Broad Based Resources

The Association of American Medical Colleges (AAMC)

**AAMC**: The AAMC is involved in the accreditation and representation of medical schools and teaching hospitals in the U.S. and Canada. It is also responsible for various medical education functions such as the admissions test, etc. The organization is composed of various structured groups, such as the Group on Educational Affairs, which represent areas of the AAMC’s overall mission.

https://www.aamc.org/ [1]

- **Academic Medicine**: Academic Medicine is the official monthly peer-reviewed publication of the Association of American Medical Colleges (AAMC). The journal provides an international forum for the exchange of ideas and information on undergraduate, graduate, and continuing medical education. Articles include policy papers, research reports, various analyses, and a variety of articles covering a wide range of issues that face medical educators, medical schools, teaching hospitals and other academic organizations.

- **MedEdPORTAL**: AAMC’s web-based tool that facilitates the exchange of high quality, peer reviewed educational materials with the goal of greater availability to the medical education community. The portal provides PowerPoint presentations, assessment tools, “virtual” patient cases and other teaching materials that assist in providing collaborations across disciplines and across institutions. The site is free, but users must register prior to using it.
  https://services.aamc.org/30/mededportal/servlet/segment/mededportal/information/ [3]

- **Group on Educational Affairs (GEA)**: The GEA promotes excellence in the education of physicians and is open to faculty with responsibilities in medical student, resident and continuing medical education as directed by their academic homes.

- **AAMC Reporter**: The publication reports on major programs and initiatives at the AAMC and member institutions. Also covered are broad issues that affect the academic medical community, critical issues regarding medical education, current and future shifts in the ever-changing medical education and health care environments, and conferences and meetings.
Medical Education Journals, Associations, Societies and Groups

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**International Association of Medical Science Educators (IAMSE)**: This international group provides opportunities to enhance excellence and innovations in teaching, learner-centered education, and a variety of other medical education areas. IAMSE was founded on the guiding principle that medical educators should have access to the most current information and skills needed to excel as educators. In addition to its journal, JIAMSE, webcasts are provided on innovative models of medical education along with a focus on faculty development.

- **Journal of the International Association of Medical Science Educators (JIAMSE)**: JIAMSE is an on-line publication presenting information on scholarly activities, opinions, and resources in medical science education.

**BioMed Central**: BioMed Central is a Science, Technology and Medicine (STM) open access publisher, providing many peer-reviewed, open-access journals such as BMC Medical Education listed below.
http://www.biomedcentral.com/ [8]
http://www.biomedcentral.com/journals [9] (list of journals)

- **BMC Medical Education**: BMC Medical Education is an open access journal focusing on the training of healthcare professionals, including undergraduate, postgraduate, and continuing education. Peer reviewed articles focus on curriculum development, evaluations of performance, assessment of training needs and evidence-based medicine.
  http://www.biomedcentral.com/bmcmededuc/ [10]

**The Society of Teachers of Family Medicine (STFM)**: The vision of the Society is to advance Family Medicine to improve health through a community of Teachers and Scholars. Membership includes a monthly scholarly journal featuring clinical and educational research articles and other educational materials. The Society also publishes and distributes books, monographs, and videotapes of interest to family medicine educators.

- **Family Medicine Journal**: The official journal of the Society of Teachers of Family Medicine.

**MedEdWorld: a global medical education community**: This on-line database for medical education was developed by the Association for Medical Education in Europe (AMEE) in collaboration with the Thematic Network on Medical Education
in Europe (MEDINE) addressing educational, institutional and quality issues in European medical education. Topics covered are teaching and learning methods, new learning technologies, assessment, curriculum planning, and other topics concerned with medical education.


**Association for Medical Education in Europe (AMEE):** Members from 90 countries include educators, researchers, administrators, curriculum developers and others affiliated with medical education. AMEE delivers a variety of courses to teachers in medicine plus produces the journal Medical Teacher, Best Evidence Medical Education (BEME) guides and the on-line resource MedEdCentral.

http://www.amee.org/home [14]

**Teaching and Learning in Medicine (TLM):** TLM is an on line journal that provides an international forum for the processes of teaching and learning in the education of medical professionals.

http://www.tandfonline.com/toc/htlm20/current [15]

**Advances in Health Sciences Education:** Scholarly and state-of-the art research into all aspects of health sciences education, along with linking theory to practice, is the focus of this on-line journal.

http://www.springer.com/education+%26+language/journal/10459 [16]

**Journal of On-Line Learning and Teaching (JOLT):** Free on-line journal through Multimedia Educational Resource for Learning and Online Teaching MERLOT addressing the scholarly use of multimedia resources in online education.

http://jolt.merlot.org/ [17]

