

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

COL Douglas M. Maurer, DO, MPH, FAAFP

Program Director

MAJ Jeffrey H. Burket, MD

Madigan Faculty Development Fellowship



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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.



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# iMedicalApps Associate Editor



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## 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

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## 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

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## 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

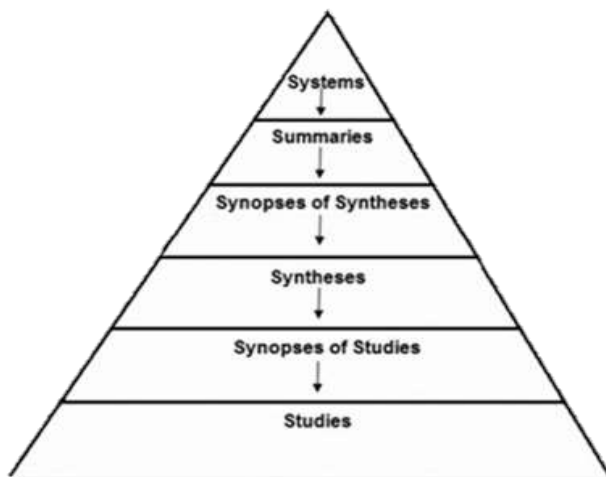
### Activity 1 (2 min)

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

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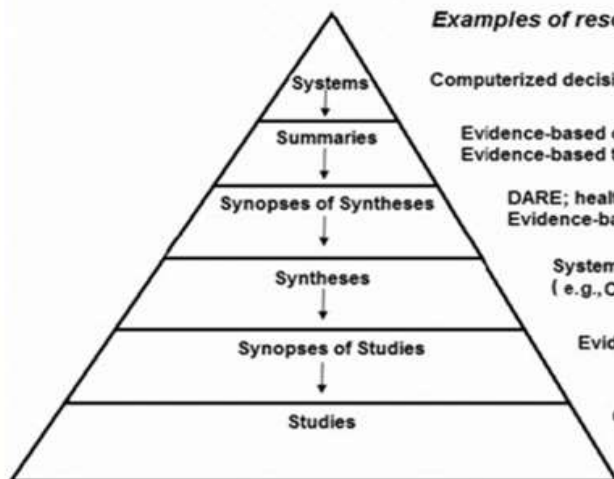
# 6S Approach



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# 6S Approach



## Examples of resources:

Computerized decision support systems

Evidence-based clinical practice guidelines  
Evidence-based textbooks

DARE; [health-evidence.ca](http://health-evidence.ca)  
Evidence-based abstraction journals

Systematic reviews  
( e.g., Cochrane Library)

Evidence-based abstraction journals

Original articles published in journals

Clinical Evidence

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?



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W

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UNIVERSITY of WASHINGTON  
University Libraries

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TOOLKITS

LIBRARY GUIDES

DATABASES

SERVICES

PubMed   MyNCBI	Libraries Catalog	Mobile Resources
CINAHL Complete	eJournals   eBooks	Request an Article
EMBASE	UpToDate	Contact a Librarian
PsycINFO	DynaMed	Your Library Account
Micromedex	ClinicalKey	Off Campus Access
Scopus	Web of Science	

**ASK US!**

**RESERVE A SPACE**

**GET WRITING HELP**

**Library Hours**  
Mon Dec 5, 2016  
7:30 am - 9:00 pm

**TODAY'S HOURS**

TOOLKITS

Care Provider

Nurse

Nurse APRN

Pharmacist

Public Health

Scientist

Social Work

More Toolkits

UW Health Sciences Library > Toolkits > Care Provider Toolkit

**HOW DO I...?**

- Contact a Librarian
- Contact from Off-Campus
- Order Articles/Books
- Mobile Resources
- More Guides

**TOOLKITS**

- Care Provider
- Nurse
- Nurse APRN
- Pharmacist
- Public Health
- Scientist
- Social Work
- More Toolkits

**SERVICES**

- All Services

**RESOURCES**

**Search for Articles**

If off-campus LOG IN before using search box

Search PubMed

Go

Advanced Search | Web | MyCBI

CINAHL Complete (Ebsco) Cumulative Index to Nursing & Allied Health Literature

**Books & Journals**

Search All UW eJournals

Major Clinical eJournals

Select from list

eBooks by Subject

**Find the Evidence**

PubMed Clinical Queries

ACCESSSS

TriP Database

Sign up, choose library, for easier access to full-text

Cochrane Library

BMJ Clinical Evidence

Essential Evidence Plus

**Diagnosis & Therapy**

UpToDate

DynaMed

AccessMedicine

ClinicalKey

Register to \* view book chapters pdfs \*use CME

STATRef Online Library

Nursing Reference Center Plus

Procedures Consult

VisualDx

More ...

