

## PDA's Promise and Peril

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## Agenda

- Library initiatives
- PDAs 101
- Content
  - Health sciences
  - Law
  - Business
- Licensing



## What Handhelds Do

- Basic apps
  - Datebook, Contact List, Memo Pad
- Specialized apps
  - **full-text**, databases, word processing, email, wireless access
- Sync" via cradle to desktop or web products
  - Desktop e.g. Outlook, ACT!
  - Web e.g. AvantGo



## What are libraries doing?

- Pilot resource assessments
  - usefulness
  - resource preference
- Training
- User groups
- Individual Consultations
- Policies or Recommendations
- Create resource pages
- Creating web pages for palm
- Create custom library "channels"
- Palm farms
  - Hardware
  - Content
- Fairs



Health Sciences Resources - PDA Zone - University of Alberta Libraries - Netscape

Home | GoogleSearch | Google.com | Search Oxford P...

**Nutrition**

- [EnteralCalc](#) - calculation of enteral patient nutritional requirements. \$
- [NutriCalc.1](#) - Calculates metabolic needs as well as the number and distribution of calories provided by intravenous and enteral routes.
- [Nutrition Supplements](#) - database of nutrition supplements.
- [Nutrition Facts Converter](#) - convert facts from food labels to match actual serving sizes.
- [Nutritional Assessment Calculator](#) - lets users determine their current nutritional lifestyle.
- [Nutritional Foods Database](#) - lists top foods by type of vitamin, mineral, etc.
- [RD Notes](#) - reference tool for clinical dietitians. \$
- [USDA Nutrient Database](#) - database of nutrients in a wide array of food and drink items.

**Pharmacy**

- [Journal of Informed Pharmacotherapy](#) - the PDA version via AvantGo.

Please help us improve this resource guide by taking a [quick survey](#).

This guide provides selective resources available through the Internet for PDAs. Any questions, comments or suggestions about this resource guide should be directed to: [Denise Koufogiannakis](mailto:Denise.Koufogiannakis@ualberta.ca) email: [denise.koufogiannakis@ualberta.ca](mailto:denise.koufogiannakis@ualberta.ca)

PDAs for Health Care Providers - Netscape

ARIZONA HEALTH SCIENCES LIBRARY

**PDAs for Health Care Providers**

Personal digital assistants in health care, education and research.

- **Hardware and Accessories**  
[PalmOS users](#) || [Pocket PC / Microsoft WinCE](#) || [Accessories](#) || [Shopping, News, and Support](#)
- **General Productivity Applications**  
[Tips and Tricks](#) || [Improving Built-in Applications](#) || [Essential Applications](#) || [More Tools](#)
- **Health Care Resources**  
[Alerts](#) || [General Sites](#) || [Education](#) || [Prescribing and Patient Tracking](#) || [Calculators](#) || [Reference Works](#)
- **Library Services**  
[Handouts](#) || [Table of Contents for AvantGo](#) || [Alerts ... new hardware and applications](#)
- **Health Sciences Library Initiatives**