**Medical Education On-Line (MEO):** MEO publishes peer-reviewed articles focusing on educating physicians and other health professionals. It is also a repository of resources such as curricula, syllabi, software, etc. that are made available to the health education community. Manuscripts on any aspect of the process of training health professionals are considered for peer-reviewed publication in this electronic journal.

http://med-ed-online.net/index.php/meo [18]

**Centre for Bioscience:** This center supports a large network of learning and teaching practitioners involved in bioscience throughout the United Kingdom with a focus on the improvement of student learning across the biosciences. The Center gathers and disseminates information and resources.

http://www.bioscience.heacademy.ac.uk/ [19]

  - **Case Studies of Learning and Teaching:** Case studies are examples of effective learning, teaching and assessment practices written by bioscience teachers.

http://www.bioscience.heacademy.ac.uk/resources/cslandt.aspx [20]

**New England Journal of Medicine (NEJM):** Under “Features” the NEJM includes a “Teaching and Learning” site complete with videos, etc. for subscribers.


**The Journal of the American Medical Association (JAMA):** In addition to various medical topics, videos are provided on line plus a section called “explore and interact” regarding a “case study”.

http://jama.jamanetwork.com/journal.aspx [22]

**The American Physiological Society (APS):** APS fosters education, scientific research, and dissemination of information in the physiological sciences.

http://www.the-aps.org/mm/Education [23]
• **Advances in Physiology Education**: This APS journal focuses on enhancing the teaching and learning of physiology, neuroscience and pathophysiology. It disseminates educational information and promotes educational scholarship to help improve teaching.
  
  http://www.the-aps.org/mm/Publications/Journals/Advances [24]

**WebMD**: WebMD includes up-to-date medical reference content databases, descriptions of medical symptoms, an on-line medical dictionary, information on a variety of health topics including first aid resources, information on drugs and medications plus a variety of other related medical and health information.

http://www.webmd.com/ [25]

Large Databases, Encyclopedias and Other Resources

**MedEdPORTAL**: AAMC's web-based tool that facilitates the exchange of high quality, peer reviewed educational materials with the goal of greater availability to the medical education community. The portal provides PowerPoint presentations, assessment tools, “virtual” patient cases and other teaching materials that assist in providing collaborations across disciplines and across institutions. The site is free, but users must register prior to using it.
  
  https://services.aamc.org/30/mededportal/servlet/segment/mededportal/information/ [3]

**Knowledge Weavers**: Innovative multimedia resources include tutorials, interactive cases, animations and other methods of delivery to support health sciences education.

http://library.med.utah.edu/km/digitalcollectkw.php [26]

http://library.med.utah.edu/km/digitalcollectkw.php [26] (educational resources)

• **ECG Learning Center Tutorial**: This interactive electrocardiography (ECG) tutorial represents an introduction to clinical electrocardiography, ECG terminology and diagnostic criteria.
  
  http://ecg.utah.edu/ [27]

• **Neuroanatomy Web QuizBuilder**: Two quizzes focus on Cranial Nerves & External Features of the Brain.
  
  http://library.med.utah.edu/kw/quizmaker_fmp/Neuroanatomy/selection_page.html [28]

• **Blue Baby Case Study**: A case study, diagnosing the cause of cyanosis in a newborn, is presented by the University of Arkansas for Medical Sciences in conjunction with Knowledge Weavers.
  
  http://library.med.utah.edu/hart/ [29]

• **Hyper Heart Animations created for Pharmacology Class**: Hyper Heart, a teaching tool developed for a pharmacology course, includes blood flow, aortic/ventricular volumes and pressures that are present in a normal cardiac cycle. (Pop-ups need to be unblocked in order to view tutorial information. Also right click and choose play to view the heart at work.)

  http://library.med.utah.edu/kw/pharm/ [30]

  http://library.med.utah.edu/kw/pharm/hyper_heart1.html [31]

• **Fatty Acid Synthesis and Modification**: This NetBiochem tutorial lists overviews, systems, reactions and synthesis for fatty acid. In each section, click on the numbered/lettered boxes at top right.

  http://library.med.utah.edu/NetBiochem/FattyAcids/outline.html [32]

• **NetBiochem Topics**: Several medical biochemistry topics are provided (e.g. heme and iron metabolism). Tables, graphics and quiz/exam questions are provided at the end of the respective topics sections.

  http://library.med.utah.edu/kw/derm/ [33]
• **Dermatology Image Bank**: In addition to Dermatological Anatomy/Physiology, Disorders, Diseases, and other information there is a self quiz plus short videos of procedures.
  http://library.med.utah.edu/kw/derm/ [33]

