PHYSIOTHERAPY

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

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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 physiotherapy 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 physiotherapy, 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 physiotherapy, 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 physiotherapy. 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 physiotherapy, 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 physiotherapy.

The Editors

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

CHAPTER 1. STUDIES ON PHYSIOTHERAPY

Overview

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

The Combined Health Information Database

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

- **Mobility and Dementia: Is Physiotherapy Treatment During Respite Care Effective?**

  Source: International Journal of Geriatric Psychiatry. 14: 389-397. 1999.

  Summary: This British study examined whether older people with dementia and a mobility problem show a greater improvement in mobility skills if given **physiotherapy** treatment than if given non-physical activities intervention during a hospital respite admission. The controlled randomized multicenter trial with independent blinded assessment involved 81 participants with a mean age of 81.9 years. Participants were assessed for mobility capacity using the Southhampton Mobility Assessment and the Two-Minute Walking Test, then randomized to either **physiotherapy** or activities. Change in mobility and distance walked from the baseline assessment for the **physiotherapy** and activities groups were analyzed with the Mann-Whitney test from mobility score and a two-sample t-test for distance walked. During the study admission

there was a non-significant trend for a lower reduction in mobility score of the **physiotherapy** group and a non-significant trend for greater decrease in distance walked in the activities group. These results indicate that **physiotherapy** treatment restricted to a 2-week hospital respite care admission may not be effective. The trial, however, is viewed as being underpowered, and the researchers recommend that future research change the focus from clinical settings to presentations. Appendix. 4 tables, 27 references.

Federally Funded Research on Physiotherapy

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

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

- **Project Title: IOWA PELVIC FLOOR DISORDERS CLINICAL TRIALS NETWORK**

  Principal Investigator & Institution: Nygaard, Ingrid E.; Associate Professor; Obstetrics and Gynecology; University of Iowa Iowa City, Ia 52242

  Timing: Fiscal Year 2002; Project Start 01-SEP-2001; Project End 30-JUN-2006

  Summary: Urge and mixed urinary incontinence are common conditions, affecting 10-20% of American women. While several treatment modalities exist, pharmacotherapy remains the mainstay of treatment. Much of the research pertaining to treatment for urge and mixed incontinence is limited by short duration of follow-up, homogeneous patient populations, stringent exclusion criteria, poorly defined outcome measures, and lack of placebo control. Factors that predict success or failure of specific treatments are poorly understood. The broad objectives of this prospective randomized clinical trial are to describe and compare the efficacy (Phase 1) and the longer term effectiveness (Phase 2) of several treatments for urge and mixed incontinence, to determine the predictive value of pre-treatment urodynamics, and to understand factors associated with treatment efficacy and effectiveness. 400 women with urge incontinence or mixed incontinence with urge as the predominant symptom will be randomly assigned to one of four treatment groups: (1) tolterodine, (2) **physiotherapy** plus placebo, (3) **physiotherapy** plus tolterodine, and (4) placebo alone. The primary outcome measure used to define treatment efficacy at three months (Phase 1) is at least a 50% reduction from baseline in the number of incontinent episodes per week (of at least 60. Secondary

[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).

outcomes measures include (1) voiding frequency, (2) patient satisfaction as recorded on a visual analogue scale, (3) adverse events, (4) urge incontinence specific quality of life measure, (5) pelvic floor distress inventory, (6) sexual function assessment tool, and (7) generic quality of life measure. Following evaluation of Phase 1 outcomes, women will continue to be followed every 3 months for 1 year. Women unsuccessfully treated will be offered alternative therapy. Medium term (one year) effectiveness of treatments for urge and mixed incontinence will be described by comparing baseline and one-year outcome measures. All data will be analyzed in an intent-to-treat fashion. The specific aims of this study are 1) to describe and compare the 3- month and 1-year efficacy of urge incontinence treatment among the 4 groups stated above, 2) to determine whether specific pre-treatment urodynamic variables are predictive of treatment efficacy, 3) to identify factors associated with treatment efficacy, and 4) to describe the difference in clinical course and quality of life among treatment groups and as compared to baseline after 3 months and 1 year of intervention.

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

- **Project Title: P. AERUGINOSA BIOFILM-SPECIFIC PROTEINS AND REGULATORS**

  Principal Investigator & Institution: Sauer, Karin; Assistant Professor; Biological Sciences; State University New York Binghamton Vestal Pky E Binghamton, Ny 13901

  Timing: Fiscal Year 2003; Project Start 15-AUG-2003; Project End 31-JUL-2006

  Summary: (provided by applicant): Cystic fibrosis (CF) is one of the most common lethal genetic diseases among people of European descent, affecting 30,000 individuals in the United States. It is believed that chronic CF lung infections are caused by surface-associated, antimicrobial-resistant communities of microorganisms called biofilms with Pseudomonas aeruginosa being one of the principal pathogens. Current treatment strategies for CF infections, including frequent antibiotic treatment and chest **physiotherapy,** fail to clear these infections and biofilm bacteria persist in the lung despite intact host immune defenses. Recently, it has been suggested that therapeutic strategies directed towards biofilms may be successful in treating CF lung infections. Our research goal proposed herein is designed to elucidate the nature and identity of proteins that are unique to the biofilm mode of growth for the development of therapeutic strategies directed towards biofilms. Previous work in our laboratories has demonstrated that P. aeruginosa PAO1 undergoes a major shift in its cellular protein profile during biofilm development. This shift is most profound in biofilms grown for 3 and 6 days (maturation-I and maturation-II stage, respectively). We hypothesize that we will identify biofilm-specific proteins - important regulatory, virulence and resistance proteins - that are unique to the maturation-I and maturation-II biofilm stages. We expect that many of the biofilm-specific proteins are post-translational modified and have regulatory functions involved in signal transduction. Our goal will be accomplished by utilizing two-dimensional gel electrophoresis (2D/PAGE) combined with 2D-image analysis and protein identification. Biofilm-specific proteins will be identified by peptide mass fingerprinting using Matrix-assisted laser desorption ionization-time of flight mass spectrometry (MALDI-ToF MS). Upon protein identification, functional proteomics will be used to provide an insight in signal transduction cascades: phosphorylated proteins will be immunoprecipitated and separated by 2D/PAGE. Comparative 2D-image analysis will reveal proteins that are uniquely phosphorylated in the protein patterns of biofilms grown to the maturation-I and -II biofilm stages. Uniquely phosphorylated, biofilm-specific proteins will then be analyzed by peptide mass fingerprinting and MALDI-ToF MS.

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

- **Project Title: PHYTOTHERAPY OF PROSTATEIC SYMPTOMS (POPW)**

  Principal Investigator & Institution: Crawford, E D.; Professor; Surgery; University of Colorado Hlth Sciences Ctr P.O. Box 6508, Grants and Contracts Aurora, Co 800450508

  Timing: Fiscal Year 2002; Project Start 30-SEP-2002; Project End 31-MAR-2009

  Summary: (provided by applicant): Lower urinary tract symptoms (LUTS) suggestive of benign prostatic obstruction (BPO) are common in the aging male There are few well-designed, long term, multi-center, randomized clinical trials comparing the subjective and objective outcomes of **physiotherapy** of prostatic symptoms (POPS) AIM 1 To collaborate with a research consortium to design and conduct a multi-center randomized phase III clinical trial comparing saw palmetto, Pygeum africanum, or a placebo for treatment of symptomatic BPH AIM 2 To recruit and randomize 300 men (in two years) with symptomatic BPH who meet the protocol guidelines AIM 3 To design and implement a prospective randomized controlled trial for treatment of BPH that will determine which of the following predict successful treatment outcomes patient characteristics, AUA symptoms score, uroflow rate, and prostate size AIM 4 To design and implement recruitment interventions among racial and ethnic minority men and procedures for the maintenance of the long-term participation of study subjects.

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

E-Journals: PubMed Central[3]

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

- **Cost effectiveness of physiotherapy, manual therapy, and general practitioner care for neck pain: economic evaluation alongside a randomised controlled trial.** by Bos IB, Hoving JL, van Tulder MW, Molken MP, Ader HJ, de Vet HC, Koes BW, Vondeling H, Bouter LM.; 2003 Apr 26;
  http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=153837
- **Effectiveness of corticosteroid injections versus physiotherapy for treatment of painful stiff shoulder in primary care: randomised trial.** by van der Windt DA, Koes BW, Deville W, Boeke AJ, de Jong BA, Bouter LM.; 1998 Nov 7;
  http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=28713

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[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.

- **Is undergraduate physiotherapy study a risk factor for low back pain? A prevalence study of LBP in physiotherapy students.** by Nyland LJ Private physiotherapy practitioner, Grimmer KA Director.; 2003;
  http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=270026
- **Prophylactic respiratory physiotherapy after cardiac surgery: systematic review.** by Pasquina P, Tramer MR, Walder B.; 2003 Dec 13;
  http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=292987
- **Treatment of shoulder complaints in general practice: long term results of a randomised, single blind study comparing physiotherapy, manipulation, and corticosteroid injection.** by Winters JC, Jorritsma W, Groenier KH, Sobel JS, Jong BM, Arendzen HJ.; 1999 May 22;
  http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=27885

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

- **A physiotherapy specialist clinic in paediatric orthopaedics: is it effective?**
  Author(s): Belthur MV, Clegg J, Strange A.
  Source: Postgraduate Medical Journal. 2003 December; 79(938): 699-702.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14707248

- **A study on additional early physiotherapy after stroke and factors affecting functional recovery.**
  Author(s): Fang Y, Chen X, Li H, Lin J, Huang R, Zeng J.
  Source: Clinical Rehabilitation. 2003 September; 17(6): 608-17.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12971705

[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.

- **Ambulatory care or home-based treatment? An economic evaluation of two physiotherapy delivery options for people with rheumatoid arthritis.**
  Author(s): Li LC, Coyte PC, Lineker SC, Wood H, Renahan M.
  Source: Arthritis Care and Research : the Official Journal of the Arthritis Health Professions Association. 2000 August; 13(4): 183-90.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14635272
- **Can throat swab after physiotherapy replace sputum for identification of microbial pathogens in children with cystic fibrosis?**
  Author(s): Kabra SK, Alok A, Kapil A, Aggarwal G, Kabra M, Lodha R, Pandey RM, Sridevi K, Mathews J.
  Source: Indian J Pediatr. 2004 January; 71(1): 21-3.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14979380

- **Clinical physiotherapy documentation in stroke rehabilitation: an ICIDH-2 beta-2 based analysis.**
  Author(s): Gustavsen M, Mengshoel AM.
  Source: Disability and Rehabilitation. 2003 October 7; 25(19): 1089-96.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12944148

- **Development of an implementation strategy for physiotherapy guidelines on low back pain.**
  Author(s): Bekkering GE, Engers AJ, Wensing M, Hendriks HJ, van Tulder MW, Oostendorp RA, Bouter LM.
  Source: The Australian Journal of Physiotherapy. 2003; 49(3): 208-14.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12952520

- **Does removal of deep breathing exercises from a physiotherapy program including pre-operative education and early mobilisation after cardiac surgery alter patient outcomes?**
  Author(s): Brasher PA, McClelland KH, Denehy L, Story I.
  Source: The Australian Journal of Physiotherapy. 2003; 49(3): 165-73.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12952516

- **GP referral for physiotherapy to musculoskeletal conditions--a qualitative study.**
  Author(s): Clemence ML, Seamark DA.
  Source: Family Practice. 2003 October; 20(5): 578-82.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14507802

- **Increased physiotherapy in sheltered housing in Sweden: a study of structure and process in elderly care.**
  Author(s): Fahlstrom G, Kamwendo K.
  Source: Health & Social Care in the Community. 2003 November; 11(6): 470-6.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14629577

- **Intensive early physiotherapy combined with dexamphetamine treatment in severe stroke: a randomized, controlled pilot study.**
  Author(s): Martinsson L, Eksborg S, Wahlgren NG.
  Source: Cerebrovascular Diseases (Basel, Switzerland). 2003; 16(4): 338-45.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=13130174

- **Justifying the on-going physiotherapy management of long-term patients.**
  Author(s): Flanagan T, Coburn P, Harcourt P, Zylinski M, Jull G.
  Source: Manual Therapy. 2003 November; 8(4): 254-6.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14559049

- **Manual therapy is component of physiotherapy.**
  Author(s): Quartermaine DM, MacGregor G.
  Source: Bmj (Clinical Research Ed.). 2003 August 16; 327(7411): 395.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12920010

- **Multidisciplinary collaboration is helpful to physiotherapy research.**
  Author(s): De Souza LH.
  Source: Physiotherapy Research International : the Journal for Researchers and Clinicians in Physical Therapy. 2003; 8(4): Iii-Iv.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14730720

- **No benefit from D-amphetamine when added to physiotherapy after stroke: a randomized, placebo-controlled study.**
  Author(s): Treig T, Werner C, Sachse M, Hesse S.
  Source: Clinical Rehabilitation. 2003 September; 17(6): 590-9.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12971703

- **Non-invasive ventilation assists chest physiotherapy in adults with acute exacerbations of cystic fibrosis.**
  Author(s): Holland AE, Denehy L, Ntoumenopoulos G, Naughton MT, Wilson JW.
  Source: Thorax. 2003 October; 58(10): 880-4.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14514944

- **Occupational therapy and physiotherapy for the patient with burns: principles and management guidelines.**
  Author(s): Simons M, King S, Edgar D; ANZBA.
  Source: The Journal of Burn Care & Rehabilitation. 2003 September-October; 24(5): 323-35; Discussion 322.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14501405

- **Physiotherapy for tension-type headache: a controlled study.**
  Author(s): Torelli P, Jensen R, Olesen J.
  Source: Cephalalgia : an International Journal of Headache. 2004 January; 24(1): 29-36.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14687010

- **Physiotherapy intervention in two people with HIV or AIDS-related peripheral neuropathy.**
  Author(s): Gale J.
  Source: Physiotherapy Research International : the Journal for Researchers and Clinicians in Physical Therapy. 2003; 8(4): 200-9.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14730724

- **Preoperative respiratory physiotherapy for a patient with severe respiratory dysfunction and annuloaortic ectasia.**
  Author(s): Sogawa M, Ohzeki H, Namura O, Hayashi J.
  Source: Ann Thorac Cardiovasc Surg. 2003 August; 9(4): 266-9.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=13129428

- **Prophylactic respiratory physiotherapy after cardiac surgery: systematic review.**
  Author(s): Pasquina P, Tramer MR, Walder B.
  Source: Bmj (Clinical Research Ed.). 2003 December 13; 327(7428): 1379. Review.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14670881

- **Successful complex decongestive physiotherapy for lymphedema and lymphocutaneous reflux of the female external genitalia after radiation therapy.**
  Author(s): Liao SF, Huang MS, Chou YH, Wei TS.
  Source: J Formos Med Assoc. 2003 June; 102(6): 404-6.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12923593

- **The attitudes and beliefs of physiotherapy students to chronic back pain.**
  Author(s): Latimer J, Maher C, Refshauge K.
  Source: The Clinical Journal of Pain. 2004 January-February; 20(1): 45-50.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14668656

- **The physiotherapy experience in private practice: the patients' perspective.**
  Author(s): Potter M, Gordon S, Hamer P.
  Source: The Australian Journal of Physiotherapy. 2003; 49(3): 195-202.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12952519

- **The podiatron: an adjunct to physiotherapy treatment for Guillain-Barre syndrome?**
  Author(s): Bulley P.
  Source: Physiotherapy Research International : the Journal for Researchers and Clinicians in Physical Therapy. 2003; 8(4): 210-5.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14730725

- **Treatment of urinary stress incontinence by intravaginal electrical stimulation and pelvic floor physiotherapy.**
  Author(s): Amaro JL, Oliveira Gameiro MO, Padovani CR.
  Source: International Urogynecology Journal and Pelvic Floor Dysfunction. 2003 August; 14(3): 204-8; Discussion 208. Epub 2003 April 23.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12955344

CHAPTER 2. NUTRITION AND PHYSIOTHERAPY

Overview

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

Finding Nutrition Studies on Physiotherapy

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

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

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

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

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

- **Effect of levodopa in combination with physiotherapy on functional motor recovery after stroke: a prospective, randomised, double-blind study.**
  Author(s): Neurologische Klinik, D-83043 Bad, Aibling, Germany. Kscheidtmann@schoen-kliniken.de
  Source: Scheidtmann, K Fries, W Muller, F Koenig, E Lancet. 2001 September 8; 358(9284): 787-90 0140-6736
- **Effectiveness of corticosteroid injections versus physiotherapy for treatment of painful stiff shoulder in primary care: randomised trial.**
  Author(s): Institute for Research in Extramural Medicine, Faculty of Medicine, Vrije Universiteit, Van der Boechorststraat 7, 1081 BT Amsterdam, Netherlands. dawm.van_der_windt.emgo@med.vu.nl
  Source: van der Windt, D A Koes, B W Deville, W Boeke, A J de Jong, B A Bouter, L M BMJ. 1998 November 7; 317(7168): 1292-6 0959-8138
- **Long-term effectiveness of bone-setting, light exercise therapy, and physiotherapy for prolonged back pain: a randomized controlled trial.**
  Author(s): Folk Medicine Centre, Kaustinen, Finland. heikki.hemmila@pp.finet.fi
  Source: Hemmila, Heikki M Keinanen Kiukaanniemi, Sirkka M Levoska, Sinikka Puska, Pekka J-Manipulative-Physiol-Ther. 2002 February; 25(2): 99-104 0161-4754
- **Management of nocturnal enuresis in children with desmopressin and bladder physiotherapy.**
  Author(s): Urology Department, "G Gennimatas" Hospital, Aristotle University of Thessaloniki, Greece.
  Source: Yannakoyorgos, K Ioannides, E Zahariou, A Anagnostopoulos, D Kasselas, V Kalinderis, A Pediatr-Surg-Int. 1998 April; 13(4): 281-4 0179-0358
- **Physiotherapy for the prevention of articular contraction in haemophilia.**
  Author(s): Haemophilia Centre, Royal Victoria Infirmary, Newcastle upon Tyne, UK.
  Source: Buzzard, B M Haemophilia. 1999 March; 5 Suppl 110-5 1351-8216
- **Treatment of shoulder complaints in general practice: long term results of a randomised, single blind study comparing physiotherapy, manipulation, and corticosteroid injection.**
  Author(s): Department of Family Practice, University of Groningen, Ant Deusinglaan 4, 9713 AW Groningen, The Netherlands. jwinters@knmg.nl
  Source: Winters, J C Jorritsma, W Groenier, K H Sobel, J S Meyboom de Jong, B Arendzen, H J BMJ. 1999 May 22; 318(7195): 1395-6 0959-8138

Federal Resources on Nutrition

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

- healthfinder®, HHS's gateway to health information, including diet and nutrition: **http://www.healthfinder.gov/scripts/SearchContext.asp?topic=238&page=0**
- The United States Department of Agriculture's Web site dedicated to nutrition information: **www.nutrition.gov**

- The Food and Drug Administration's Web site for federal food safety information: **www.foodsafety.gov**
- The National Action Plan on Overweight and Obesity sponsored by the United States Surgeon General: **http://www.surgeongeneral.gov/topics/obesity/**
- The Center for Food Safety and Applied Nutrition has an Internet site sponsored by the Food and Drug Administration and the Department of Health and Human Services: **http://vm.cfsan.fda.gov/**
- Center for Nutrition Policy and Promotion sponsored by the United States Department of Agriculture: **http://www.usda.gov/cnpp/**
- Food and Nutrition Information Center, National Agricultural Library sponsored by the United States Department of Agriculture: **http://www.nal.usda.gov/fnic/**
- Food and Nutrition Service sponsored by the United States Department of Agriculture: **http://www.fns.usda.gov/fns/**

Additional Web Resources

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

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

CHAPTER 3. ALTERNATIVE MEDICINE AND PHYSIOTHERAPY

Overview

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

The Combined Health Information Database

The Combined Health Information Database (CHID) is a bibliographic database produced by health-related agencies of the U.S. federal government (mostly from the National Institutes of Health) that can offer concise information for a targeted search. The CHID database is updated four times a year at the end of January, April, July, and October. Check the titles, summaries, and availability of CAM-related information by using the "Simple Search" option at the following Web site: **http://chid.nih.gov/simple/simple.html**. In the drop box at the top, select "Complementary and Alternative Medicine." Then type "physiotherapy" (or synonyms) in the second search box. We recommend that you select 100 "documents per page" and to check the "whole records" options. The following was extracted using this technique:

- **Attitudes of Medical and Nonmedical Students Toward Orthodox and Complementary Therapies: Is Scientific Evidence Taken into Account?**

  Source: Journal of Alternative and Complementary Medicine. 5(3): 293-295. June 1999.

  Summary: This journal article reports the attitudes of medical and nonmedical students toward orthodox and complementary therapies. Eighty second-year medical students and 163 nonmedical students completed a questionnaire assessing their faith in modern medicine, belief in the need for scientific testing of treatments, and willingness to try 12 different orthodox and complementary treatments. The respondents' beliefs about the efficacy of complementary therapies were similar to those about orthodox treatments such as **physiotherapy** and prescribed diets. The medical and nonmedical students had similar levels of faith in biomedicine, and both agreed only weakly with the necessity for scientific evaluation of treatments. The article has 2 tables and 3 references.

National Center for Complementary and Alternative Medicine

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

- **Apparent effects of massage could be due to positioning. (Comment on van den Dolder and Roberts, Australian Journal of Physiotherapy 49: 183 188.).**
  Author(s): Vicenzino B.
  Source: The Australian Journal of Physiotherapy. 2003; 49(4): 275.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14632627

- **Shoulder massage study could be extended and refined. (Response to Vincenzino W, Australian Journal of Physiotherapy 49: 275.).**
  Author(s): van den Dolder P, Roberts D.
  Source: The Australian Journal of Physiotherapy. 2004; 50(1): 55-6.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14987195

Additional Web Resources

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

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

- Yahoo.com: **http://dir.yahoo.com/Health/Alternative_Medicine/**

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

- **General Overview**

  Hemophilia
  Source: Integrative Medicine Communications; www.drkoop.com

  Low Back Pain
  Source: Healthnotes, Inc.; www.healthnotes.com

  Ménière's Disease
  Source: Healthnotes, Inc.; www.healthnotes.com

  Muscular Dystrophy
  Source: Integrative Medicine Communications; www.drkoop.com

  Pain
  Source: Healthnotes, Inc.; www.healthnotes.com

  Pregnancy and Postpartum Support
  Source: Healthnotes, Inc.; www.healthnotes.com

  Tension Headache
  Source: Healthnotes, Inc.; www.healthnotes.com

- **Alternative Therapy**

  Chiropractic
  Source: Integrative Medicine Communications; www.drkoop.com

  Feldenkrais
  Source: WholeHealthMD.com, LLC.; www.wholehealthmd.com
  Hyperlink:
  http://www.wholehealthmd.com/refshelf/substances_view/0,1525,695,00.html

  Naturopathy
  Source: WholeHealthMD.com, LLC.; www.wholehealthmd.com
  Hyperlink:
  http://www.wholehealthmd.com/refshelf/substances_view/0,1525,722,00.html

  Trager Approach
  Source: WholeHealthMD.com, LLC.; www.wholehealthmd.com
  Hyperlink:
  http://www.wholehealthmd.com/refshelf/substances_view/0,1525,741,00.html

General References

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

CHAPTER 4. DISSERTATIONS ON PHYSIOTHERAPY

Overview

In this chapter, we will give you a bibliography on recent dissertations relating to physiotherapy. We will also provide you with information on how to use the Internet to stay current on dissertations. **IMPORTANT NOTE:** When following the search strategy described below, you may discover non-medical dissertations that use the generic term "physiotherapy" (or a synonym) in their titles. To accurately reflect the results that you might find while conducting research on physiotherapy, we have not necessarily excluded non-medical dissertations in this bibliography.

