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Internet resources for nurses and nursing students

A sampling of sites

Contemporary nursing practice has changed tremendously over the last decade. Professional competencies for new nurses now include informatics, case management, health care policy, cultural sensitivity, and disaster preparedness. The study of nursing involves life sciences, psychology, social services, patient education, and ethics, in addition to the traditional medical knowledge base. Not surprisingly, students of nursing are faced with a rich but sometimes confusing array of health-related resources on the Web. In fact, hundreds of new Web sites for health consumers, nurses, and other medical professionals are being added weekly, and this article represents the authors' best efforts to include only the most useful and highest quality resources from among a rich array of choices.

Much of the best and most comprehensive health and biomedical information available is generated by the U.S. government, and many of the nongovernmental sites provide links to government health and biomedical sites. Thus, we describe the governmental resources first, followed by nongovernmental health information portals, free study aids for students, nursing associations, online forums, and discussion lists.

We hope that our selections will provide aspiring nurses with practical information and tools they need to succeed in their core courses. We also include biomedical research depositories and sites with quality patient and consumer health information in both English and Spanish. Although we included only a sampling of major nursing organizations, these organizations offer essential professional information—from licensure to finding a job—and links to professional

discussion forums and electronic lists. This combination of practical, professional, and research resources provides a good starting point for nursing students looking for quality study aids and information on the Internet.

U.S. government medical and health information resources

The U.S. federal government provides some of the most important sources of online information for medical professionals as well as health consumers (nursing students find consumer-oriented sites helpful because they avoid overwhelming the layperson with highly technical vocabulary). The Internet resources described here are published by agencies within the National Institutes of Health (NIH) and the Department of Health and Human Services (DHHS). NIH is the parent body of the National Library of Medicine; it is a vital clearinghouse for full-text and bibliographic health information produced by government agencies and medical researchers. DHHS is the agency in charge of the Centers for Disease Control, the agency for Healthcare Research and Quality, and the Food and Drug Administration, among others. It also publishes valuable resources for public and consumer health.

- **NLM Gateway.** This site is a handy entry point for searching the many valuable

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resources at the National Library of Medicine. It provides a global search function for Pubmed, Pubmed Central, and Medline Plus, all of which are discussed below. Search results are divided into the following categories: bibliographic, consumer health, and other information resources. The NLM Gateway is an excellent place to begin a search of health-related government information. *Access:* <http://gateway.nlm.nih.gov/gw/Cmd>.



Resources for medical professionals and researchers

- **National Institute of Nursing Research.** One of the National Institutes of Health, this organization's mission is to support research in nursing in clinical and community settings through grants and other funding programs. It provides information on its own funding initiatives, including diversity programs and resources, links to nursing organizations for various specialties, and publications from national conferences and meetings. *Access:* <http://nintr.nih.gov/nintr/index.html>.

- **Pubmed.** A service of the National Library of Medicine, this resource offers an index to more than 15 million citations from Medline for biomedical articles, including nursing, dating back to the 1950s. It also links to the full text of articles and nongovernmental Web resources. Choose "Books" from the search box menu and search the NCBI Bookshelf—a free, full-text collection of biomedical books. *Access:* <http://www.ncbi.nlm.nih.gov/entrez/>.

- **Pubmed Central.** A free "digital archive of life sciences journal literature," the site offers access to the full text of more than 160 high-quality, open access life sciences journals from various publishers. *Access:* <http://www.pubmedcentral.nih.gov/>.



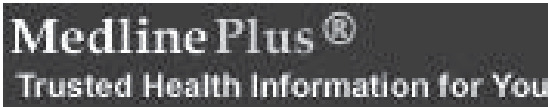
Resources for health consumers

- **Centers for Disease Control (CDC) and Prevention.** The CDC's mission is to monitor public health, put forth prevention initiatives, investigate health problems, and promote healthy behaviors. Its Web site provides information on specific health and safety topics, a public health image library, and state and national data sets on health and disease. Its A to Z index is a convenient way to find statistical and other information on specific conditions. *Access:* <http://www.cdc.gov/>.

