and for **cold sores**. Treatment options include the use of a protective film-forming gel, such as Zilactin products (the manufacturer of which created this brochure). 2 figures.

- **Lip Tips: Expert Advice on Sun Safety for Your Lips**

Source: Phoenix, AZ: Zila Pharmaceuticals, Inc. 1996. [2 p.].

Contact: Available from Zila Pharmaceuticals, Inc. 5227 North 7th Street, Phoenix, AZ 85014-2800. (602) 266-6700. PRICE: Single copy free.

Summary: This brochure provides information about preventing a number of outdoor-related lip problems, including chapped lips, **cold sores** and fever blisters, sun blisters, and lip cancer. For each problem, the brochure describes the symptoms and provides suggestions for prevention. The brochure emphasizes that the best protection is a lip balm that keeps the lips moist and provides maximum protection from the sun's rays. The brochure also stresses the importance of children learning and practicing safe sun habits. One chart lists safe sun recommendations for adults and children. The brochure is produced by the manufacturer of a medicated lip balm, Zilactin-Lip.

- **Dental Emergencies: First Aid Procedures**

Source: Boise, ID: Dental Section, Idaho Department of Health and Welfare. 199x. 1 p.

Contact: Available from Idaho Department of Health and Welfare. Dental Section, Statehouse, Boise, Idaho 83720. (208) 334-5964. PRICE: Single copy free.

Summary: This fact sheet lists first aid procedures to follow in the event of a dental emergency. Dental problems described include toothache, bleeding gums, tooth eruption pain, **cold sores**, canker sores and fever blisters, knocked-out tooth, broken or displaced tooth, bitten tongue or lip, objects wedged between the teeth, and possible fractured jaw. The fact sheet also discusses what to do in the event that an emergency occurs after regular dentist office hours. The fact sheet is printed on bright yellow card stock.

Healthfinder™

Healthfinder™ is sponsored by the U.S. Department of Health and Human Services and offers links to hundreds of other sites that contain healthcare information. This Web site is located at <http://www.healthfinder.gov>. Again, keyword searches can be used to find guidelines. The following was recently found in this database:

- **Common Mouth Sores**

Summary: This oral health education brochure explains the difference among canker sores, cold sores, leukoplakia, and candidiasis.

Source: American Dental Association

<http://www.healthfinder.gov/scripts/recordpass.asp?RecordType=0&RecordID=4185>

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 cold sores. 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 cold sores. By consulting all of associations listed in this chapter, you will have nearly exhausted all sources for patient associations concerned with cold sores.

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 cold sores. 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 "cold sores" (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 "cold sores". 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 "cold sores" (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 "cold sores" (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://nmlm.gov/>
- **National:** NN/LM List of Libraries Serving the Public (National Network of Libraries of Medicine), <http://nmlm.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#
- **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).

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>

COLD SORES DICTIONARY

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

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]

Acetylgalactosamine: The N-acetyl derivative of galactosamine. [NIH]

Acetylglucosamine: The N-acetyl derivative of glucosamine. [NIH]

Acne: A disorder of the skin marked by inflammation of oil glands and hair glands. [NIH]

Acne Vulgaris: A chronic disorder of the pilosebaceous apparatus associated with an increase in sebum secretion. It is characterized by open comedones (blackheads), closed comedones (whiteheads), and pustular nodules. The cause is unknown, but heredity and age are predisposing factors. [NIH]

Acyclovir: Functional analog of the nucleoside guanosine. It acts as an antimetabolite, especially in viruses. It is used as an antiviral agent, especially in herpes infections. [NIH]

Adverse Effect: An unwanted side effect of treatment. [NIH]

Aerosol: A solution of a drug which can be atomized into a fine mist for inhalation therapy. [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]

Agar: A complex sulfated polymer of galactose units, extracted from *Gelidium cartilagineum*, *Gracilaria confervoides*, and related red algae. It is used as a gel in the preparation of solid culture media for microorganisms, as a bulk laxative, in making emulsions, and as a supporting medium for immunodiffusion and immunoelectrophoresis. [NIH]

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

Alimentary: Pertaining to food or nutritive material, or to the organs of digestion. [EU]

Allylamine: Possesses an unusual and selective cytotoxicity for vascular smooth muscle cells in dogs and rats. Useful for experiments dealing with arterial injury, myocardial fibrosis or cardiac decompensation. [NIH]

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]

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]

Alum: A type of immune adjuvant (a substance used to help boost the immune response to a vaccine). Also called aluminum sulfate. [NIH]

Aluminum: A metallic element that has the atomic number 13, atomic symbol Al, and atomic weight 26.98. [NIH]

Ameliorating: A changeable condition which prevents the consequence of a failure or accident from becoming as bad as it otherwise would. [NIH]

Amine: An organic compound containing nitrogen; any member of a group of chemical compounds formed from ammonia by replacement of one or more of the hydrogen atoms by organic (hydrocarbon) radicals. The amines are distinguished as primary, secondary, and tertiary, according to whether one, two, or three hydrogen atoms are replaced. The amines include allylamine, amylamine, ethylamine, methylamine, phenylamine, propylamine, and many other compounds. [EU]

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]

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]

Ammonia: A colorless alkaline gas. It is formed in the body during decomposition of organic materials during a large number of metabolically important reactions. [NIH]

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

Analogue: In chemistry, a substance that is similar, but not identical, to another. [NIH]

Anatomical: Pertaining to anatomy, or to the structure of the organism. [EU]

Anemia: A reduction in the number of circulating erythrocytes or in the quantity of hemoglobin. [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]

Anesthetics: Agents that are capable of inducing a total or partial loss of sensation, especially tactile sensation and pain. They may act to induce general anesthesia, in which an unconscious state is achieved, or may act locally to induce numbness or lack of sensation at a targeted site. [NIH]

Anomalies: Birth defects; abnormalities. [NIH]

Antibacterial: A substance that destroys bacteria or suppresses their growth or reproduction. [EU]

Antibiotic: A drug used to treat infections caused by bacteria and other microorganisms. [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-infective: An agent that so acts. [EU]

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

Antimetabolite: A chemical that is very similar to one required in a normal biochemical reaction in cells. Antimetabolites can stop or slow down the reaction. [NIH]

Antimicrobial: Killing microorganisms, or suppressing their multiplication or growth. [EU]

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]

Antisepsis: The destruction of germs causing disease. [NIH]

Antiseptic: A substance that inhibits the growth and development of microorganisms without necessarily killing them. [EU]

Antiviral: Destroying viruses or suppressing their replication. [EU]

Antiviral Agents: Agents used in the prophylaxis or therapy of virus diseases. Some of the ways they may act include preventing viral replication by inhibiting viral DNA polymerase; binding to specific cell-surface receptors and inhibiting viral penetration or uncoating; inhibiting viral protein synthesis; or blocking late stages of virus assembly. [NIH]

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

Aphthous Stomatitis: Inflammation of the mucous membrane of the mouth. [NIH]

Aqueous: Having to do with water. [NIH]

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

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

Articular: Of or pertaining to a joint. [EU]

Ascorbic Acid: A six carbon compound related to glucose. It is found naturally in citrus fruits and many vegetables. Ascorbic acid is an essential nutrient in human diets, and necessary to maintain connective tissue and bone. Its biologically active form, vitamin C, functions as a reducing agent and coenzyme in several metabolic pathways. Vitamin C is considered an antioxidant. [NIH]