For PDA Users: PDA Fair August 9, 2002 - Netscape

Time	Track A Medical Center Library, Lower Level	Track B Clinical Teaching Facility B-101
10:00 - 10:30a	A PDA Primer Jenny Reising	DEMO: Clinical Pharmacology OnHand Lon Stapleton
10:30 - 11:00a	Jeanesne Brian President/CEO, VNA Home Health Systems Topic: Getting IT done. A beyond the buzzword look into the planning and implementation of a successful enterprise wide mobile healthcare solution based upon the Palm OS.	DEMO: Intelcard, Clarinet Systems Wen Chang
11:00 - 11:30a	Kevin Shahbazi VP Marketing, TrustDigital Topic: Patient Data Privacy and PDA Security HIPAA requirements, legal exposure and privacy liabilities could be devastating to an organization.	DEMO: SNAP Handheld EEG Diana Nunn
11:30a - 12:00p	Linda Fischer, B.S. Topic: PDA Applications for Nurses	DEMO: Medical Wizards (ER, ICU Toolbox, Pedi Suite, ER Suite) Mark Jackson
12:00 - 12:30p	DEMO: Pumsstech/Intellisync Jose Rojo	DEMO: PocketPC Techs: repairs, upgrades Leonard Wesson
12:30 - 1:00p	DEMO: LWW, Skyscape Sean Young	DEMO: Allscripts Healthcare Solutions Scott Sumner
1:00 - 1:30p	DEMO: InfoPoems Joe Cassele	DEMO: STATRef Randal Franzen
1:30 - 2:00p	DEMO: Hewlett Packard Sally Patchen	DEMO: LexiComp Dan Krimsky
2:00 - 2:30p	DEMO: Ovid Technologies Don Kaczmarek	DEMO: Kyocera Wireless John Chier
2:30 - 3:00p		DEMO: PatientKeeper Inc. Gary Guxall

Handheld Recommendations, Faculty of Medicine, Dalhousie University - Netscape

DALHOUSIE UNIVERSITY

**HANDHELD RECOMMENDATIONS** FACULTY OF MEDICINE

Home | Introduction | Hardware | Software | Connectivity | Links | Documents | Contact Us

**Recommendations for Handheld Hardware and Software**

Dalhousie University Faculty of Medicine - Fall 2003, 4th edition

Handheld computers using the Palm operating system (PalmOS) are becoming an almost essential tool in medical education and practice. Often known generically as "Palm Pilots" or just "Palms," they are best known for their built-in scheduling, to-do list and address book features. They are also, however, capable of running a huge variety of medical software, from drug references and textbooks to medical calculators and image viewers.

In contrast to desktop or even laptop computers, handhelds are very small and light, offer the convenience of "instant-on" and a relatively long battery life, and are much more rugged (no moving parts). These features make them well-suited for the demanding healthcare environment. Recent models now even offer features such as voice recording, high-resolution screens, memory expansion and wireless modems—more computing power than on Apollo 11!

In recognition of their capabilities, of the fact that many of the students, faculty and staff of the Dalhousie University Faculty of Medicine are already using them, and of the exponential growth of their

Search

You can use AND or OR in your search

**Table of Contents**

- [PalmOS™ vs. PocketPC™](#)
- [Disclaimer and Copyright](#)
- [Hardware Guidelines](#)
- [Specific Models](#)
- [Software Recommendations](#)
  - o. [Medical Textbook](#)
  - b. [Drug Reference](#)
  - c. [Medical Calculators](#)
  - d. [Medical Dictionary](#)
  - e. [Infectious Diseases](#)
  - f. [USN Reference](#)
  - g. [Alternative Therapies](#)
  - h. [Document Reader](#)
  - i. [Image Viewer](#)
  - j. [Database Program](#)
  - k. [Security Program](#)
  - l. [Web Browser](#)
  - m. [USNRef](#)
  - n. [Patient Tracking](#)

Software - Recommendation Chart - Netscape

**Software Recommendation Chart** [Next >](#)

In order to make the choice of software as straightforward as possible, we have prepared a chart showing, in general terms, which software mentioned in this document is recommended for use by two major categories of users.

	Med1 & Med2 Students	Clerks, Residents, Physicians
Harrison's Manual of Medicine (14e or 15e)	X	X
Griffith's 5 Minute Clinical Consult		X
Washington Manual of Medical Therapeutics		X
DrDrugs (Drug Guide for Physicians)	X	X
LexiDrugs Platinum & LexiInteract		X

Software - Bundle Pricing - Netscape

**Bundle Pricing** [Next >](#)

To make the purchase of some of the recommended software in this document easier and faster, we have worked with the Personal Computing Purchase Centre (PCPC) to offer some software "bundles" giving medical students an easy way to buy a number of titles at the same time.