Dissertations on Physiotherapy

ProQuest Digital Dissertations, the largest archive of academic dissertations available, is located at the following Web address: **http://wwwlib.umi.com/dissertations**. From this archive, we have compiled the following list covering dissertations devoted to physiotherapy. You will see that the information provided includes the dissertation's title, its author, and the institution with which the author is associated. The following covers recent dissertations found when using this search procedure:

- **Beating CF: Patient Compliance with Chest Physiotherapy in Cystic Fibrosis** by Bellisari, Anna W., PhD from The Ohio State University, 1984, 218 pages
  http://wwwlib.umi.com/dissertations/fullcit/8503985
- **Caring in Physiotherapy Work: An Ethnographic Study** by Leiserson, Sara Ida, PhD from York University (Canada), 1997, 165 pages
  http://wwwlib.umi.com/dissertations/fullcit/NQ22894
- **Explicating Expectations of Faculty and Students in the Professional Education of Physiotherapy** by Telfer, James Douglas, EdD from University of Toronto (Canada), 1997, 239 pages
  http://wwwlib.umi.com/dissertations/fullcit/NQ28132

Keeping Current

Ask the medical librarian at your library if it has full and unlimited access to the *ProQuest Digital Dissertations* database. From the library, you should be able to do more complete searches via **http://wwwlib.umi.com/dissertations**.

CHAPTER 5. CLINICAL TRIALS AND PHYSIOTHERAPY

Overview

In this chapter, we will show you how to keep informed of the latest clinical trials concerning physiotherapy.

Recent Trials on Physiotherapy

The following is a list of recent trials dedicated to physiotherapy.[8] Further information on a trial is available at the Web site indicated.

- **Phase II Randomized Study of Selective Dorsal Rhizotomy and Physiotherapy vs Physiotherapy Alone for Spastic Diplegia**

  Condition(s): Spastic Diplegia

  Study Status: This study is no longer recruiting patients.

  Sponsor(s): National Institute of Neurological Disorders and Stroke (NINDS); Children's Hospital and Medical Center - Seattle

  Purpose - Excerpt: Objectives: I. Assess the efficacy and safety of selective dorsal rhizotomy and **physiotherapy** compared with **physiotherapy** alone in improving gross motor function and reducing spasticity in children with spastic diplegia.

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00004751

[8] These are listed at **www.ClinicalTrials.gov**.

Keeping Current on Clinical Trials

The U.S. National Institutes of Health, through the National Library of Medicine, has developed ClinicalTrials.gov to provide current information about clinical research across the broadest number of diseases and conditions.

The site was launched in February 2000 and currently contains approximately 5,700 clinical studies in over 59,000 locations worldwide, with most studies being conducted in the United States. ClinicalTrials.gov receives about 2 million hits per month and hosts approximately 5,400 visitors daily. To access this database, simply go to the Web site at **http://www.clinicaltrials.gov/** and search by "physiotherapy" (or synonyms).

While ClinicalTrials.gov is the most comprehensive listing of NIH-supported clinical trials available, not all trials are in the database. The database is updated regularly, so clinical trials are continually being added. The following is a list of specialty databases affiliated with the National Institutes of Health that offer additional information on trials:

- For clinical studies at the Warren Grant Magnuson Clinical Center located in Bethesda, Maryland, visit their Web site: **http://clinicalstudies.info.nih.gov/**
- For clinical studies conducted at the Bayview Campus in Baltimore, Maryland, visit their Web site: **http://www.jhbmc.jhu.edu/studies/index.html**
- For cancer trials, visit the National Cancer Institute: **http://cancertrials.nci.nih.gov/**
- For eye-related trials, visit and search the Web page of the National Eye Institute: **http://www.nei.nih.gov/neitrials/index.htm**
- For heart, lung and blood trials, visit the Web page of the National Heart, Lung and Blood Institute: **http://www.nhlbi.nih.gov/studies/index.htm**
- For trials on aging, visit and search the Web site of the National Institute on Aging: **http://www.grc.nia.nih.gov/studies/index.htm**
- For rare diseases, visit and search the Web site sponsored by the Office of Rare Diseases: **http://ord.aspensys.com/asp/resources/rsch_trials.asp**
- For alcoholism, visit the National Institute on Alcohol Abuse and Alcoholism: **http://www.niaaa.nih.gov/intramural/Web_dicbr_hp/particip.htm**
- For trials on infectious, immune, and allergic diseases, visit the site of the National Institute of Allergy and Infectious Diseases: **http://www.niaid.nih.gov/clintrials/**
- For trials on arthritis, musculoskeletal and skin diseases, visit newly revised site of the National Institute of Arthritis and Musculoskeletal and Skin Diseases of the National Institutes of Health: **http://www.niams.nih.gov/hi/studies/index.htm**
- For hearing-related trials, visit the National Institute on Deafness and Other Communication Disorders: **http://www.nidcd.nih.gov/health/clinical/index.htm**
- For trials on diseases of the digestive system and kidneys, and diabetes, visit the National Institute of Diabetes and Digestive and Kidney Diseases: **http://www.niddk.nih.gov/patient/patient.htm**
- For drug abuse trials, visit and search the Web site sponsored by the National Institute on Drug Abuse: **http://www.nida.nih.gov/CTN/Index.htm**

- For trials on mental disorders, visit and search the Web site of the National Institute of Mental Health: **http://www.nimh.nih.gov/studies/index.cfm**
- For trials on neurological disorders and stroke, visit and search the Web site sponsored by the National Institute of Neurological Disorders and Stroke of the NIH: **http://www.ninds.nih.gov/funding/funding_opportunities.htm#Clinical_Trials**

CHAPTER 6. PATENTS ON PHYSIOTHERAPY

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.[9] 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 "physiotherapy" (or a synonym) in their titles. To accurately reflect the results that you might find while conducting research on physiotherapy, we have not necessarily excluded non-medical patents in this bibliography.

Patents on Physiotherapy

By performing a patent search focusing on physiotherapy, 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

[9] Adapted 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 physiotherapy:

- **Apparatus for physical culture and physiotherapy**

  Inventor(s): Baroi; Stephan I. (8, Avenue de Miremont, 1206 Geneva, CH)

  Assignee(s): None Reported

  Patent Number: 4,361,324

  Date filed: September 5, 1979

  Abstract: The apparatus for physical culture and **physiotherapy** comprises a set of different hollow interchangeable members made from a plastics material. It comprises, for example, two hollow bodies (1), each having the filling opening sealed by a plug and two tubular skirts (3,4) having on their outer or inner walls respectively a thread which constitutes a coupling. The two hollow bodies are fixed to the ends of a connecting bar formed by the assembly of three rectilinear elements (7) in order to form a dumb-bell. The latter also has at its ends two supplementary hollow bodies (1'), identical to the two first hollow bodies and separated therefrom by a supplementary rectilinear element (7'). A sleeve (12) is mounted so as to rotate freely on each of the two supplementary rectilinear elements, so as to provide a more complete apparatus and offering more different possibilities of use than a conventional dumb-bell.

  Excerpt(s): The present invention relates to an apparatus for physical culture and **physiotherapy** in the form of a set of different interchangeable members. A plurality of different types of dumb-bells for physical culture are already known, but they have the disadvantage of being heavy, bulky and cumbersome and it is also necessary for the user to have a number of different weights and connecting bar lengths. The dumb-bell described in U.S. Pat. No. 4,076,236 partly obviates these disadvantages and comprises a grip and at least two hollow bodies coupled in a detachable manner at each end of the grip. The assembly is made from a plastics material and the hollow bodies can be filled with a material such as water, sand, lead, etc, as a function of the desired weight. However, this dumb-bell does not have other interchangeable members permitting its use for exercises other than those performed with a small dumb-bell provided with a grip. The object of the present invention is to provide an apparatus having a plurality of interchangeable members, which can be assembled in order to form several types of devices which can be used for physical culture and **physiotherapy.**

  Web site: http://www.delphion.com/details?pn=US04361324__

- **Cold and warm pack for physiotherapy and the like**

  Inventor(s): Munch; Walter (Mirabellenweg 2, 7031 Gaufelden 2, DE)

  Assignee(s): None Reported

  Patent Number: 4,700,706

  Date filed: February 3, 1986

  Abstract: A temperature-storage pack has a tightly bonded sleeve partly filled with temperature-storage material that is kneadable, non-flowing and lacking component builder substances and included air. The sleeve is formed from a vacuum-formed cup-shaped section bonded to a planar part.

Excerpt(s): The present invention relates to a cold and warm pack for **physiotherapy** and the like with a tightly bonded or welded sleeve made from a flexible foil, film or sheet and a heat-storing or cold-storing filling. Hot and cold compresses and poultices have long been used as a therapeutic aid in the treatment of bruises, strains and similar injuries and are highly esteemed by Doctors and patients, because they can be applied without difficulty to the parts of the body to be treated, prevent the formation of unnecessary swelling and rapidly act in a soothing manner. The same applies with regard to the packs of the aforementioned type, which have the advantage compared with the above-indicated compresses and poultices that they can be applied dry, which is appreciated by the patient. Initially such packs filled with water, so that they could be heated or cooled without difficulty in water bath. A more pronounced or longer-lasting cooling action of such packs could be obtained by placing them in a refrigerator or deep-freeze. However, longer storage in a refrigerator or deep-freeze caused the contents to become solidly frozen, with the disadvantage that the originally flexible pack was converted into a rigid structure which, on application to an uneven surface, e.g. a knee joint, assumed non-uniform contact and consequently a non-uniform heat transfer. Therefore packs of the aforementioned type were developed, whose filling consisted of a glycol--water mixture, which did not change as rapidly into a rigid structure. However, such packs have not proved completely satisfactory in practice because it was also not possible to prevent in their case that the liquid content thereof would be non-uniformly distributed when placed on an uneven substrate, so that they fail to ensure a uniform heat transfer.

Web site: http://www.delphion.com/details?pn=US04700706__

- **Device for iontophoretic physiotherapy with frozen medicament crystals**

  Inventor(s): Aloisi; Alessandro (via Colombo 10, 95030 Mascalucia CT, IT)

  Assignee(s): None Reported

  Patent Number: 5,840,057

  Date filed: August 7, 1996

  Abstract: The device for **physiotherapy** according to the present invention includes an electric current generator (4) with variable and in case modulated frequency, supplied between two electrodes that comprise the sick anatomic part to be treated, the first electrode being of a container (2-5) for a medicament solution in distillate water brought to the freezing point, and the other one in an element (6) with a wide surface that may be applied to the skin for closing the electric circuit, through the passage of the current through the anatomic part, consisting of the flow of ions coming from the frozen medicament crystals, so that nearly the whole of said ions penetrate through the anatomic part being treated, directly reaching the activity areas.

  Excerpt(s): The present invention concerns a device for **physiotherapy** comprising means for the realization of iontophoresis with medicament crystals frozen at temperatures between 0.degree. C. and -5.degree. C. It is already well known that the electrophoresis (or iontophoresis) process consists of in the local penetration through the skin of the patients of medicament ions, in distillate water solutions, by means of the passage of electric currents between two electrodes applied to the part to be treated. when the medicament passes through the Ph-value of the skin gets alterated, also according to the sweating level of the patient reacting to contact with the electrode.

  Web site: http://www.delphion.com/details?pn=US05840057__

- **Device for lumbar traction in physiotherapy**

  Inventor(s): van Zuilichem; Hendrikus C. W. (van Zuilichem & Partners, Equipment Manual Therapy, P.O. Box 46, 4750 AA Oud Gastel, NL)

  Assignee(s): None Reported

  Patent Number: 4,930,524

  Date filed: September 19, 1988

  Abstract: A device for lumbar traction in physiotherapists practice with a thoracal fixation belt (1) with widened thoracal belt part (2), and extension piece (3), a longitudinal traction belt (4), pelvical girdle (5), abdominal belt (6), handle clamps (7), traction girdle (8), connection rod (9), traction rope with optional pulley block (10), and body adjusting wedge (11), forming a unit to alleviate deficiencies of the human lumbar and thoracal parts of the intervertebral system.

  Excerpt(s): The present invention relates to a device for applying lumbar traction to patients, who are suffering of diseases of the spinal column. With a unit according to this invention painful deficiencies of the lumbal and the thoracal parts of the skeleton can be alleviated by the physiotherapist. Manual therapy methods as a remedy for these infirmities are well-known, but background art has some disadvantages. The manual therapy causes severe physical efforts for the therapist, and the reproducibility in view of a systematic approach is difficult to obtain in an equal manner. According to the present invention means have been developed, which constitute a unit for several physical traction systems and for use in several directions, which can be adapted to the specific needs of the patient in question. The deflections or deviations of the spinal column and of the joint articular parts have been described in Kremer, "Intervertebral Disc Diseases", Ed. Thieme, Gottingen-New York (1980). The lumbar traction unit according to the present invention is an expedient means to perform tractions in several dimensional directions in a most convenient and comfortable way, such that possibilities for the patient and purposes of the therapist are met at any kind, in the physiological positions of lordosis and cyphosis, segmental treatments included.

  Web site: http://www.delphion.com/details?pn=US04930524__

- **Device for muscular elongation, flexion and physiotherapy**

  Inventor(s): Nascimento; Isaias B. D. (Rua Marechal Floriano, no. 319, Centro MG, BR)

  Assignee(s): None Reported

  Patent Number: 5,616,110

  Date filed: June 28, 1995

  Abstract: The present device, which includes four accessories, incorporates in one machine that which is required for the elongation of muscles in all parts of the body, namely: the static, the dynamic, and the 3s or PNF Methods. The device consists of a main frame (1), a seat with a back (2) mounted on the frame's upper surface, two lateral foot supports (3), and a rolling car (13), which when pulled, operates a load-reducing mechanism (18) which includes two pulleys (7) connected to two supports (5), which open laterally or sidewise, and carry with them two supports (3). Each foot support (3) is equipped with hand grips (12). The accessories include two additional foot supports (29, 33) attachable to the car (13), two modules (35) fitted laterally into the frame (1) and

used to support the legs when bent or flexed, and a support accessory connected to the frame (1) through the supporting column (43).

Excerpt(s): The present invention relates to a device which enables the achievement of extending various muscles of the human body, through all of the means known for muscular elongation, as follows: STATIC (without movement), DYNAMIC or BALLISTIC (with motion), and the 3s or PNF METHOD. At the present time, the devices existing for muscular elongation do not satisfy the requirements of the user, inasmuch as they only operate on isolated groups of muscles, using only one type of elongation, namely the STATIC, thus making further progress impossible. In addition to the face that they require excessive and onerous effort, inasmuch as they generally are activated by a cranking mechanism, they limit the movements of the user, so that the latter, not having any point of support or place of attachment, to maintain his balance or to extend his other muscles, has no options with regard to other types of exercise. This being so, outside help is almost always required to assist the user in achieving the range of motion. The present invention has been developed with the aim in mind of solving all of the problems mentioned above, the main objective being to make it possible for the user to fully use and apply to all parts of his body exercises for muscular elongation and muscular flexion, through gentle, safe, and smooth movements. When appropriately positioned, the user will obtain perfect harmony of the leg and thigh muscles, the spinal column being unhindered and protected, without risk of muscular twisting or strains. Moreover, the device is able to block the internal leg muscles, once having been extended to the limits of their flexibility, thus inducing relaxation of other muscles used in executing movements; thus they are not unduly stretched, and most importantly, avoid stress on the spinal column. In addition to providing for the harmonious functioning and easement of the body, the device is easily operated, providing support for the hands in all positions of operation. Thus the device allows for harmonious and progressive exercises, facilitating conditions for rhythmic and controlled breathing, which are so necessary in elongation exercises.

Web site: http://www.delphion.com/details?pn=US05616110__

- **Exercise monitoring device**

  Inventor(s): Jull; Gwendolen A. (51 Barkala Street, The Gap, Queensland, 4061, AU), Richardson; Carolyn A. (31 Bruckner Street, The Gap, Queensland, 4061, AU)

  Assignee(s): None Reported

  Patent Number: 5,338,276

  Date filed: March 11, 1993

  Abstract: An exercise monitoring device (10, 10A, 10B) comprising a pressure pad (11) in the form of a flexible bladder or bag which comprises a plurality of substantially separate compartments (12, 12A, 12B). There is also included pumping means in the form a pressure bulb or air bulb (24). There is also included feedback means in the form of an aneroid dial (18, 19). The feedback means permits monitoring or metering of pressure biofeedback transmitted to the pressure pad from the body part of the patient (34) in use. The feedback means may also comprise an analogue meter, digital readout or visual display device VDU which are all associated with the pressure transducer. There also may be provided valve means (21) in the form of a regulating screw which may regulate air flow between the air bulb (24) and aneroid dial (18, 19). There is also provided a method for monitoring of **physiotherapy** exercises using the above described monitoring device (10) which includes the steps of:(1) supporting the pressure

pad (11) between a body part of a patient (34) requiring monitoring and a support surface such as a floor, belt, back of a chair, wall, plinth bed;(2) inflating the pressure pad (11) until it moulds between the body part and the support surface;(3) monitoring the pressure on the feedback means including noting any changes in the pressure; and(4) deflating the pressure pad (11).

Excerpt(s): This invention relates to an exercise monitoring device which is particularly suited for use in **physiotherapy.** In particular the monitoring device of the invention is especially directed to "pressure biofeedback" which is to provide feedback to ensure safety, quality and precision in exercise performance and testing. Hitherto difficulty has been experienced especially in regard to patients in relation to monitoring of patients during **physiotherapy** exercises to determine if the patient was carrying out the relevant exercises in the prescribed fashion. This was necessary to avoid muscle fatigue, back strain and pain and also to ascertain when the energy of the patient was weakening or when a rest was required. Monitoring of these remedial exercises was also necessary to ensure correct muscle action for example in retraining of the abdominal muscle function and also to ensure safety and precision of stretching techniques. Monitoring of these exercises was also necessary to achieve postural training and for checking stabilisation during exercises lumbar spine (for example stabilisation during lower limb exercise). Such monitoring as described above has been largely carried out in the past by patient self assessment or by visual or manual assessment by the physictherapist and thus it was largely done on a qualitative rather than a quantitative basis. An electrical device known as an electromyograph which measured electrical activity of the muscles was used to some extent but is difficult to use in the clinic when monitoring many complex muscle actions.

Web site: http://www.delphion.com/details?pn=US05338276__

- **Hand exerciser**

  Inventor(s): Greenfield; Martin J. (179 Battersea Bridge Road, London S.W.11, GB2)

  Assignee(s): None Reported

  Patent Number: 4,750,734

  Date filed: June 12, 1986

  Abstract: A hand exerciser for use in **physiotherapy** and in muscle building which is suitable for use in exercising of the muscles of the forearm, hand, wrist and fingers comprises a rigid frame (11) spanned by a resiliently deformable web (10) held under tension and formed with an array of cells (12) so as to accommodate human fingers, the web being formed of an elastomer having elasticity and hardness properties which render it capable of deformation when gripped by means of fingers inserted in the cells and appropriately stretched as a result of muscular action.

  Excerpt(s): This invention relates to hand exercisers and more particularly to exerciser devices for use in strengthening and therapy of the muscles of the forearm, wrist, hand and fingers. Hand exercise units, herein generally termed hand exercisers, are well known devices employed in the exercising of the muscles. The muscles are brought into operation in the forearm, hand, wrist and fingers as a result of contraction of the hand against the resistance of the hand exercise unit. This resistance is generally offered by steel elements under tension, such as springs, or by rubber balls to be gripped by the hand. These devices are intended to accommodate the hand but are generally limited to a single range of movement as the devices are forced to contract. This limited range of

movement accordingly limits the benefit which can be achieved in carrying out exercises using such exercisers. The form of contraction resistance facility offered by the devices soon leads, on repeated use of the device, to those muscles which are exercised achieving a stale condition, nullifying any neuromuscular stimulation which has been achieved and correspondingly nullifying any progress which has taken place. There is generally no provision for accommodating with a single hand exerciser all of the movements associated with the parts of the anatomy in question. It is a universally acknowledged fact in **physiotherapy** that neuromuscular progress is dependent on the ability to stimulate muscles from different angles with use of different exercises and training principles. It is an object of the invention to provide hand exercisers which provide for a wide variety of neuromuscular responses without the need for adjustment or resetting of the exerciser, which hand exercisers have utility both in **physiotherapy** and in muscular strengthening for sports purposes.

Web site: http://www.delphion.com/details?pn=US04750734__

- **Homogenous and flexible or rigid combinations of materials moldable and adhesive at temperature below 90.degree.C**

  Inventor(s): Liegeois; Jean Marie (411 Moulin de Wadeleux, B-4654, Herve, BE)

  Assignee(s): None Reported

  Patent Number: 5,652,053

  Date filed: March 7, 1995

  Abstract: Combinations of IPN type molecular or intramolecular materials, which are thermoadhesive at temperatures not exceeding 90.degree. C. and which can be molded and shaped at said temperature, are characterized in that they contain a first rubber-like elastoviscous constituent having a softening point not exceeding 90.degree. C. and a second, semi-cristalline constituent essentially of the polyester type having a fusion temperature of 35.degree. to 80.degree. C. These combinations have controlled adhesiveness and adequate fluidity for application by hand particularly in do it yourself applications, orthopedics, sport and **physiotherapy,** and as an adhesive material on rough or porous bodies.

  Excerpt(s): This invention relates to new alloys under various forms of interpenetrating polymer networks (IPN), principally under the form of semi-IPN or thermoplastic IPN, in sheets, plaques or bulk product that are thermomoldable and thermoadhesive, flexible or rigid, with rather short setting time, and to preparation processes of those alloys and to processes for their eventual application on a textile substrate. Besides usual applications of plastics, there are various potential domains of applications wherein it is required to realize at every occasion a unique part or assembly with a material that one desires to mold, form or shape preferably manually and with a simple pretreatment such as heating at an easily accessible temperature. It may also concern a matter one desires to apply between two objects showing uneven surfaces in order to bond them together and where in particular usual adhesives are not suited because there are cavities to fill for example. Through the preparation treatment for their use, those materials must therefore have an adequate malleability as well as an adhesive potential to themselves and eventually to other bodies. The herein envisioned preparation treatment is limited to a temperature conditioning which will be detailed later, excluding the use of any solvent or external adhesive.

