

INTERNET RESOURCES FOR THE ANAESTHESIOLOGISTS

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SUMMARY

The internet is increasingly an important resource of medical information for the physicians. Substantial high-quality information exists within numerous government, university, professional association, and private sites. There are several "portal" websites which attempt to provide a wide variety of information, including up to date news coverage, teaching manuals, full text journals, textbooks, CMES, virtual case conferences, practice guidelines, and medical search capabilities. This article presents a comprehensive list of important web sites of educational value for the anaesthesiologists.

Keywords : Internet, Anaesthesia, Resources, Websites.

The internet is probably the largest revolution in the computer industry since the advent of the personal computer and the most powerful information medium currently available to the medical professionals. It is the largest single medical reference resource.¹ The internet can serve as a "virtual library" for the practicing physician.

There is a colossal wealth of knowledge available on the World Wide Web in all the fields of medicine. Web is growing at an exponential rate with the daily addition of new web sites. One of the biggest problems facing people new to the internet is the sheer volume of information. From the myriads of websites, retrieving the requisite information is like catching a fish from the ocean. There is considerable useful information about anaesthesia available on the World Wide Web. However, at present it is very incomplete and scattered around many sites. Even the literature regarding internet resources on anaesthesia is inadequate.²⁻⁹

In this article, the important websites which are felt to offer high educational value for the anaesthesiologists have been selected from an extensive search on the internet. These web sites have been organised and categorised on the basis of their contents. GASNET (Global Anesthesiology Server Network) and ASA (American Society of Anesthesiologists) are the most popular sites according to a survey of internet use among anesthesia residents in the United States and U.K.¹⁰

General Information Resources

These are the good starting points for the broad general information on anaesthesia.

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1. Anaesthesia Web - <http://www.aims.org.sg/saw>.
2. Anaesthesia, WebDoctor - <http://www.gretmar.com/webdoctor/Anesthesia.html>.
3. Anesthesia and Critical Care Medicine on the internet- <http://www.invivo.net/bg/index2.html>.
4. Anesthesiahelpline - <http://www.anesthesiahelpline.org>. This is online helpline for the practicing anaesthesiologists in India.
5. Anesthesiology, Hardin Meta Directory - <http://www.lib.uiowa.edu/hardin/md/anesth.html>.
6. Anesthesiology, Medical Library - <http://www.nmmc.com/nmhc/library/htm/anesth.htm>.
7. Anesthesiology, Medical Matrix - http://www.medmatrix.org/_SPages/Anesthesiology.asp
8. GasNet-Global Anesthesia Server network - <http://gasnet.med.yale.edu>. Excellent source of links to anaesthesia information, online teaching resources, jobs, societies, meetings, educational synopses in anaesthesiology and critical care medicine, an on-line journal, and the Global Textbook of Anesthesiology.
9. Global Regional Anesthesia Website - <http://www.csen.com/anesthesia/index.htm>.
10. Internet Resources for Anaesthetists, University of Sydney - <http://www.usyd.edu.au/su/anaes/VAT/MajRes.html>.
11. MDConsult - <http://www.MDConsult.com>. Full library of textbooks and journals.
12. The Virtual Anesthesia Textbook - <http://www.usyd.edu.au/su/anaes/VAT/VAT.html>. Textbook style comprehensive set of links to all known anaesthesia related internet information.

13. The WorldWide Anaesthetist - <http://www.anaesthetist.com>. Information about equipment, monitoring, pain management, anaesthetic drugs, anaesthetic techniques, ventilation and CPR.
14. Virtual Museum of Anesthesiology - <http://umdas.med.miami.edu/aha/vma>. A fascinating collection of portraits, photographs of equipment, and other interesting items.
15. Wright's anesthesia and critical care resources on the internet - <http://www.eur.nl/fgg/anest/wright>. Very inclusive database of sites for anaesthesia and critical care including web sites, journals, books, and e-mail lists.