The new Core Medical Education Bundle, priced at under \$200 Canadian (contact PCPC at 902-494-2602 for exact current pricing), includes the following four titles:

- DrDrugs (drug reference)
- Harrison's Handbook 14/e (medical textbook)
- Tealock (security)
- BackupBuddy (backup and virus protection)

The Original Medical Education Bundle, priced at \$390 Canadian (an approximate 12% savings over the current retail price), includes the four software titles of the Standard Bundle, and adds the latest versions of the following three productivity titles:

- DocumentsToGo (document viewer)
- FireViewer Suite (graphics viewer)
- HandBase (database program)

Note that because most of the titles are sold by US companies, the current retail cost in Canadian dollars is an estimate based on the current exchange rate, and may vary.

For professional users with a need for more advanced references and also, not incidentally, with 16MB units and memory expansion cards to provide more space-we strongly recommend that you investigate some of the

Medical Library - PDA Info - Netscape

Home | GoogleSearch | Google.com | Search Oxford R...

**HARVEY CUSHING/JOHN HAY WHITNEY MEDICAL LIBRARY**

Library Classes | Tutorials & Guides | Educational Software | Blackboard | More

**PDA Class Information**

**PDA Hardware Reviews/Buying Tips**

- [ZDNet PDAs/Handhelds Reviews](#)
- [PDA MD.com's PDA Buyer's Guide](#)
- [Handheld Computer Depot](#) (associated with Amazon.com)
- [PDA Buyers Guide](#)
- [What's the Best PDA.com](#)
- [ITS-Med Palm OS Computing](#)
- [Yale University ePortal](#) Yale-only online purchasing (NETID required for access)

**Hardware Manufacturers: The Big Players**

- [Palm Computing](#) Palm OS
- [Handspring](#) Palm OS
- [Handera](#) Palm OS
- [Sony Clie](#) Palm OS
- [HP Handhelds](#) PocketPC OS

PubMed for Handhelds - Netscape

**PubMed** National Library of Medicine

**for Handhelds**

Search PubMed with no filters

**Or Use Filters:**

Systematic Reviews

**OR**

Clinical Queries (Research Methodology Filters)

Indicate Category and Emphasis below (for Clinical Queries only):

**Category:**

therapy  diagnosis  etiology  prognosis

**Emphasis:**

sensitivity  specificity

Enter query term(s):



## PDA Speak

- **Cradle**
  - Place PDA in to communicate with PC
    - Update & **sync** info in calendars etc.
- **IR Port**
  - Used to **beam** info between handheld devices
  - Wireless syncing
- **PDA**
  - Personal Digital Assistant
- **Power on Security**
  - Simple touch password screen
- **Stylus**
  - "pen" used with touch screen for updating and accessing

Tooy & Mayo, 2003, AACH Clinical Issues, 14 (3): 342

## Handheld Hardware

- Handhelds
  - Palm
  - Pocket PC
  - BlackBerry
- Integrated phones
- Add-ons
  - Memory Cards
  - Wireless
  - Keyboard



## Devices

- Palm OS
  - Handspring
  - HP Jornada
  - Palm Pilot
- Windows CE OS:
  - Compaq Ipac
- BlackBerry



## Portability & Convenience



Palm

Pocket PC

BlackBerry

### Phone/PDA Devices



Toshiba 2032

Treo 300

T-Mobile PPC

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### Wireless Networking

**802.11b - aka Wi-Fi**

- “Always-on” connectivity
- Longer range
- Starbucks, etc.


**Bluetooth**

- Device-to-device
- Shorter range
- “Secure”



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### Keyboards



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### Syncing

- Infrared Cradle
- Cradle



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## Content Discovery Tools

- Journal articles
  - mainly assessment, uses
  - PubMed.gov: *computers, handheld*
- Listservs
- Web
- Everyone's an "expert"
  - Consider the
    - source
    - criteria
    - currency

## Health care use

- Patients
  - Monitoring
  - Relaying information
  - Patient education
- Clinicians
  - Appointments
  - Billing
  - Prescriptions
  - Information
- Mandatory in some schools
  - 3<sup>rd</sup> or 4<sup>th</sup> year
  - Preloaded, required or recommended hardware and content
  - Library may or may not be involved in
    - Content recommendation
    - Licensing

## Types of Medical Apps

- Information sources
  - Drug lookup tools (Micromedex)
  - Diseases and condition lookup (5MCC)
- Tools (administrative, decision tools)
  - Cholesterol, pregnancy, BMI etc.
- Distilled evidence / practice advice
  - UptoDate, FirstConsult etc.