• **Multiple Sclerosis - Knowledge Weavers**: One of Knowledge Weaver’s educational multimedia resources that includes lectures, digital images, research projects and other information.
  http://library.med.utah.edu/kw/ms/ [34]

• **Content Development Templates**: This Knowledge Weavers website allows faculty to create customized web resources. Included are didactic sites, disease description sites, and interactive case-based learning sites.
  http://library.med.utah.edu/km/digitalcollectkw.php [26]

• **Web QuizBuilder**: WebQuizBuilder was produced by the Knowledge Weavers at the Spencer S. Eccles Health Sciences Library with the goal of assisting instructors in the design and creation of interactive web-based multiple choice quizzes without using the HTML code nor Javascript.
  http://library.med.utah.edu/kw/quizmaker_fmp/index.html [35]

**Multimedia Educational Resource for Learning and Online Teaching (MERLOT)**: Registered members access a user centered collection of peer reviewed online learning materials plus a set of faculty development support services. MERLOT’s strategic goal is “to improve the effectiveness of teaching and learning by increasing the quantity and quality of peer reviewed online learning materials that can be easily incorporated into faculty designed courses.”
https://www.merlot.org/merlot/index.htm [36]

  • **MERLOT Health Sciences Portal**: The MERLOT portal provides health science learning materials provided for the support of teaching and learning.
    https://www.merlot.org/merlot/HealthSciences.htm [37]

  • **MERLOT Learning Materials**: Learning materials are organized by sub-discipline and then by specific categories of each sub-discipline such as “Health Sciences” under “Science and Technology”.
    https://www.merlot.org/merlot/HealthSciences.htm [37]

  • **MERLOT Journal of On-Line Learning and Teaching (JOLT)**: Free on-line journal through MERLOT addressing the scholarly use of multimedia resources in online education. (Med Ed Journals/Assoc and Large Databases-MERLOT)
    https://www.merlot.org/merlot/HealthSciences.htm [37]

**MedlinePlus**: A U.S. government site that includes a medical encyclopedia and dictionary plus a data base of health topics, drugs and supplements, resources, and news items.
http://www.nlm.nih.gov/medlineplus/ [38]
http://www.nlm.nih.gov/medlineplus/mplusdictionary.html [40] (dictionary)

  • **Medline Plus Anatomy Videos**: A large number of interactive health education resources are provided in these videos.

  • **Videos of Surgical Procedures**: A large number of surgery procedures can be found at this Medline Plus website.

**National Center for Biotechnology Information (NCBI)**: This national resource creates public databases, conducts research, develops software tools for analyzing genome data, and disseminates biomedical information in order to promote a better understanding of the molecular processes affecting human health and disease. In the left column click on “Molecular Databases”, “Genomic Biology” “Education-Teaching Resources and On-Line Tutorials”, etc. to access the
Visible Human Project Gallery: The project, run by the U.S. National Library of Medicine (NLM), is a detailed data set of cross sectional images of the human body.


- Projects Based on the Visible Human Project: Images and animations can be found in a variety of databases that utilized the Visible Human Project Gallery. Databases include “3D Virtual Colonoscopy”, “Virtual Anatomy Explorer”, and others.

National Guideline Clearinghouse (NGC): A comprehensive list of medically related guideline summaries is available through this NGC web site, a public resources for evidence-based clinical practices guidelines.


E-Medicine: Provided by WebMD, this comprehensive electronic clinical resource is a continuously updated medical reference complete with atlases, digital images, basic principles, anatomical/functional organizations, clinical and research applications, practical methodology and other information.

http://emedicine.medscape.com/home?cc=aHR0cDovL2VtZWRpY2luZS5tZWRrZy2YwXZ55jb20vaG9tZQ==&cookieCheck=1

Martindale’s Health Science Guide ~ 2009: A database containing over 100,000 medical cases and grand rounds, teaching modules, atlases, images and videos/movies. This virtual center includes more than a dozen sections such as Anatomy, OB/GYN, Pediatrics, Radiology, Medical Dictionaries, Medical Cases, Primary Care Center, etc. plus specialized areas and topics.

http://www.martindalecenter.com/HSGuide.html

Digital Libraries

National Library of Medicine (NLM): The NLM is the world's largest medical library and includes a variety of health information targeted towards health care professionals, researchers, publishers, librarians and the public.

http://www.nlm.nih.gov/
http://www.nlm.nih.gov/hinfo.html (health information)

- Resource Lists & Bibliographies (NLM): NLM provides a list of current bibliographies in Medicine.

- MeSH: Medical Subject Headings (MeSH) is a controlled vocabulary thesaurus that assists in searching various levels of specificity.