Anaesthesia societies and associations

Most anaesthesia societies and associations have websites providing information including newsletters, information regarding scientific and professional meetings, membership applications, important on-line links, and even continuing medical education and access to journals.

1. American Society of Anesthesiologists - <http://www.asahq.org>. Excellent site having links to educational resources, CME, practice guidelines, publications, anesthesia history, anesthesia software, etc.
2. American Society of Critical Care Anesthesiologists - <http://www.ascca.org>.
3. American Society of Regional Anesthesia - <http://www.asra.com>.
4. Association of Cardiothoracic Anaesthetists - <http://www.duthie.u-net.com>.
5. Indian Society of Anaesthesiologists - <http://www.isa-india.com>.
6. International Trauma Anesthesia and Critical Care Society - <http://www.trauma.itaccs.com>.
7. Obstetric Anaesthetist's Association - <http://www.oaa-anaes.ac.uk>.
8. Society for Cardiovascular Anesthesiologists - <http://www.scahq.org>.
9. Society for NeuroAnesthesia and Critical Care - <http://anesthesia.ucsf.edu/snaccweb/snacc.html>.
10. Society for Pediatric Anesthesia - <http://www.pedsanesthesia.org>.
11. The World Federation of Societies of Anaesthesiologists - <http://www.uwcm.ac.uk/uwcm/aa/wfsa/>

Centres/Institutes of Anaesthesia

1. Anesthesiology Education Center, Cleveland Clinic Anesthesia - <http://www.anes.ccf.org:8080>.
2. Copenhagen Institute of Anaesthesiology, Herlev Hospital - <http://euler.ruc.dk/~foege/homepage.html>.
3. Institute of Anesthesiology, University of Palermo - <http://mbox.unipa.it/~ccare/ccare.htm>.

Departments of Anaesthesia

Many anaesthesia departments publish their own guidelines and protocols which include management details for specific diseases and surgical procedures.

1. Harvard Medical School - <http://www.hmcnet.harvard.edu/anesthesia>.
2. Indiana University School of Medicine - <http://www.iupui.edu/~anesth/index.html>.
3. Johns Hopkins University - <http://www.med.jhu.edu/anesthesiology>.
4. Massachusetts General Hospital - <http://www.mghdacc.com>.
5. New York University - <http://mcan01.med.nyu.edu/AnesHome.html>.
6. Stanford University - <http://www.med.stanford.edu/anesthesia>.
7. University of California, San Francisco - <http://anesthesia.ucsf.edu/anesthweb/default.html>.
8. University of Edinburgh - http://www.ed.ac.uk/~eoas05/home_1.htm.
9. University of Glasgow - <http://www.gla.ac.uk/Acad/Anaesthesia>.
10. University of Liverpool - <http://www.liv.ac.uk/Prospectus/PG/medanae.htm>.
11. University of Pennsylvania - <http://www.med.upenn.edu/~dripps>.
12. University of Pittsburgh - <http://www.anes.upmc.edu>.
13. University of Sydney - <http://www.usyd.edu.au/su/anaes/uni/department.html>.
14. University of Washington - <http://depts.washington.edu/anesth>.