  Web site: http://www.delphion.com/details?pn=US05652053__

- **Ice peas cold/hot therapeutic pack**

  Inventor(s): Johnson; Linda J. (1415 Eleventh Ave., San Francisco, CA 94122)

  Assignee(s): None Reported

  Patent Number: 5,190,033

  Date filed: June 10, 1991

  Abstract: An improved cold/hot pack for **physiotherapy** having a completely sealed flexible pouch (16). The cavity of the pouch is filled with a plurality of approximately pea sized or larger hollow capsules (20). The cavities of the hollow capsules are filled with cold/hot storing fluid or gel (22). Partitions prevent migration of the capsules within the pouch and a screened plug permits air to be expelled from the pouch while the capsules are retained.

  Excerpt(s): This invention relates to cold/hot therapeutic packs, specifically to a pack which has an improved ability to conform totally to the natural contours of the body. It has been conventional practice to treat post operative wounds, traumatic wounds, sports and other injuries with both cold and hot packs. There are many benefits gained from this therapy.

  Web site: http://www.delphion.com/details?pn=US05190033__

- **Multi-mode CPM physiotherapy foot manipulating device**

  Inventor(s): Kirk; Chester E. (6780 Carlisle Pike, Mechanicsburg, PA 17055)

  Assignee(s): None Reported

  Patent Number: 4,842,265

  Date filed: December 10, 1987

  Abstract: A multi-mode **physiotherapy** foot manipulating device, in accordance with the preferred embodiments, is comprised of a portable unit that may be strapped onto the foot of a bed, table, or the like, and which produces manipulative treatments through the use of oscillating pivotal movements of pedal-like foot supports via a crank arrangement driven by a reversible electric motor. Operation of the motor in one direction will produce simultaneous dorsiflexion of both feet in unison, while reversing of the motor operation will produce a changeover into an alternating pedaling movement of the feet. In accordance with another feature, spring biased roller arms can be provided for massaging of the soles of the feet, openings being provided in foot supports of the device through which rollers on the ends of lever arms are displaced into engagement with the sole of a foot thereon under the force exerted by a spring connected between the base of the device and the lever arm.

  Excerpt(s): The present invention is directed to apparatus used for the therapeutic manipulation of a person's feet for purposes of stimulating blood and lymphatic circulation, exercising muscles of the legs and feet, as well as massaging of the soles of the feet. In particular, the present invention is directed to a single device capable of producing all of these therapeutic treatments. The use of continuous passive motion (CPM) for the therapeutic stimulation of the feet and legs in many post surgical and nonsurgical situations is well known. In one form of such **physiotherapy,** an alternating flexion-extension of the ankle joint, that simulates walking, has been used for stimulation of blood circulation in the feet and legs of persons who are confined in a bed or to a wheelchair, or cannot exercise their legs for whatever reasons. In another mode

of such **physiotherapy,** a simultaneous rhythmic dorsiflexion of both feet has been used to produce a pumping action that creates a dynamic upward force affecting fascia, muscle, skeletal, and abdominal mass as well as increasing the doming of the diaphragm. Such a pumping action applies intermittent positive-negative pressures on both the lungs and abdomen as well as stimulates circulation of fluids in the fascia, muscles, etc. in a way to produce a beneficial effect on body healing processes, as is reflected in various articles on the subject. Such therapy has also been found useful in reducing the risk of the occurrence of venous thrombosis in operative, bedridden and post operative patients. Additionally, foot manipulation is used in physiotherapeutic treatment of such common foot problems as plantar faciatis and metatarsalgia, both of which are painful conditions of the sole of the foot. In particular, massaging of the soles of the feet has been used to reduce the inflammation of the plantar fascia and to reduce the pain at the heads of the metatarsal bones of the feet, symptomatic of these two common foot problems.

Web site: http://www.delphion.com/details?pn=US04842265__

- **Orthopedic apparatus**

  Inventor(s): Knight; Allan C. (Weston, CA)

  Assignee(s): Intra Med Industries Limited (mississauga, Ca)

  Patent Number: 4,655,200

  Date filed: February 15, 1985

  Abstract: Table for **physiotherapy** treatment, including a vertically-adjustable support on which are mounted a head table, a central table, and an end table; an adjustment mechanism lies between the end table and the support and permits adjustment of the end table in the swinging mode and the roll mode, as well as the slide mode.

  Excerpt(s): Since time immemorial, man has suffered from various disabilities in his muscle and skeletal structure. Over the years, various therapy techniques have been developed to take care of these problems, particularly where the spinal column is involved. Various medical practitioners, such as orthopedic physicisans, chiropractors, and osteopathic physicians have used manipulative techniques to correct difficulties in the spine. One of the distinguishing techniques of modern manual therapy is the use of precise distractive techniques. These techniques safely produce separation of vertebral bodies and a caudal glide of the facet joints in the lumbar and thoracic vertebral segments without producing torsion. By use of these techniques, it is reasonable to postulate that these movements will serve to alter interdiscal pressures and alignment of the disc. they will produce controlled motion in facet joints which stimulate the Type 1 mechano-receptors in the absence of stimulation of the nociceptors, thus relieving pain. They are intended to modify the response of the muscle spindles and to assist in promoting drainage in the venous plexus of the vertebral segment. Attempts in the past to produce a table on which to carry out these techniques has, however, been difficult. For one thing, the tables can be extremely expensive; even where expense is no problem, designs that have been proposed in the past fail to set the angles either accurately or in such a way they remain in their selected positions despite the weight of the patient. These and other difficulties experienced with the prior art devices have been obviated in a novel way by the present invention. It is, therefore, an outstanding object of the invention to provide a orthopedic apparatus that permits accurate localization of the vertebral segment. Another object of this invention is the provision of an orthopedic apparatus providing for precise and versatile manual manipulation techniques.

Web site: http://www.delphion.com/details?pn=US04655200__

- **Patient restraining device for use in physiotherapy**

  Inventor(s): Bhatti; Irfan H. (Macclesfield, GB2), Brown; Steven D. R. (Derby, GB2), Rhodes; John M. (Stafford, GB2), Teasdale; Heath S. (Surrey, GB2), Thatcher; Jacqueline (Derby, GB2)

  Assignee(s): Rolls-royce Plc (london, Gb)

  Patent Number: 4,911,179

  Date filed: May 13, 1988

  Abstract: A patient restraining device suitable for use in **physiotherapy** comprises a framework which in use is located at the foot of a bed. A roller is rotatably mounted on the framework, and a belt is secured to and wound around the roller. A harness is secured to the free end of the belt, and the harness is provided with cushioned straps. A length of belt is unwound from the roller to suit the particular patient, and the roller is locked in this position by a ratchet wheel and pawl spindle. The patient lies on the bed over the harness and belt so that the patients feet are adjacent the framework and the cushioned straps are wrapped around the patients legs to hold the patient. The patient restraining device allows a single physiotherapist to perform **physiotherapy** while the patient is prevented from moving away from the framework.

  Excerpt(s): The present invention relates to a patient restraining device for use in **physiotherapy.** At present patients suffering from spinal problems receive traction **physiotherapy.** This requires the presence of two physiotherapists; one physiotherapist performs the **physiotherapy** exercises on the patient's neck and spine while the other physiotherapist grips the legs of the patient, to ensure that the patient remains stationary while the **physiotherapy** is being performed. This procedure is wasteful of the time of skilled physiotherapists.

  Web site: http://www.delphion.com/details?pn=US04911179__

- **Physiotherapy and health improvement instrument**

  Inventor(s): Kim; Yeon-Soo (4-803,Jinju Apt., 20-4, Shinchoen-dong, Seoul, KR)

  Assignee(s): None Reported

  Patent Number: 5,904,660

  Date filed: April 28, 1997

  Abstract: This invention provides a chair type of **physiotherapy** and health instrument that may be used for the **physiotherapy** against diseases or health improvement. The instrument has a chair body 10, 100 having a through hole 21, 121 formed at a seat area 20, 120 thereof, an impacting member 30 and a driving unit 40 for driving this member 30, wherein the impacting member 30 pivotally swung can periodically apply an impact on a region to be treated by a user via the through hole 21. Alternatively, the instrument uses, instead of the impacting member, a rotating frictional member 130 resiliently installed to protrude above the through hole 121 and a driving unit 140 for driving this member 130, wherein the member 130 being resiliently contacted with the user's body rotate, thereby being able to apply the frictional stimulus to a user. Therefore, easy

access to a user's body is possible even when a user seats on the chair according to the present invention, further providing the **physiotherapy** or health improvement.

Excerpt(s): The present invention relates to a **physiotherapy** and health improvement instrument, and more particularly to a chair type of **physiotherapy** and health improvement instrument that can be used for a physical treatment of a perineum, loosened muscles near an inguinal region, a prostate gland, an anus, etc., or for an exercise for health improvement. As physical treatments available for suppressing the enlargement of the prostate gland, there have been used physical treatments, such as repeated impacts on or frictional stimuli to the prostate gland site. It is known that similar physical treatments are not only helpful to the enlarged prostate, but to a urination difficulty that may be caused by hemorrhoids, calculus or thrombus, or to an abdomen muscle recovery after childbirth. Further, an impact or frictional stimuli on an inguinal region strengthens, for example, the muscles, which provides good effects to aging prevention and stamina improvement. For the purpose of strengthening the muscles or the muscle recovery, or for the continued physical treatment against the above-mentioned symptoms, such treatments or periodic exercises in the hospital or **physiotherapy** center, even in their homes or offices, is preferably recommended. However, an area between the anus and the inguinal region gives, unfortunately, inconvenience when the patient himself applies a physical treatment thereto, such as the continued impacts or frictional stimuli, which calls for a mechanical **physiotherapy** and health improvement instrument which enable the patient to easily apply the physical treatment to himself.

Web site: http://www.delphion.com/details?pn=US05904660__

- **Physiotherapy apparatus**

  Inventor(s): Rawcliffe; John (11 Rutland Avenue, Atherton, Manchester M29 9HN, GB2)

  Assignee(s): None Reported

  Patent Number: 4,844,055

  Date filed: April 16, 1986

  Abstract: The invention provides apparatus for use by a physiotherapist, for measuring the force exerted by a patient, and for exercising a patient, particularly in a rehabilitation program. The apparatus is of the kind wherein the patient is required to exert a force against resistance beam arrangement and in the first aspect of the invention, there is a preset rest duration indicator which is adapted to issue a "countdown" signal to the patient up to a predetermined starting time at which the patient is required to exert force against the beam. This feature avoids the patient jerking a limb or body part when a force is required to be exerted against the beam.Another feature of the invention is that the indicator includes a graphic display device which has a presetable target force display. Hence the patient is able to obtain a visual indication as to when the force he is applying is equal to the target force.A third aspect of the invention relates to the provision of force duration indication means adapted to give a signal only so long as a force at least equal to the preselected target force is exerted on the beam and rest duration indicator adapted to give a signal of predetermined duration indicating the length of a required rest period between muscular contractions of the patient.Finally, the invention includes a beam arrangement forming part of the resistance means, which incorporates a tubular part and a portion of reduced second moment of area at which strain gauges detect deflection of the beam under an applied force.

Excerpt(s): A well known method of rehabilitating defective musculature in a patient requires the patient to voluntarily contract and relax the defective muscle group against an applied load. Generally, the physiotherapist will prescribe the applied load, and an exercise programme requiring a specified number of muscular contractions and relaxations. Ideally, the programme should also specify the duration of the voluntary contraction against the applied load. The level of the load which provides the force opposing the force exerted by the patient in contracting the muscle group, is set or prescribed by the physiotherapist, after measurement of the maximum voluntary contraction of the defective muscle group. For instance, the force required to be exerted by the patient in a **physiotherapy** programme may be about half the measured maximum voluntary contraction force. Sometimes, the calculation of the load for the **physiotherapy** programme, requires the measurement of the maximum voluntary contraction of the limb which does not require treatment. For example, if one leg has sustained damage to the musculature, the maximum voluntary contraction may be measured on the other leg. However, this can in itself provide a variable, because during **physiotherapy,** sometimes the undamaged limb is also exercised, resulting in an increasing maximum voluntary contraction of that limb. Methods of measuring the maximum voluntary contraction can be illustrated, by considering the specific case of the rehabilitation of the quadriceps, following defects of the knee joint and/or lower limb. In a first method, frequently used in **physiotherapy** departments, bags containing known weights of sand are slung from the lower end of the patient's tibia, and the patient is instructed to raise the lower limb against the applied force. Initially of course, the person carrying out the test has to make an estimate of the load which can be applied, and generally speaking, this will be under-estimated at the commencement of the test, and then the load gradually increased by the use of bags containing greater weights of sand. It will be appreciated that this method is crude both in appearance and accuracy.

Web site: http://www.delphion.com/details?pn=US04844055__

- **Physiotherapy apparatus for the treatment of articular stiffness**

  Inventor(s): Cobo; Bernabe Cobo (Calle Gavina, 28, E-08290 Cerdanyola del Valles, ES)

  Assignee(s): None Reported

  Patent Number: 6,102,882

  Date filed: December 10, 1997

  Abstract: Physiotherapy apparatus for the treatment of articular stiffness including a table for a patient having a static board, a moving board which is displaceable towards and away from the static board and a device for applying a traction force between parts of the patient's body. The moving board is mounted such that it can also rotate about a horizontal axis between a horizontal position and an inclined position, and about a vertical axis between two extreme positions which are symmetrical with respect to a longitudinal axis of the table. The device for applying a traction force includes a traction cord and a system of pulleys with which the cord is associated in order to apply the traction to a joint of the patient in a desired direction. The apparatus is highly versatile, permitting treatment of cervical and lumbar vertebrae, hip, shoulder, elbow, wrist, knee and ankle.

  Excerpt(s): The present invention relates to a **physiotherapy** apparatus of the type used for the treatment of articular rigidity by means of passive mobilizations, through the application of controlled mechanical traction forces. Some known **physiotherapy**

apparatuses present a table, similar to a stretcher, which has a displaceable part, for example for applying traction axially to the cervical and lumbar column of a patient. There also exist specific apparatuses for the treatment of certain joints, such as the knee.

Web site: http://www.delphion.com/details?pn=US06102882__

- **Physiotherapy device**

  Inventor(s): Stobart; Matthew J. C. (Bernel, New Road, Stithians, Truro, Cornwall TR3 7BL, GB2), Taylor; Alan R. G. (The Coppice, Chapel Hill, Bolingey, Cornwall TR6 0D0, GB2)

  Assignee(s): None Reported

  Patent Number: 5,092,316

  Date filed: October 23, 1989

  Abstract: A **physiotherapy** device for treating spinal disorders comprises a body (6) housing actuating rams operating on pistons (14) which carry feet (15). The pistons (14) are caused to reciprocate so that while one diagonal pair is raised, the other will be lowered and vice versa. The device is applied so that the feet (15) rest on the lateral ends of transverse processes to either side of a pair of adjacent vertebrae. The reciprocating motion of the feet (15) then causes a counter-rotational movement between the pair of vertebrae being treated. This can be used to help to relieve a loss of mobility between the joints of the spine. In an alternative use blows are delivered rapidly by the feet (15) so as to trigger natural stretch reflexes which will cause the vertebrae to be brought back into normal alignment from an abnormal displaced condition.

  Excerpt(s): The invention relates to apparatus and procedures designed to correct mechanical disorders of the spine. The backbone is a complex structure and misuse of the body can result in spinal disorders producing various types of back or neck pain. The precise mechanical disorder is often difficult to diagnose, and even if the source of a malfunction can be determined, the correction of the disorder is far from easy as interactions between vertebrae are incredibly complex, and thus correction of a fault in one area can lead to transference of the problem, possibly in a modified form to another area. Attempted correction of the transferred problem can then lead to the reappearance of the original problem. A further type of disorder results from loss of mobility of the joints of the dorsal spine. Consequently remedial manipulation applied to a vertebra will result in movement of adjacent ones and it is difficult to increase the intravertebral mobility other than over a substantial period of treatments, using conventional manipulative techniques. The invention aims to provide both apparatus and manipulative procedures using that apparatus which enable a physiotherapist to achieve substantial improvements to the conditions referred to above in a relatively short time in the majority of cases. Accordingly, from a first aspect, this invention provides a **physiotherapy** device comprising a body housing a pair of reciprocatory actuators terminating in feet and projecting in the same direction but displaced at a distance equivalent to the spacing of the lateral ends of transverse processes to either side of a human vertebra, and means for reciprocating the actuators in mutually opposed directions.

  Web site: http://www.delphion.com/details?pn=US05092316__

- **Physiotherapy fiber, shoes, fabric, and clothes utilizing electromagnetic energy**

  Inventor(s): Zhang; Xue-Shan (Towaco, NJ), Zhou; Lin (Towaco, NJ)

  Assignee(s): Micron, Technology (boise, Id)

  Patent Number: 6,120,531

  Date filed: October 17, 1997

  Abstract: Fiber, fabric, clothes, and shoes having a material incorporated therein which, when stimulated by energy, emits a predetermined spectrum having a first electromagnetic radiation having a wavelength range selected from the group consisting of about 0.2.mu.m to about 50.mu.m, and about 0.4.mu.m to about 25.mu.m, and a second radiation having a wavelength range selected from the group consisting of about 7500.mu.m to about 100,000.mu.m, and about 5400.mu.m to about 500,000.mu.m, similar to radiation generated by the human body over similar ranges. A reflecting layer is adjacent to a fabric having the material incorporated therein such that body heat is conserved so as to achieve a therapeutic result. The energy stimulating the material can be body heat, electrical heat, magnetic energy, or other energy forms.

  Excerpt(s): The present application is related to the **physiotherapy** field and is more particularly related to **physiotherapy** fibers, fabric, shoes, and clothing. Shoes and clothes that improve health and keep the body warm and comfortable have always been a target goal of **physiotherapy** sciences and industries. The appearance in the market of shoes associated with advertising that advocates healthy feet by virtue of the structure thereof, and of pads for the inside of the shoe which can prevent foot odor, are examples. The prior art does not teach clothing made of a fabric which conserves body heat, and when stimulated by energy, emits an electromagnetic radiation that is similar to that created by the human body as seen in FIGS. 1A, 2, and 5C. The invention provides fiber, fabric, clothes, and shoes that have a therapeutic effect. As determined by the science of spectroscopy, a variety of chemical substances can be formed which, when stimulated by energy, such as heat or electricity, emits a predetermined radiation. By using the science of spectroscopy, a variety of materials or chemical substances can be formed, which when stimulated by energy emit the predetermined radiation of the human body as seen in FIGS. 1A, 2, and 5C. Such a chemical substance can be incorporated into a fabric from which an article of clothing is manufactured. Body heat, with or without an external supply of energy such as from a battery source, is then used as the energy to stimulate the chemical substance to emit a predetermined radiation. Preferably, the predetermined radiation is a first radiation extending in wavelength range from about 0.2.mu.m to about 50.mu.m and a second radiation extending in wavelength range from about 7500.mu.m to about 100,000.mu.m. More preferably, the predetermined radiation is a first radiation extending in wavelength range from about 0.4.mu.m to about 25.mu.m and a second radiation extending in wavelength range from about 5400.mu.m to about 500,000.mu.m.

  Web site: http://www.delphion.com/details?pn=US06120531__

- **Physiotherapy healthy device**

  Inventor(s): Lin; Shin-Hsiung (3, Alley 40, Sun-Chu Rd., Chang-Hua, TW)

  Assignee(s): None Reported

  Patent Number: 5,069,207

  Date filed: July 23, 1990

Abstract: A **physiotherapy** device includes a bed structure having a horizontally disposed upper plate with a plurality of orifices. An apertured plate which forms a network having apertures rests on the upper plate. A plurality of spray nozzles are mounted below respective orifices for spraying upwardly through the orifices and the apertured plate. A shade and canvas provide a space for the user and are raisable and lowerable. A mounting means is provided for mounting the shade for pivoting movement about a horizontal axis. A controller then includes a heating tank filled with a suitable physiotherapeutic liquid, a conduit for delivering the heated liquid to the spray nozzles, and a control unit for controlling a heating of the liquid in the heating tank and a period of delivery of the liquid to the spray nozzles.

Excerpt(s): Most office clerks currently experience only a very limited amount of exercise and work under an air-conditioned environment, so that they hardly ever have a heavy, cleansing sweat. However, manual labor workers often get exhausted and worn out from hard work and overfatigue and do frequently have a heavy cleansing sweat. In view of this difference, a vapor **physiotherapy** structure to promote health and a healthy sweat is provided by the present invention. The present invention is a health promoting device having a shade with a covering canvas. A conduit located in a base structure is connected to a herb tank. There are numerous orifices mounted on a bedstead above the nozzles. The shade comprises several semi-circular fixed supports. Several horizontal pipes having a plurality of nozzles mounted thereto are in turn mounted on the respective inner sides of the structure. A plurality of fine orifices are provided on the top end of each nozzle.

Web site: http://www.delphion.com/details?pn=US05069207__

- **Physiotherapy method**

  Inventor(s): Zhang; Xue-shan (33 Woodshire Ter., Towaco, NJ 07082), Zhou; Lin (33 Woodshire Ter., Towaco, NJ 07082)

  Assignee(s): None Reported

  Patent Number: 5,849,026

  Date filed: August 29, 1997

  Abstract: The present invention relates to a radiation generating apparatus for physical therapy and a process for its manufacture. The apparatus generates a characteristic radiation spectrum to treat and effectively treat or cure diseases of the blood circulating system, skin diseases, surgical wounds, arthritis, bronchitis, asthma, functional disorders of the stomach and/or intestines, gynecological and obstetric disorders such as dysmenorrhoea, hypertension, stress and for promoting the healing of wounds. The apparatus employs a radiation generator comprising a substrate, a transducing layer and a radiation generating layer. A dual purpose radiation treatment and lighting lamp is also described.

  Excerpt(s): The present invention relates to an apparatus for physical therapy and a process for its manufacture. The apparatus emits a characteristic energy spectrum to effectively treat and cure surface wounds and skin diseases, such as chilblains, frostbites, burns and scalds, chronic skin ulcer, and herpes; arthritis, periarthritis of the shoulder, inflammation of the cervical vertebra, contusion of soft tissue, bronchitis, pneumonia, asthma, functional disorders of the stomach and/or intestines such as diarrhea, gynecological and obstetric disorders such as dysmenorrhoea, inflammation of the vagina, hypertension, stress and for promoting the healing of wounds, and

maintaining health. Presently, popular physiotherapeutic equipment in use include mainly those which employ electricity, ultrasonic wave, infrared rays, ultraviolet rays, microwave, laser beams, or heat for the treatment of various disease conditions. Many of these employ electromagnetic radiation to act on the body. For example, various types of equipment employ ultrasonic wave frequencies of 20,000 Hz or above, or infrared rays having a spectrum of between about 780 to 30,000 millimicrons, or ultraviolet rays having a spectrum of between about 180 to 300 millimicrons, or microwave energy with wavelengths of about 1 to 100 millimeters. Electrical conductance, laser beams and heat have also been employed to treat various disease conditions. These **physiotherapy** methods have all been beneficial in conquering pain and suffering with varying degrees of success. (1) Limited curative effects. Each **physiotherapy** methods can only be used to treat a limited number of disease conditions. Some common diseases, such as chilblains, frostbites, rhinitis, colds, etc., cannot be treated rapidly or effectively at all.

