Objectives:

1. Identify peer-reviewed evidence-based medicine databases that are commonly used in PT practice.
2. Identify a technology profile differentiating between push and pull technology and common resources for physical therapists and PTA's.
3. Identify various mobile device applications for the practicing therapist.
4. Discuss and share evidence-based resources that are currently being used in the realm of physical therapy practice.

What it is

…the judicious use of current best evidence in making decisions about the care of individual patients

(Tackett, 1996)
What do we base our clinical practice upon?

- Clinical Expertise
- Tradition Authority
- Patient Preference
- Clinical Context
- Trial & Error
- Reasoning: Logical
- Inductive
- Deductive
- Scientific

Evaluation of EBP: Remember..

- Is it clinically relevant?
- Cannot drive decisions solely on literature
- Involves patient preferences (ideas about practice, questions about practice, cultural beliefs, etc)
- Clinical context

Why EBP is important

*Helps us to make sound choices based on evidence. However, clinical practice still requires that we make choices/decisions based on theory, science or experience.*
Clinicians clinical profile:
(Fetters & Tilson, 2012)

- 2 Push technology resources
- 2 Pull technology resources

• 1 reference management system: (EndNote, Refworks, Reference Manager, Bookends)

‘Pick 2’

Pull Technology
- PubMed
- Google Scholar
- TRIP Database
- PEDro
- Hooked on Evidence

Push Technology
- MyNCBI auto searches
- Podcasts
  - Favorite journal
  - Cochrane Library Podcasts
  - www.cochrane.org/podcasts
  - POEM of the Week Podcast
  - via Essential Evidence
- APTA supported literature searches
  - Neurology Section
  - Vestibular SIG
  - Others
- RSS Feed
  - Favorite journal table of contents or APTA section
  - Topic updates from pubmed
  - etc. etc..

Filtered vs. Unfiltered Resources (Z Primary Care)

<table>
<thead>
<tr>
<th>Unfiltered</th>
<th>Filtered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pubmed</td>
<td>Cochrane</td>
</tr>
<tr>
<td>Medline</td>
<td>Hooked on Evidence</td>
</tr>
<tr>
<td>CINAHL</td>
<td>DARE</td>
</tr>
<tr>
<td>Google Scholar</td>
<td>Clinical Key (replaces MD consult)</td>
</tr>
<tr>
<td>uptodate</td>
<td>PEDRO</td>
</tr>
<tr>
<td></td>
<td>PIER</td>
</tr>
</tbody>
</table>
One method of categorizing research:
(Fetters & Tilson, 2012)

• Intervention

• Prognosis

• Diagnostic Accuracy

• Outcome Measures

Studies of Intervention

• PICO (Pubmed, TRIP)

• Pubmed: Clinical Queries

• Consider systematic reviews, clinical prediction rules, clinical practice guidelines

PICO
Outcome Measures

- Rehabmeasures.org
- PTnow

Unfiltered

- Pubmed Clinical Queries
- Google Scholar
- Etc. etc.

Filtered resources

- National Guideline Clearinghouse
- TRIP
- Uptodate
- PThis
- Hooked on Evidence
Using podcasts to enrich learning

- **Podcasts**
  - Physical Therapy Journal
  - Journal of Neurologic Physical Therapy
  - Journal of Pediatric Physical Therapy
  - Journal of the American Medical Association

**Free to all!**

Search: ‘physical therapy journal’ podcasts or in itunes

**Podcast Central**

- **Subscribe to PTP’s podcasts via RSS**
- On desktop computers: simply click on the feed icon (in the media player associated with your browser) and listen on your computer’s speakers. For help in downloading podcasts, visit here.

**Symposium Podcast: Advancing the Evidence Base in Rehabilitation for Military Personnel and Veterans**
   - Journal of Neurologic Physical Therapy
   - Journal of Pediatric Physical Therapy
   - Journal of the American Medical Association

**Health Services Research Funding and the Foundation for Physical Therapy**
   - The Journal of Orthopaedic and Sports Physical Therapy
   - Journal of Rehabilitation Research and Development

**Special Manipulative Therapy and Low Back Pain**
   - Journal of Manipulative and Physiological Therapeutics
   - Journal of Musculoskeletal Pain

**Patient Resources**

- Physiotherapy Choices
- WebMD
- MayoClinic.com
- Medline Plus
- Healthfinder.gov
- Electronic Library of Minnesota (elm4you.org)
  - Consumer Health Complete (EBP reports, conditions etc.)
  - Professional resource (HealthSource Nursing Academic Search Premier (EBSCO)
“Apps”

The College of St. Scholastica will not accept financial or other responsibilities associated with the use of these Apps or their effects on individual devices.

Physical Therapy Apps

General Medical (pharmaceutical)
Patient Education
Home Exercise
Kinematic Analysis
“Tools”: goniometer, ICD-9
EBP
Apps for patients

A few facts on apps (Wilcox et al., 2013)

• 85% use of health professional use a smartphone, with 30-50% use medical apps in clinical care
• Over 10,000 apps available in the “medical section” of Apple’s App store
Evernote

- http://evernote.com/evernote/

Feedly #1 Free app

(imedicalapps.com, 2013)

feed your passions

The better way to read and share the content of your favorite sites.