Astringent: Causing contraction, usually locally after topical application. [EU]

Astrocytes: The largest and most numerous neuroglial cells in the brain and spinal cord. Astrocytes (from "star" cells) are irregularly shaped with many long processes, including those with "end feet" which form the glial (limiting) membrane and directly and indirectly

contribute to the blood brain barrier. They regulate the extracellular ionic and chemical environment, and "reactive astrocytes" (along with microglia) respond to injury. Astrocytes have high-affinity transmitter uptake systems, voltage-dependent and transmitter-gated ion channels, and can release transmitter, but their role in signaling (as in many other functions) is not well understood. [NIH]

Attenuated: Strain with weakened or reduced virulence. [NIH]

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

Bacteriophage: A virus whose host is a bacterial cell; A virus that exclusively infects bacteria. It generally has a protein coat surrounding the genome (DNA or RNA). One of the coliphages most extensively studied is the lambda phage, which is also one of the most important. [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]

Benzocaine: A surface anesthetic that acts by preventing transmission of impulses along nerve fibers and at nerve endings. [NIH]

Bilateral: Affecting both the right and left side of 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]

Blepharitis: Inflammation of the eyelids. [NIH]

Blister: Visible accumulations of fluid within or beneath the epidermis. [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]

Blood Volume: Volume of circulating blood. It is the sum of the plasma volume and erythrocyte volume. [NIH]

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

Bone Marrow: The soft tissue filling the cavities of bones. Bone marrow exists in two types, yellow and red. Yellow marrow is found in the large cavities of large bones and consists mostly of fat cells and a few primitive blood cells. Red marrow is a hematopoietic tissue and is the site of production of erythrocytes and granular leukocytes. Bone marrow is made up of a framework of connective tissue containing branching fibers with the frame being filled with marrow cells. [NIH]

Bowel: The long tube-shaped organ in the abdomen that completes the process of digestion. There is both a small and a large bowel. Also called the intestine. [NIH]

Brachytherapy: A collective term for interstitial, intracavity, and surface radiotherapy. It uses small sealed or partly-sealed sources that may be placed on or near the body surface or within a natural body cavity or implanted directly into the tissues. [NIH]

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

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

Broad-spectrum: Effective against a wide range of microorganisms; said of an antibiotic. [EU]

Bronchial: Pertaining to one or more bronchi. [EU]

Bronchitis: Inflammation (swelling and reddening) of the bronchi. [NIH]

Bupivacaine: A widely used local anesthetic agent. [NIH]

Burns: Injuries to tissues caused by contact with heat, steam, chemicals (burns, chemical), electricity (burns, electric), or the like. [NIH]

Burns, Electric: Burns produced by contact with electric current or from a sudden discharge of electricity. [NIH]

Candida albicans: A unicellular budding fungus which is the principal pathogenic species causing candidiasis (moniliasis). [NIH]

Candidiasis: Infection with a fungus of the genus *Candida*. It is usually a superficial infection of the moist cutaneous areas of the body, and is generally caused by *C. albicans*; it most commonly involves the skin (dermatocandidiasis), oral mucous membranes (thrush, def. 1), respiratory tract (bronchocandidiasis), and vagina (vaginitis). Rarely there is a systemic infection or endocarditis. Called also moniliasis, candidosis, oidiomycosis, and formerly blastodendriosis. [EU]

Candidosis: An infection caused by an opportunistic yeasts that tends to proliferate and become pathologic when the environment is favorable and the host resistance is weakened. [NIH]

Canthaxanthin: A trans-carotenoid pigment widely distributed in nature. The compound is used as an oral suntanning agent and as a food and drug coloring agent. It is believed that it inhibits development of tumor cells and neoplastic transformation through its antioxidant properties. Oral ingestion of the compound causes canthaxanthin retinopathy. [NIH]

Capsid: The outer protein protective shell of a virus, which protects the viral nucleic acid. [NIH]

Carcinogen: Any substance that causes cancer. [NIH]

Carcinogenic: Producing carcinoma. [EU]

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

Carotene: The general name for a group of pigments found in green, yellow, and leafy vegetables, and yellow fruits. The pigments are fat-soluble, unsaturated aliphatic hydrocarbons functioning as provitamins and are converted to vitamin A through enzymatic processes in the intestinal wall. [NIH]

Carotenoids: Substance found in yellow and orange fruits and vegetables and in dark green, leafy vegetables. May reduce the risk of developing cancer. [NIH]

Castor Oil: Oil obtained from seeds of *Ricinus communis* that is used as a cathartic and as a plasticizer. [NIH]

Cefaclor: Semisynthetic, broad-spectrum antibiotic derivative of cephalexin. [NIH]

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 Division: The fission of a cell. [NIH]

Cellulose: A polysaccharide with glucose units linked as in cellobiose. It is the chief constituent of plant fibers, cotton being the purest natural form of the substance. As a raw material, it forms the basis for many derivatives used in chromatography, ion exchange materials, explosives manufacturing, and pharmaceutical preparations. [NIH]

Cephalexin: A semisynthetic cephalosporin antibiotic with antimicrobial activity similar to that of cephaloridine or cephalothin, but somewhat less potent. It is effective against both gram-positive and gram-negative organisms. [NIH]

Cervical: Relating to the neck, or to the neck of any organ or structure. Cervical lymph nodes are located in the neck; cervical cancer refers to cancer of the uterine cervix, which is the lower, narrow end (the "neck") of the uterus. [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]

Chickenpox: A mild, highly contagious virus characterized by itchy blisters all over the body. [NIH]

Chin: The anatomical frontal portion of the mandible, also known as the mentum, that contains the line of fusion of the two separate halves of the mandible (symphysis menti). This line of fusion divides inferiorly to enclose a triangular area called the mental protuberance. On each side, inferior to the second premolar tooth, is the mental foramen for the passage of blood vessels and a nerve. [NIH]

Chlorine: A greenish-yellow, diatomic gas that is a member of the halogen family of elements. It has the atomic symbol Cl, atomic number 17, and atomic weight 70.906. It is a powerful irritant that can cause fatal pulmonary edema. Chlorine is used in manufacturing, as a reagent in synthetic chemistry, for water purification, and in the production of chlorinated lime, which is used in fabric bleaching. [NIH]

Chlorophyll: Porphyrin derivatives containing magnesium that act to convert light energy in photosynthetic organisms. [NIH]

Cholera: An acute diarrheal disease endemic in India and Southeast Asia whose causative agent is vibrio cholerae. This condition can lead to severe dehydration in a matter of hours unless quickly treated. [NIH]

Chorioretinitis: Inflammation of the choroid in which the sensory retina becomes edematous and opaque. The inflammatory cells and exudate may burst through the sensory retina to cloud the vitreous body. [NIH]

Choroid: The thin, highly vascular membrane covering most of the posterior of the eye between the retina and sclera. [NIH]

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

Citrus: Any tree or shrub of the Rue family or the fruit of these plants. [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]

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]

Coenzyme: An organic nonprotein molecule, frequently a phosphorylated derivative of a water-soluble vitamin, that binds with the protein molecule (apoenzyme) to form the active enzyme (holoenzyme). [EU]

Colitis: Inflammation of the colon. [NIH]