Public Health - Seattle & King County

Notifiable Diseases Reporting Requirements

GeneReviews

GeneTests

UW Medicine Anticoagulation Services

UW Medicine Laboratory Test Catalog

Manual of Laboratory & Diagnostic Tests

Stedman's Medical Dictionary

Trauma Pearls and Protocols - requires UWNetID

**Prevention**

CDC Travelers' Health

CDC Immunization Schedules

Clinical Calculators

**Drugs**

Micromedex Healthcare Series

Natural Medicines

UW Medicine Drug Formulary

Red Book - Report of the Committee on Infectious Diseases

Sanford Guide - Web Edition

**UW SOM Antibigrams**

UW-MCHMC 2015 Antibigram

UW-MCHMC 2015 Supplemental Antibigram

Antibigrams from past years

**Patient Education**

ClinicalKey Patient Education

Search then choose Content Type: Patient Education

MedlinePlus

Herbs and Supplements - MedlinePlus

Micromedex Patient Handouts

FamilyDoctor.org

UW Patient Education

Culture Clues

Ethnomed

## 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



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## 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?



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## Information Anxiety

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

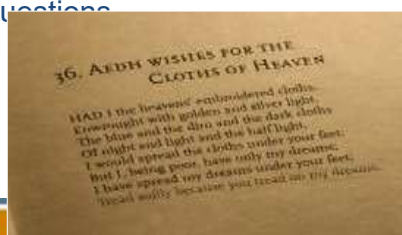


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## DOE versus POEM

- Disease-Oriented Evidence
  - Etiology, pathophysiology
  - Intermediate outcomes
- Patient-Oriented Evidence
  - Morbidity, mortality
  - The “so-what” questions

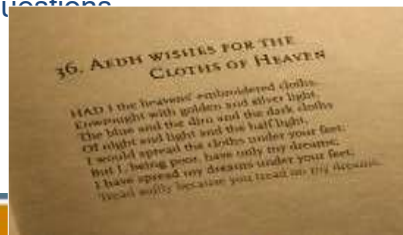


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## DOE versus POEM



- Disease-Oriented Evidence
  - Etiology, pathophysiology, pharmacology
  - Intermediate outcomes
- Patient-Oriented Evidence *that Matters*
  - Morbidity, mortality, quality of life
  - The “so-what” questions



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## 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

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## 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?

3 Minutes

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## Where Would I Go?

UpToDate



OR

Dynamed



+/-

ASCVD, ADA, AgileMD, ePSS



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## 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?

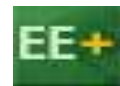
3 Minutes

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## Where Would I Go?



UpToDate, Dynamed, EE+



Pneumonia, Qx Calculate



Hopkins Abx Guide, Sanford Guide



AND/OR



Epocrates, Lexicomp



AND  
SHOTS



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## 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?

3 Minutes

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## Where Would I Go?

Aspirin Guide



OR

ePSS

ePSS

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## 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 1<sup>st</sup> 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?

3 Minutes

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## Where Would I Go?



HEART Pathway  
OR  
QxCalculate



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## 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?

3 Minutes

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## Where Would I Go?



UpToDate  
OR  
DynaMed  
OR  
Prevent GBS



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## Dr Maurer's POEM Finder



- [UpToDate](#)
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- [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
- Illithia
- AGS GEMS
- Psych on Demand
- COPD Pocket Consultant
- ESCAVO Sepsis

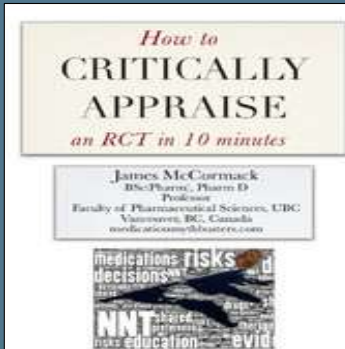
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## ACCORD Trial



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# How to Review an RCT in 10 Minutes



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## 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?



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## Search for Bias

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



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## Ignore the Rest of the Paper!

- Ignore the Introduction
- Ignore the rest of the Methods
- Ignore the statistical testing(!)
- Ignore the Discussion



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## Who Was Studied?



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



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## What Happened?



- AKA Table 2 and 3
- Outcomes
- Primary outcome
  - ARR, RRR
  - Confidence intervals, *P* values
- Adverse events



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## Who Cares?



- Create a summary table
- Create a summary PICO statement



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## Resources



- How to Review an RCT in Ten Minutes
  - <https://itunes.apple.com/ca/book/how-to-critically-appraise/id524600667?mt=11>
- Best Science Medicine Podcast
  - <http://therapeuticseducation.org/>
- Critical Appraisal Worksheets
  - <http://www.casp-uk.net/#!/casp-tools-checklists/c18f8>
- Club J
  - <http://www.usafp.org/committees/education/fellowships/madigan-faculty-development/madigan-fac-dev-journal-club/>
- Madigan Faculty Development Fellowship APAN
  - <https://apan.org>

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## Objectives



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- Practiced answering EBM questions using the best sources on our mobile devices
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## Questions?

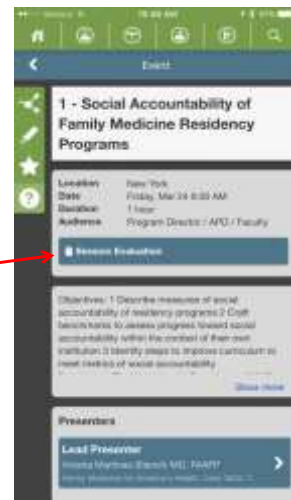


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Please...

Complete the  
session evaluation.

Thank you.



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