Web site: http://www.delphion.com/details?pn=US05849026__

- **Physiotherapy table**

  Inventor(s): Loughrey; Kevin A. (Wishart, AU)

  Assignee(s): Loughrey; Janice Margaret (wishart, Au)

  Patent Number: 4,157,089

  Date filed: December 15, 1977

  Abstract: A **physiotherapy** table for treatment of cystic fibrosis and other illnesses has a top consisting of two top sections connected hingedly end to end by adjustable joints which may be releasably locked to hold the two top sections in a number of different angular relationships, each top section being supported in individually vertically adjustable manner by an end frame to which the top section is pivoted and braced by an adjustable stay, the stays, end frames and top sections being foldable to compact form for transport.

  Excerpt(s): This invention relates to a **physiotherapy** table. People suffering from certain illnesses including cystic fibrosis, pneumonia, bronchitis and asthma sometimes require **physiotherapy** for the purpose of draining their lungs of mucus. Treatment is usually carried out with the patient in a half-sitting position, or lying prone on an inclined surface or ramp, head down, and in either position being pummelled with cupped hands to cause mucus to be dislodged from the walls of the lungs. Treatment of the patient in half-sitting position allows mucus in the upper lobes of the lungs to drain into the lower lobes, and subsequent treatment in the inclined prone position allows the mucus to drain from the lower lobes into the trachea from which it is expectorated by the patient. Commonly, this type of **physiotherapy** is performed on severely affected patients for approximately an hour, three times daily, and mainly at home, although hospital **physiotherapy** staff also perform such treatments on interned patients.

  Web site: http://www.delphion.com/details?pn=US04157089__

- **Portable thermo-hydraulic physiotherapy device**

  Inventor(s): Copeland; Thomas (Oregon, OH), Mosiniak; Dennis G. (Toledo, OH), Sandman; Terry L. (Toledo, OH)

  Assignee(s): Jobst Institute, Inc. (toledo, Oh)

  Patent Number: 4,149,529

  Date filed: September 16, 1977

  Abstract: A portable apparatus for controllably cooling and variably, intermittently applying pressure to a portion of a body part of a mammalian organism comprising a liquid supply and control unit having means to store, circulate, cool, agitate, and pressurize a fluid and means to communicate via fluid communication means to a hydraulic appliance having a unitary body, with an unrestricted inlet port to receive the fluid, and an outlet port in association with a fluid flow retardation means secured to the interior surface of the outlet port. The reservoir in the supply unit is arranged with a heat exchanger immersed in the liquid and agitating means to avoid thermal stratification of the liquid. The reservoir is mounted in the supply unit with sufficient support to sustain the weight of a human and has an open top of sufficient dimensions to receive a human limb whereby the reservoir can be employed as a whirlpool bath. A cover is provided for the open top when the reservoir is not used as a whirlpool bath.

  Excerpt(s): Cold packing and pressure bandages are both well known medical management techniques. Cold packing is particularly well suited to the treatment of bruises, muscle strains, sprains and similar muscle, ligament and joint dysfunctions while pressure bandages and splints are used to control hemorrhage, temporarily secure pressure and antiseptic compresses while inhibiting the contamination of the injured surface by airborn bacteria and the like. More conventional cold packing methods like ice bags, wet cloths, etc., can provide only short periods of relief for a number of reasons. Ice packs have to be periodically recharged requiring personnel time and the expense of purchase, transport, storage and replacement of large quantities of ice. Also, ice bags and wet cold cloths create a very damp cold which, while more tissue penetrating than dry cold is usually a more painful procedure to the patient than dry cold. These treatments also tend to dampen the surrounding area which has obvious contraindications in a sterile field or surgical theater. Additionally, recent medical advances in cryogenics and cryotherapy have indicated that lower temperatures than the operational range of ice packs and baths, usually 35.degree. F. or so, are needed in some comprehensive medical management regimens. Along with these findings have come the need to produce ultracold methodology instrumentation. Additionally, these ultracold treatments have been seen to be less painful to the patient than damp cold treatments. Concomitant advances in medical pressure usage techniques have disclosed the usefulness of intermittent variation in the pressure applied to a treated area. Traditionally, pressure bandages and splints have been of extremely simple design and usually able only to exert one fixed pressure. Any desired change in pressure was manually adjusted. Such adjusted pressures cannot be established accurately with ordinary procedures. While this technique of manual pressure variation is acceptable for crisis treatments, like acute cardiopulmonary or cardiothorasic events, the continued rotation and adjustment of pressure bandages and the like is not suited to routine treatment of subacute conditions since it would require the continuous presence of trained medical personnel.

  Web site: http://www.delphion.com/details?pn=US04149529__

- **Process and apparatus for physiotherapy in scoliosis and deviations of the rachis in general**

  Inventor(s): Sastre; Santos F. (Balmes no. 89 -30 1a, 08008 Barcelona, ES)

  Assignee(s): None Reported

  Patent Number: 5,192,305

  Date filed: June 14, 1991

  Abstract: For treating scoliosis and deviations of the human spinal cord in general, a patient is supended under gravity by straps and a corset in a frame. The patient is immobilized by transverse arms with end pads which engage the torso, and lateral shear forces are applied to the spinal column by a transversely extending power-operated pusher.

  Excerpt(s): This invention relates to a process and apparatus for treating scoliosis and deviations of the human spinal column in general. The morphology of the human spinal column at present transmits the effect of the modulating forces which have operated on it and continue to influence it. The spinal column has not finished evolving, and this is the case when morphological traces resulting from the myotendinous tension produced by the weight of the body and the action of the force of gravity can be detected in the osseous structures. The mechanisms which generate tension affecting the spinal column are increased by the effort people put forth to adapt to different environments and ways of life. The lateral deviation, or deviation in the coronal plane of the spinal column, is specific to man. We can say that scoliosis emerged when our ancestors became bipedal, and therefore, we must recognize that one factor which has determined man's predisposition to contract scoliosis is the different biomechanics of his spinal column.

  Web site: http://www.delphion.com/details?pn=US05192305__

- **Resting system**

  Inventor(s): Svensson; Mark (Sheffield, GB), Jenkins; Clive Charles (Sheffield, GB)

  Assignee(s): Jenx Limited (sheffield, Gb)

  Patent Number: 6,305,039

  Date filed: January 12, 2000

  Abstract: A resting system comprising a support (5) for supporting a resting means (4) on which a body can rest in relative comfort, wherein a support means (5) is provided comprising a support frame (5) having a plurality of channel forming means (7) and further wherein said resting means (4) includes a number of components and the junction between at least two of said components provides a further channel (9), aligned with said channel forming means (7), so that a securing/restraining means is able to move in said aligned channels (9); and at least one securing/restraining means including a portion which is adapted to move along said aligned channels (9) and a portion (3) which can be placed against a body to be secured/restrained so as to prevent excessive movement of said body; a kit for the adaptation of existing support means so as to provide the resting system; the use of the resting system in patient care in orthopaedics, neurology, neurosurgery, radiography, radiodtherapy, general surgery, rheumatology, **physiotherapy,** veterinary medicine/surgery, post-operative recovery, by the rescue and emergency service, the armed forces, sports medicine, or during care

of the elderly both at home and in nursing homes; and particularly the use for the avoidance of pressure development or the development of pressure sores.

Excerpt(s): The invention relates to a novel resting system and parts thereof, for use, particularly but not exclusively, in restricting movement of an individual resting thereon. There are situations when it is desirable to restrain or restrict the movement of an individual or animal during sleep and/or at rest and/or during convalescence. For example, individuals who have undergone extensive surgical procedures (this may also include animals that have undergone veterinary procedures), disabled individuals or individuals suffering from neurodegenerative/muscle/bone wasting diseases or the like, often necessitate placement in a restricted or semi-restricted position whilst at rest to aid either recovery or therapy or development and generally to increase their quality of life. Other situations where restriction of movement is desirable are in cases where individuals have developmental and/or neurological abnormalities such as, without limitation, brittle bone syndrome. In these cases it is important to be able to encourage, as far as possible, good postural development and it has been shown that this is aided by suitable positioning at all times.

Web site: http://www.delphion.com/details?pn=US06305039__

- **Spinal therapeutic device**

  Inventor(s): Garnies; Dieter (Bergisch Gladbach, DE)

  Assignee(s): Krahnen Gmbh (cologne, De)

  Patent Number: 5,730,706

  Date filed: October 29, 1996

  Abstract: For the treatment of spinal damage in medical **physiotherapy,** the patient's spine is stressed via the pelvis by longitudinal forces on the legs in such a way that the setting of displaced spinal components is promoted and the muscles are strengthened. With this device the tensile forces are applied to the feet by spring components which are tensioned by means of cables from the movements of the pins of linear movement components driven by an electric motor. The frequency and amplitude of these tensile forces can be changed via a control unit and thus phase shifts between the forces acting on the legs can be adjusted. During the exercises the patient can adjust the exercise programme by actuating controls connected to the supporting grips. The success of the therapy can be improved by fitting heating elements in the backrest to provide heat treatment for the patient's muscles.

  Excerpt(s): In order to treat damage to the human spine, e.g. to the intervertebral discs, and deformities, therapeutic devices are used in the field of **physiotherapy** which promote the setting of displaced spinal components and strengthen the muscles around them. The devices are primarily designed in such a way that the patient lies on a bench and is positioned by way of pelvic and head braces. His legs are raised and the feet attached via cables to a device mounted on one wall of the room. In this way, cable forces produce a stretching effect on the spine. With the patient in this position, diverse exercises are performed under the instruction of a therapist which influence the position of the spine and promote regeneration. In this context, exercises in which tensile forces applied to the feet stress the legs, the pelvis and finally the spine, prove to be particularly effective. In this case, both legs are used simultaneously, or alternately as in bike-riding. This treatment method usually requires a stationary treatment bench with auxiliary fixtures. A tension mechanism for positioning the legs is mounted on a wall

away from the bench and the tensile forces are generated by the therapist who performs the exercises with the patient.

Web site: http://www.delphion.com/details?pn=US05730706__

- **Submersive therapy apparatus**

  Inventor(s): Ostrow; Alvin Stewart (Raanana, IL)

  Assignee(s): Electromagnetic Bracing Systems, Ltd. (ra'anana, Il)

  Patent Number: 5,741,317

  Date filed: June 14, 1996

  Abstract: A submersive therapy apparatus which includes a tub filled with an aqueous solution adapted to provide **physiotherapy** and drug treatment to the body or body parts of a patient, such as the hands, arms, feet or knees, such aqueous environment containing a medicated fluid and/or other liquid medium. An array of stationary ultrasonic acoustic transducers are arrayed within the walls of the tub which are connected to movable ultrasound heads. The ultrasound heads are exposed on the surface of the inner tub walls to concentrate ultrasound energy on a body part target area. Additionally and alternatively to the delivery of ultrasound energy, rows of electrodes and coils are arranged around all sides of the inner walls or panels of the tub in alternating positive or negative polarities to deliver an electric current and/or provide an electromagnetic field.

  Excerpt(s): This invention resides generally in the field of medical appliances and more particularly relates to a medical appliance for the application of electrical and sound energy for therapeutic body treatment in a bath. The use of phonophoresis and iontophoresis for drug delivery has been known and recognized as an acceptable form of treatment. Submersive therapy devices utilizing phonophoresis and magnetotherapy are found in the prior art. Ultrasonic treatment devices are disclosed in U.S. Pat Nos. 3,585,991; 3,867,929; 5,042,479 and 5,339,804 having ultrasonic transducers which oscillate a liquid within a bath, but these devices do not provide for iontophoresis treatment. Among the previously discussed patents, "A Therapeutic Vibratory Bath" U.S. Pat No. 5,042,479 delivers selectable therapeutic treatment of acoustical, ultrasound or electromagnetic vibration protocols but also does not provide iontophoresis. U.S. Pat No. 5,344,384 discusses the uses of a "Magnetotherapy Apparaus" in combination with drug delivery but does not provide for submersive therapy.

  Web site: http://www.delphion.com/details?pn=US05741317__

- **Timing device for exercise program with signalling means**

  Inventor(s): Stephans; J. Larry (216-30 117TH Road, Cambria Heights, NY 11411)

  Assignee(s): None Reported

  Patent Number: 3,973,251

  Date filed: April 25, 1975

  Abstract: A **physiotherapy** timing and control device for instructing a patient to perform a prescribed program of exercise including a series of "exercise" periods each followed by a "rest" period at the start of which the patient is required to read and record his pulse, includes a spring-wound timer having a dial time-graduated in

intervals corresponding to the periods of the exercise program to provide visual guidance concerning the progress of the program, and signal generating means actuable in response to operation of the timer for generating an audible signal of relatively short duration at times corresponding to the start of an exercise period, and an audible signal of longer duration at times corresponding to the start of a rest period. In the preferred embodiment the longer audible signal has a duration of fifteen seconds so that a pulse count observed during the signal when multiplied by four gives the patient's pulse rate in beats per minute.

Excerpt(s): This invention relates to **physiotherapy** timing and control devices, and is more particularly concerned with a timing device for signalling a patient to perform a prescribed exercise program. The survivors of the approximately one million Americans who are stricken each year with heart attacks, and those who may be next in line for heart attack, can be helped by proper exercise therapy. Doctors have established that properly prescribed exercises such as walking, exercycling, jogging and swimming contribute significantly to rebuilding the cardiovascular capacity. Following a comprehensive evaluation of the heart patient's maximum exercise stress level, physicians are able to tailor a precise exercise program for the patient consistent with the test data. For maximum effectiveness, and to minimize risk to the patient, the exercise program must be accurately monitored, usually by the patient himself, and a record made of his pulse rate at prescribed times during the exercise program. For the pulse rate reading to be meaningful, it is necessary to maintain uniform, dependable and accurately timed conditions under which the pulse rate is observed and recorded, and in order that the timing of the exercise periods and recording of the pulse rate not interfere with the exercise being performed, the patient should not have to keep his eye on a watch or other timepiece to determine the "start" and "stop" of the exercise periods, nor observe the sweep second hand of a watch while reading his pulse in order to get an accurate pulse rate count. Since a typical exercise program may have a total duration of about forty minutes consisting of a "warm-up period" of ten minutes, a "heart stress" period divided into five "exercise" periods alternating with a like number of "rest" periods during a portion of each of which the pulse rate is observed, and a "cool down" period, the above-outlined method of monitoring the program would be especially cumbersome. It is an object of the present invention to provide an improved device for monitoring and instructing a patient to perform a prescribed exercise program, such as a cardiovascular stress exercise program.

Web site: http://www.delphion.com/details?pn=US03973251__

- **Topical formulations based on mineral gels**

  Inventor(s): Fanelli; Mauro (Marta, IT)

  Assignee(s): Geomedical S.r.l. (milan, It)

  Patent Number: 5,718,908

  Date filed: June 27, 1996

  Abstract: The present invention relates to topical formulations containing a gel or suspension obtainable by treatment of suitable pulverized minerals with aqueous solutions. The compositions of the invention can be used for the topical treatment of degenerative diseases of cartilage, and of skin damage due to ageing or exposure to electromagnetic radiation, associated with free radicals. The compositions of the invention find application in dermatology, **physiotherapy** and for cosmetic skin treatments.

Excerpt(s): This application is a continuation of PCT EPO 95112222.9 patented on Aug. 14, 1995. The present invention relates to topical formulations containing a gel or suspension obtainable by treatment of suitable pulverized minerals with aqueous solutions. The compositions of the invention can be used for the topical treatment of degenerative diseases of cartilage, and of skin damage due to ageing or to exposure to electromagnetic radiation, associated with free radicals. The compositions of the invention find application in dermatology, **physiotherapy** and for cosmetic treatments of the skin.

Web site: http://www.delphion.com/details?pn=US05718908__

- **Valve and oscillator for producing a pressure waveform**

  Inventor(s): Hayek; Zamir (10 Downage, London, GB NW4 1AA)

  Assignee(s): None Reported

  Patent Number: 6,708,691

  Date filed: January 10, 2000

  Abstract: A valve for controlling gas flow to ventilator or **physiotherapy** apparatus, has a body having first and second inlet ports and an outlet port. A shutter plate is rotatable with respect to said body and adapted selectively to interconnect said inlet ports to said outlet port. Said shutter plate is operable on rotation in a single sense to connect alternately said first inlet port to said outlet port and said second inlet port to said outlet port.

  Excerpt(s): The present invention relates to a valve for controlling gas flow to ventilator or **physiotherapy** apparatus. Examples of known valves for use in ventilation apparatus are discussed hereinbelow. It is therefore an object of the present invention to at least partially mitigate the disadvantages of the prior art.

  Web site: http://www.delphion.com/details?pn=US06708691__

Patent Applications on Physiotherapy

As of December 2000, U.S. patent applications are open to public viewing.[10] 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 physiotherapy:

- **Leg stretching apparatus**

  Inventor(s): Main, Ian; (Calgary, CA), Schneider, Deborah J.; (Belleville, IL), Schneider, Roy H.; (Belleville, IL)

  Correspondence: Edward Yoo C/o Bennett Jones; 1000 Atco Centre; 10035 - 105 Street; Edmonton, Alberta; AB; T5j3t2; CA

  Patent Application Number: 20020193710

  Date filed: May 8, 2002

[10] This has been a common practice outside the United States prior to December 2000.

Abstract: The invention provides for an apparatus for performing **physiotherapy,** in particular, it provides an apparatus for stretching the hind leg muscles in isolation from the other muscle groups. In accordance with the invention, the apparatus comprises a seat and backrest mounted to a base. Further, a moveable swing arm with a heel pad at the end is pivotally attached to the base. The swing arm is actuated by actuation means such that the heel pad moves in an arc. In use the user sits on the seat and places their heel on the heel pad. In the initial position the user's leg is bent. The swing arm is then moved to a position whereby the users leg is substantially straight. The leg is held in the straightened position for a period and then is returned to the bent position. The actuation means can be a manually operated hydraulic pump.

Excerpt(s): This application claims the benefit of Canadian Application No. 2,346,758 filed on May 9, 2001. The present invention relates to an apparatus for performing **physiotherapy.** In particular, it relates to an apparatus for stretching the hind muscles of the upper leg. In performing physical therapy to recover from an injury or enhance athletic performance, it is desirable to stretch certain muscle groups in isolation. Various stretching exercises are well known but must be performed with correct technique in order to be effective. If done incorrectly, the patient or athlete may suffer injury or may not achieve the benefit of the stretching exercise.

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

- **Physiotherapy bench**

Inventor(s): Herman, Peter; (Newquay, GB), Taylor, Robert; (Bolingey, GB)

Correspondence: Finnegan, Henderson, Farabow; Garrett & Dunner, L.L.P.; 1300 I Street, N.W.; Washington; DC; 20005-3315; US

Patent Application Number: 20020095182

Date filed: August 29, 2001

Abstract: A **physiotherapy** bench includes a frame supported by legs in an elevated, use position, and an arcuate body supporting panel on the frame. The supporting panel includes a substantially horizontal front end for supporting the chest of a patient, and an inclined rear end for supporting the hips and the upper portion of the legs of a patient, whereby the spine is subjected to gentle traction. A headrest is resiliently connected to the front end of the frame for floating support of the head of a patient.

Excerpt(s): This application claims priority under 35 U.S.C.sctn. 119 based on Canadian Application No. 2,317,156, filed Aug. 30, 2000, and on U.S. Provisional Application No. 60/229,046, filed Aug. 31, 2000, the complete disclosures of both are incorporated by reference. This invention relates to a **physiotherapy** bench. People suffering from back pain and in particular lower back pain, sometimes require **physiotherapy** treatment. Such treatment is usually carried out while the patient lies in a prone position on a horizontal **physiotherapy** bench having a flat supporting panel. It has been found that a flat surface causes the spine joints in the lower back to undergo compression when the patient is in the prone position. Compression of the spine can increase a patient's discomfort and make treatment difficult. Back pain is best treated when the spine is in an uncompressed or "neutral" position.

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

- **Rubber ball for physical training, warm-up exercise, and physiotherapy**

  Inventor(s): Chen, Sung-Yeng; (Taipei City, TW)

  Correspondence: Rosenberg, Klein & Lee; 3458 Ellicott Center Drive-suite 101; Ellicott City; MD; 21043; US

  Patent Application Number: 20020098929

  Date filed: January 23, 2001

  Abstract: A rubber ball designed for physical training, warm-up exercise, and **physiotherapy,** having an inflatable bladder and a laminated covering covered on the periphery of the bladder, the laminated covering being formed by: adhering a plurality of rubber strips to the bladder and then treating the rubber strips with a vulcanization process, the laminated covering being thicker and harder than the bladder.

  Excerpt(s): The present invention relates to balls and, more specifically, to a rubber ball, which is suitable for physical training, warm-up exercise, and **physiotherapy.** Regular sports balls, for example, basketballs, volleyballs, tennis balls, and etc., are commonly designed for a particular game. These conventional sports balls are not suitable for people of all ages. Therefore, conventional ball games are not suitable for the aged or disabled persons. Further, when exercising the body or performing **physiotherapy,** physical exercising machines or mechanical apparatus may be used. However, it is dangerous to use physical exercising machines or mechanical apparatus. Further, most conventional physical exercising machines and mechanical apparatus are not suitable for the aged persons, the young children, and the disabled persons. The present invention has been accomplished under the circumstances in view. It is one object of the present invention to provide a rubber ball, which is suitable for the aged persons and children as well as disabled persons for **physiotherapy.** It is another object of the present invention to provide a rubber ball, which is suitable for physical training and warm-up exercise. To achieve these and other objects of the present invention, the rubber ball is comprised of a bladder, and a laminated covering covered on the bladder. The bladder and the covering are made of rubber treated with different vulcanization processes. The covering is relatively harder and thicker than the bladder.

  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 physiotherapy, 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 "physiotherapy" (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 physiotherapy.

You can also use this procedure to view pending patent applications concerning physiotherapy. 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 7. BOOKS ON PHYSIOTHERAPY

Overview

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

Book Summaries: Federal Agencies

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

- **Urinary Sphincter**

  Source: New York, NY: Marcel Dekker, Inc. 2001. 872 p.

  Contact: Available from Marcel Dekker, Inc. Cimarron Road, P.O. Box 5005, Monticello, NY 12701. (800) 228-1160 or (845) 796-1919. Fax (845) 796-1772. E-mail: custserv@dekker.com. International E-mail: intlcustserv@dekker.com. Website: www.dekker.com. PRICE: $225.00 plus shipping and handling. ISBN: 0824704770.