Collapse: 1. A state of extreme prostration and depression, with failure of circulation. 2. Abnormal falling in of the walls of any part of organ. [EU]

Communis: Common tendon of the rectus group of muscles that surrounds the optic foramen and a portion of the superior orbital fissure, to the anterior margin of which it is attached at the spina recti lateralis. [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]

Cone: One of the special retinal receptor elements which are presumed to be primarily concerned with perception of light and color stimuli when the eye is adapted to light. [NIH]

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

Conjunctiva: The mucous membrane that lines the inner surface of the eyelids and the anterior part of the sclera. [NIH]

Conjunctivitis: Inflammation of the conjunctiva, generally consisting of conjunctival hyperaemia associated with a discharge. [EU]

Connective Tissue: Tissue that supports and binds other tissues. It consists of connective tissue cells embedded in a large amount of extracellular matrix. [NIH]

Connective Tissue: Tissue that supports and binds other tissues. It consists of connective tissue cells embedded in a large amount of extracellular matrix. [NIH]

Constitutional: 1. Affecting the whole constitution of the body; not local. 2. Pertaining to the constitution. [EU]

Consumption: Pulmonary tuberculosis. [NIH]

Contamination: The soiling or pollution by inferior material, as by the introduction of organisms into a wound, or sewage into a stream. [EU]

Contraceptive: An agent that diminishes the likelihood of or prevents conception. [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]

Conventional therapy: A currently accepted and widely used treatment for a certain type of disease, based on the results of past research. Also called conventional treatment. [NIH]

Conventional treatment: A currently accepted and widely used treatment for a certain type of disease, based on the results of past research. Also called conventional therapy. [NIH]

Cornea: The transparent part of the eye that covers the iris and the pupil and allows light to enter the inside. [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]

Corticosteroids: Hormones that have antitumor activity in lymphomas and lymphoid leukemias; in addition, corticosteroids (steroids) may be used for hormone replacement and for the management of some of the complications of cancer and its treatment. [NIH]

Crowns: A prosthetic restoration that reproduces the entire surface anatomy of the visible natural crown of a tooth. It may be partial (covering three or more surfaces of a tooth) or complete (covering all surfaces). It is made of gold or other metal, porcelain, or resin. [NIH]

Curative: Tending to overcome disease and promote recovery. [EU]

Cutaneous: Having to do with the skin. [NIH]

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]

Deamination: The removal of an amino group (NH₂) from a chemical compound. [NIH]

Decarboxylation: The removal of a carboxyl group, usually in the form of carbon dioxide, from a chemical compound. [NIH]

Decubitus: An act of lying down; also the position assumed in lying down. [EU]

Decubitus Ulcer: An ulceration caused by prolonged pressure in patients permitted to lie too still for a long period of time. The bony prominences of the body are the most frequently affected sites. The ulcer is caused by ischemia of the underlying structures of the skin, fat, and muscles as a result of the sustained and constant pressure. [NIH]

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

Demulcent: Soothing; bland; allaying the irritation of inflamed or abraded surfaces. [EU]

Dendrites: Extensions of the nerve cell body. They are short and branched and receive stimuli from other neurons. [NIH]

Dendritic: 1. Branched like a tree. 2. Pertaining to or possessing dendrites. [EU]

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

Dental Abutments: Natural teeth or teeth roots used as anchorage for a fixed or removable denture or other prosthesis (such as an implant) serving the same purpose. [NIH]

Dental Hygienists: Persons trained in an accredited school or dental college and licensed by the state in which they reside to provide dental prophylaxis under the direction of a licensed dentist. [NIH]

Dentures: An appliance used as an artificial or prosthetic replacement for missing teeth and adjacent tissues. It does not include crowns, dental abutments, nor artificial teeth. [NIH]

Dermal: Pertaining to or coming from the skin. [NIH]

Dermatitis: Any inflammation of the skin. [NIH]

Dermatologic Agents: Drugs used to treat or prevent skin disorders or for the routine care of skin. [NIH]

Dermatologist: A doctor who specializes in the diagnosis and treatment of skin problems. [NIH]

Detergents: Purifying or cleansing agents, usually salts of long-chain aliphatic bases or

acids, that exert cleansing (oil-dissolving) and antimicrobial effects through a surface action that depends on possessing both hydrophilic and hydrophobic properties. [NIH]

Deuterium: Deuterium. The stable isotope of hydrogen. It has one neutron and one proton in the nucleus. [NIH]

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

Diarrhea: Passage of excessively liquid or excessively frequent stools. [NIH]

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

Dihydroxy: AMPA/Kainate antagonist. [NIH]

Diploid: Having two sets of chromosomes. [NIH]

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

Disease Progression: The worsening of a disease over time. This concept is most often used for chronic and incurable diseases where the stage of the disease is an important determinant of therapy and prognosis. [NIH]

Disinfectant: An agent that disinfects; applied particularly to agents used on inanimate objects. [EU]

Disinfection: Rendering pathogens harmless through the use of heat, antiseptics, antibacterial agents, etc. [NIH]

Douche: A procedure in which water or a medicated solution is used to clean the vagina and cervix. [NIH]

Doxycycline: A synthetic tetracycline derivative with a range of antimicrobial activity and mode of action similar to that of tetracycline, but more effective against many species. Animal studies suggest that it may cause less tooth staining than other tetracyclines. [NIH]

Drug Interactions: The action of a drug that may affect the activity, metabolism, or toxicity of another drug. [NIH]

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

Echinacea: A genus of perennial herbs used topically and internally. It contains echinacoside, glycosides, inulin, isobutyl amides, resin, and sesquiterpenes. [NIH]

Eczema: A pruritic papulovesicular dermatitis occurring as a reaction to many endogenous and exogenous agents (Dorland, 27th ed). [NIH]

Edema: Excessive amount of watery fluid accumulated in the intercellular spaces, most commonly present in subcutaneous tissue. [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]

Electrolyte: A substance that dissociates into ions when fused or in solution, and thus becomes capable of conducting electricity; an ionic solute. [EU]

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]

Emollient: Softening or soothing; called also malactic. [EU]

Encephalitis: Inflammation of the brain due to infection, autoimmune processes, toxins, and other conditions. Viral infections (see encephalitis, viral) are a relatively frequent cause of

this condition. [NIH]

Encephalitis, Viral: Inflammation of brain parenchymal tissue as a result of viral infection. Encephalitis may occur as primary or secondary manifestation of Togaviridae infections; Herpesviridae infections; Adenoviridae infections; Flaviviridae infections; Bunyaviridae infections; Picornaviridae infections; Paramyxoviridae infections; Orthomyxoviridae infections; Retroviridae infections; and Arenaviridae infections. [NIH]

Endocarditis: Exudative and proliferative inflammatory alterations of the endocardium, characterized by the presence of vegetations on the surface of the endocardium or in the endocardium itself, and most commonly involving a heart valve, but sometimes affecting the inner lining of the cardiac chambers or the endocardium elsewhere. It may occur as a primary disorder or as a complication of or in association with another disease. [EU]

Endotoxin: Toxin from cell walls of bacteria. [NIH]

Enema: The injection of a liquid through the anus into the large bowel. [NIH]

Enteropeptidase: A specialized proteolytic enzyme secreted by intestinal cells. It converts trypsinogen into its active form trypsin by removing the N-terminal peptide. EC 3.4.21.9. [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]

