

Internet medical education resources

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Telemedicine is often viewed with caution and scepticism by health care providers because of concerns about cost, complexity, and clinical utility. Yet one of telemedicine's most powerful tools is inexpensive, easy to use, and enormously useful. This remarkable tool is the Internet.

With all of the popular excitement surrounding telemedicine over video-conferencing, digital scopes, and other automation devices, the Internet is often overlooked. However, most of what is valuable on the Internet is available free of charge with little marketing hype. For the curious health care provider, the Internet is a vast library of education resources with thousands of medical websites and millions of literature references which are easy and cheap to access.

The materials needed for Internet access are a computer, a modem, web browsing software and an Internet Service Provider (ISP). The computer can be a laptop or desk model - Mac, PC, or UNIX - it doesn't matter. Also, at least 16 megabytes of RAM (Random Access Memory) is prudent. What matters for the modem is speed - at least 28.8 K or 33.6 K bits per second is best. The browsing software will probably be Netscape's Navigator or Microsoft's Internet Explorer - both of which are usually free). Lastly one needs an account with an ISP (e.g. FSM Telecom is an ISP for Micronesia).

Exploring the Internet for medical information is easy. The user loads web browser software on the computer, plugs the modem into the computer, and connects the modem to a conventional phone jack. The computer dials the ISP's local dial-up access phone number and establishes a temporary connection to the Internet. At this point the user's computer is communicating with the ISP's computer over a phone line, and the ISP's computer is continuously linked with a global network of Internet computers (the World Wide Web or WWW) via dedicated high-capacity telecommunication connections. The web browser can then see any of the WWW's websites. These websites are simply directories of formatted text, image, and audio information designed to be publicly

viewed and listened to on the Internet. My discussion of medical education resources is limited to only two of the thousands available. But these two will serve as ideal jumping-off points for future exploration.

The first website I'd encourage health care providers to review is **HealthGate**, which has the web address or Uniform Resource Locator (URL) <http://www.healthgate.com>. By clicking on the colored "hypertext" links to MEDLINE=AE, users can access the United States National Library of Medicine's on-line database of medical references and abstracts, free of charge. MEDLINE=AE contains over 8 million bibliographic records covering the fields of medicine, nursing, dentistry, veterinary medicine, and the preclinical sciences. It refers to articles from more than 3,800 international biomedical journals, and approximately 30,000 new citations are added each month. The HealthGate website puts the world's best medical library in your home, office, or travelling laptop 24 hours a day, seven days a week, for free. References can be searched by topic word, title word, or author name. Searches can be limited by publication language, journal type, article type, and date of publication. And the web interface is easy and fun to use.

The second website to review is **Medical Matrix**, which has the web address or Uniform Resource Locator (URL) <http://www.slackinc.com/matrix>. Medical Matrix is an academic informatics project with the goal "to improve the global medical community's access to useful digital clinical medicine documents". Its Editorial Board draws from the American Medical Informatics Association's Internet Working Group, and consists of physicians and scientists from the Oregon Health Sciences University, University of Pennsylvania, University of Pittsburgh, University of Kansas, Washington University, Michigan State University, State University of Campinas, Brazil, and Polytechnic University Hawthorne, New York. The Board selects, ranks, peer-reviews, annotates, and continuously updates full-text patient care resources available on the Internet, and the result is an extraordinary collection of over 2,400 easy-to-access websites representing over 50 medical specialties.

The Internet is an inexpensive and easy-to-use telemedicine tool with considerable educational potential. By facilitating the growth of its users' fund-of-knowledge, it empowers and increases the autonomy of the health care provider, and improves the quality of care delivered to our patients. Use it and discover all it has to offer. □

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