For the Office-based Teacher of Family Medicine

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Feature Editor

Teaching and Practicing Medicine With Handheld Computers

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The handheld computer can change the way you practice and teach medicine. With the explosion of information in medicine, it is not possible for the unaided brain to keep up with all the new drugs and studies that are released yearly. Now it is possible for you and your students to have much information at your fingertips and in your palm.

   Many physicians, medical students, and residents are buying handheld computers. Medical schools have made it a requirement, and some will provide financial aid for those who need it. Some residencies and medical schools are

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giving handheld computers to their trainees. You may find yourself working in your office alongside a student who comes well equipped with a handheld computer.

   At the moment, it appears that the Palm operating system (OS) is the most popular OS for handheld computers in medicine. However, the Windows CE handheld computers (Pocket PCs) are challenging the Palm OS computers for market share.

   Here are some examples of using the handheld computer to teach in the clinical setting:

   • You've come to the end of a patient encounter, and you are starting to write a prescription. You're not sure about the dose of the medicine so you go to look it up in your handheld computer. However, before you get your handheld computer out of your pocket and turned on, the student has already found

the correct dosage in his/her handheld computer. I call this dueling handheld computers. I never mind losing the duel because it helps the student feel useful, and you get the correct answer rapidly.

   • It is time to write the antibiotic prescription for a child, and you forget the formula to calculate the dose by weight. This time, you ask the student to look up the dosing formula and to calculate the dose based on the child's weight. The student gets practice calculating doses, and you may then provide some practical pointers on how to write the prescription.

   • The student is seeing a child who may need immunizations. There is no immunization chart in the room, but you have "Shots 2002" in your handheld computer. You either show the student this on your handheld computer or ask the student to look it up on his/her own

handheld computer. If the student has a handheld computer but not the software, you can beam this free software to the student. In the spirit of letting the student solve the problem, you ask the student to analyze the immunization history and chart and then give you his/her recommendation.

• A student comes out of the exam room after seeing an elderly woman whose children are worried that she may have Alzheimer's disease. You ask the student if he/she has done the mini-mental status exam, and the student replies that he/she could not remember the whole exam. You take out your handheld computer and tap on the icon to reveal the mini-mental status exam in full. Not only is the exam there on your screen, it also scores automatically every time you tap a box. If the student has forgotten how to administer the exam, there are line-by-line instructions on how to give the exam.

These are just a few of many ways you might use handheld computers to teach and practice medicine. Useful medical programs that can be placed on your handheld computer can be downloaded from such excellent Web sites as:

• **epocrates.com.** Epocrates medication information—excellent free drug information program with drug price information—updated every time you synchronize with the Web.

• **www.medscape.com.** Medscape Mobile—Tarascon Pharmacopeia and medical calculators for free.

• **www.immunizationed.org.** "Shots 2002" is a quick reference guide to the *2002 Childhood Immunization Schedule*. Details on each vaccine are available by clicking on the vaccine names. It includes information on adverse reactions, contraindications, catch-up, and administration for each vaccine. This site was produced by the Society of Teachers of Family Medicine Group on Immunization Education.

• **goldenratiodesign.com.** Folstein mini-mental status program called MentSTAT. Freeware application was written by a family physician for administering and scoring the standard mini-mental status exam on a single screen of your PDA. Easy to use and includes instructions.

• **med.fsu.edu/library/Medical Documents.asp.** This Florida State University site contains a document copy of the Folstein mini-mental status examination along with many other documents that you can download to your computer for installation on your handheld device.

• **pbrain.hypermart.net.** Peripheral Brain—great assortment of programs written or collected by a family physician.

• **www.redi-reference.com.** *Redi-Reference Guidelines* compiled by family physicians can be purchased on-line at this site.

At a time when practicing medicine is increasingly more complex and bureaucratic, it is great to have a new tool that helps you navigate through the abundant information and bureaucratic jungle of modern medicine. It is a great tool to enhance your teaching. You serve as a great role model to your students when you are up to date with the newest electronic brain extender. It is fun to share free software and suggestions for inexpensive software with your students. The students may find some new software that can help your practice.

If you have not yet purchased a handheld computer, dive in, buy one, and have fun. If you already have one, don't forget to use it to teach your students and residents.

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