PubMed Central (PMC): PMC is a huge digital archive of biomedical and life sciences journal literature at the U.S. National Institutes of Health (NIH), developed and managed by NIH's National Center for Biotechnology Information (NCBI),
Electronic Books from PubMed Central (PMC): Electronic books from PMC cover a variety of topics.
http://www.ncbi.nlm.nih.gov/books/ [57]

Health Education Assets Library (HEAL): HEAL provides free digital resources that enable health sciences educators across the country to efficiently search and retrieve teaching resources from a variety of sources. Browse by Medical Subject Heading (MeSH) or by HEAL’s collection and affiliated collections.
https://www.mededportal.org/publication/393 [58]

- HEAL’s Medical Subject Heading (MeSh): MeSh provides access to HEAL’s visual images and content descriptions of various medical topics, specific diseases, organisms, chemicals and drugs, and other medical education information.
https://www.mededportal.org/190142/search.html?q=MeSh&t=p&x=0&y=0 [59]

Cochrane Library: The Cochrane Library is a collection of databases in medicine and other healthcare specialties provided by the Cochrane Collaboration and other organizations. The Cochrane Reviews summarize and interpret the results of the world’s best medical research. The library aims to make the results of well-conducted controlled trials readily available and therefore is a key resource in evidence-based medicine.
http://www.cochranelibrary.com [60]
http://onlinelibrary.wiley.com/cochranelibrary/search/quick [61]

Medical Student Library: A listing of general medical and specialty virtual learning libraries for faculty and medical students.
http://www.medicalstudent.com/ [62]

National electronic Library of Infection (NeLI): The United Kingdom’s national digital library of infection is the home of on-line, evidence-based, quality resources on the topic of infectious disease.
http://www.neli.org.uk/IntegratedCRD.nsf/NeLI_Home1?OpenForm [63]

Michigan State University (MSU) Libraries: MSU subscribes to thousands of on-line journals that faculty can access with their net ID.
http://er.lib.msu.edu/ [64]

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Other Databases

Centers for Disease Control and Prevention (CDC): The CDC provides health and safety information to health care professionals, providers, researchers and scientists, students, educators, policy makers and others. Diseases, conditions and a multitude of other information are provided in an easily searchable format.
http://www.cdc.gov/ [65]
http://www.cdc.gov/DiseasesConditions/ [66] (diseases and conditions)

Institute of Medicine of the National Academies: Articles on a wide variety of topics including education and training of medical professionals, activities, publications and reports. Explore by topic from pull-down menu.
Access Excellence - Graphics Gallery: Access Excellence, in the National Health Museum, provides a large basic science resource covering cell processes, genetics, chromosomes, biochemistry, etc.

Education Resources Information Center (ERIC): ERIC, an online digital library of education research and information, is sponsored by the Institute of Education Sciences (IES) of the U.S. Department of Education. Education literature is easily available to support the use of educational research and information towards ERIC’s goal of improving practice in learning, teaching, educational decision-making, and research.
http://eric.ed.gov/

National Institute of Allergy and Infectious Disease (NIAIF): This NIH website includes comprehensive educational information on related health and research topics, publications, and clinical studies conducted or supported by NIAIF. Definitions, overviews, symptoms, diagnoses, treatments, research and other information is provided for a variety of disorders, diseases, infections, etc.
http://www.niaid.nih.gov/topics/Pages/default.aspx
  - Biodefense and Emerging Infectious Defense: NIAIF provides a separate section on biodefense related topics such as Avian flu, etc.
    http://www.niaid.nih.gov/topics/BiodefenseRelated/Biodefense/Pages/default.aspx

National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) Image Gallery: A searchable database of on-line photos and illustrations is provided by NIAMS. Click on “Advanced Search” at left and then click on the “keyword” drop menu to view various images of normal and abnormal anatomical views along with other photographs and explanations.
http://images.niams.nih.gov/

National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Image Library: NIDDK provides images, publications and medical information regarding diseases such as Diabetes; Digestive, Endocrine and Metabolic Diseases; Hematologic Diseases; and Kidney and Urologic Diseases.
http://catalog.niddk.nih.gov/ImageLibrary/

Clinical Trials: A registry of federally and privately supported clinical trials conducted in the United States and around the world.
http://clinicaltrials.gov/

Agency for Healthcare Research and Quality (AHRQ) - Evidence Based Practice: Evidence based information covers clinical care, research and special populations.
http://www.ahrq.gov/research/findings/evidence-based-reports/index.html

National Quality Measures Clearinghouse (NQMC): NQMC provides a Measure Index plus a complete list of measure summaries at this web-site.

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These resources were compiled and annotated by Lois Rosen, Ph.D., Instructional Consultant for the Office of Faculty and Organizational Development, Michigan State University.