Enzymes: Biological molecules that possess catalytic activity. They may occur naturally or be synthetically created. Enzymes are usually proteins, however catalytic RNA and catalytic DNA molecules have also been identified. [NIH]

Epidemic: Occurring suddenly in numbers clearly in excess of normal expectancy; said especially of infectious diseases but applied also to any disease, injury, or other health-related event occurring in such outbreaks. [EU]

Epidemiological: Relating to, or involving epidemiology. [EU]

Epidermal: Pertaining to or resembling epidermis. Called also epidermic or epidermoid. [EU]

Epidermis: Nonvascular layer of the skin. It is made up, from within outward, of five layers: 1) basal layer (stratum basale epidermidis); 2) spinous layer (stratum spinosum epidermidis); 3) granular layer (stratum granulosum epidermidis); 4) clear layer (stratum lucidum epidermidis); and 5) horny layer (stratum corneum epidermidis). [NIH]

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

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

Erythema: Redness of the skin produced by congestion of the capillaries. This condition may result from a variety of causes. [NIH]

Erythrocytes: Red blood cells. Mature erythrocytes are non-nucleated, biconcave disks containing hemoglobin whose function is to transport oxygen. [NIH]

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

Ethylene Glycol: A colorless, odorless, viscous dihydroxy alcohol. It has a sweet taste, but is poisonous if ingested. Ethylene glycol is the most important glycol commercially available and is manufactured on a large scale in the United States. It is used as an antifreeze and coolant, in hydraulic fluids, and in the manufacture of low-freezing dynamites and resins. [NIH]

Eucalyptus: A genus of Australian trees of the Myrtaceae family that yields gums, oils, and resins which are used as flavoring agents, astringents, and aromatics, and formerly to treat diarrhea, asthma, bronchitis, and respiratory tract infections. [NIH]

Excipient: Any more or less inert substance added to a prescription in order to confer a suitable consistency or form to the drug; a vehicle. [EU]

Exogenous: Developed or originating outside the organism, as exogenous disease. [EU]

Expander: Any of several colloidal substances of high molecular weight. used as a blood or plasma substitute in transfusion for increasing the volume of the circulating blood. called also extender. [NIH]

Extensor: A muscle whose contraction tends to straighten a limb; the antagonist of a flexor. [NIH]

External-beam radiation: Radiation therapy that uses a machine to aim high-energy rays at the cancer. Also called external radiation. [NIH]

Extracellular: Outside a cell or cells. [EU]

Eye Infections: Infection, moderate to severe, caused by bacteria, fungi, or viruses, which occurs either on the external surface of the eye or intraocularly with probable inflammation, visual impairment, or blindness. [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]

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

Flavoring Agents: Substances added to foods and medicine to improve the quality of taste. [NIH]

Foramen: A natural hole of perforation, especially one in a bone. [NIH]

Free Radical Scavengers: Substances that influence the course of a chemical reaction by ready combination with free radicals. Among other effects, this combining activity protects pancreatic islets against damage by cytokines and prevents myocardial and pulmonary perfusion injuries. [NIH]

Fungi: A kingdom of eukaryotic, heterotrophic organisms that live as saprobes or parasites, including mushrooms, yeasts, smuts, molds, etc. They reproduce either sexually or asexually, and have life cycles that range from simple to complex. Filamentous fungi refer to those that grow as multicellular colonies (mushrooms and molds). [NIH]

Fungus: A general term used to denote a group of eukaryotic protists, including mushrooms, yeasts, rusts, moulds, smuts, etc., which are characterized by the absence of chlorophyll and by the presence of a rigid cell wall composed of chitin, mannans, and sometimes cellulose. They are usually of simple morphological form or show some reversible cellular specialization, such as the formation of pseudoparenchymatous tissue in the fruiting body of a mushroom. The dimorphic fungi grow, according to environmental conditions, as moulds or yeasts. [EU]

Gamma Rays: Very powerful and penetrating, high-energy electromagnetic radiation of shorter wavelength than that of x-rays. They are emitted by a decaying nucleus, usually between 0.01 and 10 MeV. They are also called nuclear x-rays. [NIH]

Ganglia: Clusters of multipolar neurons surrounded by a capsule of loosely organized connective tissue located outside the central nervous system. [NIH]

Gangrenous: A circumscribed, deep-seated, suppurative inflammation of the subcutaneous tissue of the eyelid discharging pus from several points. [NIH]

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]

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

Gelatin: A product formed from skin, white connective tissue, or bone collagen. It is used as a protein food adjuvant, plasma substitute, hemostatic, suspending agent in pharmaceutical preparations, and in the manufacturing of capsules and suppositories. [NIH]

Gels: Colloids with a solid continuous phase and liquid as the dispersed phase; gels may be unstable when, due to temperature or other cause, the solid phase liquifies; the resulting colloid is called a sol. [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]

Gene Expression: The phenotypic manifestation of a gene or genes by the processes of gene action. [NIH]

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

Genital: Pertaining to the genitalia. [EU]

Ginger: Deciduous plant rich in volatile oil (oils, volatile). It is used as a flavoring agent and has many other uses both internally and topically. [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]

Glucocorticoid: A compound that belongs to the family of compounds called corticosteroids (steroids). Glucocorticoids affect metabolism and have anti-inflammatory and immunosuppressive effects. They may be naturally produced (hormones) or synthetic (drugs). [NIH]

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]

Glycoprotein: A protein that has sugar molecules attached to it. [NIH]

Glycosaminoglycans: Heteropolysaccharides which contain an N-acetylated hexamine in a characteristic repeating disaccharide unit. The repeating structure of each disaccharide involves alternate 1,4- and 1,3-linkages consisting of either N-acetylglucosamine or N-acetylgalactosamine. [NIH]

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

Graft: Healthy skin, bone, or other tissue taken from one part of the body and used to replace diseased or injured tissue removed from another part of the body. [NIH]

Grasses: A large family, Gramineae, of narrow-leaved herbaceous monocots. Many grasses produce highly allergenic pollens and are hosts to cattle parasites and toxic fungi. [NIH]

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

Haploid: An organism with one basic chromosome set, symbolized by n ; the normal condition of gametes in diploids. [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]

Heart attack: A seizure of weak or abnormal functioning of the heart. [NIH]

Hemoglobin: One of the fractions of glycosylated hemoglobin A1c. Glycosylated hemoglobin is formed when linkages of glucose and related monosaccharides bind to hemoglobin A and its concentration represents the average blood glucose level over the previous several weeks. HbA1c levels are used as a measure of long-term control of plasma glucose (normal, 4 to 6 percent). In controlled diabetes mellitus, the concentration of glycosylated hemoglobin A is within the normal range, but in uncontrolled cases the level may be 3 to 4 times the normal concentration. Generally, complications are substantially lower among patients with Hb levels of 7 percent or less than in patients with HbA1c levels of 9 percent or more. [NIH]

Heparan Sulfate Proteoglycan: A substance released by astrocytes, which is critical in stopping nervous fibers in their tracks. [NIH]

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

Herpes: Any inflammatory skin disease caused by a herpesvirus and characterized by the formation of clusters of small vesicles. When used alone, the term may refer to herpes simplex or to herpes zoster. [EU]