- **Healthfinder.** This consumer health information site is maintained by the National Health Information Center of the U.S. Department of Health and Human Services. It is a hand-selected directory of the health related Web sites of more than 1,500 organizations—government, nonprofit, and educational. Also available in Spanish. *Access:* <http://healthfinder.gov>.



- **MedlinePlus.** A consumer health resource that brings together information from various government agencies, including the National Library of Medicine, the National Institutes for Health, and others, MedlinePlus provides simple but accurate health-related information for the general public. Its medical encyclopedia, drug and herbal supplement information, current health news, and superior interactive tutorials (www.nlm.nih.gov/medlineplus/tutorial.html) are excellent resources for nursing students. It is also available in Spanish. *Access:* <http://medlineplus.gov/>.



- **National Institutes of Health—Health Information.** Another directory of consumer health information, this site has a simple design, and is organized by conditions, body systems, type of patient, etc. It also provides links to MedlinePlus and to specific institutes within NIH. *Access:* <http://health.nih.gov/>.

Nongovernmental portals

- **Hardin MD.** The “MD” stands for “Meta Directory” and the University of Iowa’s Hardin Library for the Health Sciences is one of the best and most complete directories for medical and health-related links. Searchable by keyword or “Subject Clusters,” Hardin MD offers a huge, up-to-date collection of medical images and information. Some examples of subject clusters are AIDS; cancer; children’s diseases; flu (including bird flu); heart disease; infectious diseases; the nervous, respiratory, and skeletal systems; skin diseases; and women’s health. *Access:* <http://www.lib.uiowa.edu/hardin/md/index.html>.

- **HealthWeb.** This well-organized collection of evaluated, noncommercial resources is a collaborative project of health sciences libraries at more than 20 leading academic medical centers in the Midwest. Easy to use, it offers basic and guided searching or browsing by categories from AIDS and HIV to Women’s Health. Each category is further divided into subcategories of annotated links. For example, under “Nursing” are Academic Institutions, Associations, Career Resources, Databases, Discussion Groups, Electronic Journals, and Grants & Funding. Additional special topics links are offered for each category; in “Nursing,” these are Clinical Resources and Reference Resources. Especially helpful is the ability to search by keyword either within a category (i.e., “Nursing”) or throughout HealthWeb. *Access:* <http://healthweb.org/index.cfm>.

- **Mayo Clinic: Tools for Healthier Lives.** Though aimed at the layperson, nurses and students will welcome the plethora of information and tools provided by Mayo Clinic. Users can choose “Diseases & Conditions,” “Drugs & Supplements,” “Treatment Decisions,” “Healthy Living,” “Ask a Specialist,” and “Health Tools.” The medical information is high quality and comprehensive, but the “Tools” section sets this resource apart. Among the tools are online calculators (including BMI, calorie, heart disease risk), self-assessments (including depression, prostate, stress, obesity), a symptom checker, and quizzes. *Access:* <http://www.mayoclinic.com>.

Study aids for nursing students

- **Gray’s Anatomy of the Human Body.** The Bartleby.com edition of *Gray’s Anatomy* features 1,247 pictures from the classic 1918 publication, as well as a subject index with 13,000 entries. *Access:* <http://www.bartleby.com/107/>.

- **Human Anatomy Online.** Easy to navigate, the user begins by choosing among ten systems: skeletal, digestive, muscular, lymphatic, endocrine, nervous, cardiovascular, male or female reproductive, and urinary. Graphics are interactive and users can view animations of the system, tutorials, and descriptions. Two caveats: users must have a java-enabled browser, and there is no search capability within the site. *Access:* <http://www.innerbody.com/html/body.html>.

- **McGill University Virtual Stethoscope.** This is surely a unique Internet resource for medical and nursing students. As its name suggests, it is a multimedia tutorial featuring a virtual stethoscope (Real Player needed) to assess both respiratory and cardiovascular conditions. Also included is a review of selected cardiac and pulmonary physiology and pathophysiology topics. This tutorial is one of more than 50 created by McGill medical students under faculty supervision; all are accessible by clicking on “MMI Student Project Main Page.” Each tutorial has a cover page listing names of the students and their supervisors, intended audience, any plugins required, a synopsis of the tutorial’s focus, and date completed. Some examples are Biomedical Ethics & Law in Clinical Practice, Clinical Nutrition, Histology, EKG Tutorial, Gastroenterology, Endoscopic Pathology, Immunology, and Virtual CPR. *Access:* <http://sprojects.mcgill.ca/mvs/mvsteth.htm>.