Educational

1. Airway Management Guide - <http://www.adair.at/eng/manguide/default.htm>.

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2. Anaesthesia for the Pregnant Patient - <http://dacc.uchicago.edu/library/manuals/obstetric/obanesthesia.html>.
 3. Anaesthesia Manuals, University of Chicago - <http://dacc.bsd.uchicago.edu/library/manuals.html>.
 4. Anaesthesia Reference Materials, Walter Reed Army Medical Center - <http://www.wramc.amedd.army.mil/departments/surgery/Anesthesiology>.
 5. Anaesthesiology Educational Server, Cleveland Clinic Anesthesia - <http://www.anes.ccf.org:8080>.
 6. Anaesthesiology, Learning Modules for Continuing Education, MedPharm - <http://www.medfarm.unito.it/education/anestes.html>.
 7. Capnography - <http://www.capnography.com>.
 8. Cardiac Anaesthesia Manual, Dartmouth-Hitchcock Medical Center - http://an.hitchcock.org/pages/cardiac_manual/cardman.html.
 9. Cardiac Monitors - <http://www.cardiacmonitors.com>.
 10. Digitised Anaesthesia Lectures, University of Queensland - <http://gasbone.herston.uq.edu.au/vdo.html>.
 11. Educational Resources, Department of Anaesthesiology, University of Miami - http://umdas.med.miami.edu/Educational_Resources/educationalresources.html.
 12. Emergency Airway Management Course - <http://anesthesiology.mc.vanderbilt.edu/resweb/eamg/eamg1.htm>. Handouts from the course taught at Vanderbilt
 13. Emergency Airway Management Guide, Vanderbilt University - <http://anesthesiology.mc.vanderbilt.edu/resweb/eamg/eamg1.htm>.
 14. Epidural Misadventures - <http://www.oyston.com/anaes/local/muir.html>.
 15. Neuroanaesthesia - <http://www.anesthesia.lsumc.edu/neuro/start/neuropic.htm>. Lectures and a neuroanesthesia manual.
 16. Neuroanaesthesiology Manual, Cleveland Waterman - <http://gasnet.med.yale.edu/gta/neuroman/neuroman.html>.
 17. Obstetrical Core Program, Anaesthesia, University of Ottawa - http://www.magma.com/~relliott/core_obs/OBS_ToC.html.
 18. Postgraduate Course Material, University of Queensland - <http://gasbone.herston.uq.edu.au/pg.html>.
 19. Primary Anaesthesia Topics, University of Wisconsin - http://www.anesthesia.wisc.edu/kw_contents.html.
 20. Regional Blocks - <http://numedsun.ncl.ac.uk/~nds4/tutorials/shoulder/text/page12.html>.
- Journals**
- Many traditional peer-reviewed journals have developed electronic outposts on the World Wide Web. Publication on the internet offers the added advantages that **information** can be distributed world wide and can be easily and rapidly updated. Electronic publications use video, sounds, and pictures to present some ideas (e.g., characteristics of a heart murmur) that may be difficult to convey with printed text.⁶
1. <http://www.sciencekomm.at/journals/medicine/ana.html>. Location for many anaesthesia journals.
 2. American Journal of Anesthesiology - <http://www.amjanesthesiology.com/index.htm>
 3. Anaesthesia - <http://www.blackwell-science.com>
 4. Anesthesia and Analgesia - <http://www.anesthesia-analgesia.org>
 5. Anesthesiology - <http://www.anesthesiology.org>
 6. Anesthesiology Clinics - <http://www.wbsaunders.com/catalog>
 7. British Journal of Anaesthesia - <http://www.bjanaesth.com>
 8. Current Opinion in Anesthesiology - <http://www.biomednet.com/cgi-bin/members1/>
 9. Indian Journal of Anaesthesia - <http://www.isa-india.com>
 10. Internet Journal of Anesthesiology - <http://www.ispub.com/journals/ija.htm>
 11. Journal of Anesthesia - <http://link.springer.de/link/service/journals/00540/index.htm>
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12. Journal of Cardiothoracic and Vascular Anesthesia - <http://www.jcardioanesthesia.com>
 13. Journal of Clinical Anaesthesia - <http://www.elsevier.nl/inca/publications>.
 14. Paediatric Anaesthesia – <http://www.blackwell-science.com/products/journals/pan.htm>
 15. Regional Anesthesia - <http://www.churchillmed.com/Journals/RegAnes/jhome.html>
 16. Seminars in Anesthesia, Perioperative Medicine and Pain - <http://www.wbsaunders.com/catalog/>
 17. Seminars in Cardiothoracic and Vascular Anesthesia -<http://www.wbsaunders.com/catalog/>
 18. Update in Anaesthesia - <http://www.nda.ox.ac.uk/wfsa>
 3. <http://www.guideline.gov>. Management guidelines submitted to the government by health organisations.
 4. MDCConsult -<http://www.MDCConsult.com>.
 5. Swiss Anaesthesia Server - <http://www.medana.unibas.ch/eng/educ/standard.htm>.
 6. University of Michigan - http://www.med.umich.edu/anes/website_pages/toc_subspecial_guide.html.