Herpes virus: A member of the herpes family of viruses. [NIH]

Herpes Zoster: Acute vesicular inflammation. [NIH]

Histamine: 1H-Imidazole-4-ethanamine. A depressor amine derived by enzymatic decarboxylation of histidine. It is a powerful stimulant of gastric secretion, a constrictor of bronchial smooth muscle, a vasodilator, and also a centrally acting neurotransmitter. [NIH]

Histidine: An essential amino acid important in a number of metabolic processes. It is required for the production of histamine. [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]

Host: Any animal that receives a transplanted graft. [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]

Hydrolysis: The process of cleaving a chemical compound by the addition of a molecule of water. [NIH]

Hygienic: Pertaining to hygiene, or conducive to health. [EU]

Hyperaemia: An excess of blood in a part; engorgement. [EU]

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

Imidazole: C₃H₄N₂. The ring is present in polybenzimidazoles. [NIH]

Immune adjuvant: A drug that stimulates the immune system to respond to disease. [NIH]

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

Immune system: The organs, cells, and molecules responsible for the recognition and disposal of foreign ("non-self") material which enters the body. [NIH]

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

Immunodeficiency syndrome: The inability of the body to produce an immune response. [NIH]

Impairment: In the context of health experience, an impairment is any loss or abnormality of psychological, physiological, or anatomical structure or function. [NIH]

Implant radiation: A procedure in which radioactive material sealed in needles, seeds, wires, or catheters is placed directly into or near the tumor. Also called [NIH]

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

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]

Inflammation: A pathological process characterized by injury or destruction of tissues caused by a variety of cytologic and chemical reactions. It is usually manifested by typical signs of pain, heat, redness, swelling, and loss of function. [NIH]

Inflammatory bowel disease: A general term that refers to the inflammation of the colon and rectum. Inflammatory bowel disease includes ulcerative colitis and Crohn's disease. [NIH]

Influenza: An acute viral infection involving the respiratory tract. It is marked by inflammation of the nasal mucosa, the pharynx, and conjunctiva, and by headache and severe, often generalized, myalgia. [NIH]

Ingestion: Taking into the body by mouth [NIH]

Initiation: Mutation induced by a chemical reactive substance causing cell changes; being a step in a carcinogenic process. [NIH]

Inlay: In dentistry, a filling first made to correspond with the form of a dental cavity and then cemented into the cavity. [NIH]

Insight: The capacity to understand one's own motives, to be aware of one's own psychodynamics, to appreciate the meaning of symbolic behavior. [NIH]

Interferons: Proteins secreted by vertebrate cells in response to a wide variety of inducers. They confer resistance against many different viruses, inhibit proliferation of normal and malignant cells, impede multiplication of intracellular parasites, enhance macrophage and granulocyte phagocytosis, augment natural killer cell activity, and show several other immunomodulatory functions. [NIH]

Internal radiation: A procedure in which radioactive material sealed in needles, seeds, wires, or catheters is placed directly into or near the tumor. Also called brachytherapy, implant radiation, or interstitial radiation therapy. [NIH]

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]

Intramuscular: IM. Within or into muscle. [NIH]

Inulin: A starch found in the tubers and roots of many plants. Since it is hydrolyzable to fructose, it is classified as a fructosan. It has been used in physiologic investigation for determination of the rate of glomerular function. [NIH]

Iodine: A nonmetallic element of the halogen group that is represented by the atomic symbol I, atomic number 53, and atomic weight of 126.90. It is a nutritionally essential element, especially important in thyroid hormone synthesis. In solution, it has anti-infective properties and is used topically. [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]

Iris: The most anterior portion of the uveal layer, separating the anterior chamber from the posterior. It consists of two layers - the stroma and the pigmented epithelium. Color of the iris depends on the amount of melanin in the stroma on reflection from the pigmented epithelium. [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]

Keratitis: Inflammation of the cornea. [NIH]

Kidney Disease: Any one of several chronic conditions that are caused by damage to the cells of the kidney. People who have had diabetes for a long time may have kidney damage. Also called nephropathy. [NIH]

Large Intestine: The part of the intestine that goes from the cecum to the rectum. The large intestine absorbs water from stool and changes it from a liquid to a solid form. The large intestine is 5 feet long and includes the appendix, cecum, colon, and rectum. Also called colon. [NIH]

Latency: The period of apparent inactivity between the time when a stimulus is presented and the moment a response occurs. [NIH]

Latent: Phoria which occurs at one distance or another and which usually has no troublesome effect. [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]

Lens: The transparent, double convex (outward curve on both sides) structure suspended between the aqueous and vitreous; helps to focus light on the retina. [NIH]

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

Leukemia: Cancer of blood-forming tissue. [NIH]

Leukocytes: White blood cells. These include granular leukocytes (basophils, eosinophils, and neutrophils) as well as non-granular leukocytes (lymphocytes and monocytes). [NIH]

Leukoplakia: A white patch that may develop on mucous membranes such as the cheek, gums, or tongue and may become cancerous. [NIH]

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

Lice: A general name for small, wingless, parasitic insects, previously of the order Phthiraptera. Though exact taxonomy is still controversial, they can be grouped in the orders Anoplura (sucking lice), Mallophaga (biting lice), and Rhynchophthirina (elephant lice). [NIH]

Lidocaine: A local anesthetic and cardiac depressant used as an antiarrhythmia agent. Its actions are more intense and its effects more prolonged than those of procaine but its duration of action is shorter than that of bupivacaine or prilocaine. [NIH]

Life cycle: The successive stages through which an organism passes from fertilized ovum or spore to the fertilized ovum or spore of the next generation. [NIH]

Linkages: The tendency of two or more genes in the same chromosome to remain together from one generation to the next more frequently than expected according to the law of independent assortment. [NIH]

Lip: Either of the two fleshy, full-blooded margins of the mouth. [NIH]

Lipoprotein: Any of the lipid-protein complexes in which lipids are transported in the blood; lipoprotein particles consist of a spherical hydrophobic core of triglycerides or cholesterol esters surrounded by an amphipathic monolayer of phospholipids, cholesterol, and apolipoproteins; the four principal classes are high-density, low-density, and very-low-density lipoproteins and chylomicrons. [EU]

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

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

Locomotion: Movement or the ability to move from one place or another. It can refer to humans, vertebrate or invertebrate animals, and microorganisms. [NIH]

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]

Lymphatic system: The tissues and organs that produce, store, and carry white blood cells that fight infection and other diseases. This system includes the bone marrow, spleen, thymus, lymph nodes and a network of thin tubes that carry lymph and white blood cells. These tubes branch, like blood vessels, into all the tissues of the body. [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]

Lymphoma: A general term for various neoplastic diseases of the lymphoid tissue. [NIH]

Lysine: An essential amino acid. It is often added to animal feed. [NIH]

Lytic: 1. Pertaining to lysis or to a lysin. 2. Producing lysis. [EU]

Macrophage: A type of white blood cell that surrounds and kills microorganisms, removes dead cells, and stimulates the action of other immune system cells. [NIH]

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

Mandible: The largest and strongest bone of the face constituting the lower jaw. It supports the lower teeth. [NIH]

Mastitis: Inflammatory disease of the breast, or mammary gland. [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]

Medicament: A medicinal substance or agent. [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]