- **Medical Images on the Web.** University of Nebraska Medical Center offers this excellent portal with evaluated, annotated links to online image collections organized into the following categories: General, Anatomy and Histology, Cardiology, Dermatology, Embriology, Endoscopy, Neurology, Pathology, Pediatrics, and ENT. *Access:* <http://www.unmc.edu/library/reference/medimage.html>.

Note: Librarians and students have discovered that Google Images provides excellent access to images, including anatomical pictures, diagrams, charts, illustrations, and disease pathologies. We have included medical image Web sites but want to remind researchers that Google Images is also a good resource.

- **Merck Manual of Diagnosis and Therapy.** *The Merck Manual's 17th, Centennial Edition* is available free, searchable by keyword or the table of contents. Merck also offers two other complete manuals through this site: *The Merck Manual of Geriatrics* and *The Merck Manual of Health & Aging*. Access: <http://www.merck.com/mrkshared/mmanual/sections.jsp>.

- **Physical Exam Study Guides.** Created by the University of Florida Medical program, these guides are thorough and clear. The exams offered are: Vital Signs, Back and Extremity, Chest and Lung, Cardiology, Head and Neck, Eye, Abdominal, Breast, Pelvic, Neurologic, and Mental Status. Access: <http://medinfo.ufl.edu/year1/bcs/clist/index.html>.

- **RN Central.** Created by nurses for nurses and students, this site offers good resource links, but the highlight is its "Careplan Corner," with predefined nursing care plans under three categories: "Altered/Alterations," "Impaired/Impairment," and "General." Some examples of care plans that nursing students can use as examples for their own plans are "Comfort: Chest Pain," "Sexuality Patterns," "Physical Mobility," "Skin Integrity," and "Anxiety and Ineffective Airway Clearance." Users can copy, save, or print and modify any of the plans, and there is also a blank plan template to print out and fill in. Access: <http://www.rncentral.com/>.

- **RxList.** Information provided for each drug includes the description, clinical pharmacology, indications and dosage, side effects and drug interactions, warnings and precautions, drug overdosage contraindications, and patient information. Words in the articles and descriptions that may need to be defined for the layperson or student are hyperlinked to Taber's online medical dictionary. Access: <http://www.rxlist.com>.

Nursing associations, online forums, and discussion lists

- **American Nurses Association (ANA).** The ANA represents American registered nurses (RNs). The site provides information on current issues in nursing (workplace rights, patient safety, and ethics) and a sophisticated career center with a searchable jobs database, space for posting résumés, and advice for job-seekers. Some content is limited to members only, but there is plenty of quality free information. Access: <http://www.ana.org> or <http://nursingworld.org>.

- **National Coalition of Ethnic and Minority Nurse Associations (NCEMNA).** NCEMNA offers information and links to American nurses' associations representing major U.S. ethnic groups, including Asian American/Pacific Islander (AAPINA), Alaska Native American (NANAINA), Hispanic (NAHN), Black (NBNA), and Philippine (PNAA). Access: <http://www.ncemna.org/>.

- **National Federation of Licensed Practical Nurses (NFLPN).** NFLPN, the organization for LPNs, vocational nurses and nursing students, fosters competence through continuing education and professionalism. Information on scholarships, links to state affiliates, and an online discussion forum are all available here. Access: <http://www.nflpn.org/>.

Online forums and discussion lists

- **Nursing Discussion Forums.** http://nursing.buffalo.edu/mccartny/nursing_discussion_forums.html.

- **Nursing Email Discussion Lists.** http://nursing.buffalo.edu/mccartny/nursing_discussion_forums.html#1.

- **Skepticism in Nursing Discussion forum.** <http://health.groups.yahoo.com/group/skepticrn/>. *zn*

More nursing resources

For additional resources, please see the online version of this article on the ACRL Web site at www.acrl.org/c&rlnews.