

# New Media



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## SOFTWARE REVIEW

### Pediatric Anesthesia Worksheet

(c) 1998 Edwin Mathews MD, Charles Taylor

Pediatric Anesthesia Worksheet (PAW) is a spreadsheet written in Excel that makes a number of useful calculations in the anesthetic management of children. It can be run on a PC with Excel Version 5.0 or newer.

The program is available by downloading from the Yale GASNet web site at:

<http://gasnet.med.yale.edu/education/software>.

PAW is promoted as "a tool to aid in the anesthetic management of children" but the authors appropriately caution that it "is not a substitute for education, training, or experience in the anesthetic management of children" and emphasize that "clinical judgement must be exercised when applying the information contained in the worksheet to a specific clinical situation".

These obvious and sensible precautions aside, PAW is likely one of the most useful computer programs available to assist in the clinical management of pediatric anesthesia, and it's free.

The easiest way to use PAW is on a laptop (or handheld) computer, where age, weight and other clinical data are entered. A drug data sheet specific to the patient is then generated. This sheet would then be kept in the patient chart for easy access. To run the program, remember to enable Excel macros when prompted.

The program also makes several calculations other than drug dosages (ETT and LMA sizes etc.) and is useful for children from preterm through adolescence.

PAW assumes specific drug concentrations to convert mg to ml. Should the actual concentration in your

OR be different, it will be necessary to do some mental arithmetic. For instance, neostigmine is variously available in concentrations of 0.5, 1.0 and 2.5 mg·ml<sup>-1</sup>. The concentration used in PAW is 1.0 mg·ml<sup>-1</sup>. Should your hospital use a different concentration, some further arithmetic is in order.

I also suspect that the systematic use of PAW as a routine safety check for all drug orders, whether verbal or written, will catch a good deal of the occasional dosage errors that hit the newspaper headlines when a child dies through a drug dosing error (such as the recent Toronto neonate who died after receiving 5 mg morphine).

Should you be interested in exploring the equation set (dosing and treatment algorithms) upon which PAW is based, they can be printed out for teaching or for other purposes. This feature alone makes PAW valuable as a clinical resource.

All-in-all, PAW is a truly extraordinary piece of clinical software. By making PAW to be freeware, the authors also offer us a commendable example of "intellectual property philanthropy".

## WWW SITE REVIEW

### Echocardiography on the WWW: The American Society of Echocardiography

<http://www.asecho.org/>

The utilization of perioperative echocardiography by anesthesiologists and intensivists is rapidly expanding as a diagnostic tool and monitoring device for critically ill patients, and is especially useful in patients having complex cardiac procedures. One of a number of major issues regarding the use of this advanced tech-

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nology concerns the appropriate education and training of clinicians who perform echocardiography. A growing body of educational echocardiography material can now be found on the World Wide Web (WWW) to assist with the continuing education of the anesthesiologist-echocardiographer. The technology to provide the delivery of clear images and video on the Internet is constantly improving the framework for the distribution of ultrasound on the WWW.

The Web site for the American Society of Echocardiography (ASE) at <http://www.asecho.org/> is one of many echocardiography sites on the WWW, but ranks among the best.

The home page of the ASE site downloads quickly with a 56K modem. The layout of the page is esthetically pleasing and easy to read. The quality and quantity of information regarding the domain of echocardiography is impressive. Information available through the home page includes a general description of ultrasound, monthly letters regarding society events written by the president of the ASE, a calendar of upcoming echocardiography meetings and courses, a list of available grants and research supported by the ASE, and information on the ASEeXAM. The page offers the capability of contacting the society directly to order ASE documents and publications, to join then ASE, or to contact the ASE via e-mail. Links to other sites

include the American College of Cardiology, HeartWeb Cardiology Journal, American Heart Association, European Society of Cardiology, and The National Library of Medicine.

The experienced echographer will find the case of the month page to be especially worth a visit. Every month, a summary of a clinical problem that utilizes echocardiography as a diagnostic tool is presented. The cases are submitted by members of the society and are in a peer-reviewed short case report format. The clinical case page is separated from the diagnostic page, allowing the reader to formulate a differential diagnosis of the clinical problem before viewing the answer to the clinical problem. The graphics quality of the provided echo images is very good and short video clips are available for viewing. Although most case discussions are brief, the clinical quality of the cases are good and most case discussions provide a short reference list for more extensive review of the presented problem. Recent cases have included complex clinical cardiology and intraoperative problems of clinical relevance to anesthesiologists.

Other echocardiography sites that are worth a surf include:

- Columbia University (<http://cpmcnet.colum>

- bia.edu/dept/cardiology/echo/),
- University of Chicago  
(<http://cardiology.uchicago.edu>),
- University of Medicine and Dentistry of New Jersey  
(<http://www2.umdnj.edu/~shindler/>),
- University of Newcastle  
(<http://www.ncl.ac.uk/freeman.echo>).

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### Medical Privacy Issues and the Internet

Internet technology has the potential to offer much to the clinical world: integrated and complete electronic patient record keeping, E-mail communication with patients and colleagues, continuing medical education resources at very low cost, patient education webs sites and much more. However, these benefits must also be viewed from the perspective of medical privacy issues.

Privacy considerations dictate that patient confidentiality and dignity must always be maintained when conducting clinical activities via the Internet and applicable legal and regulatory statutes must be observed. To some extent, technological solutions already exist that are quite helpful to ensure that these concerns are appropriately dealt with. For example, data encryption and secure data transmission technologies are available to prevent the interception of personal information by anyone other than the CIA and NSA (and they probably are not interested in you!). Rather, more fundamental questions must be raised: What kinds of medically related information should be collected and what use of this information is acceptable?

Some examples may help. The use of "cookies" in Web browsers allows one to track a person's use of a particular web site. Should these cookies be sold to third parties by the Web site owners, there is potential for the violation of one's privacy. For instance, information about an individual's repeated visits to sites for AIDS information, herpes information, drug addiction resources, etc., could be sold to insurance companies or others by unscrupulous site owners. Consider also a marketer of a quack remedy for AIDS who gets e-mail addresses of visitors to an AIDS web site from a dishonest site owner in an effort to generate sales (or seek contributions in the case of a charitable organization).

In response to these concerns, various governments are taking a serious look at medical privacy issues. Increased accountability will likely be required of orga-

nizations that collect, market or distribute medical information. Patients would possibly be given the right to see who has examined their health records and to correct inaccurate or incomplete data. As an example of recent legislation, the US House of Representatives recently approved H.R. 4250, the Patient Protection Act. The bill may be viewed at <http://www.epic.org/privacy/medical/hr4250.html>.

The Electronic Privacy Information Center (EPIC) (<http://www.epic.org>) offers detailed suggestions about improving medical record privacy. These include sensible suggestions, such as mandating the use of encryption and audit trails and the avoidance of the social security number as a patient record identifier but also includes some more controversial suggestions, such as the requirement that psychiatric records not be included in any system of electronic records (why not also exclude treatments for sexually transmitted diseases, for instance?). For more details, please visit [http://www.epic.org/privacy/medical/EPIC\\_Principles.txt](http://www.epic.org/privacy/medical/EPIC_Principles.txt).