Get Started

General Medical
Top 8 apps of 2012 (Lippman, 2013)

- Epocrates Essentials (comprehensive)
- MedCalc (medical formulas)
- Medscape Mobile (drug and condition reference, medical news, CME courses)
- DynaMed (clinical reference, updated daily)
- Micromedex Drug Information
- Skyscape
- Diagnosaurus DDx (diagnostic search tool)


Epocrates

- Epocrates Rx (drug reference): free,
- Epocrates Rx Pro (drug reference plus infectious disease guidelines): $99 per year,
- Epocrates Essentials (clinical reference suite): $159 per year,
- Epocrates Essentials Deluxe (clinical reference suite plus ICD-9 and CPT codes and a medical dictionary): $199 per year

Walsworth (2013)

Patient Education: Visible Body
Patient Education: Pocket Body

- Anatomy educational app

EBP apps

- Medscape
- PubSearch
- UpToDate
- PubMed on Tap
- Evidence in Motion

EBP: #1 Healthcare App

(imedicalapps.com, 2013)
Literature Search Applications

PubSearch
By deathrays21

Open the Mac App Store to buy and download apps.

Description
Fast, efficient PubMed searching on your Mac.
PubSearch is a fast, efficient search tool for students, medical professionals and students who rely on the ability to quickly access the research articles indexed in PubMed.

Features
1. Fast, efficient PubMed searching
2. Google, quick search interface
3. Subscribe to email alerts

EBP: UptoDate

UpToDate for iPhone and iPad

UpToDate Mobile App
Treat your patients anywhere with the UpToDate® Mobile App for iPhone or iPad. Now UpToDate Mobile is search new and improved, clinical content on your device for the answer you need at the point of care, without losing your patient’s notes. All you need is a network connection. Individual subscribers and institutional users with UpToDate Anywhere access may install the UpToDate Mobile App on your device for free of charge. The UpToDate Mobile App is available in many countries.

Choose as one of the “Best Apps in Publishing” by ITWired Magazine.
Home Exercise
My Therapy Exercise
Go Motive
My physio
PT genie
Video X

Kinematic Video Analysis
Kcapture
Dartfish
Coaches Eye
Ubersense
Clinical Tools

App Giraffe
CORE
iGeriatrics
PT Spanish
Goniometer
ICD-9 Consult

Apps for Patients

• Medication tracker
• Headache
• Anxiety: Breathe2Relax
• Weight loss: myfitnesspal


App for patients with frozen shoulder

FrozenShoulder Goniometer

*Posed on October 19, 2013 by Medical App Journal*

FrozenShoulder Goniometer is a digital measurement tool to calculate joint range of motion specifically for the shoulder. The design allows for the clinician to place the device running the app in the patient’s hand in order to measure the shoulder functional movement from the patient’s side into flexion, abduction or extension. A two tap approach at start and then finish, with joint motion in large font, is displayed on the screen.

BOTTOM LINE: This price tag is free! I would not recommend this application as a first choice for smartphone-enabled goniometry, especially with many better options. However, it may be a great tool to recommend to a patient who has frozen shoulder so that they can monitor their own progress.
Management of Chronic Conditions
- Diabeo
- Asthma Peak Flow Monitoring
- Hearing Check
- uHear
- iTinnitus
- Fall Detector
- Mayo Clinic Meditation


### Table 3
A sampling of apps your colleagues are prescribing

<table>
<thead>
<tr>
<th>Conditions</th>
<th>App</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>Breath2Relax, Meditation Techniques</td>
</tr>
<tr>
<td>Migraine/Pain</td>
<td>Headache, Migraine</td>
</tr>
<tr>
<td>Menopause</td>
<td>BioGen, InPain</td>
</tr>
<tr>
<td>Pain</td>
<td>eW MD Pain Coach</td>
</tr>
<tr>
<td>Sleep problems</td>
<td>Sleep Diary</td>
</tr>
<tr>
<td>Weight loss</td>
<td>Calorie Count, Lose It, Matthew's Pal</td>
</tr>
</tbody>
</table>

Recommended General Healthcare Apps and Patient Apps from the College of St. Scholastica

- [http://libguides.css.edu/content.php?pid=444815&sid=3643743](http://libguides.css.edu/content.php?pid=444815&sid=3643743)
Medical app rating resources

• imedical apps.com
• Medical App journal: medicalappjournal.com

FDA Regulations

• Less than 35% of medical apps had a medical expert in involvement during their development in dermatology (Hamilton & Brady, 2012)
• 12% reported a physician as the app’s author (Willem et al., 2013)

FDA Regulations (U.S. FDA, 2013)

• Approx 100 apps are approved currently
• Apps the control a medical device or display, store or analyze or transmit patient specific medical device data
• Formulate algorithms, output patient-specific results such as a diagnosis, treatment recommendation or differential diagnosis
• Transform the mobile platform into a regulated medical device by using attachments or sensors or similar medical device functions
Reflection Questions (Walsworth, 2012)

- Will I use this app frequently?
- If not, does it do its job so well that it has value for me?
- Do I trust the results?
- Do I trust the source? (Haffey, 2013)
- Does the value justify the cost?

References