  Summary: The urinary sphincter is the key to understanding both normal and abnormal function of the lower urinary tract. Its relationships with the bladder, the pelvic floor, and the bony structures of the pelvis are complex and incompletely understood. This textbook presents a detailed and systematic account of the current knowledge on the anatomy, physiology, functional relationships, and range of dysfunctions that affect the urinary sphincter. This methodical approach is continued in the chapters on the

evaluation of sphincter function and the range of treatments available for the principal types of sphincter dysfunction. The text offers 47 chapters in six parts. The first part describes the anatomy and function of the male and female sphincteric mechanism as well as its interconnections with the pelvic floor. References to embryology and observations in infancy contribute to a better understanding of different pathological phenomena in adults and elderly subjects. The second part, reviews the epidemiology of the dysfunctional sphincter and analyzes the pathophysiology of three possible functional abnormalities of the urinary sphincter (incompetency, hypertony, or increased muscle tone or strength, and dyssynergia, a disturbance in muscular coordination) as well as the behavior of the sphincter when associated with genital prolapse in females. Evaluation and diagnosis of sphincter competency is the focus of the third section, which covers clinical, urodynamic, electrophysiological, and imaging techniques. Treatment options are fully described in the fourth part of the book. A great deal of information is provided on lifestyle interventions, **physiotherapy,** disposable devices, pharmacological therapy, and intermittent catheterization. The surgical approach constitutes a large part of this section, including recent techniques, such as injectables, and different sling procedures that have now been widely adopted by the scientific community. The fifth part of the book is a synthesis of the treatment of three possible sphincteric dysfunctions: the incompetent, the dyssynergic, and the overactive sphincter. Finally, the sixth part of the book is a compilation of reports published so far on the standardization of terminology, methodology, and outcome measures elaborated by the International Continence Society. Each chapter concludes with extensive references; a detailed subject index concludes the text.

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 "physiotherapy" at online booksellers' Web sites, you may discover non-medical books that use the generic term "physiotherapy" (or a synonym) in their titles. The following is indicative of the results you might find when searching for "physiotherapy" (sorted alphabetically by title; follow the hyperlink to view more details at Amazon.com):

- **A Career in Physiotherapy** by Mary French; ISBN: 0713453354; http://www.amazon.com/exec/obidos/ASIN/0713453354/icongroupinterna
- **Aids to Physiotherapy (ATSS)** by J M Lee; ISBN: 0443015813; http://www.amazon.com/exec/obidos/ASIN/0443015813/icongroupinterna
- **Anatomy, physiology, pathology and bacteriology for students of physiotherapy, occupational therapy and gymnastics** by C. F. V. Smout; ISBN: 0713141298; http://www.amazon.com/exec/obidos/ASIN/0713141298/icongroupinterna
- **Applied Physiotherapy: Practical Clinical Applications With Emphasis on the Management of Pain and Related Symptoms** by Paul A. Jaskoviak, R. C. Schafer; ISBN: 0960661824; http://www.amazon.com/exec/obidos/ASIN/0960661824/icongroupinterna

- **Basic Biomechanics Explained (Physiotherapy Practice Explained)** by John Low, Ann Reed; ISBN: 0750621036;
  http://www.amazon.com/exec/obidos/ASIN/0750621036/icongroupinterna
- **Cash's Textbook of Physiotherapy in Some Surgical Conditions** by Joan Elizabeth Cash; ISBN: 0397582595;
  http://www.amazon.com/exec/obidos/ASIN/0397582595/icongroupinterna
- **Chest Physiotherapy in the Intensive Care Unit** by Colin F. MacKenzie, et al; ISBN: 0683053299;
  http://www.amazon.com/exec/obidos/ASIN/0683053299/icongroupinterna
- **Chest Physiotherapy in the Intensive Care Unit**; ISBN: 0683053280;
  http://www.amazon.com/exec/obidos/ASIN/0683053280/icongroupinterna
- **Electrotherapy Explained: Principles and Practice (Physiotherapy Practice Explained)** by John Low, Ann Reed; ISBN: 0750609729;
  http://www.amazon.com/exec/obidos/ASIN/0750609729/icongroupinterna
- **Elements of Pediatric Physiotherapy** by Pamela M. Eckersley (Editor); ISBN: 0443038945;
  http://www.amazon.com/exec/obidos/ASIN/0443038945/icongroupinterna
- **Evaluation of Physiotherapy for People with Stroke: Report of a Workshop on Appropriate Outcomes of Physiotherapy for People with Stroke** by Cecily Partridge; ISBN: 1857170741;
  http://www.amazon.com/exec/obidos/ASIN/1857170741/icongroupinterna
- **Getting into Physiotherapy (Getting Into.)** by Laurel Alexander, et al; ISBN: 0856608556;
  http://www.amazon.com/exec/obidos/ASIN/0856608556/icongroupinterna
- **Getting into Physiotherapy Courses (Getting into Series)**; ISBN: 0856608181;
  http://www.amazon.com/exec/obidos/ASIN/0856608181/icongroupinterna
- **Human Movement: An Introductory Text for Physiotherapy Students** by P.M. Galley, A.L. Forster; ISBN: 0443033900;
  http://www.amazon.com/exec/obidos/ASIN/0443033900/icongroupinterna
- **In Good Hands: The History of the Chartered Society of Physiotherapy 1894-1994** by Jean Barclay; ISBN: 0750617454;
  http://www.amazon.com/exec/obidos/ASIN/0750617454/icongroupinterna
- **Intensive Care Physiotherapy** by R.M.Fowler, G.J.Dobb; ISBN: 0340553979;
  http://www.amazon.com/exec/obidos/ASIN/0340553979/icongroupinterna
- **Key Issues in Cardiorespiratory Physiotherapy (Physiotherapy: Foundations for Practice)** by Elizabeth Ellis, Jennifer Alison (Editor); ISBN: 0750601736;
  http://www.amazon.com/exec/obidos/ASIN/0750601736/icongroupinterna
- **Key Issues in Musculoskeletal Physiotherapy (Physiotherapy: Foundations for Practice)** by Jack Crosbie (Editor), Jennifer McConnell (Editor); ISBN: 0750601779;
  http://www.amazon.com/exec/obidos/ASIN/0750601779/icongroupinterna
- **Key Issues in Neurological Physiotherapy (Physiotherapy - Foundations for Practice)** by Louise Ada (Editor), Colleen Canning (Editor); ISBN: 0433001569;
  http://www.amazon.com/exec/obidos/ASIN/0433001569/icongroupinterna
- **Legal Aspects of Physiotherapy** by Bridgit Dimond; ISBN: 0632051086;
  http://www.amazon.com/exec/obidos/ASIN/0632051086/icongroupinterna

- **Management in Physiotherapy** by Robert J. Jones (Editor); ISBN: 1870905814; http://www.amazon.com/exec/obidos/ASIN/1870905814/icongroupinterna
- **Movement in Space: Physiotherapy for Children** by Voula Castan; ISBN: 0829009671; http://www.amazon.com/exec/obidos/ASIN/0829009671/icongroupinterna
- **Neurological Physiotherapy** by Lisa Odham Stokes, Maria Stokes; ISBN: 0723425930; http://www.amazon.com/exec/obidos/ASIN/0723425930/icongroupinterna
- **Pain Management and Control in Physiotherapy** by E. Peter Wells; ISBN: 043300004X; http://www.amazon.com/exec/obidos/ASIN/043300004X/icongroupinterna
- **Pain Management by Physiotherapy** by Peter Wells BA FCSP DipTP SRP, et al; ISBN: 0750630841; http://www.amazon.com/exec/obidos/ASIN/0750630841/icongroupinterna
- **Pain: Management and Control in Physiotherapy** by Peter Wells (Editor), et al; ISBN: 0750604735; http://www.amazon.com/exec/obidos/ASIN/0750604735/icongroupinterna
- **Physics in Physiotherapy**; ISBN: 0904181235; http://www.amazon.com/exec/obidos/ASIN/0904181235/icongroupinterna
- **Physiotherapy and People with Learning Difficulties** by Patricia Odunmbaku Auty; ISBN: 0859416631; http://www.amazon.com/exec/obidos/ASIN/0859416631/icongroupinterna
- **Physiotherapy Assessment** by A. Parry; ISBN: 0412380609; http://www.amazon.com/exec/obidos/ASIN/0412380609/icongroupinterna
- **PHYSIOTHERAPY COMMUNITY** by GIBSON; ISBN: 0859414124; http://www.amazon.com/exec/obidos/ASIN/0859414124/icongroupinterna
- **Physiotherapy Disorders of the Brain** by Janet H. Carr, Roberta B. Shepherd; ISBN: 0750601205; http://www.amazon.com/exec/obidos/ASIN/0750601205/icongroupinterna
- **Physiotherapy for Amputees: The Roehampton Approach** by Barbara Engstrom, Cahterine Van De Ven; ISBN: 0443029180; http://www.amazon.com/exec/obidos/ASIN/0443029180/icongroupinterna
- **Physiotherapy Home Programmes for Children with Motor Delay** by Sarah Crombie; ISBN: 0863881718; http://www.amazon.com/exec/obidos/ASIN/0863881718/icongroupinterna
- **Physiotherapy in artificial respiration** by Peter Jeffrey Waddington; ISBN: 0443006199; http://www.amazon.com/exec/obidos/ASIN/0443006199/icongroupinterna
- **Physiotherapy in Cerebral Palsy: A Handbook** by Sophie Levitt; ISBN: 039804337X; http://www.amazon.com/exec/obidos/ASIN/039804337X/icongroupinterna
- **Physiotherapy in Disorders of the Brain** by Janet H. Carr, Roberta B. Shepherd; ISBN: 0894436562; http://www.amazon.com/exec/obidos/ASIN/0894436562/icongroupinterna
- **Physiotherapy in Disorders of the Brain**; ISBN: 0894336568; http://www.amazon.com/exec/obidos/ASIN/0894336568/icongroupinterna
- **Physiotherapy in Disorders of the Brain: A Clinical Guide** by Janet Carr, Roberta B. Shepherd; ISBN: 0433301309; http://www.amazon.com/exec/obidos/ASIN/0433301309/icongroupinterna

- **Physiotherapy in Obstetrics and Gynecology** by Margaret Polden, et al; ISBN: 0750600160;
  http://www.amazon.com/exec/obidos/ASIN/0750600160/icongroupinterna
- **Physiotherapy in Occupational Health: Management, Prevention and Health Promotion in the Work Place** by Barbara Richardson, Alfreda Eastlake (Editor); ISBN: 0750609656;
  http://www.amazon.com/exec/obidos/ASIN/0750609656/icongroupinterna
- **Physiotherapy in Psychiatry** by Mary Hare; ISBN: 0433132809;
  http://www.amazon.com/exec/obidos/ASIN/0433132809/icongroupinterna
- **Physiotherapy in Respiratory Care** by A. Hough; ISBN: 041262320X;
  http://www.amazon.com/exec/obidos/ASIN/041262320X/icongroupinterna
- **Physiotherapy in Respiratory Care: A Problem-Solving Approach** by Alexandra Hough; ISBN: 1565930118;
  http://www.amazon.com/exec/obidos/ASIN/1565930118/icongroupinterna
- **Physiotherapy in Rheumatology** by Sylvia A. Hyde; ISBN: 0632003731;
  http://www.amazon.com/exec/obidos/ASIN/0632003731/icongroupinterna
- **Physiotherapy in some surgical conditions** by Joan E. Cash; ISBN: 0571049117;
  http://www.amazon.com/exec/obidos/ASIN/0571049117/icongroupinterna
- **Physiotherapy in Stroke Management** by Marilyn A. Harrison; ISBN: 044305228X;
  http://www.amazon.com/exec/obidos/ASIN/044305228X/icongroupinterna
- **Physiotherapy in the Community** by Ann Gibson; ISBN: 0859414469;
  http://www.amazon.com/exec/obidos/ASIN/0859414469/icongroupinterna
- **Physiotherapy in Veterinary Medicine** by Mary W. Bromiley; ISBN: 0632028335;
  http://www.amazon.com/exec/obidos/ASIN/0632028335/icongroupinterna
- **Physiotherapy on the Horse** by Detley Riede; ISBN: 3790504815;
  http://www.amazon.com/exec/obidos/ASIN/3790504815/icongroupinterna
- **Physiotherapy With Older People** by Compton Pickles, et al; ISBN: 0702019313;
  http://www.amazon.com/exec/obidos/ASIN/0702019313/icongroupinterna
- **Physiotherapy: 214 Exercises for the Lower Limb: Handbook 3 (Physiotherapy Photocopy Handbooks)**; ISBN: 0863881521;
  http://www.amazon.com/exec/obidos/ASIN/0863881521/icongroupinterna
- **Physiotherapy: A Psychosocial Approach** by Sally French (Editor), Julius Sim (Editor); ISBN: 0750653299;
  http://www.amazon.com/exec/obidos/ASIN/0750653299/icongroupinterna
- **Postural and relaxation training in physiotherapy and physical education** by John H. C. Colson; ISBN: 0433063009;
  http://www.amazon.com/exec/obidos/ASIN/0433063009/icongroupinterna
- **Q & A: Physiotherapy (Questions and Answers Series)**; ISBN: 0856602787;
  http://www.amazon.com/exec/obidos/ASIN/0856602787/icongroupinterna
- **Questions and Answers: Careers in Physiotherapy (A Questions and Answers Careers Book)**; ISBN: 0856606626;
  http://www.amazon.com/exec/obidos/ASIN/0856606626/icongroupinterna

- **Rehabilitation <196> Accommodation for Physiotherapy, Occupational Therapy and Speech Therapy (Health Building Note)**; ISBN: 0113213867; http://www.amazon.com/exec/obidos/ASIN/0113213867/icongroupinterna
- **Rheumatological Physiotherapy** by Carol David, Jill Lloyd; ISBN: 0723425949; http://www.amazon.com/exec/obidos/ASIN/0723425949/icongroupinterna
- **Self-help physiotherapy** by Robert Bristow; ISBN: 0571104851; http://www.amazon.com/exec/obidos/ASIN/0571104851/icongroupinterna
- **Social Security Acts (Northern Ireland): Incapacity for Work - Undergoing Physiotherapy (Decisions of the Commissioners)**; ISBN: 0337074232; http://www.amazon.com/exec/obidos/ASIN/0337074232/icongroupinterna
- **Sports Physiotherapy: Applied Science and Practice** by Maria Zuluaga, Joan McMeeken; ISBN: 0443048045; http://www.amazon.com/exec/obidos/ASIN/0443048045/icongroupinterna
- **The Brompton Hospital Guide to Chest Physiotherapy** by B. Webber; ISBN: 0632019786; http://www.amazon.com/exec/obidos/ASIN/0632019786/icongroupinterna
- **The Brompton Hospital guide to chest physiotherapy** by D. V. Gaskell; ISBN: 0632096705; http://www.amazon.com/exec/obidos/ASIN/0632096705/icongroupinterna
- **The Physiological Basis of Physiotherapy** by Sloan; ISBN: 0702007250; http://www.amazon.com/exec/obidos/ASIN/0702007250/icongroupinterna
- **Therapy Outcome Measures Manual: Physiotherapy, Occupational Therapy, Rehabilitation Nursing** by Alexandra John, et al; ISBN: 1565939956; http://www.amazon.com/exec/obidos/ASIN/1565939956/icongroupinterna
- **Tidy's Physiotherapy**; ISBN: 0723604584; http://www.amazon.com/exec/obidos/ASIN/0723604584/icongroupinterna
- **Tidy's Physiotherapy** by Stuart B. Porter (Editor), A. M. Thomson (Editor); ISBN: 0750632119; http://www.amazon.com/exec/obidos/ASIN/0750632119/icongroupinterna
- **Towards recovery: a career in physiotherapy** by P. A. J. Waddington; ISBN: 0852257414; http://www.amazon.com/exec/obidos/ASIN/0852257414/icongroupinterna
- **Understanding Physiotherapy Staffing Levels** by J. Stock, I. Seccombe; ISBN: 1851841490; http://www.amazon.com/exec/obidos/ASIN/1851841490/icongroupinterna
- **Use of Single Case Research Designs in Rehabilitation Studies: A Special Issue of Physiotherapy Theory and Practice** by Jane Riddoch (Editor), et al; ISBN: 0863771645; http://www.amazon.com/exec/obidos/ASIN/0863771645/icongroupinterna

Chapters on Physiotherapy

In order to find chapters that specifically relate to physiotherapy, an excellent source of abstracts is the Combined Health Information Database. You will need to limit your search to book chapters and physiotherapy 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 "physiotherapy" (or synonyms) into the "For these words:" box. The following is a typical result when searching for book chapters on physiotherapy:

- **Pros and Cons of Passive Physical Therapy Modalities for Neck Disorders**

  Source: in Allen, M.E., Ed. Musculoskeletal Pain Emanating From the Head and Neck: Current Concepts in Diagnosis, Management and Cost Containment. Binghamton, NY: The Haworth Medical Press. 1996. p. 125-134.

  Contact: Haworth Document Delivery Service, Haworth Press, Inc., 10 Alice Street, Binghamton, NY 13904-1580. (800) 342-9678. (800) 895-0582 (fax).

  Summary: This chapter for health professionals presents the pros and cons of passive physical therapy modalities, on the basis of the existing body of evidence, for the management of neck disorders. Evidence suggests that the pros of these modalities are that they provide a unique occasion to reassure the patient and to remind him or her about the necessity of keeping active and staying at work as long as it does not further harm the neck condition. The cons of passive modalities are that they may lead the patient into adopting a passive role and reinforce inactivity and disability behavior. Of all the passive physical therapy modalities, only mobilization/manipulation have shown some evidence of effectiveness. The impression that manual therapy and **physiotherapy** may be more efficacious than medicine in the management of neck disorders may be explained by the patient's desire for a more holistic approach which includes personal and physical contact. 18 references and 4 tables. (AA-M).

- **Arthritis Associated with Inflammatory Bowel Disease**

  Source: in Bayless, T.M. and Hanauer, S.B. Advanced Therapy of Inflammatory Bowel Disease. Hamilton, Ontario: B.C. Decker Inc. 2001. p. 279-282.

  Contact: Available from B.C. Decker Inc. 20 Hughson Street South, P.O. Box 620, L.C.D. 1 Hamilton, Ontario L8N 3K7. (905) 522-7017 or (800) 568-7281. Fax (905) 522-7839. Email: info@bcdecker.com. Website: www.bcdecker.com. PRICE: $129.00 plus shipping and handling. ISBN: 1550091220.

  Summary: This chapter on arthritis associated with inflammatory bowel disease (IBD) is from the second edition of a book devoted to the details of medical, surgical, and supportive management of patients with Crohn's disease (CD) and ulcerative colitis (UC), together known as IBD. Arthritis is a relatively common complication of UC and CD, affecting 10 to 20 percent of patients. Arthritis may predate the bowel disease and may be severe enough to warrant treatment in its own right, perhaps with nonsteroidal anti-inflammatory drugs (NSAIDs). This may, itself, exacerbate the underlying bowel disease. In this chapter, the different forms of arthritis associated with IBD are identified and their management discussed in terms of their prognosis, possible modes of treatment, and when expert help should be sought. With the exception of ankylosing spondylitis (AS, fusion of the vertebral facet joints), the IBD associated joint disease is largely non deforming and non progressive, and so can be managed symptomatically, although the use of NSAIDs should be avoided. Management involves judicious use of physical treatments (rest, range of movement exercises, and physiotherapy) in addition to pharmacological treatments. Patients with AS or persistent or erosive peripheral joint disease should be referred to a rheumatologist. 2 tables. 6 references.

- **Chapter 27: Reflex Sympathetic Dystrophy and Transient Regional Osteoporosis**

  Source: in Klippel, J.H., et al., eds. Primer on the Rheumatic Diseases. 12th ed. Atlanta, GA: Arthritis Foundation. 2001. p. 451-454.

  Contact: Available from Arthritis Foundation. P.O. Box 1616, Alpharetta, GA 30009-1616. (800) 207-8633. Fax (credit card orders only) (770) 442-9742. Website: www.arthritis.org. PRICE: $69.95 plus shipping and handling. ISBN: 0912423293.

  Summary: This chapter provides health professionals with information on the epidemiology, pathogenesis, clinical features, diagnosis, and treatment of reflex sympathetic dystrophy (RSD) and the clinical features, diagnosis, and treatment of transient regional osteoporosis. RSD is a symptom complex characterized by severe pain, swelling, and autonomic dysfunction in an extremity. RSD has been observed in every race and geographic location. Although RSD occurs most commonly in people 40 to 60 years old, it can occur in children and the elderly. Current hypotheses on the mechanisms that lead to the development of RSD are based on two different processes: altered sympathetic outflow and regional inflammation. The most prominent and disabling feature of RSD is an intense, deep, chronic burning sensation exacerbated by movement, dependent posture, and emotional stress. Hand or foot involvement is most common. Local edema and vasomotor changes often accompany the pain. The clinical stages of RSD have been identified. Stage 1 lasts 3 to 6 months and is characterized by pain, hypersensitivity, swelling, and vasomotor changes that lower or raise the temperature in the extremity. Stage 2 is characterized by persistent pain, disability, and atrophic skin changes. Stage 3 features atrophy of subcutaneous tissues and, often, contractures. Diagnosis is based on recognition of the clinical features. Although there are no defining laboratory abnormalities, plain radiographs, bone scans, thermography, and autonomic function studies can help support the diagnosis. Various modalities have been used to treat RSD. Pain control is achieved through the use of narcotic analgesics. Antidepressant medications also provide pain relief and improve depressive symptoms. Oral corticosteroids have proved very effective in the management of RSD. **Physiotherapy** is used to mobilize the affected extremity and lessen local edema. Sympathetic nerve blockade is a popular treatment for RSD, but no controlled studies demonstrating long term efficacy have been conducted. The syndrome of transient regional osteoporosis, seen mainly in young and middle aged persons, manifests as monarticular or oligoarticular pain accompanied by osteopenia of the affected joint. The syndrome is more common in men than in women. Diagnosis is based on the presence of joint pain, diminished joint mobility, and localized osteopenia on plain radiographs. Treatment consists of avoiding weight bearing and taking analgesics. Corticosteroids are not beneficial. Although most patients recover completely in several weeks, recurrence is common. 2 figures, 2 tables, and 25 references.

- **Benign Paroxysmal Positional Vertigo: Diagnosis and Treatment**

  Source: in Sharpe, J.A. and Barber, H.O., eds. Vestibulo-Ocular Reflex and Vertigo. New York, NY: Raven Press, Ltd. 1993. p. 347-354.

  Contact: Available from Raven Press, Ltd. 1185 Avenue of the Americas, New York, NY 10036. (800) 77-RAVEN or (212) 930-9500. PRICE: $115.00 plus shipping and handling. ISBN: 0881679550.

