Keeping Clinically Current and How to Perform Critical Appraisal in Everyday Practice

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How do you keep up with the medical literature?

How are you currently teaching your residents critical appraisal skills?

Do you feel comfortable doing it?
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Disclosures

The views expressed are those of the author(s) and do not reflect the official policy of the Department of the Army, the Department of Defense or the U.S. Government.
Objectives

- Discussed the 6S approach to EBM
- Practiced answering EBM questions using the best sources on our mobile devices
- Reviewed one critical appraisal system
- Practiced using that system on a journal article
Where to Find the Best Evidence?

• Burn your traditional textbooks
• Use the 6S approach to EBM info access
• Organize access to EBM info services
• Change your approach: prompt/pull/push

Burn Your Textbooks

• Text must have in-line references to support each key recommendation
• References for each key recommendation must be no more than 2-3 years old

Activity 1 (2 min)

Go to your favorite EBM resources and see if they “pass” these two steps
6S Approach

- Systems
- Summaries
- Synopses of Syntheses
- Syntheses
- Synopses of Studies
- Studies

Examples of resources:

- Computerized decision support systems
- Evidence-based clinical practice guidelines
- Evidence-based textbooks
- DARE: health-evidence.ca
- Evidence-based abstraction journals
- Systematic reviews (e.g., Cochrane Library)
- Evidence-based abstraction journals
- Original articles published in journals
  - ClinicalEvidence
  - DynaMed
  - eMedicine
  - PIER
  - UpToDate
  - ACP Journal Club
  - DARE
  - Cochrane Systematic Reviews
  - ACP Journal Club Evidence Updates
  - Medline/PubMed CINAHL
Organize Access to EBM Info Services

- Madigan Library Homepage
- AMEDD Virtual Library
- UW Healthlinks
- USU LRC
- Clinical Key
- Others?
Prompt/Pull/Push

- Prompt: “highest” level; system level fix
- Pull: you go searching for the evidence
- Push: evidence info is sent to you
How to “Push” Evidence

- Cancel your full-text journal subscriptions
  - Subscribe to table of contents
- Invest in EBM journals and online services
  - Journal Watch
  - Medscape/MedPage
  - Daily POEM
  - Podcasts: BS Medicine, Primary Care RAP
  - Prescriber’s Letter/Medical Letter
  - ACP Journal Club

Got Apps?

- How many of you have a smartphone?
- How often do you use it in clinic? Wards?
- Which apps do you use the most?
Information Anxiety

- Too much information
- “Ping-pong” between sources
- “My last case…In my experience…”
- How do we find the “truth”? 

DOE versus POEM

- Disease-Oriented Evidence
  - Etiology, pathophysiology
  - Intermediate outcomes
- Patient-Oriented Evidence that Matters
  - Morbidity, mortality
  - The “so-what” questions
DOE versus POEM

- Disease-Oriented Evidence
  - Etiology, pathophysiology, pharmacology
  - Intermediate outcomes

- Patient-Oriented Evidence *that Matters*
  - Morbidity, mortality, quality of life
  - The “so-what” questions
Dr Maurer’s POEM Finder

- UpToDate
- Dynamed Plus
- EE+
- Medscape
- AFP by Topic
- PubMed4Hh
- AHRQ ePSS
- Prescriber’s Letter

- MDCalc or Qx Calculate
- Dr Steinberg, Dr Brancel
- Epocrates or Lexicomp
- Hopkins or Sanford Guide
- ASCVD, Aspirin Guide
- Pedi QuikCalc, PediSTAT
- OB Wheel, GBS, Preg A-Z
- HEART Pathway, SI Sepsis
Case 1

- An 85 y/o male with Type II diabetes, hypertension, and hyperlipidemia has an A1c of 8, and a blood pressure of 145/90.
  - What is his goal A1C?
  - What is his goal blood pressure?
  - He is on a statin. Should he be?

Where Would I Go?