Menstruation: The normal physiologic discharge through the vagina of blood and mucosal tissues from the nonpregnant uterus. [NIH]

Mercurochrome: Merbromine, introduced as mercurochrome, is a surgical disinfectant. [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]

Microbe: An organism which cannot be observed with the naked eye; e. g. unicellular animals, lower algae, lower fungi, bacteria. [NIH]

Microbiological: Pertaining to microbiology : the science that deals with microorganisms, including algae, bacteria, fungi, protozoa and viruses. [EU]

Microbiology: The study of microorganisms such as fungi, bacteria, algae, archaea, and viruses. [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]

Monoclonal: An antibody produced by culturing a single type of cell. It therefore consists of a single species of immunoglobulin molecules. [NIH]

Mononuclear: A cell with one nucleus. [NIH]

Mucocutaneous: Pertaining to or affecting the mucous membrane and the skin. [EU]

Multicenter Studies: Controlled studies which are planned and carried out by several cooperating institutions to assess certain variables and outcomes in specific patient populations, for example, a multicenter study of congenital anomalies in children. [NIH]

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

Myalgia: Pain in a muscle or muscles. [EU]

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

Nasal Mucosa: The mucous membrane lining the nasal cavity. [NIH]

NCI: National Cancer Institute. NCI, part of the National Institutes of Health of the United States Department of Health and Human Services, is the federal government's principal agency for cancer research. NCI conducts, coordinates, and funds cancer research, training, health information dissemination, and other programs with respect to the cause, diagnosis, prevention, and treatment of cancer. Access the NCI Web site at <http://cancer.gov>. [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]

Neonatal: Pertaining to the first four weeks after birth. [EU]

Neoplasm: A new growth of benign or malignant tissue. [NIH]

Neoplastic: Pertaining to or like a neoplasm (= any new and abnormal growth); pertaining to neoplasia (= the formation of a neoplasm). [EU]

Nephropathy: Disease of the kidneys. [EU]

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]

Nerve Endings: Specialized terminations of peripheral neurons. Nerve endings include neuroeffector junction(s) by which neurons activate target organs and sensory receptors which transduce information from the various sensory modalities and send it centrally in the nervous system. Presynaptic nerve endings are presynaptic terminals. [NIH]

Nerve Fibers: Slender processes of neurons, especially the prolonged axons that conduct nerve impulses. [NIH]

Nervous System: The entire nerve apparatus composed of the brain, spinal cord, nerves and ganglia. [NIH]

Neural: 1. Pertaining to a nerve or to the nerves. 2. Situated in the region of the spinal axis, as the neural arch. [EU]

Neurons: The basic cellular units of nervous tissue. Each neuron consists of a body, an axon, and dendrites. Their purpose is to receive, conduct, and transmit impulses in the nervous system. [NIH]

Neuroretinitis: Inflammation of the optic nerve head and adjacent retina. [NIH]

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, epithelial,

and fast neutrons refer to the energy levels with which the neutrons are ejected from heavier nuclei during their decay. [NIH]

Nitrogen: An element with the atomic symbol N, atomic number 7, and atomic weight 14. Nitrogen exists as a diatomic gas and makes up about 78% of the earth's atmosphere by volume. It is a constituent of proteins and nucleic acids and found in all living cells. [NIH]

Nonoxynol: Nonionic surfactant mixtures varying in the number of repeating ethoxy (oxy-1,2-ethanediyl) groups. They are used as detergents, emulsifiers, wetting agents, defoaming agents, etc. Nonoxynol-9, the compound with 9 repeating ethoxy groups, is a spermicide, formulated primarily as a component of vaginal foams and creams. [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]

Ocular: 1. Of, pertaining to, or affecting the eye. 2. Eyepiece. [EU]

Ointments: Semisolid preparations used topically for protective emollient effects or as a vehicle for local administration of medications. Ointment bases are various mixtures of fats, waxes, animal and plant oils and solid and liquid hydrocarbons. [NIH]

Optic Nerve: The 2nd cranial nerve. The optic nerve conveys visual information from the retina to the brain. The nerve carries the axons of the retinal ganglion cells which sort at the optic chiasm and continue via the optic tracts to the brain. The largest projection is to the lateral geniculate nuclei; other important targets include the superior colliculi and the suprachiasmatic nuclei. Though known as the second cranial nerve, it is considered part of the central nervous system. [NIH]

Oral Health: The optimal state of the mouth and normal functioning of the organs of the mouth without evidence of disease. [NIH]

Otolaryngology: A surgical specialty concerned with the study and treatment of disorders of the ear, nose, and throat. [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]

Palliative: 1. Affording relief, but not cure. 2. An alleviating medicine. [EU]

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]

Papilloma: A benign epithelial neoplasm which may arise from the skin, mucous membranes or glandular ducts. [NIH]

Parasitic: Having to do with or being a parasite. A parasite is an animal or a plant that lives on or in an organism of another species and gets at least some of its nutrients from it. [NIH]

Patch: A piece of material used to cover or protect a wound, an injured part, etc.: a patch over the eye. [NIH]

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]

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

PDQ: Physician Data Query. PDQ is an online database developed and maintained by the National Cancer Institute. Designed to make the most current, credible, and accurate cancer information available to health professionals and the public, PDQ contains peer-reviewed summaries on cancer treatment, screening, prevention, genetics, and supportive care; a registry of cancer clinical trials from around the world; and directories of physicians, professionals who provide genetics services, and organizations that provide cancer care. Most of this information is available on the CancerNet Web site, and more specific information about PDQ can be found at <http://cancer.net.nci.nih.gov/pdq.html>. [NIH]

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]

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

Perennial: Lasting through the year or for several years. [EU]

Periodicity: The tendency of a phenomenon to recur at regular intervals; in biological systems, the recurrence of certain activities (including hormonal, cellular, neural) may be annual, seasonal, monthly, daily, or more frequently (ultradian). [NIH]

Phagocytosis: The engulfing of microorganisms, other cells, and foreign particles by phagocytic cells. [NIH]

Pharmaceutical Preparations: Drugs intended for human or veterinary use, presented in their finished dosage form. Included here are materials used in the preparation and/or formulation of the finished dosage form. [NIH]

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

Pharynx: The hollow tube about 5 inches long that starts behind the nose and ends at the top of the trachea (windpipe) and esophagus (the tube that goes to the stomach). [NIH]

Phospholipids: Lipids containing one or more phosphate groups, particularly those derived from either glycerol (phosphoglycerides; glycerophospholipids) or sphingosine (sphingolipids). They are polar lipids that are of great importance for the structure and function of cell membranes and are the most abundant of membrane lipids, although not stored in large amounts in the system. [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]

Pigment: A substance that gives color to tissue. Pigments are responsible for the color of skin, eyes, and hair. [NIH]

Pink eye: Acute contagious conjunctivitis. [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]

Plaque: A clear zone in a bacterial culture grown on an agar plate caused by localized destruction of bacterial cells by a bacteriophage. The concentration of infective virus in a fluid can be estimated by applying the fluid to a culture and counting the number of. [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]

Polyethylene: A vinyl polymer made from ethylene. It can be branched or linear. Branched or low-density polyethylene is tough and pliable but not to the same degree as linear polyethylene. Linear or high-density polyethylene has a greater hardness and tensile strength. Polyethylene is used in a variety of products, including implants and prostheses. [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]