  Summary: This chapter, from a medical textbook on the vestibulo-ocular reflex, otolithic and otolith-ocular function, presents an overview of the diagnosis and treatment of benign paroxysmal positional vertigo (BPPV). The book is directed to vestibular physiologists, otologists, neurologists, and internists actively engaged in treating

patients with dizziness and balance disturbance and to therapists providing exercise programs for vestibular rehabilitation. The author of this chapter discusses the diagnosis of BPPV; its pathophysiology; and treatment options, including patient reassurance, avoidance of head movements that induce the attacks, **physiotherapy,** liberatory maneuvers, and surgical treatment. 3 figures. 37 references.

CHAPTER 8. PERIODICALS AND NEWS ON PHYSIOTHERAPY

Overview

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

News Services and Press Releases

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

- **Corticosteroid injection plus physiotherapy most effective for adhesive capsulitis**
  Source: Reuters Medical News
  Date: April 10, 2003
- **Physiotherapy intervention improves breathing in asthma patients**
  Source: Reuters Medical News
  Date: February 21, 2003

- **Short or long term advantage seen with steroids, physiotherapy for lateral epicondylitis**
  Source: Reuters Medical News
  Date: February 21, 2002
- **Levodopa combined with physiotherapy enhances recovery after stroke**
  Source: Reuters Industry Breifing
  Date: September 06, 2001
- **Physiotherapy improves mobility, subjective well-being in patients with MS**
  Source: Reuters Medical News
  Date: February 13, 2001
- **Physiotherapy benefits patients with anterior knee pain**
  Source: Reuters Medical News
  Date: September 20, 2000

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/alphanews_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 "physiotherapy" (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 "physiotherapy" (or synonyms). If you know the name of a company that is relevant to

physiotherapy, 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 "physiotherapy" (or synonyms).

Academic Periodicals covering Physiotherapy

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

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

APPENDICES

APPENDIX A. PHYSICIAN RESOURCES

Overview

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

NIH Guidelines

Commonly referred to as "clinical" or "professional" guidelines, the National Institutes of Health publish physician guidelines for the most common diseases. Publications are available at the following by relevant Institute[11]:

- 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/**

[11] 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.[12] 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:[13]

- **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**

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[12] Remember, for the general public, the National Library of Medicine recommends the databases referenced in MEDLINE*plus* (**http://medlineplus.gov/** or **http://www.nlm.nih.gov/medlineplus/databases.html**).

[13] See **http://www.nlm.nih.gov/databases/databases.html**.

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

The NLM Gateway[14]

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.[15] To use the NLM Gateway, simply go to the search site at **http://gateway.nlm.nih.gov/gw/Cmd**. Type "physiotherapy" (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	98126
Books / Periodicals / Audio Visual	2291
Consumer Health	749
Meeting Abstracts	73
Other Collections	25
Total	101264

HSTAT[16]

HSTAT is a free, Web-based resource that provides access to full-text documents used in healthcare decision-making.[17] 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.[18] Simply search by "physiotherapy" (or synonyms) at the following Web site: **http://text.nlm.nih.gov**.

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[14] Adapted from NLM: **http://gateway.nlm.nih.gov/gw/Cmd?Overview.x**.

[15] 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).

[16] Adapted from HSTAT: **http://www.nlm.nih.gov/pubs/factsheets/hstat.html**.

[17] The HSTAT URL is **http://hstat.nlm.nih.gov/**.

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

Coffee Break: Tutorials for Biologists[19]

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.[20] 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.[21] This site has new articles every few weeks, so it can be considered an online magazine of sorts. It is intended for general background information. You can access the Coffee Break Web site at the following hyperlink: **http://www.ncbi.nlm.nih.gov/Coffeebreak/**.

Other Commercial Databases

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

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

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[19] Adapted from **http://www.ncbi.nlm.nih.gov/Coffeebreak/Archive/FAQ.html**.

[20] 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.

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

APPENDIX B. PATIENT RESOURCES

Overview

Official agencies, as well as federally funded institutions supported by national grants, frequently publish a variety of guidelines written with the patient in mind. These are typically called "Fact Sheets" or "Guidelines." They can take the form of a brochure, information kit, pamphlet, or flyer. Often they are only a few pages in length. Since new guidelines on physiotherapy 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 physiotherapy. 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 physiotherapy. 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 "physiotherapy":

Critical Care
http://www.nlm.nih.gov/medlineplus/criticalcare.html

Guillain-Barre Syndrome
http://www.nlm.nih.gov/medlineplus/guillainbarresyndrome.html

Meningitis
http://www.nlm.nih.gov/medlineplus/meningitis.html

Peripheral Nerve Disorders
http://www.nlm.nih.gov/medlineplus/peripheralnervedisorders.html

Spina Bifida
http://www.nlm.nih.gov/medlineplus/spinabifida.html

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

The Combined Health Information Database (CHID)

CHID Online is a reference tool that maintains a database directory of thousands of journal articles and patient education guidelines on physiotherapy. 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:

- **Ataxia-Telangiectasia: A Guide to Therapies**

  Source: Harpenden, Herts, United Kingdom: Ataxia-Telangiectasia Society. 199x. 22 p.

  Contact: Available from A-T Project. 3002 Enfield Road, Austin, TX 78703. (512) 323-5161. E-mail: mhoward@atproject.org. Website: www.atproject.org. PRICE: Single copy free.

  Summary: Ataxia-telangiectasia (A-T) is a rare genetic progressive disorder that first shows itself in children between the ages of one and five. The condition has two obvious clinical features: ataxia, the loss of balance and coordination; and telangiectasia, web-like prominent blood vessels most commonly found in the whites of the eyes (making them look bloodshot). A-T can also affect a child's immune system and can increase the child's risk of leukemia and some cancers. This document includes three papers that discuss the therapies that may be used in children with A-T: **physiotherapy,** occupational therapy, and speech and language therapy. The **physiotherapy** section discusses the motor development of children, the cognitive development of children, the neurology of A-T, implications for the physiotherapist, the aims of **physiotherapy,** and how to introduce the newly diagnosed child with A-T to **physiotherapy.** The section on occupational therapy discusses deterioration in the child's abilities, communication strategies, mobility, personal independence, and planning for the future. The final

section briefly reviews speech and language problems in A-T, including poor breathing patterns and articulation, dysarthria, problems with sight (which can impact reading), hand control, and the impact of fatigue. Each section offers specific suggestions for parents or caregivers to employ when working with children or adults with A-T.

- **Disorders Related to Excessive Pelvic Floor Muscle Tension**

  Source: Milwaukee, WI: International Foundation for Functional Gastrointestinal Disorders. 1993. 2 p.

  Contact: Available from International Foundation for Functional Gastrointestinal Disorders (IFFGD). P.O. Box 170864, Milwaukee, WI 53217. (888) 964-2001 or (414) 964-1799. Fax (414) 964-7176. E-mail: iffgd@iffgd.org. Website: www.iffgd.org. PRICE: $0.50.

  Summary: Disorders which have excessive pelvic floor muscle activity as their primary feature are often not recognized and diagnosed by physicians. This fact sheet briefly explains the role of the pelvic floor muscles and some symptoms related to the presence of elevated tension in these muscles, and then describes various treatment options available. The pelvic floor muscles are normally under voluntary control and the involuntary smooth muscle of the bladder, rectum, and colon is actually inhibited through the voluntary contraction of the pelvic floor muscles. The author considers the disorders that are associated with elevated levels of pelvic muscle activity, including proctalgia fugax, levator ani syndrome, cocccydinia, pelvic floor tension myalgia, anismus, and voiding dysfunction. Excessive pelvic floor muscle tension can also contribute to the development of various other conditions. When one defecates and strains against an unrelaxed and closed anal canal, a considerable mechanical stress is placed upon the structures of the pelvic floor. Over time, chronic straining can advance the development of anal fissures, hemorrhoids, rectocele, solitary rectal ulcer, and perineal descent. Biofeedback is a promising treatment for disorders related to excessive pelvic floor tension because it has the potential to alter the disordered muscle activity, changing life-long muscle patterns toward those associated with healthy bowel and bladder habits. Other conservative treatments include **physiotherapy** modalities such as rectal diathermy, hydrotherapy, massage, and postural adjustments. Drug therapy can also be utilized. The author encourages readers to obtain a thorough evaluation and diagnosis of any potential pelvic muscle dysfunction. (AA-M).

- **Parkinson Patient At Home**

  Source: New York, NY: The Parkinson's Disease Foundation, Inc. 1992. 21 p.

  Contact: Parkinson's Disease Foundation, Inc. William Black Medical Research Building, Columbia-Presbyterian Medical Center, 650 West 168th Street, New York, NY 10032. (800) 457-6676 or (212) 923-4700. Price: Single copy free.

  Summary: This pamphlet is designed to provide information to patients with Parkinson's disease and their families on achieving better adjustments to home living. The author's goal is to make patients as comfortable and contented as possible in spite of their disease and to increase the understanding of their families. Topics covered include the importance of informing patients and families; preventing falls in the home; the need for extra time to accomplish tasks of everyday living; meals and food; diet and nutrition; maintaining weight; dental care; chairs and bed; clothes; toileting; home environment considerations; exercise and **physiotherapy;** travel; driving a car; morale; sleep and nights; hobbies; and medicines at home. A brief dental care section discusses dental hygiene; self-care; preventive maintenance; and assistive devices. The brochure includes the contact information for the Parkinson's Disease Foundation.

- **Urinary Incontinence in Adult Women**

  Source: Denver, CO: Colorado Gynecology and Continence Center. 199x. 2 p.

  Contact: Available from Colorado Gynecology and Continence Center. 1721 E. 19th Avenue, Suite 302, Denver, CO 80218. (303) 831-0500. Fax (303) 831-6111. PRICE: Single copy free.

  Summary: This patient education brochure provides women with basic information about urinary incontinence. Focusing on the causes and treatment of urinary incontinence, the brochure covers diagnosis, the anatomy of the female pelvic region, and treatment options, including medications, **physiotherapy,** bladder drills, pelvic electrical stimulation, vaginal cones, vaginal devices, collagen or fat injections, and surgery. The brochure concludes with a section describing the Colorado Gynecology and Continence Center. 1 figure.

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 physiotherapy. 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 physiotherapy. By consulting all of associations

listed in this chapter, you will have nearly exhausted all sources for patient associations concerned with physiotherapy.

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 physiotherapy. 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 "physiotherapy" (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 "physiotherapy". 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 "physiotherapy" (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 "physiotherapy" (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.[22]

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

[22] 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)[23]:

- **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/**

[23] 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.lsuhsc.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, Worchester), **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 Resouce Center - University of Michigan Cancer Center (University of Michigan Comprehensive Cancer Center, Ann Arbor), **http://www.cancer.med.umich.edu/learn/leares.htm**
- **Michigan:** Sladen Library & Center for Health Information Resources - Consumer Health Information (Detroit), **http://www.henryford.com/body.cfm?id=39330**
- **Montana:** Center for Health Information (St. Patrick Hospital and Health Sciences Center, Missoula)
- **National:** Consumer Health Library Directory (Medical Library Association, Consumer and Patient Health Information Section), **http://caphis.mlanet.org/directory/index.html**
- **National:** National Network of Libraries of Medicine (National Library of Medicine) - provides library services for health professionals in the United States who do not have access to a medical library, **http://nnlm.gov/**
- **National:** NN/LM List of Libraries Serving the Public (National Network of Libraries of Medicine), **http://nnlm.gov/members/**

- **Nevada:** Health Science Library, West Charleston Library (Las Vegas-Clark County Library District, Las Vegas), **http://www.lvccld.org/special_collections/medical/index.htm**
- **New Hampshire:** Dartmouth Biomedical Libraries (Dartmouth College Library, Hanover), **http://www.dartmouth.edu/~biomed/resources.htmld/conshealth.htmld/**
- **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/commlib.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**

PHYSIOTHERAPY DICTIONARY

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

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

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

Abdominal Pain: Sensation of discomfort, distress, or agony in the abdominal region. [NIH]

Acoustic: Having to do with sound or hearing. [NIH]

Acrylonitrile: A highly poisonous compound used widely in the manufacture of plastics, adhesives and synthetic rubber. [NIH]

Activities of Daily Living: The performance of the basic activities of self care, such as dressing, ambulation, eating, etc., in rehabilitation. [NIH]

Adaptation: 1. The adjustment of an organism to its environment, or the process by which it enhances such fitness. 2. The normal ability of the eye to adjust itself to variations in the intensity of light; the adjustment to such variations. 3. The decline in the frequency of firing of a neuron, particularly of a receptor, under conditions of constant stimulation. 4. In dentistry, (a) the proper fitting of a denture, (b) the degree of proximity and interlocking of restorative material to a tooth preparation, (c) the exact adjustment of bands to teeth. 5. In microbiology, the adjustment of bacterial physiology to a new environment. [EU]

Adhesives: Substances that cause the adherence of two surfaces. They include glues (properly collagen-derived adhesives), mucilages, sticky pastes, gums, resins, or latex. [NIH]

Adjustment: The dynamic process wherein the thoughts, feelings, behavior, and biophysiological mechanisms of the individual continually change to adjust to the environment. [NIH]

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

Adsorption: The condensation of gases, liquids, or dissolved substances on the surfaces of solids. It includes adsorptive phenomena of bacteria and viruses as well as of tissues treated with exogenous drugs and chemicals. [NIH]

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

Ageing: A physiological or morphological change in the life of an organism or its parts, generally irreversible and typically associated with a decline in growth and reproductive vigor. [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]

Alloys: A mixture of metallic elements or compounds with other metallic or metalloid elements in varying proportions. [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]

Alveoli: Tiny air sacs at the end of the bronchioles in the lungs. [NIH]

Amino acid: Any organic compound containing an amino (-NH2 and a carboxyl (- COOH) group. The 20 a-amino acids listed in the accompanying table are the amino acids from which proteins are synthesized by formation of peptide bonds during ribosomal translation of messenger RNA; all except glycine, which is not optically active, have the L configuration. Other amino acids occurring in proteins, such as hydroxyproline in collagen, are formed by posttranslational enzymatic modification of amino acids residues in polypeptide chains. There are also several important amino acids, such as the neurotransmitter y-aminobutyric acid, that have no relation to proteins. Abbreviated AA. [EU]

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]

Amphetamine: A powerful central nervous system stimulant and sympathomimetic. Amphetamine has multiple mechanisms of action including blocking uptake of adrenergics and dopamine, stimulation of release of monamines, and inhibiting monoamine oxidase. Amphetamine is also a drug of abuse and a psychotomimetic. The l- and the d,l-forms are included here. The l-form has less central nervous system activity but stronger cardiovascular effects. The d-form is dextroamphetamine. [NIH]

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

Anal Fissure: A small tear in the anus that may cause itching, pain, or bleeding. [NIH]

Analgesics: Compounds capable of relieving pain without the loss of consciousness or without producing anesthesia. [NIH]

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

Androgens: A class of sex hormones associated with the development and maintenance of the secondary male sex characteristics, sperm induction, and sexual differentiation. In addition to increasing virility and libido, they also increase nitrogen and water retention and stimulate skeletal growth. [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]

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

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

Ankle Joint: The joint that is formed by the inferior articular and malleolar articular surfaces of the tibia, the malleolar articular surface of the fibula, and the medial malleolar, lateral malleolar, and superior surfaces of the talus. [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]

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]

Antidiuretic: Suppressing the rate of urine formation. [EU]

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

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

Anti-Inflammatory Agents: Substances that reduce or suppress inflammation. [NIH]

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

Antineoplastic: Inhibiting or preventing the development of neoplasms, checking the maturation and proliferation of malignant cells. [EU]

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

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

Aqueous: Having to do with water. [NIH]

Argipressin: Cys-Tyr-Phe-Gln-Asn-Cys-Pro-Arg-Gly-NH2, cyclic 1-6 disulfide. The usual mammalian antidiuretic hormone, it is a cyclic nonapeptide with arginine in position 8 of the chain. Argipressin is used to treat diabetes insipidus and as hemostatic because of its vasoconstrictor action. [NIH]

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

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

Arterioles: The smallest divisions of the arteries located between the muscular arteries and the capillaries. [NIH]

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

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

Articulation: The relationship of two bodies by means of a moveable joint. [NIH]

Ataxia: Impairment of the ability to perform smoothly coordinated voluntary movements. This condition may affect the limbs, trunk, eyes, pharnyx, larnyx, and other structures. Ataxia may result from impaired sensory or motor function. Sensory ataxia may result from posterior column injury or peripheral nerve diseases. Motor ataxia may be associated with cerebellar diseases; cerebral cortex diseases; thalamic diseases; basal ganglia diseases; injury to the red nucleus; and other conditions. [NIH]

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

Autonomic: Self-controlling; functionally independent. [EU]

Back Pain: Acute or chronic pain located in the posterior regions of the trunk, including the thoracic, lumbar, sacral, or adjacent regions. [NIH]

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

Bacterial Physiology: Physiological processes and activities of bacteria. [NIH]

Bactericidal: Substance lethal to bacteria; substance capable of killing bacteria. [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]

Bacterium: Microscopic organism which may have a spherical, rod-like, or spiral unicellular or non-cellular body. Bacteria usually reproduce through asexual processes. [NIH]

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

Basal Ganglia Diseases: Diseases of the basal ganglia including the putamen; globus pallidus; claustrum; amygdala; and caudate nucleus. Dyskinesias (most notably involuntary movements and alterations of the rate of movement) represent the primary clinical manifestations of these disorders. Common etiologies include cerebrovascular disease; neurodegenerative diseases; and craniocerebral trauma. [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]

Baths: The immersion or washing of the body or any of its parts in water or other medium for cleansing or medical treatment. It includes bathing for personal hygiene as well as for medical purposes with the addition of therapeutic agents, such as alkalines, antiseptics, oil, etc. [NIH]

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

Biofilms: Films of bacteria or other microbial organisms, usually embedded in extracellular polymers such as implanted medical devices, which adhere to surfaces submerged in, or subjected to, aquatic environments (From Singleton & Sainsbury, Dictionary of Microbiology and Molecular Biology, 2d ed). Biofilms consist of multilayers of microbial cells glued together to form microbial communities which are highly resistant to both phagocytes and antibiotics. [NIH]

Biomechanics: The study of the application of mechanical laws and the action of forces to living structures. [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]

Biotic: Pertaining to living organisms in their ecological rather than their physiological relations. [NIH]

Bladder: The organ that stores urine. [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-Brain Barrier: Specialized non-fenestrated tightly-joined endothelial cells (tight junctions) that form a transport barrier for certain substances between the cerebral capillaries and the brain tissue. [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]

Bone scan: A technique to create images of bones on a computer screen or on film. A small amount of radioactive material is injected into a blood vessel and travels through the bloodstream; it collects in the bones and is detected by a scanner. [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]

Bowel Movement: Body wastes passed through the rectum and anus. [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]

Breathing Exercises: Therapeutic exercises aimed to deepen inspiration or expiration or even to alter the rate and rhythm of respiration. [NIH]

Bronchi: The larger air passages of the lungs arising from the terminal bifurcation of the trachea. [NIH]

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

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

Capsules: Hard or soft soluble containers used for the oral administration of medicine. [NIH]

Carbohydrate: An aldehyde or ketone derivative of a polyhydric alcohol, particularly of the pentahydric and hexahydric alcohols. They are so named because the hydrogen and oxygen are usually in the proportion to form water, (CH2O)n. The most important carbohydrates are the starches, sugars, celluloses, and gums. They are classified into mono-, di-, tri-, poly- and heterosaccharides. [EU]

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

Carcinogenic: Producing carcinoma. [EU]

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

Cardiopulmonary: Having to do with the heart and lungs. [NIH]

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

Catecholamine: A group of chemical substances manufactured by the adrenal medulla and secreted during physiological stress. [NIH]

Catheterization: Use or insertion of a tubular device into a duct, blood vessel, hollow organ, or body cavity for injecting or withdrawing fluids for diagnostic or therapeutic purposes. It differs from intubation in that the tube here is used to restore or maintain patency in obstructions. [NIH]

Cations: Postively charged atoms, radicals or groups of atoms which travel to the cathode or negative pole during electrolysis. [NIH]

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

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

Cell Differentiation: Progressive restriction of the developmental potential and increasing specialization of function which takes place during the development of the embryo and leads to the formation of specialized cells, tissues, and organs. [NIH]

Cell Division: The fission of a cell. [NIH]

Cell proliferation: An increase in the number of cells as a result of cell growth and cell division. [NIH]

Cell Respiration: The metabolic process of all living cells (animal and plant) in which oxygen is used to provide a source of energy for the cell. [NIH]

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

Central Nervous System Infections: Pathogenic infections of the brain, spinal cord, and meninges. DNA virus infections; RNA virus infections; bacterial infections; mycoplasma infections; Spirochaetales infections; fungal infections; protozoan infections; helminthiasis; and prion diseases may involve the central nervous system as a primary or secondary process. [NIH]

Cerebellar: Pertaining to the cerebellum. [EU]

Cerebral: Of or pertaining of the cerebrum or the brain. [EU]

Cerebral Cortex: The thin layer of gray matter on the surface of the cerebral hemisphere that develops from the telencephalon and folds into gyri. It reaches its highest development in man and is responsible for intellectual faculties and higher mental functions. [NIH]

Cerebral Palsy: Refers to a motor disability caused by a brain dysfunction. [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]

Character: In current usage, approximately equivalent to personality. The sum of the relatively fixed personality traits and habitual modes of response of an individual. [NIH]

Chilblains: Recurrent localized itching, swelling and painful erythema on the fingers, toes or ears, produced by exposure to cold. It is also called pernio. [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]

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

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

Clear cell carcinoma: A rare type of tumor of the female genital tract in which the inside of the cells looks clear when viewed under a microscope. [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]

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

Colitis: Inflammation of the colon. [NIH]

Collagen: A polypeptide substance comprising about one third of the total protein in mammalian organisms. It is the main constituent of skin, connective tissue, and the organic substance of bones and teeth. Different forms of collagen are produced in the body but all consist of three alpha-polypeptide chains arranged in a triple helix. Collagen is differentiated from other fibrous proteins, such as elastin, by the content of proline, hydroxyproline, and hydroxylysine; by the absence of tryptophan; and particularly by the high content of polar groups which are responsible for its swelling properties. [NIH]

Colloidal: Of the nature of a colloid. [EU]

Colon: The long, coiled, tubelike organ that removes water from digested food. The remaining material, solid waste called stool, moves through the colon to the rectum and leaves the body through the anus. [NIH]

Competency: The capacity of the bacterium to take up DNA from its surroundings. [NIH]

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

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

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

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

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

Concretion: Minute, hard, yellow masses found in the palpebral conjunctivae of elderly people or following chronic conjunctivitis, composed of the products of cellular degeneration retained in the depressions and tubular recesses in the conjunctiva. [NIH]