UpToDate
OR
Dynamed
 +/-
ASCVD, ADA, AgileMD, ePSS
Case 2

- A 65 y/o male presents with CAP, PMHx of Afib, CHF, Tmax 101.5, RR 35, HR 130, and BUN 35.
  - Should the patient be hospitalized?
  - What antibiotics to use?
  - What about drug interactions with warfarin?
  - What immunizations should he receive?

Where Would I Go?

UpToDate, Dynamed, EE+
OR
Pneumonia, Qx Calculate
AND/OR
Hopkins Abx Guide, Sanford Guide
AND/OR
Epocrates, Lexicomp
AND
SHOTS
Case 3

• An 55 y/o AA male with Type II diabetes, hypertension, and hyperlipidemia has an A1c of 7, and a BP 145/90. No history of GI bleeding. Non-smoker.
  - Should this patient be on aspirin? NNT? NNH?
  - What if the patient has a history of PVD?
  - What if they had a history of PUD?
  - What if he were a she? 75 years old?

Where Would I Go?

Aspirin Guide
OR
ePSS
Case 4

- A 47 y/o male presents to ER with chest pain: left-sided, worse with exertion, no nausea, diaphoresis or radiation. PMHx sig for HTN, Fam hx of CAD 1st relative at 56. EKG wnl.
  - Admit and rule-out? GXT in ER?
  - Would you do serial troponins? How many?
  - What if patient was 65? Female?

Where Would I Go?

HEART Pathway
OR
QxCalculate
Case 5

- A 30 y/o G2P101 at 38 wks presents in active labor. NO GBS testing was performed. Membranes ruptured at home 8 hours ago and baby delivers precipitously....
  - Did this patient require GBS prophylaxis?
  - What work-up does the infant require?
  - What if the newborn is ill appearing/febrile?

Where Would I Go?

UpToDate
OR
Dynamed
OR
Prevent GBS
Dr Maurer’s POEM Finder

- UpToDate
- Dynamed Plus
- EE+
- Medscape
- AFP by Topic
- PubMed4Hh
- AHRQ ePSS
- Prescriber’s Letter
- MDCalc or Qx Calculate
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- Pedi QuikCalc, PediSTAT
- OB Wheel, GBS, Preg A-Z
- HEART Pathway, SI Sepsis
Best of the Rest

- Medical Letter
- RxFiles
- QxRead
- STAT!Ref
- ClinicalKey
- Journal Club
- CASP
- Anticoag Eval
- VisualDx
- ASCCP
- AACE Diabetes
- Endo Companion
- AAP NRP
- Kids Doc
- Postpartum Hemorrhage
- Ilithyia
- AGS GEMS
- Psych on Demand
- COPD Pocket Consultant
- ESCAVO Sepsis

ACCORD Trial
How to Review an RCT in 10 Minutes

What Are Your Needs?

- Read the title…does it interest you?
- What was the comparison? (PICO!)
- What are the outcomes? DOE or POEM?
- Look for the duration…long enough?
- Read the conclusion…game changer?
Search for Bias

- Randomized?
- Blinded?
- Allocation/concealment?
- Intention to treat?
- Follow-up/dropouts?
- Conflicts of interest?

Ignore the Rest of the Paper!

- Ignore the Introduction
- Ignore the rest of the Methods
- Ignore the statistical testing(!)
- Ignore the Discussion
Who Was Studied?

• AKA Table 1
• Any major group differences?
• Study participants like your patients?

What Happened?

• AKA Table 2 and 3
• Outcomes
• Primary outcome
  – ARR, RRR
  – Confidence intervals, \( P \) values
• Adverse events
Who Cares?

- Create a summary table
- Create a summary PICO statement

Resources

- How to Review an RCT in Ten Minutes
- Best Science Medicine Podcast
  - http://therapeuticseducation.org/
- Critical Appraisal Worksheets
  - http://www.casp-uk.net/#!casp-tools-checklists/c18f8
- Club J
- Madigan Faculty Development Fellowship APAN
  - https://apan.org
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Questions?
Please…

Complete the session evaluation.

Thank you.