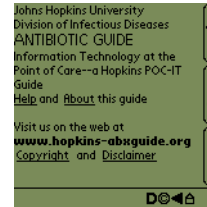
## Tools – Decision Aids

- For
  - More accurate dosing
  - Diagnostic Aid
  - Risk assessment
- “Evidence-based”



## Information Sources

- Free
- Fee

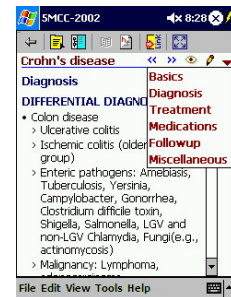


## Information Sources

- Download materials
  - Searchable
  - Many cross-linked to other products
  - Sync on the web for updates
  - May require supplementary software - (e.g. AvantGo)
  - Many publishers license identical content

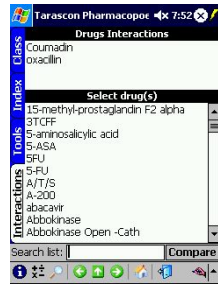


## Static Information - Books

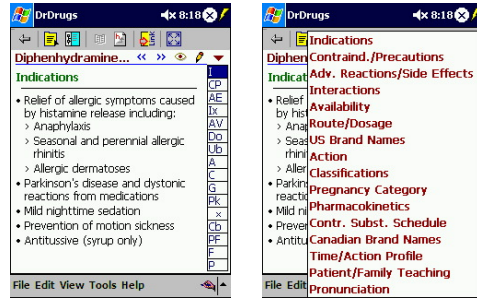


## Drug Info

- Extremely popular use
  - ePocrates,
  - PDR
  - A2Zdrugs
- Frequent updating needed
- Most free sources contain spyware



## Drug Info



## Drug Info



## Palmtop Content Selection

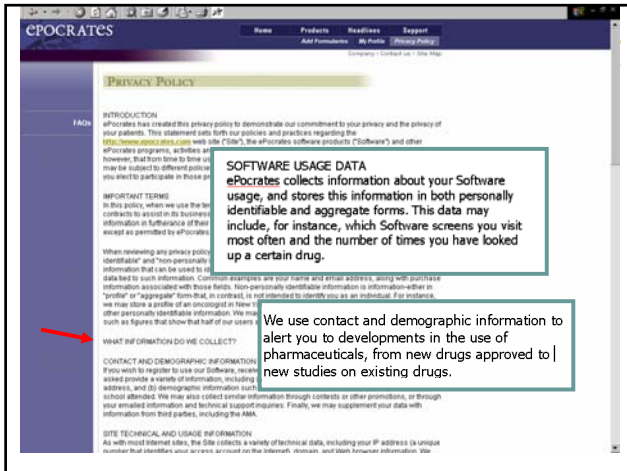
*It's not like buying books*

## Download and Install Issues

- Does it come in my handheld flavor?
- Do I have enough space
- How will I update?
- Do I need supplementary software?
  - And will I have enough room?