Cones: One type of specialized light-sensitive cells (photoreceptors) in the retina that provide sharp central vision and color vision. [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]

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

Consciousness: Sense of awareness of self and of the environment. [NIH]

Constipation: Infrequent or difficult evacuation of feces. [NIH]

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

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

Contusion: A bruise; an injury of a part without a break in the skin. [EU]

Convalescence: The period of recovery following an illness. [NIH]

Coordination: Muscular or motor regulation or the harmonious cooperation of muscles or groups of muscles, in a complex action or series of actions. [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]

Corticosteroid: Any of the steroids elaborated by the adrenal cortex (excluding the sex hormones of adrenal origin) in response to the release of corticotrophin (adrenocorticotropic hormone) by the pituitary gland, to any of the synthetic equivalents of these steroids, or to angiotensin II. They are divided, according to their predominant biological activity, into three major groups: glucocorticoids, chiefly influencing carbohydrate, fat, and protein metabolism; mineralocorticoids, affecting the regulation of electrolyte and water balance; and C19 androgens. Some corticosteroids exhibit both types of activity in varying degrees, and others exert only one type of effect. The corticosteroids are used clinically for hormonal replacement therapy, for suppression of ACTH secretion by the anterior pituitary, as antineoplastic, antiallergic, and anti-inflammatory agents, and to suppress the immune response. Called also adrenocortical hormone and corticoid. [EU]

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

Craniocerebral Trauma: Traumatic injuries involving the cranium and intracranial structures (i.e., brain; cranial nerves; meninges; and other structures). Injuries may be classified by whether or not the skull is penetrated (i.e., penetrating vs. nonpenetrating) or whether there is an associated hemorrhage. [NIH]

Cryotherapy: Any method that uses cold temperature to treat disease. [NIH]

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

Cytotoxic: Cell-killing. [NIH]

Degenerative: Undergoing degeneration : tending to degenerate; having the character of or involving degeneration; causing or tending to cause degeneration. [EU]

Dementia: An acquired organic mental disorder with loss of intellectual abilities of sufficient severity to interfere with social or occupational functioning. The dysfunction is multifaceted and involves memory, behavior, personality, judgment, attention, spatial relations, language, abstract thought, and other executive functions. The intellectual decline is usually progressive, and initially spares the level of consciousness. [NIH]

Dental Care: The total of dental diagnostic, preventive, and restorative services provided to meet the needs of a patient (from Illustrated Dictionary of Dentistry, 1982). [NIH]

Depolarization: The process or act of neutralizing polarity. In neurophysiology, the reversal of the resting potential in excitable cell membranes when stimulated, i.e., the tendency of the cell membrane potential to become positive with respect to the potential outside the cell. [EU]

Dermatology: A medical specialty concerned with the skin, its structure, functions, diseases, and treatment. [NIH]

DES: Diethylstilbestrol. A synthetic hormone that was prescribed from the early 1940s until 1971 to help women with complications of pregnancy. DES has been linked to an increased risk of clear cell carcinoma of the vagina in daughters of women who used DES. DES may also increase the risk of breast cancer in women who used DES. [NIH]

Desmopressin: A synthetic analog of the natural hormone 8-arginine vasopressin (argipressin). Its action is mediated by the vasopressin receptor V2. It has prolonged antidiuretic activity, but little pressor effects. It also modulates levels of circulating factor VIII and von Willebrand factor. [NIH]

DEXA: A method (dual energy X-ray absortiometry) used to estimate total body fat and percent of body fat. Potential disadvantages include whole body radiation and the long time

required for scanning while the subject lies on a hard table. [NIH]

Dextroamphetamine: The d-form of amphetamine. It is a central nervous system stimulant and a sympathomimetic. It has also been used in the treatment of narcolepsy and of attention deficit disorders and hyperactivity in children. Dextroamphetamine has multiple mechanisms of action including blocking uptake of adrenergics and dopamine, stimulating release of monamines, and inhibiting monoamine oxidase. It is also a drug of abuse and a psychotomimetic. [NIH]

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

Diaphragm: The musculofibrous partition that separates the thoracic cavity from the abdominal cavity. Contraction of the diaphragm increases the volume of the thoracic cavity aiding inspiration. [NIH]

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

Diastolic: Of or pertaining to the diastole. [EU]

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

Diathesis: A constitution or condition of the body which makes the tissues react in special ways to certain extrinsic stimuli and thus tends to make the person more than usually susceptible to certain diseases. [EU]

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

Digestive system: The organs that take in food and turn it into products that the body can use to stay healthy. Waste products the body cannot use leave the body through bowel movements. The digestive system includes the salivary glands, mouth, esophagus, stomach, liver, pancreas, gallbladder, small and large intestines, and rectum. [NIH]

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

Disabled Persons: Persons with physical or mental disabilities that affect or limit their activities of daily living and that may require special accommodations. [NIH]

Dissociation: 1. The act of separating or state of being separated. 2. The separation of a molecule into two or more fragments (atoms, molecules, ions, or free radicals) produced by the absorption of light or thermal energy or by solvation. 3. In psychology, a defense mechanism in which a group of mental processes are segregated from the rest of a person's mental activity in order to avoid emotional distress, as in the dissociative disorders (q.v.), or in which an idea or object is segregated from its emotional significance; in the first sense it is roughly equivalent to splitting, in the second, to isolation. 4. A defect of mental integration in which one or more groups of mental processes become separated off from normal consciousness and, thus separated, function as a unitary whole. [EU]

Distal: Remote; farther from any point of reference; opposed to proximal. In dentistry, used to designate a position on the dental arch farther from the median line of the jaw. [EU]

Dizziness: An imprecise term which may refer to a sense of spatial disorientation, motion of the environment, or lightheadedness. [NIH]

Dopa: The racemic or DL form of DOPA, an amino acid found in various legumes. The dextro form has little physiologic activity but the levo form (levodopa) is a very important physiologic mediator and precursor and pharmacological agent. [NIH]

Dopamine: An endogenous catecholamine and prominent neurotransmitter in several systems of the brain. In the synthesis of catecholamines from tyrosine, it is the immediate precursor to norepinephrine and epinephrine. Dopamine is a major transmitter in the

extrapyramidal system of the brain, and important in regulating movement. A family of dopaminergic receptor subtypes mediate its action. Dopamine is used pharmacologically for its direct (beta adrenergic agonist) and indirect (adrenergic releasing) sympathomimetic effects including its actions as an inotropic agent and as a renal vasodilator. [NIH]

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

Double-blind: Pertaining to a clinical trial or other experiment in which neither the subject nor the person administering treatment knows which treatment any particular subject is receiving. [EU]

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

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

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

Dura mater: The outermost, toughest, and most fibrous of the three membranes (meninges) covering the brain and spinal cord; called also pachymeninx. [EU]

Dysarthria: Imperfect articulation of speech due to disturbances of muscular control which result from damage to the central or peripheral nervous system. [EU]

Dysmenorrhoea: Painful menstruation. [EU]

Dystrophy: Any disorder arising from defective or faulty nutrition, especially the muscular dystrophies. [EU]

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]

Elasticity: Resistance and recovery from distortion of shape. [NIH]

Elastin: The protein that gives flexibility to tissues. [NIH]

Electrode: Component of the pacing system which is at the distal end of the lead. It is the interface with living cardiac tissue across which the stimulus is transmitted. [NIH]

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

Electrophoresis: An electrochemical process in which macromolecules or colloidal particles with a net electric charge migrate in a solution under the influence of an electric current. [NIH]

Electrophysiological: Pertaining to electrophysiology, that is a branch of physiology that is concerned with the electric phenomena associated with living bodies and involved in their functional activity. [EU]

Embryology: The study of the development of an organism during the embryonic and fetal stages of life. [NIH]

Emulsion: A preparation of one liquid distributed in small globules throughout the body of a second liquid. The dispersed liquid is the discontinuous phase, and the dispersion medium is the continuous phase. When oil is the dispersed liquid and an aqueous solution is the continuous phase, it is known as an oil-in-water emulsion, whereas when water or aqueous solution is the dispersed phase and oil or oleaginous substance is the continuous phase, it is known as a water-in-oil emulsion. Pharmaceutical emulsions for which official

standards have been promulgated include cod liver oil emulsion, cod liver oil emulsion with malt, liquid petrolatum emulsion, and phenolphthalein in liquid petrolatum emulsion. [EU]

Endogenous: Produced inside an organism or cell. The opposite is external (exogenous) production. [NIH]

Enuresis: Involuntary discharge of urine after the age at which urinary control should have been achieved; often used alone with specific reference to involuntary discharge of urine occurring during sleep at night (bed-wetting, nocturnal enuresis). [EU]

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

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

Epicondylitis: Inflammation of the epicondyle or of the tissues adjoining the epicondyle of the humerus. [EU]

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

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

Evoke: The electric response recorded from the cerebral cortex after stimulation of a peripheral sense organ. [NIH]

Exercise Therapy: Motion of the body or its parts to relieve symptoms or to improve function, leading to physical fitness, but not physical education and training. [NIH]

Expiration: The act of breathing out, or expelling air from the lungs. [EU]

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]

Extremity: A limb; an arm or leg (membrum); sometimes applied specifically to a hand or foot. [EU]

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]

Fatigue: The state of weariness following a period of exertion, mental or physical, characterized by a decreased capacity for work and reduced efficiency to respond to stimuli. [NIH]

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

Fibrin: A protein derived from fibrinogen in the presence of thrombin, which forms part of the blood clot. [NIH]

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

Fibula: The bone of the lower leg lateral to and smaller than the tibia. In proportion to its length, it is the most slender of the long bones. [NIH]

Fixation: 1. The act or operation of holding, suturing, or fastening in a fixed position. 2. The condition of being held in a fixed position. 3. In psychiatry, a term with two related but distinct meanings : (1) arrest of development at a particular stage, which like regression (return to an earlier stage), if temporary is a normal reaction to setbacks and difficulties but

if protracted or frequent is a cause of developmental failures and emotional problems, and (2) a close and suffocating attachment to another person, especially a childhood figure, such as one's mother or father. Both meanings are derived from psychoanalytic theory and refer to 'fixation' of libidinal energy either in a specific erogenous zone, hence fixation at the oral, anal, or phallic stage, or in a specific object, hence mother or father fixation. 4. The use of a fixative (q.v.) to preserve histological or cytological specimens. 5. In chemistry, the process whereby a substance is removed from the gaseous or solution phase and localized, as in carbon dioxide fixation or nitrogen fixation. 6. In ophthalmology, direction of the gaze so that the visual image of the object falls on the fovea centralis. 7. In film processing, the chemical removal of all undeveloped salts of the film emulsion, leaving only the developed silver to form a permanent image. [EU]

Flatus: Gas passed through the rectum. [NIH]

Flexion: In gynaecology, a displacement of the uterus in which the organ is bent so far forward or backward that an acute angle forms between the fundus and the cervix. [EU]

Forearm: The part between the elbow and the wrist. [NIH]

Fovea: The central part of the macula that provides the sharpest vision. [NIH]

Free Radicals: Highly reactive molecules with an unsatisfied electron valence pair. Free radicals are produced in both normal and pathological processes. They are proven or suspected agents of tissue damage in a wide variety of circumstances including radiation, damage from environment chemicals, and aging. Natural and pharmacological prevention of free radical damage is being actively investigated. [NIH]

Functional Disorders: Disorders such as irritable bowel syndrome. These conditions result from poor nerve and muscle function. Symptoms such as gas, pain, constipation, and diarrhea come back again and again, but there are no signs of disease or damage. Emotional stress can trigger symptoms. Also called motility disorders. [NIH]

Fundus: The larger part of a hollow organ that is farthest away from the organ's opening. The bladder, gallbladder, stomach, uterus, eye, and cavity of the middle ear all have a fundus. [NIH]

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

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]

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

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

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]

General practitioner: A medical practitioner who does not specialize in a particular branch of medicine or limit his practice to a specific class of diseases. [NIH]

Generator: Any system incorporating a fixed parent radionuclide from which is produced a daughter radionuclide which is to be removed by elution or by any other method and used

in a radiopharmaceutical. [NIH]

Genital: Pertaining to the genitalia. [EU]

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]

Glucocorticoids: A group of corticosteroids that affect carbohydrate metabolism (gluconeogenesis, liver glycogen deposition, elevation of blood sugar), inhibit corticotropin secretion, and possess pronounced anti-inflammatory activity. They also play a role in fat and protein metabolism, maintenance of arterial blood pressure, alteration of the connective tissue response to injury, reduction in the number of circulating lymphocytes, and functioning of the central nervous system. [NIH]

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

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]

Granulocytes: Leukocytes with abundant granules in the cytoplasm. They are divided into three groups: neutrophils, eosinophils, and basophils. [NIH]

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

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

Haematuria: Blood in the urine. [EU]

Haemophilia: A haemorrhagic diathesis occurring in two main forms: 1. Haemophilia A (classic haemophilia, factor VIII deficiency), an X-linked disorder due to deficiency of coagulation factor VIII; 2. Haemophilia B (factor IX deficiency, Christmas disease), also X-linked, due to deficiency of coagulation factor IX. Both forms are determined by a mutant gene near the telomere of the long arm of the X chromosome (Xq), but a different loci, and are characterized by subcutaneous and intramuscular haemorrhages; bleeding from the mouth, gums, lips, and tongue; haematuria; and haemarthroses. [EU]

Harmony: Attribute of a product which gives rise to an overall pleasant sensation. This sensation is produced by the perception of the product components as olfactory, gustatory, tactile and kinaesthetic stimuli because they are present in suitable concentration ratios. [NIH]

Head Movements: Voluntary or involuntary motion of head that may be relative to or independent of body; includes animals and humans. [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]

Headache Disorders: Common conditions characterized by persistent or recurrent headaches. Headache syndrome classification systems may be based on etiology (e.g., vascular headache, post-traumatic headaches, etc.), temporal pattern (e.g., cluster headache, paroxysmal hemicrania, etc.), and precipitating factors (e.g., cough headache). [NIH]

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

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

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

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 Zoster: Acute vesicular inflammation. [NIH]

Hobbies: Leisure activities engaged in for pleasure. [NIH]

Homogeneous: Consisting of or composed of similar elements or ingredients; of a uniform quality throughout. [EU]

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]

Hydroxylysine: A hydroxylated derivative of the amino acid lysine that is present in certain collagens. [NIH]

Hydroxyproline: A hydroxylated form of the imino acid proline. A deficiency in ascorbic acid can result in impaired hydroxyproline formation. [NIH]

Hypersensitivity: Altered reactivity to an antigen, which can result in pathologic reactions upon subsequent exposure to that particular antigen. [NIH]

Hypertension: Persistently high arterial blood pressure. Currently accepted threshold levels are 140 mm Hg systolic and 90 mm Hg diastolic pressure. [NIH]

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

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

Illusion: A false interpretation of a genuine percept. [NIH]

Immersion: The placing of a body or a part thereof into a liquid. [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]

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]

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

Incontinence: Inability to control the flow of urine from the bladder (urinary incontinence)

or the escape of stool from the rectum (fecal incontinence). [NIH]

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

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

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

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

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

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]

Infrared Rays: That portion of the electromagnetic spectrum usually sensed as heat. Infrared wavelengths are longer than those of visible light, extending into the microwave frequencies. They are used therapeutically as heat, and also to warm food in restaurants. [NIH]

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

Inner ear: The labyrinth, comprising the vestibule, cochlea, and semicircular canals. [NIH]

Inorganic: Pertaining to substances not of organic origin. [EU]

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]

Intermittent: Occurring at separated intervals; having periods of cessation of activity. [EU]

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

Intervertebral: Situated between two contiguous vertebrae. [EU]

Intervertebral Disk Displacement: An intervertebral disk in which the nucleus pulposus has protruded through surrounding fibrocartilage. This occurs most frequently in the lower lumbar region. [NIH]

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

Intracellular: Inside a cell. [NIH]

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

Intubation: Introduction of a tube into a hollow organ to restore or maintain patency if obstructed. It is differentiated from catheterization in that the insertion of a catheter is usually performed for the introducing or withdrawing of fluids from the body. [NIH]

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

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

Ion Exchange: Reversible chemical reaction between a solid, often an ION exchange resin, and a fluid whereby ions may be exchanged from one substance to another. This technique is used in water purification, in research, and in industry. [NIH]

Ionization: 1. Any process by which a neutral atom gains or loses electrons, thus acquiring a net charge, as the dissociation of a substance in solution into ions or ion production by the passage of radioactive particles. 2. Iontophoresis. [EU]

Ionizing: Radiation comprising charged particles, e. g. electrons, protons, alpha-particles, etc., having sufficient kinetic energy to produce ionization by collision. [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]

Iontophoresis: Therapeutic introduction of ions of soluble salts into tissues by means of electric current. In medical literature it is commonly used to indicate the process of increasing the penetration of drugs into surface tissues by the application of electric current. It has nothing to do with ion exchange, air ionization nor phonophoresis, none of which requires current. [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]

Language Development: The gradual expansion in complexity and meaning of symbols and sounds as perceived and interpreted by the individual through a maturational and learning process. Stages in development include babbling, cooing, word imitation with cognition, and use of short sentences. [NIH]

Language Development Disorders: Conditions characterized by language abilities (comprehension and expression of speech and writing) that are below the expected level for a given age, generally in the absence of an intellectual impairment. These conditions may be associated with deafness; brain diseases; mental disorders; or environmental factors. [NIH]

Language Disorders: Conditions characterized by deficiencies of comprehension or expression of written and spoken forms of language. These include acquired and developmental disorders. [NIH]

Language Therapy: Rehabilitation of persons with language disorders or training of children with language development disorders. [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]

Larynx: An irregularly shaped, musculocartilaginous tubular structure, lined with mucous membrane, located at the top of the trachea and below the root of the tongue and the hyoid bone. It is the essential sphincter guarding the entrance into the trachea and functioning secondarily as the organ of voice. [NIH]

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

Lethal: Deadly, fatal. [EU]

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

Levodopa: The naturally occurring form of dopa and the immediate precursor of dopamine. Unlike dopamine itself, it can be taken orally and crosses the blood-brain barrier. It is rapidly taken up by dopaminergic neurons and converted to dopamine. It is used for the treatment of parkinsonism and is usually given with agents that inhibit its conversion to dopamine outside of the central nervous system. [NIH]

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

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

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

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

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

Lordosis: The anterior concavity in the curvature of the lumbar and cervical spine as viewed from the side. The term usually refers to abnormally increased curvature (hollow back, saddle back, swayback). It does not include lordosis as normal mating posture in certain animals (= posture + sex behavior, animal). [NIH]

Low Back Pain: Acute or chronic pain in the lumbar or sacral regions, which may be associated with musculo-ligamentous sprains and strains; intervertebral disk displacement; and other conditions. [NIH]

Lumbar: Pertaining to the loins, the part of the back between the thorax and the pelvis. [EU]

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

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

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

Lymphedema: Edema due to obstruction of lymph vessels or disorders of the lymph nodes. [NIH]

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

Medial: Lying near the midsaggital plane of the body; opposed to lateral. [NIH]

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]

Memory: Complex mental function having four distinct phases: (1) memorizing or learning, (2) retention, (3) recall, and (4) recognition. Clinically, it is usually subdivided into immediate, recent, and remote memory. [NIH]

Meninges: The three membranes that cover and protect the brain and spinal cord. [NIH]

Meningitis: Inflammation of the meninges. When it affects the dura mater, the disease is termed pachymeningitis; when the arachnoid and pia mater are involved, it is called leptomeningitis, or meningitis proper. [EU]

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

Mental: Pertaining to the mind; psychic. 2. (L. mentum chin) pertaining to the chin. [EU]

Mental Disorders: Psychiatric illness or diseases manifested by breakdowns in the adaptational process expressed primarily as abnormalities of thought, feeling, and behavior producing either distress or impairment of function. [NIH]

Metatarsal Bones: The five long bones of the metatarsus articulating with the tarsal bones proximally and the toes (phalanges) distally. [NIH]

Metatarsus: The part of the foot between the tarsa and the toes. [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]

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

Migration: The systematic movement of genes between populations of the same species, geographic race, or variety. [NIH]

Mineralocorticoids: A group of corticosteroids primarily associated with the regulation of water and electrolyte balance. This is accomplished through the effect on ion transport in renal tubules, resulting in retention of sodium and loss of potassium. Mineralocorticoid secretion is itself regulated by plasma volume, serum potassium, and angiotensin II. [NIH]

Mobility: Capability of movement, of being moved, or of flowing freely. [EU]

Mobilization: The process of making a fixed part or stored substance mobile, as by separating a part from surrounding structures to make it accessible for an operative procedure or by causing release into the circulation for body use of a substance stored in the body. [EU]

Modification: A change in an organism, or in a process in an organism, that is acquired from its own activity or environment. [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]

Monoamine: Enzyme that breaks down dopamine in the astrocytes and microglia. [NIH]

Monoclonal: An antibody produced by culturing a single type of cell. It therefore consists of

a single species of immunoglobulin molecules. [NIH]

Morale: The prevailing temper or spirit of an individual or group in relation to the tasks or functions which are expected. [NIH]

Morphine: The principal alkaloid in opium and the prototype opiate analgesic and narcotic. Morphine has widespread effects in the central nervous system and on smooth muscle. [NIH]

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

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

Motility: The ability to move spontaneously. [EU]

Mucus: The viscous secretion of mucous membranes. It contains mucin, white blood cells, water, inorganic salts, and exfoliated cells. [NIH]

Muscle Fatigue: A state arrived at through prolonged and strong contraction of a muscle. Studies in athletes during prolonged submaximal exercise have shown that muscle fatigue increases in almost direct proportion to the rate of muscle glycogen depletion. Muscle fatigue in short-term maximal exercise is associated with oxygen lack and an increased level of blood and muscle lactic acid, and an accompanying increase in hydrogen-ion concentration in the exercised muscle. [NIH]

Muscle Fibers: Large single cells, either cylindrical or prismatic in shape, that form the basic unit of muscle tissue. They consist of a soft contractile substance enclosed in a tubular sheath. [NIH]

Muscle Spindles: Mechanoreceptors found between skeletal muscle fibers. Muscle spindles are arranged in parallel with muscle fibers and respond to the passive stretch of the muscle, but cease to discharge if the muscle contracts isotonically, thus signaling muscle length. The muscle spindles are the receptors responsible for the stretch or myotactic reflex. [NIH]

Muscle tension: A force in a material tending to produce extension; the state of being stretched. [NIH]

Muscular Dystrophies: A general term for a group of inherited disorders which are characterized by progressive degeneration of skeletal muscles. [NIH]

Musculature: The muscular apparatus of the body, or of any part of it. [EU]

Mutagenic: Inducing genetic mutation. [EU]

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]

Narcosis: A general and nonspecific reversible depression of neuronal excitability, produced by a number of physical and chemical aspects, usually resulting in stupor. [NIH]

Narcotic: 1. Pertaining to or producing narcosis. 2. An agent that produces insensibility or stupor, applied especially to the opioids, i.e. to any natural or synthetic drug that has morphine-like actions. [EU]

