Taubman Health Sciences Library

Active Learning & Library Instruction:
Team Teaching with Faculty Physicians

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Problem-based learning techniques have long been integrated into both undergraduate medical education and library instruction sessions. By integrating active learning activities into standard hands-on EBM instruction, students are required to engage more with both the library resources, and with the case-based subject content that they are learning.

Our second-year EBM resources component is co-taught by librarians and a medical school faculty physician. The format of this competency-based, curriculum-integrated session is largely made up of active learning exercises focused around cases related to their current rotations.

Active Learning Exercises

MDM M2 Computer Session #3 – OUTLINE

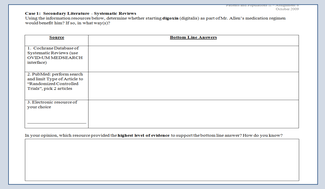
0) Setup students – THL home page, Qualtrics Poll

1) Introduction – 15 min
- Overview of session - RAJ
- Primary vs. Secondary Literature – RAJ
- The Information Pyramid: Syntheses, Synopses, Summaries - RAJ

Problem-based Learning	**2) Case 1 (Systematic Reviews) – Cardiomyopathy Case: James Allen – 55 min** **Note: Val-HeFT** • Introduce Case 1 summary as refresher - RAJ
Survey & Discussion	• Poll – RAJ introduces o for Student's choice of 3rd resource o for Student's choice for highest level of evidence o briefly discuss most cited 3rd resource - RAJ
Think Pair Share	• Debrief Case 1 – pair and share o Content - RAJ o Data from CDSR vs. RCT: secondary vs. primary lit – RAJ o Gold standard CDSR search w/screenshots - THL
Hands On with Help	• Intro to new resources –PubMed Clinical Queries (systematic review filter), and DYNAMED followed by hands-on with these resources – All
Discuss & Debate	• Debrief content (anything new?) – RAJ • Debrief new resources w/screenshots – THL

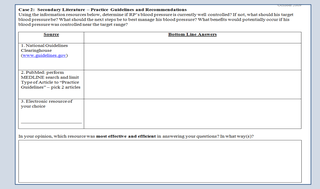
Problem-based Learning

KEY POINT
Frame activities around cases that students are actively working on in their current rotation


Case 1: Secondary Literature – Systematic Reviews
Using the information resources below, determine whether starting digoxin (digitalis) as part of Mr. Allen's medication regimen would benefit him? If so, in what way(s)?

Source	Bottom Line Answers
1. Cochrane Database of Systematic Reviews (use DYNAMED MEDLINE/PubMed interface)	
2. Published synthesis search and limit Type of Article to "Practice Guidelines" or "Meta-Analysis"	
3. Electronic resource of your choice	

In your opinion, which resource provided the **highest level of evidence** to support the bottom line answer? How do you know?

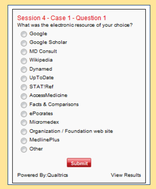

Case 2: Secondary Literature – Practice Guidelines and Recommendations
Is Mr. Allen's blood pressure adequately controlled? If not, what should his target blood pressure be? What should be next steps to be best manage his blood pressure? What benefits would potentially occur if his blood pressure was controlled near the target range?

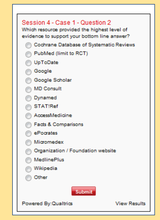
Source	Bottom Line Answers
1. National Guidelines Clearinghouse (www.guideline.gov)	
2. Published synthesis search and limit Type of Article to "Practice Guidelines" – pick 2 articles	
3. Electronic resource of your choice	

In your opinion, which resource was **most effective and efficient** in answering your questions? In what way(s)?

Survey & Discussion

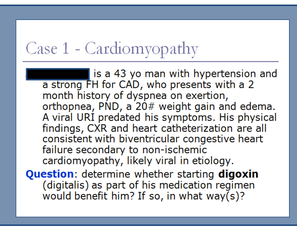
KEY POINTS
- Embedded polls to share and discuss answers
- Real-time feedback from students
- Opportunity to answer resource & content questions in context





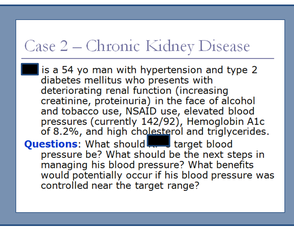
Think Pair Share

KEY POINT
Pair & share to answer the CLINICAL QUESTION from student assignments


Case 1 - Cardiomyopathy

[redacted] is a 43 yo man with hypertension and a strong FH for CAD, who presents with a 2 month history of dyspnea on exertion, orthopnea, PND, a 20# weight gain and edema. A viral URI predated his symptoms. His physical findings, CXR and heart catheterization are all consistent with biventricular congestive heart failure secondary to non-ischemic cardiomyopathy, likely viral in etiology.

Question: determine whether starting **digoxin** (digitalis) as part of his medication regimen would benefit him? If so, in what way(s)?


Case 2 – Chronic Kidney Disease

[redacted] is a 54 yo man with hypertension and type 2 diabetes mellitus who presents with deteriorating renal function (increasing creatinine, proteinuria) in the face of alcohol and tobacco use, NSAID use, elevated blood pressures (currently 142/92), Hemoglobin A1c of 8.2%, and high cholesterol and triglycerides.

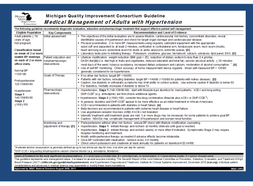
Questions: What should [redacted] target blood pressure be? What should be the next steps in managing his blood pressure? What benefits would potentially occur if his blood pressure was controlled near the target range?

Hands On with Help

KEY POINTS
- Direct students to additional online resources
- Find new information to inform further class discussion & debate
- Hands-on time: Librarians to answer RESOURCE questions, Physician to answer CONTENT questions

Discuss & Debate

KEY POINT
Discuss and debate their answer with physician & classmates, using information found from library resources to back up their positions.


Michigan Quality Improvement Consortium Guideline
Medical Management of Adults with Hypertension

Session Outcomes

- Students have gained Renal and Cardiovascular clinical knowledge
- Students have learned how library resources support medical decision making
- Students have seen librarians and physicians working **as a team**

Recommendations for Librarians

- Make faculty your partner by integrating active learning techniques focused on the discipline
- When possible, integrate library resources into existing sessions, rather than a separate "Library Class"
- **BE AVAILABLE** during the session, and actively contribute to discussions