

The iPhone: Is it an indispensable tool for medical students?

Cara M. Kajewski

First Year Medicine (Undergraduate)
University of New England

Cara is a former nurse now turned medical student. She is the first year representative on the University of New England Medical Student Association.

Technology is always presenting us with new ways of going about our daily lives, and our inability to be separated from our mobile phone, internet or online social networking is growing. Some technology has become obsolete and fallen into obscurity, while some has never caught on. One that definitely has, though, is Apple's iPhone. As medical students, smartphones have the potential to revolutionise our education and training, and one heavy contributor to this is Apple's growing library of medical 'apps' (applications made specifically for iPhones).

'Medical' is a headline category on the iPhone App Store, right next to Utilities, Lifestyle and Games. It is even separate from Healthcare and Fitness – something a good chain bookstore is yet to figure out. Entering this category brings up a multitude of free and paid apps that will be of interest to practicing physicians, medical students or other health care professionals. Finding an app to suit one's needs is made even easier by using one of several online app directories. Apps can do everything from looking up reference values, differentiating between types of arrhythmias to performing useful calculations. While this article cannot hope to delve very far into the thousands of medical apps available, what follows is an overview of some of the most popular ones, which may prove useful for the uninitiated.

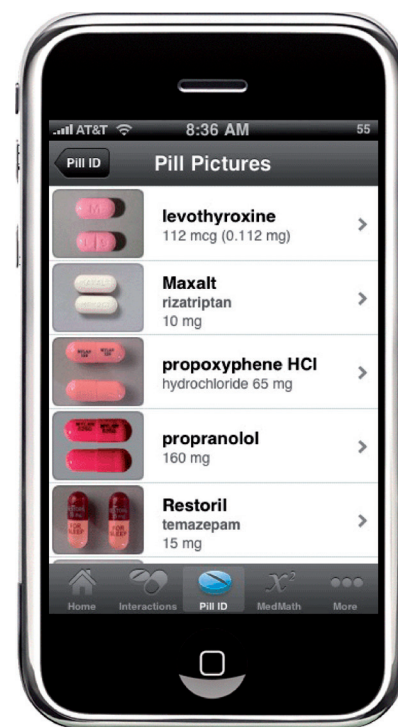
The app ABG, or Arterial Blood Gas, can help in the sometimes complicated world of blood gases; simply type in lab values to determine if an acidosis is respiratory or metabolic in nature. Instant ECG (electrocardiogram) displays rhythm strips of many common arrhythmias to study and then provides a quiz to consolidate learning. General Medical History categorically runs through all the questions one should ask to take a medical history. It is very comprehensive, and could be particularly useful for junior medical students who are still becoming familiar with the basics of history-taking. However, pulling

Table 1. Prices of popular medical iPhone Apps. All prices are in Australian Dollars unless specified otherwise, and were current at time of publication. All are available from App Store on iPhone or in iTunes, except MIMS Mobile, which is direct from the company. [1]

App	Price
ABG	Free
Drug Doses	\$23.99
EpocratesRx	Free Rx Pro - \$99/year Essentials - \$159/year Essentials Deluxe- \$199/year
General Medical History	Free
Gray's Anatomy Deluxe	\$5.99
Instant ECG	\$11.90 normally, currently \$3.99
MedCalc	Free
Medscape	Free
Merck Manual of Diagnosis and Therapy	\$59.99, including 12 months of content updates
MIMS Mobile	US \$170 [1]
Netter's Anatomy Flashcards	\$47.99
Skyscape	Free
Taber's Medical Dictionary	US \$49.95

out an iPhone in front of a patient, let alone a clinical supervisor, will no doubt fail to convey the best impression.

Some of the big names in textbooks have already made their way to the iPhone platform. The Netter's series of texts is available, including very handy anatomy flashcards. These are an ideal way to brush up on anatomical identification skills while commuting or waiting around. However, some may find that the size of the screen does not do justice to Netter's famous illustrations. The Merck Manual of Diagnosis and Therapy is a guide on the essentials of diagnosis and treatment. Taber's Medical Dictionary is perfect for a mental block on what Klippel-Trenaunay-Weber Syndrome actually is. The original Gray's Anatomy is right amongst the lineup in all its pencil-rendered beauty. However, while it does have a search function, it does not have a table of contents, which is a major oversight. Medscape, Epocrates and Skyscape are bundled apps which include medical calculators and continually updated drug and clinical references – a veritable all-in-one reference for clinicians on the go. Epocrates even has a drug identification tool to allow you to identify a patient's pills.



The Australian-specific content is also increasing. Frank Shann's Drug Doses promises to end the suffering of those who need a little reminder just how many mg/kg of fentanyl to give a child. Likewise, MIMS Australia now has their product available for the platform, allowing healthcare professionals to look up entire product information. Most of the calculator programs such as MedCalc have the ability to change units, allowing the user to easily modify the program to suit the needs of an Australian medico.

One of the drawbacks is that some apps are just not in an affordable price range for many students (Table 1). Netter's Anatomy Flashcards is priced at \$47.99, MIMS is an explosive \$170, and some, such as Frank Shann's Drug Doses at \$23.99, are over double the price of the hardcopy version. However, some of the helpful ones are free, such as Medscape and Skyscape, and there are always useful medical apps on sale. Epocrates has several tiers of its product. The basic version is free, and includes features such as a drug interaction checker and pill identifier. However, to obtain features such as disease images and a medical dictionary, a subscription is required, ranging from US\$99 to US\$199 depending on the features required.

Another major drawback to some of these apps is that they consume considerable amounts of storage space, such as Gray's Anatomy at 402

megabytes. These larger files also tend to take longer to load. There is also a warranted fear that students may become over-dependent on their phones for answers to questions they encounter on the wards, after becoming accustomed to not having to remember important facts. Students should keep in mind that information will eventually have to come from their heads and not their pockets.

Ultimately, is this all really going to help students with their study, patient care and practice of medicine? It is hard to conclude otherwise.

References

[1] Mims Australia. Mims Mobile Pricing [Online] 2010; [1 screen] [cited 2010 Feb 24]; Available from: URL: http://www.mims.com.au/index.php?option=com_content&task=view&id=246&Itemid=267

The benefit and convenience of having so many reference texts at one's fingertips, to be able to quiz one's self while waiting for a bus, or to have the ability to easily calculate a PaO₂/FiO₂ ratio at the bedside is undeniable. While students should not start discarding their traditional textbook library, they should definitely start to research or make use of smartphone platforms and their medical capabilities.

Conflict of Interest

None declared.

University English Editing Service

uni-edit
English Editing & Translation

專業編修或翻譯各類學術報告與論文・专业编辑或翻译各类学术报告与论文・대학영어 교정서비스

研究者の皆様のための最高水準の英文学術論文校閲および翻訳サービス・ متخصصون في الخدمات الجامعية لتحرير الأبحاث باللغة الانجليزية

- English correction for conference and journal papers, master theses, and PhD dissertations
- Specialist native English speaking editors and translators for medicine, health sciences & all other fields
- Specializing in academic, scientific and technical texts
- 90 expert native English speaking editors and translators serving over 120 universities
- Reliable on-time service, express 72-hour service available
- English, Chinese, Japanese, and Korean translation services
- Affordable prices and student discounts

www.uni-edit.net



Contact Ozy

ozysmile@gmail.com ozy@uni-edit.net

+61 2 8003 3005 Skype : ozysmile