## Syncing Issues

- On sync, (too) much can be revealed
  - pre-registration for downloads provides info
  - initial download is tagged with a cookie-like identifier
  - handheld software may be set to retain information on usage
  - usage patterns may be synced back to the download provider



## Licensing is different

- License is either blanket or “per palmtop” not concurrent use
  - Who do you authorize?
  - How?
  - What about privacy?
- Product sellers are not always our typical content vendors
  - e.g. 5 Minute Clinical Consult = Skyscape

## Libraries bypassed

- Vendors going to:
  - IT
  - Department or Organization
  - Individual
- Many decision makers are unaware of content issues



## Content may not be complete

- How complete are the conversions?
  - Handheld capacity is limited
  - “Abridged” versions are common
  - Optimal “family” of products
    - Skyscape “family”



## Publisher “versions”

- Multiple versions of same content, different producers
  - e.g. 5MCC Lexi-comp and Skyscape
  - Download to evaluate
- Usability varies and is key
  - vary between products and vendors
  - no big winners
- Syncing success may vary
  - Publisher controls the sync, what happens when....?



**Distilled Content**

**DESCRIPTION**

- Episodic or chronic wheezing, dyspnea, cough, feeling of tightness in chest
- Airway hyperresponsivity in response to stimuli (smoke, exercise, cold air)
- Prolonged expiration and diffuse wheezing on examination
- Widespread polyphonic high-pitched wheezes
- Limitation of airflow on pulmonary function testing
- Reversibility of obstructive dysfunction after bronchodilator therapy

**SYNONYMS**

- Bronchial asthma
- Extrinsic allergic asthma
- Intrinsic asthma
- Bronchospasm
- Reactive airway disease
- Wheezy bronchitis
- Drug-induced asthma
- Aspirin triad

**URGENT ACTION**

- Status asthmaticus (severe, prolonged asthma refractory to conventional medication)
- Controlled-flow oxygen therapy 2-4L/min and monitoring with pulse oximetry
- Inhaled sympathomimetics with or without oral prednisolone
- Intravenous corticosteroids and fluids
- Antibiotics if bacterial infection is present

**KEY! DON'T MESS!**

- Morning dip in peak expiratory flow rate: most deaths occur during the early morning (circadian rhythm influence)
- The "silent chest" in severe asthma with too little air movement to hear a wheeze

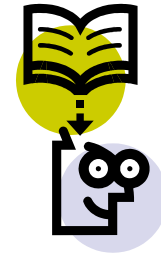
### Distilled Content

- Content extracted from many sources
- practice recommendations
  - articles, clinical practice guidelines, books, directly from “expert” advisors
- Web-based w/optional handheld
  - FirstConsult.com
  - UptoDate.com
  - InfoRetriever/InfoPoems



### Hardest content to evaluate

- Quality
- Timeliness
- Accuracy
- Evidence
- “Value added”
  - Synthesis
  - Abridgement



### Distilled Content - Evaluation

- Who selects the resources?
- Who writes the content?
- Will the publisher prefer resources from their own content “family”?
- How often is content updated? Criteria?

*Be prepared to conduct your own tests!*



### Is the library MoA?

- Staff
  - Use
  - Development
  - Support
- Collection development
  - Selection criteria
  - Vendor relationships
  - Licensing
  - Pricing



### What we tell users..



- If free...
  - check privacy policies of commercial downloads
- For all products...
  - plan an updating schedule
    - join alert service or set your own schedule
  - evaluate content carefully

### If you decide to deploy...



- Consider your goals carefully
  - goals are platform-independent
  - could wireless computers with the web do the job just as well?
- Create a deployment team
  - IT experts
  - Expert users
  - Librarians

### U of T status



- Lots of “unofficial” use and purchase
- No current requirement for incoming students
- Research:
  - Geriatrics palmtop project
  - DFCM
    - Medical education
    - Palmtop Patient Record (with library participation)
      - Additional information resources loaded
      - basic and optional “packs”: drug db, OVID@Hand, 5MCC
    - Linkage between patient record and resource use

### U of T initiatives



- Librarian Use
- Research projects
- Joint library-faculty committee
  - evaluate content
  - recommend solutions
  - provide advice and peer expertise



## Are Tablets next?

- More powerful
- Handwriting recognition
  - Annotations
- Vertical niche



## Questions and Final Thoughts

- Device Independence
- Model License Agreements
- Critical Mass of Experience
- Your questions
- **Thanks**