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

Poultice: That made by mixing mustard and flour with water. [NIH]

Povidone: A polyvinyl polymer of variable molecular weight; used as suspending and dispersing agent and vehicle for pharmaceuticals; also used as blood volume expander. [NIH]

Povidone-Iodine: An iodinated polyvinyl polymer used as topical antiseptic in surgery and for skin and mucous membrane infections, also as aerosol. The iodine may be radiolabeled for research purposes. [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]

Procaine: A local anesthetic of the ester type that has a slow onset and a short duration of action. It is mainly used for infiltration anesthesia, peripheral nerve block, and spinal block. (From Martindale, The Extra Pharmacopoeia, 30th ed, p1016). [NIH]

Progeny: The offspring produced in any generation. [NIH]

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

Prophylaxis: An attempt to prevent disease. [NIH]

Protein C: A vitamin-K dependent zymogen present in the blood, which, upon activation by thrombin and thrombomodulin exerts anticoagulant properties by inactivating factors Va and VIIIa at the rate-limiting steps of thrombin formation. [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]

Proteoglycans: Glycoproteins which have a very high polysaccharide content. [NIH]

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]

Protozoa: A subkingdom consisting of unicellular organisms that are the simplest in the animal kingdom. Most are free living. They range in size from submicroscopic to macroscopic. Protozoa are divided into seven phyla: Sarcomastigophora, Labyrinthomorpha, Apicomplexa, Microspora, Ascetospora, Myxozoa, and Ciliophora. [NIH]

Pruritic: Pertaining to or characterized by pruritus. [EU]

Pruritus: An intense itching sensation that produces the urge to rub or scratch the skin to obtain relief. [NIH]

Psoriasis: A common genetically determined, chronic, inflammatory skin disease characterized by rounded erythematous, dry, scaling patches. The lesions have a predilection for nails, scalp, genitalia, extensor surfaces, and the lumbosacral region. Accelerated epidermopoiesis is considered to be the fundamental pathologic feature in psoriasis. [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]

Pulmonary: Relating to the lungs. [NIH]

Pulmonary Edema: An accumulation of an excessive amount of watery fluid in the lungs, may be caused by acute exposure to dangerous concentrations of irritant gasses. [NIH]

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

Pustular: Pertaining to or of the nature of a pustule; consisting of pustules (= a visible collection of pus within or beneath the epidermis). [EU]

Quaternary: 1. Fourth in order. 2. Containing four elements or groups. [EU]

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]

Radioactive: Giving off radiation. [NIH]

Radiolabeled: Any compound that has been joined with a radioactive substance. [NIH]

Radiotherapy: The use of ionizing radiation to treat malignant neoplasms and other benign

conditions. The most common forms of ionizing radiation used as therapy are x-rays, gamma rays, and electrons. A special form of radiotherapy, targeted radiotherapy, links a cytotoxic radionuclide to a molecule that targets the tumor. When this molecule is an antibody or other immunologic molecule, the technique is called radioimmunotherapy. [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]

Reactivation: The restoration of activity to something that has been inactivated. [EU]

Reagent: A substance employed to produce a chemical reaction so as to detect, measure, produce, etc., other substances. [EU]

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]

Recombinant: A cell or an individual with a new combination of genes not found together in either parent; usually applied to linked genes. [EU]

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

Recur: To occur again. Recurrence is the return of cancer, at the same site as the original (primary) tumor or in another location, after the tumor had disappeared. [NIH]

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

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

Refraction: A test to determine the best eyeglasses or contact lenses to correct a refractive error (myopia, hyperopia, or astigmatism). [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]

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

Retina: The ten-layered nervous tissue membrane of the eye. It is continuous with the optic nerve and receives images of external objects and transmits visual impulses to the brain. Its outer surface is in contact with the choroid and the inner surface with the vitreous body. The outer-most layer is pigmented, whereas the inner nine layers are transparent. [NIH]

Retinitis: Inflammation of the retina. It is rarely limited to the retina, but is commonly associated with diseases of the choroid (chorioretinitis) and of the optic nerve (neuroretinitis). The disease may be confined to one eye, but since it is generally dependent on a constitutional factor, it is almost always bilateral. It may be acute in course, but as a rule it lasts many weeks or even several months. [NIH]

Retinopathy: 1. Retinitis (= inflammation of the retina). 2. Retinosis (= degenerative, noninflammatory condition of the retina). [EU]

Rhinitis: Inflammation of the mucous membrane of the nose. [NIH]

Rickettsiae: One of a group of obligate intracellular parasitic microorganisms, once regarded as intermediate in their properties between bacteria and viruses but now classified as bacteria in the order Rickettsiales, which includes 17 genera and 3 families: Rickettsiace. [NIH]

Rigidity: Stiffness or inflexibility, chiefly that which is abnormal or morbid; rigor. [EU]

Salicylic: A tuberculosis drug. [NIH]

Sanitary: Relating or belonging to health and hygiene; conducive to the restoration or maintenance of health. [NIH]

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

Seborrhea: Hypersecretion of sebum with excessive oily secretion from the sweat glands. [NIH]

Sebum: The oily substance secreted by sebaceous glands. It is composed of keratin, fat, and cellular debris. [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]

Self Care: Performance of activities or tasks traditionally performed by professional health care providers. The concept includes care of oneself or one's family and friends. [NIH]

Septicaemia: A term originally used to denote a putrefactive process in the body, but now usually referring to infection with pyogenic micro-organisms; a genus of Diptera; the severe type of infection in which the blood stream is invaded by large numbers of the causal. [NIH]

Serine: A non-essential amino acid occurring in natural form as the L-isomer. It is synthesized from glycine or threonine. It is involved in the biosynthesis of purines, pyrimidines, and other amino acids. [NIH]

Serotypes: A cause of haemorrhagic septicaemia (in cattle, sheep and pigs), fowl cholera of birds, pasteurellosis of rabbits, and gangrenous mastitis of ewes. It is also commonly found in atrophic rhinitis of pigs. [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]

Sexually Transmitted Diseases: Diseases due to or propagated by sexual contact. [NIH]

Shock: The general bodily disturbance following a severe injury; an emotional or moral upset occasioned by some disturbing or unexpected experience; disruption of the circulation, which can upset all body functions: sometimes referred to as circulatory shock. [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]

Signs and Symptoms: Clinical manifestations that can be either objective when observed by a physician, or subjective when perceived by the patient. [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]

Skin Care: Maintenance of the hygienic state of the skin under optimal conditions of cleanliness and comfort. Effective in skin care are proper washing, bathing, cleansing, and the use of soaps, detergents, oils, etc. In various disease states, therapeutic and protective solutions and ointments are useful. The care of the skin is particularly important in various occupations, in exposure to sunlight, in neonates, and in decubitus ulcer. [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]

Soaps: Sodium or potassium salts of long chain fatty acids. These detergent substances are obtained by boiling natural oils or fats with caustic alkali. Sodium soaps are harder and are used as topical anti-infectives and vehicles in pills and liniments; potassium soaps are soft, used as vehicles for ointments and also as topical antimicrobials. [NIH]