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]

Neck Pain: Discomfort or more intense forms of pain that are localized to the cervical region. This term generally refers to pain in the posterior or lateral regions of the neck. [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]

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]

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

Networks: Pertaining to a nerve or to the nerves, a meshlike structure of interlocking fibers or strands. [NIH]

Neurology: A medical specialty concerned with the study of the structures, functions, and diseases of the nervous system. [NIH]

Neuromuscular: Pertaining to muscles and nerves. [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]

Neuropathy: A problem in any part of the nervous system except the brain and spinal cord. Neuropathies can be caused by infection, toxic substances, or disease. [NIH]

Neurosurgery: A surgical specialty concerned with the treatment of diseases and disorders of the brain, spinal cord, and peripheral and sympathetic nervous system. [NIH]

Neurotransmitter: Any of a group of substances that are released on excitation from the axon terminal of a presynaptic neuron of the central or peripheral nervous system and travel across the synaptic cleft to either excite or inhibit the target cell. Among the many substances that have the properties of a neurotransmitter are acetylcholine, norepinephrine, epinephrine, dopamine, glycine, y-aminobutyrate, glutamic acid, substance P, enkephalins, endorphins, and serotonin. [EU]

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

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]

Nociceptors: Peripheral receptors for pain. Nociceptors include receptors which are sensitive to painful mechanical stimuli, extreme heat or cold, and chemical stimuli. All nociceptors are free nerve endings. [NIH]

Occupational Therapy: The field concerned with utilizing craft or work activities in the rehabilitation of patients. Occupational therapy can also refer to the activities themselves. [NIH]

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

Ophthalmology: A surgical specialty concerned with the structure and function of the eye and the medical and surgical treatment of its defects and diseases. [NIH]

Orthopedics: A surgical specialty which utilizes medical, surgical, and physical methods to

treat and correct deformities, diseases, and injuries to the skeletal system, its articulations, and associated structures. [NIH]

Osteoporosis: Reduction of bone mass without alteration in the composition of bone, leading to fractures. Primary osteoporosis can be of two major types: postmenopausal osteoporosis and age-related (or senile) osteoporosis. [NIH]

Otolith: A complex calcareous concretion in the inner ear which controls man's sense of balance and reactions to acceleration. [NIH]

Oxygen Consumption: The oxygen consumption is determined by calculating the difference between the amount of oxygen inhaled and exhaled. [NIH]

Pachymeningitis: Inflammation of the dura mater of the brain, the spinal cord or the optic nerve. [NIH]

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

Paralysis: Loss of ability to move all or part of the body. [NIH]

Parkinsonism: A group of neurological disorders characterized by hypokinesia, tremor, and muscular rigidity. [EU]

Paroxysmal: Recurring in paroxysms (= spasms or seizures). [EU]

Partnership Practice: A voluntary contract between two or more doctors who may or may not share responsibility for the care of patients, with proportional sharing of profits and losses. [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]

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

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

Patient Satisfaction: The degree to which the individual regards the health care service or product or the manner in which it is delivered by the provider as useful, effective, or beneficial. [NIH]

Pelvic: Pertaining to the pelvis. [EU]

Pelvis: The lower part of the abdomen, located between the hip bones. [NIH]

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

Perception: The ability quickly and accurately to recognize similarities and differences among presented objects, whether these be pairs of words, pairs of number series, or multiple sets of these or other symbols such as geometric figures. [NIH]

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

Periarthritis: Inflammation of the tissues around a joint. [EU]

Perineal: Pertaining to the perineum. [EU]

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

Peripheral Neuropathy: Nerve damage, usually affecting the feet and legs; causing pain, numbness, or a tingling feeling. Also called "somatic neuropathy" or "distal sensory polyneuropathy." [NIH]

Phallic: Pertaining to the phallus, or penis. [EU]

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

Pharmacotherapy: A regimen of using appetite suppressant medications to manage obesity by decreasing appetite or increasing the feeling of satiety. These medications decrease appetite by increasing serotonin or catecholamine—two brain chemicals that affect mood and appetite. [NIH]

Phonophoresis: Use of ultrasound to increase the percutaneous adsorption of drugs. [NIH]

Phospholipases: A class of enzymes that catalyze the hydrolysis of phosphoglycerides or glycerophosphatidates. EC 3.1.-. [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]

Phosphorylated: Attached to a phosphate group. [NIH]

Photoreceptors: Cells specialized to detect and transduce light. [NIH]

Physical Fitness: A state of well-being in which performance is optimal, often as a result of physical conditioning which may be prescribed for disease therapy. [NIH]

Physical Therapy: The restoration of function and the prevention of disability following disease or injury with the use of light, heat, cold, water, electricity, ultrasound, and exercise. [NIH]

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

Pilot study: The initial study examining a new method or treatment. [NIH]

Pituitary Gland: A small, unpaired gland situated in the sella turcica tissue. It is connected to the hypothalamus by a short stalk. [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; absense of nervous and sensory systems; and an alteration of haploid and diploid generations. [NIH]

Platelet Activation: A series of progressive, overlapping events triggered by exposure of the platelets to subendothelial tissue. These events include shape change, adhesiveness, aggregation, and release reactions. When carried through to completion, these events lead to the formation of a stable hemostatic plug. [NIH]

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

Plexus: A network or tangle; a general term for a network of lymphatic vessels, nerves, or veins. [EU]

Pneumonia: Inflammation of the lungs. [NIH]

Polymers: Compounds formed by the joining of smaller, usually repeating, units linked by covalent bonds. These compounds often form large macromolecules (e.g., polypeptides, proteins, plastics). [NIH]

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

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

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

Postmenopausal: Refers to the time after menopause. Menopause is the time in a woman's life when menstrual periods stop permanently; also called "change of life." [NIH]

Postsynaptic: Nerve potential generated by an inhibitory hyperpolarizing stimulation. [NIH]

Post-translational: The cleavage of signal sequence that directs the passage of the protein through a cell or organelle membrane. [NIH]

Postural: Pertaining to posture or position. [EU]

Potentiation: An overall effect of two drugs taken together which is greater than the sum of the effects of each drug taken alone. [NIH]

Practicability: A non-standard characteristic of an analytical procedure. It is dependent on the scope of the method and is determined by requirements such as sample throughout and costs. [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]

Predisposition: A latent susceptibility to disease which may be activated under certain conditions, as by stress. [EU]

Prevalence: The total number of cases of a given disease in a specified population at a designated time. It is differentiated from incidence, which refers to the number of new cases in the population at a given time. [NIH]

Private Practice: Practice of a health profession by an individual, offering services on a person-to-person basis, as opposed to group or partnership practice. [NIH]

Proctalgia Fugax: Intense pain in the rectum that occasionally happens at night. Caused by muscle spasms around the anus. [NIH]

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

Prolapse: The protrusion of an organ or part of an organ into a natural or artificial orifice. [NIH]

Proline: A non-essential amino acid that is synthesized from glutamic acid. It is an essential component of collagen and is important for proper functioning of joints and tendons. [NIH]

Prone: Having the front portion of the body downwards. [NIH]

Prone Position: The posture of an individual lying face down. [NIH]

Prostate: A gland in males that surrounds the neck of the bladder and the urethra. It secretes a substance that liquifies coagulated semen. It is situated in the pelvic cavity behind the lower part of the pubic symphysis, above the deep layer of the triangular ligament, and rests upon the rectum. [NIH]

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

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

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

Protocol: The detailed plan for a clinical trial that states the trial's rationale, purpose, drug or vaccine dosages, length of study, routes of administration, who may participate, and other aspects of trial design. [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]

Psychiatry: The medical science that deals with the origin, diagnosis, prevention, and treatment of mental disorders. [NIH]

Psychic: Pertaining to the psyche or to the mind; mental. [EU]

Psychotherapy: A generic term for the treatment of mental illness or emotional disturbances primarily by verbal or nonverbal communication. [NIH]

Psychotomimetic: Psychosis miming. [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]

Pulse: The rhythmical expansion and contraction of an artery produced by waves of pressure caused by the ejection of blood from the left ventricle of the heart as it contracts. [NIH]

Quality of Life: A generic concept reflecting concern with the modification and enhancement of life attributes, e.g., physical, political, moral and social environment. [NIH]

Race: A population within a species which exhibits general similarities within itself, but is both discontinuous and distinct from other populations of that species, though not sufficiently so as to achieve the status of a taxon. [NIH]

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

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

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

Radioactive: Giving off radiation. [NIH]

Radiography: Examination of any part of the body for diagnostic purposes by means of roentgen rays, recording the image on a sensitized surface (such as photographic film). [NIH]

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

Radiopharmaceutical: Any medicinal product which, when ready for use, contains one or more radionuclides (radioactive isotopes) included for a medicinal purpose. [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]

Randomized clinical trial: A study in which the participants are assigned by chance to separate groups that compare different treatments; neither the researchers nor the participants can choose which group. Using chance to assign people to groups means that the groups will be similar and that the treatments they receive can be compared objectively. At the time of the trial, it is not known which treatment is best. It is the patient's choice to be in a randomized trial. [NIH]

Reassurance: A procedure in psychotherapy that seeks to give the client confidence in a favorable outcome. It makes use of suggestion, of the prestige of the therapist. [NIH]

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

Rectal: By or having to do with the rectum. The rectum is the last 8 to 10 inches of the large intestine and ends at the anus. [NIH]

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

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

Red Nucleus: A pinkish-yellow portion of the midbrain situated in the rostral mesencephalic tegmentum. It receives a large projection from the contralateral half of the cerebellum via the superior cerebellar peduncle and a projection from the ipsilateral motor cortex. [NIH]

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

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

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

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

Regeneration: The natural renewal of a structure, as of a lost tissue or part. [EU]

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]

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

Respiration: The act of breathing with the lungs, consisting of inspiration, or the taking into the lungs of the ambient air, and of expiration, or the expelling of the modified air which contains more carbon dioxide than the air taken in (Blakiston's Gould Medical Dictionary, 4th ed.). This does not include tissue respiration (= oxygen consumption) or cell respiration (= cell respiration). [NIH]

Respirator: A mechanical device that helps a patient breathe; a mechanical ventilator. [NIH]

Respiratory failure: Inability of the lungs to conduct gas exchange. [NIH]

Respiratory Physiology: Functions and activities of the respiratory tract as a whole or of any of its parts. [NIH]

Respite Care: Patient care provided in the home or institution intermittently in order to provide temporary relief to the family home care giver. [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]

Rheumatism: A group of disorders marked by inflammation or pain in the connective tissue structures of the body. These structures include bone, cartilage, and fat. [NIH]

Rheumatoid: Resembling rheumatism. [EU]

Rheumatoid arthritis: A form of arthritis, the cause of which is unknown, although infection, hypersensitivity, hormone imbalance and psychologic stress have been suggested as possible causes. [NIH]

Rheumatology: A subspecialty of internal medicine concerned with the study of inflammatory or degenerative processes and metabolic derangement of connective tissue structures which pertain to a variety of musculoskeletal disorders, such as arthritis. [NIH]

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

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

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

Rod: A reception for vision, located in the retina. [NIH]

Rubber: A high-molecular-weight polymeric elastomer derived from the milk juice (latex) of Hevea brasiliensis and other trees. It is a substance that can be stretched at room temperature to atleast twice its original length and after releasing the stress, retractrapidly, and recover its original dimensions fully. Synthetic rubber is made from many different chemicals, including styrene, acrylonitrile, ethylene, propylene, and isoprene. [NIH]

Salivary: The duct that convey saliva to the mouth. [NIH]

Salivary glands: Glands in the mouth that produce saliva. [NIH]

Scoliosis: A lateral curvature of the spine. [NIH]

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

Segmental: Describing or pertaining to a structure which is repeated in similar form in successive segments of an organism, or which is undergoing segmentation. [NIH]

Segmentation: The process by which muscles in the intestines move food and wastes through the body. [NIH]

Seizures: Clinical or subclinical disturbances of cortical function due to a sudden, abnormal, excessive, and disorganized discharge of brain cells. Clinical manifestations include abnormal motor, sensory and psychic phenomena. Recurrent seizures are usually referred to as epilepsy or "seizure disorder." [NIH]

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

Senile: Relating or belonging to old age; characteristic of old age; resulting from infirmity of old age. [NIH]

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

Sex Behavior: Sexual activities of humans. [NIH]

Sex Behavior, Animal: Sexual activities of animals. [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]

Signal Transduction: The intercellular or intracellular transfer of information (biological activation/inhibition) through a signal pathway. In each signal transduction system, an activation/inhibition signal from a biologically active molecule (hormone, neurotransmitter) is mediated via the coupling of a receptor/enzyme to a second messenger system or to an ion channel. Signal transduction plays an important role in activating cellular functions, cell differentiation, and cell proliferation. Examples of signal transduction systems are the GABA-postsynaptic receptor-calcium ion channel system, the receptor-mediated T-cell activation pathway, and the receptor-mediated activation of phospholipases. Those coupled to membrane depolarization or intracellular release of calcium include the receptor-mediated activation of cytotoxic functions in granulocytes and the synaptic potentiation of protein kinase activation. Some signal transduction pathways may be part of larger signal transduction pathways; for example, protein kinase activation is part of the platelet activation signal pathway. [NIH]

Skeletal: Having to do with the skeleton (boney part of the body). [NIH]

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

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

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

Sneezing: Sudden, forceful, involuntary expulsion of air from the nose and mouth caused by irritation to the mucous membranes of the upper respiratory tract. [NIH]

Social Environment: The aggregate of social and cultural institutions, forms, patterns, and processes that influence the life of an individual or community. [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]

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

Solitary Rectal Ulcer: A rare type of ulcer in the rectum. May develop because of straining to have a bowel movement. [NIH]

Solvent: 1. Dissolving; effecting a solution. 2. A liquid that dissolves or that is capable of dissolving; the component of a solution that is present in greater amount. [EU]

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

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

Spastic: 1. Of the nature of or characterized by spasms. 2. Hypertonic, so that the muscles are stiff and the movements awkward. 3. A person exhibiting spasticity, such as occurs in spastic paralysis or in cerebral palsy. [EU]

Spasticity: A state of hypertonicity, or increase over the normal tone of a muscle, with heightened deep tendon reflexes. [EU]

Spatial disorientation: Loss of orientation in space where person does not know which way is up. [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]

Sphincter: A ringlike band of muscle fibres that constricts a passage or closes a natural orifice; called also musculus sphincter. [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]

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

of the abdomen near the stomach. [NIH]

Spondylitis: Inflammation of the vertebrae. [EU]

Sports Medicine: The field of medicine concerned with physical fitness and the diagnosis and treatment of injuries sustained in sports activities. [NIH]

Sprains and Strains: A collective term for muscle and ligament injuries without dislocation or fracture. A sprain is a joint injury in which some of the fibers of a supporting ligament are ruptured but the continuity of the ligament remains intact. A strain is an overstretching or overexertion of some part of the musculature. [NIH]

Sputum: The material expelled from the respiratory passages by coughing or clearing the throat. [NIH]

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

Sterile: Unable to produce children. [NIH]

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]

Stool: The waste matter discharged in a bowel movement; feces. [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]

Stress incontinence: An involuntary loss of urine that occurs at the same time that internal abdominal pressure is increased, such as with laughing, sneezing, coughing, or physical activity. [NIH]

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

Stupor: Partial or nearly complete unconsciousness, manifested by the subject's responding only to vigorous stimulation. Also, in psychiatry, a disorder marked by reduced responsiveness. [EU]

Styrene: A colorless, toxic liquid with a strong aromatic odor. It is used to make rubbers, polymers and copolymers, and polystyrene plastics. [NIH]

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

Subarachnoid: Situated or occurring between the arachnoid and the pia mater. [EU]

Subcutaneous: Beneath the skin. [NIH]

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

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

Sympathetic Nervous System: The thoracolumbar division of the autonomic nervous system. Sympathetic preganglionic fibers originate in neurons of the intermediolateral column of the spinal cord and project to the paravertebral and prevertebral ganglia, which in turn project to target organs. The sympathetic nervous system mediates the body's response to stressful situations, i.e., the fight or flight reactions. It often acts reciprocally to the parasympathetic system. [NIH]

Sympathomimetic: 1. Mimicking the effects of impulses conveyed by adrenergic postganglionic fibres of the sympathetic nervous system. 2. An agent that produces effects similar to those of impulses conveyed by adrenergic postganglionic fibres of the sympathetic nervous system. Called also adrenergic. [EU]

Symphysis: A secondary cartilaginous joint. [NIH]

Symptomatic: Having to do with symptoms, which are signs of a condition or disease. [NIH]

Synaptic: Pertaining to or affecting a synapse (= site of functional apposition between neurons, at which an impulse is transmitted from one neuron to another by electrical or chemical means); pertaining to synapsis (= pairing off in point-for-point association of homologous chromosomes from the male and female pronuclei during the early prophase of meiosis). [EU]

Systolic: Indicating the maximum arterial pressure during contraction of the left ventricle of the heart. [EU]

Talus: The second largest of the tarsal bones and occupies the middle and upper part of the tarsus. [NIH]

Tarsal Bones: The seven bones which form the tarsus - namely, calcaneus, talus, cuboid, navicular, and first, second and third cuneiforms. The tarsus is a skeletal part of the foot. [NIH]

Telangiectasia: The permanent enlargement of blood vessels, causing redness in the skin or mucous membranes. [NIH]

Telomere: A terminal section of a chromosome which has a specialized structure and which is involved in chromosomal replication and stability. Its length is believed to be a few hundred base pairs. [NIH]

Tendon: A discrete band of connective tissue mainly composed of parallel bundles of collagenous fibers by which muscles are attached, or two muscles bellies joined. [NIH]

Thalamic: Cell that reaches the lateral nucleus of amygdala. [NIH]

Thalamic Diseases: Disorders of the centrally located thalamus, which integrates a wide range of cortical and subcortical information. Manifestations include sensory loss, movement disorders; ataxia, pain syndromes, visual disorders, a variety of neuropsychological conditions, and coma. Relatively common etiologies include cerebrovascular disorders; craniocerebral trauma; brain neoplasms; brain hypoxia; intracranial hemorrhages; and infectious processes. [NIH]

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

Thermal: Pertaining to or characterized by heat. [EU]

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

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

Thoracic: Having to do with the chest. [NIH]

Thorax: A part of the trunk between the neck and the abdomen; the chest. [NIH]

Threshold: For a specified sensory modality (e. g. light, sound, vibration), the lowest level (absolute threshold) or smallest difference (difference threshold, difference limen) or intensity of the stimulus discernible in prescribed conditions of stimulation. [NIH]

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

Thrombus: An aggregation of blood factors, primarily platelets and fibrin with entrapment of cellular elements, frequently causing vascular obstruction at the point of its formation. Some authorities thus differentiate thrombus formation from simple coagulation or clot formation. [EU]

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

Tibia: The second longest bone of the skeleton. It is located on the medial side of the lower leg, articulating with the fibula laterally, the talus distally, and the femur proximally. [NIH]

Tin: A trace element that is required in bone formation. It has the atomic symbol Sn, atomic number 50, and atomic weight 118.71. [NIH]

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

Tone: 1. The normal degree of vigour and tension; in muscle, the resistance to passive elongation or stretch; tonus. 2. A particular quality of sound or of voice. 3. To make permanent, or to change, the colour of silver stain by chemical treatment, usually with a heavy metal. [EU]

Tonus: A state of slight tension usually present in muscles even when they are not undergoing active contraction. [NIH]

Tooth Preparation: Procedures carried out with regard to the teeth or tooth structures preparatory to specified dental therapeutic and surgical measures. [NIH]

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

Torsion: A twisting or rotation of a bodily part or member on its axis. [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]

Trachea: The cartilaginous and membranous tube descending from the larynx and branching into the right and left main bronchi. [NIH]

Traction: The act of pulling. [NIH]

Transduction: The transfer of genes from one cell to another by means of a viral (in the case of bacteria, a bacteriophage) vector or a vector which is similar to a virus particle (pseudovirion). [NIH]

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

Translational: The cleavage of signal sequence that directs the passage of the protein through a cell or organelle membrane. [NIH]

Treatment Outcome: Evaluation undertaken to assess the results or consequences of management and procedures used in combating disease in order to determine the efficacy, effectiveness, safety, practicability, etc., of these interventions in individual cases or series. [NIH]

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

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

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

Ulcerative colitis: Chronic inflammation of the colon that produces ulcers in its lining. This condition is marked by abdominal pain, cramps, and loose discharges of pus, blood, and mucus from the bowel. [NIH]

Ultrasound energy: A form of therapy being studied as an anticancer treatment. Intensified ultrasound energy can be directed at cancer cells to heat them and kill them. [NIH]

Ultraviolet Rays: That portion of the electromagnetic spectrum immediately below the visible range and extending into the x-ray frequencies. The longer wavelengths (near-UV or biotic or vital rays) are necessary for the endogenous synthesis of vitamin D and are also called antirachitic rays; the shorter, ionizing wavelengths (far-UV or abiotic or extravital rays) are viricidal, bactericidal, mutagenic, and carcinogenic and are used as disinfectants. [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]

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

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

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

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

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

Urodynamic: Measures of the bladder's ability to hold and release 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]

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

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

Vasomotor: 1. Affecting the calibre of a vessel, especially of a blood vessel. 2. Any element

or agent that effects the calibre of a blood vessel. [EU]

Vector: Plasmid or other self-replicating DNA molecule that transfers DNA between cells in nature or in recombinant DNA technology. [NIH]

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

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

Venous Thrombosis: The formation or presence of a thrombus within a vein. [NIH]

Ventilation: 1. In respiratory physiology, the process of exchange of air between the lungs and the ambient air. Pulmonary ventilation (usually measured in litres per minute) refers to the total exchange, whereas alveolar ventilation refers to the effective ventilation of the alveoli, in which gas exchange with the blood takes place. 2. In psychiatry, verbalization of one's emotional problems. [EU]

Ventilator: A breathing machine that is used to treat respiratory failure by promoting ventilation; also called a respirator. [NIH]

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

Venules: The minute vessels that collect blood from the capillary plexuses and join together to form veins. [NIH]

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

Vertebral: Of or pertaining to a vertebra. [EU]

Vertigo: An illusion of movement; a sensation as if the external world were revolving around the patient (objective vertigo) or as if he himself were revolving in space (subjective vertigo). The term is sometimes erroneously used to mean any form of dizziness. [EU]

Vestibular: Pertaining to or toward a vestibule. In dental anatomy, used to refer to the tooth surface directed toward the vestibule of the mouth. [EU]

Vestibule: A small, oval, bony chamber of the labyrinth. The vestibule contains the utricle and saccule, organs which are part of the balancing apparatus of the ear. [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]

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]

Volition: Voluntary activity without external compulsion. [NIH]

White blood cell: A type of cell in the immune system that helps the body fight infection and disease. White blood cells include lymphocytes, granulocytes, macrophages, and others. [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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