CME's

Internet is becoming one of the most convenient, widely available, and cost-effective ways of providing CMEs.

1. http://www.anesthesiaweb.com/protected/cme/cme_flash.shtml.
2. <http://www.anesthesiologyonline.com/navigation.cfm>.
3. <http://www.asahq.org/continue.htm>
4. <http://www.nwas.com/general.html>
5. <http://www.pain.com/index.cfm>. Offers free CME credits on pain-related topics.

Case Conferences

1. Electronic Case Conference, Penn State University - <http://www.anes.hmc.psu.edu/caseconferencefolder/caseconferencewelcome>.
2. MedConnect -<http://www.medconnect.com>.
3. The World Congress in June 2000 in Montreal, Canada -http://www.wca2000.com/wca_enter.cfm.

Conclusion

The internet is a promising technology for disseminating information. It is growing at a rapid rate, and new resources, which offer new ways to learn and to communicate, are added almost daily. As the technology matures, the internet will play an even greater role in medical education, research, and clinical practice. Nevertheless, the quality of information on the internet is questionable due to the freedom to post any information by anybody and lack of any standardising body. Therefore, it is left to the users of on-line resources to discriminate sites with quality information. There is a need of peer review of educational websites for ensuring high quality as in the case of established medical journals. This article has briefly listed some of the important websites that provide educational information to the anaesthesiologists. Although every effort has been made to provide accurate web addresses of various sites, the dynamic nature of the

Anaesthesia books

1. Brown: Atlas of Regional Anesthesia - <http://www.mdconsult.com>
2. Current critical care diagnosis & treatment - <http://www.statref.com>
3. Global Textbook of Anaesthesiology - <http://www.gasnet.org/gta>.
4. Hypertextbook of Obstetric Anaesthesia - <http://www.manbit.com/oa/oaindex.htm>
5. Hypertextbook of Regional Anaesthesia for Obstetrics-<http://www.freebooks4doctors.com>
6. Illustrated Regional Anaesthesia - <http://weber.u.washington.edu/~aelizaga/regional/welcome.html>
7. Miller: Anesthesia - <http://www.mdconsult.com>.
8. The ICU book - <http://www.statref.com>
9. The University of Basel Anesthesiology Resident's Handbook - <http://www.medana.unibas.ch/eng/amnesix1/amnesix.htm>
10. Wall & Melzack: Textbook of Pain - <http://www.mdconsult.com>

Practice Guidelines

1. American Society of Anesthesiologists - <http://www.asahq.org/Practice>.
 2. Canadian Anesthesiologists' Society - <http://www.cas.ca/guidelines/practice.asp>.
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internet ensures that some of these addresses may change over time.

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6. *Ruskin KJ.* The internet: practical guide for anesthesiologists. *Anesthesiology* 1998; 89: 1003-14.
7. *Steckner K, Borkowski R.* On-line resources for the Pain Medicine physician. *Reg Anesth Pain Med* 2000; 25: 291-5.
8. *Tibbals J, Lerman J.* The internet and paediatric anaesthesia. *Paediatr Anaesth* 1997; 7: 265-6.
9. *Zura A, Smith MP.* Medical resources for the anesthesiologist on the internet. *Reg Anesth Pain Med* 2000; 25: 99-102.
10. *Sanders JC.* A comparison of internet usage between two residency programs in the United Kingdom and the United States. *J Clin Anesth* 2002; 14: 388-94.

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