Sodium: An element that is a member of the alkali group of metals. It has the atomic symbol Na, atomic number 11, and atomic weight 23. With a valence of 1, it has a strong affinity for oxygen and other nonmetallic elements. Sodium provides the chief cation of the extracellular body fluids. Its salts are the most widely used in medicine. (From Dorland, 27th ed) Physiologically the sodium ion plays a major role in blood pressure regulation, maintenance of fluid volume, and electrolyte balance. [NIH]

Sodium Bicarbonate: A white, crystalline powder that is commonly used as a pH buffering agent, an electrolyte replenisher, systemic alkalizer and in topical cleansing solutions. [NIH]

Soft tissue: Refers to muscle, fat, fibrous tissue, blood vessels, or other supporting tissue of the body. [NIH]

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

Species: A taxonomic category subordinate to a genus (or subgenus) and superior to a subspecies or variety, composed of individuals possessing common characters distinguishing them from other categories of individuals of the same taxonomic level. In taxonomic nomenclature, species are designated by the genus name followed by a Latin or Latinized adjective or noun. [EU]

Spectrum: A charted band of wavelengths of electromagnetic vibrations obtained by refraction and diffraction. By extension, a measurable range of activity, such as the range of bacteria affected by an antibiotic (antibacterial s.) or the complete range of manifestations of a disease. [EU]

Sperm: The fecundating fluid of the male. [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]

Spermicide: An agent that is destructive to spermatozoa. [EU]

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]

Steroids: Drugs used to relieve swelling and inflammation. [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]

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

Subcutaneous: Beneath the skin. [NIH]

Sunburn: An injury to the skin causing erythema, tenderness, and sometimes blistering and resulting from excessive exposure to the sun. The reaction is produced by the ultraviolet radiation in sunlight. [NIH]

Supportive care: Treatment given to prevent, control, or relieve complications and side effects and to improve the comfort and quality of life of people who have cancer. [NIH]

Suppositories: A small cone-shaped medicament having cocoa butter or gelatin at its basis and usually intended for the treatment of local conditions in the rectum. [NIH]

Suppression: A conscious exclusion of disapproved desire contrary with repression, in which the process of exclusion is not conscious. [NIH]

Surfactant: A fat-containing protein in the respiratory passages which reduces the surface tension of pulmonary fluids and contributes to the elastic properties of pulmonary tissue. [NIH]

Sweat: The fluid excreted by the sweat glands. It consists of water containing sodium chloride, phosphate, urea, ammonia, and other waste products. [NIH]

Sweat Glands: Sweat-producing structures that are embedded in the dermis. Each gland consists of a single tube, a coiled body, and a superficial duct. [NIH]

Symphysis: A secondary cartilaginous joint. [NIH]

Synergistic: Acting together; enhancing the effect of another force or agent. [EU]

Systemic: Affecting the entire body. [NIH]

Systemic disease: Disease that affects the whole body. [NIH]

Tea Tree Oil: Essential oil extracted from *Melaleuca alternifolia* (tea tree). It is used as a topical antimicrobial due to the presence of terpineol. [NIH]

Tetracycline: An antibiotic originally produced by *Streptomyces viridifaciens*, but used mostly in synthetic form. It is an inhibitor of aminoacyl-tRNA binding during protein synthesis. [NIH]

Therapeutics: The branch of medicine which is concerned with the treatment of diseases, palliative or curative. [NIH]

Thiourea: A photographic fixative used also in the manufacture of resins. According to the Fourth Annual Report on Carcinogens (NTP 85-002, 1985), this substance may reasonably be anticipated to be a carcinogen (Merck Index, 9th ed). Many of its derivatives are antithyroid agents and/or free radical scavengers. [NIH]

Thyroid: A gland located near the windpipe (trachea) that produces thyroid hormone, which helps regulate growth and metabolism. [NIH]

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

Toothache: Pain in the adjacent areas of the teeth. [NIH]

Topical: On the surface of the body. [NIH]

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

Toxicity: The quality of being poisonous, especially the degree of virulence of a toxic microbe or of a poison. [EU]

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]

Transcutaneous: Transdermal. [EU]

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

Transmitter: A chemical substance which effects the passage of nerve impulses from one cell to the other at the synapse. [NIH]

Trauma: Any injury, wound, or shock, must frequently physical or structural shock, producing a disturbance. [NIH]

Trees: Woody, usually tall, perennial higher plants (Angiosperms, Gymnosperms, and some Pterophyta) having usually a main stem and numerous branches. [NIH]

Triamcinolone Acetonide: An esterified form of triamcinolone. It is an anti-inflammatory glucocorticoid used topically in the treatment of various skin disorders. Intralesional, intramuscular, and intra-articular injections are also administered under certain conditions. [NIH]

Trypsin: A serine endopeptidase that is formed from trypsinogen in the pancreas. It is converted into its active form by enteropeptidase in the small intestine. It catalyzes hydrolysis of the carboxyl group of either arginine or lysine. EC 3.4.21.4. [NIH]

Tuberculosis: Any of the infectious diseases of man and other animals caused by species of *Mycobacterium*. [NIH]

Tumor Necrosis Factor: Serum glycoprotein produced by activated macrophages and other mammalian mononuclear leukocytes which has necrotizing activity against tumor cell lines and increases ability to reject tumor transplants. It mimics the action of endotoxin but differs from it. It has a molecular weight of less than 70,000 kDa. [NIH]

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

Ulceration: 1. The formation or development of an ulcer. 2. An ulcer. [EU]

Umbilical Cord: The flexible structure, giving passage to the umbilical arteries and vein, which connects the embryo or fetus to the placenta. [NIH]

Umbilicus: The pit in the center of the abdominal wall marking the point where the umbilical cord entered in the fetus. [NIH]

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

Urea: A compound (CO(NH₂)₂), formed in the liver from ammonia produced by the deamination of amino acids. It is the principal end product of protein catabolism and constitutes about one half of the total urinary solids. [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]

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]

Vaginal: Of or having to do with the vagina, the birth canal. [NIH]

Vaginitis: Inflammation of the vagina characterized by pain and a purulent discharge. [NIH]

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

Vasodilator: An agent that widens blood vessels. [NIH]

Verruca: A circumscribed, cutaneous excrescence having a papilliferous surface; a small, circumscribed, epidermal tumor. [NIH]

Vertebrae: A bony unit of the segmented spinal column. [NIH]

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

Viral: Pertaining to, caused by, or of the nature of virus. [EU]

Viral Load: The quantity of measurable virus in the blood. Change in viral load, measured in plasma, is used as a surrogate marker in HIV disease progression. [NIH]

Virion: The infective system of a virus, composed of the viral genome, a protein core, and a protein coat called a capsid, which may be naked or enclosed in a lipoprotein envelope called the peplos. [NIH]

Virulence: The degree of pathogenicity within a group or species of microorganisms or viruses as indicated by case fatality rates and/or the ability of the organism to invade the tissues of the host. [NIH]

Virus: Submicroscopic organism that causes infectious disease. In cancer therapy, some viruses may be made into vaccines that help the body build an immune response to, and kill, tumor cells. [NIH]

Virus Diseases: A general term for diseases produced by viruses. [NIH]

Warts: Benign epidermal proliferations or tumors; some are viral in origin. [NIH]

Wetting Agents: A surfactant that renders a surface wettable by water or enhances the spreading of water over the surface; used in foods and cosmetics; important in contrast media; also with contact lenses, dentures, and some prostheses. Synonyms: humectants; hydrating agents. [NIH]

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

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