Nursing 4410—Spring 2016 (Holcombe)

Learning Outcomes
Students will be able to:

1. Analyze sources for credibility and appropriateness for evidence-based medicine practice as it relates to the levels of evidence paradigm in order to make decisions based upon the best level of evidence available at the time.
2. Find effective pathways for locating quality information efficiently in order to ingrain behaviors necessary in the fast-paced medical environment.
3. Utilize PubMed more effectively in order to research more comprehensively and be prepared for the future when subscription databases are no longer available.
4. Critically reflect upon the research process and its relationship to evidence-based medicine in order to translate skills and knowledge into new environments such as future projects and careers.

Pre-class Materials
Oxford CEBM Levels of Evidence Introductory Document

Levels of Evidence  This document represents a way to assess ailments. A question is asked and the chart gives the “best” types of evidence to answer the questions (Level 1 being the best evidence for that question).

Watch:  https://www.youtube.com/watch?v=O4bKm5QLe9Y This video gives a decent synopsis of the levels. Students should end watching at 5:22 as the rest is dated information. This does include some PubMed searching, which will be a good review.

Handouts:
- Advanced PubMed Tip Sheet
- Advanced Search Techniques document

Introduction/Class Layout
Who am I/Who are you

To be covered in this session:
- Source evaluation: Levels of evidence/Types of evidence
- Language used to search for evidence
- Best places to find evidence (both now & when no longer in school)—databases review
- Group activity
Advanced Source Evaluation: Levels of Evidence for EBM

SLIDE No evidence ranking system or decision tool can be used without a healthy dose of judgment and thought.

Explore what each of the following is:
I. Systematic Reviews
   a. Reviews of RCTs
II. Randomized Trials
III. Clinical Trials/Cohort Studies
IV. Case Reports/Series (individual reports)
V. Mechanistic reasoning, expert opinions, authorities, etc.

Things to remember:
- Pre-appraised sources of evidence (UpToDate, NHS Clinical Knowledge Summaries, etc.) may be more comprehensive, but risk reliance on expert authority.
- There are many different scales for “levels of evidence” without a lot of standardization.

Advanced Search Tips & Techniques
Natural language vs. “database” language

EXAMPLE: Have one student search for nosocomial infections and handwashing. I search with the alternate version of handwashing

Search operators
Wildcards
Mining reference lists
Google Site Searching

Resources
Brief reminder of the website and how to locate Nursing resources (be sure to note the website section of the LibGuide—lots of good info there)

Of Particular Interest:
Activity

Place students in their normal groups. Assign problems. No restrictions on searching, but consider these questions: What happens when you begin practicing? Where do you get quality research information then? How do you practice EBM in the real world?

Problem 1
As a nurse, hand hygiene is paramount in reducing the spread of infection among patients. What are the current best practices for handwashing? How do these practices differ from previous recommendations?

Problem 2
Pain control is a major issue in a pediatric oncology unit. Physiological measures are currently used as indicators of pain. Are there other, evidence-based ways to assess pain in children?

Problem 3
Adolescents with diabetes often struggle with quality of life (QOL) issues. What are some proven strategies for increasing QOL?

Problem 4
A researcher claims that females can withstand greater levels of pain than males. Is there evidence to support his assertion?

Problem 5
The utility of mammograms for detecting breast cancer has come into question. Are there other evidence-based ways to detect and/or diagnose breast abnormalities?

Problem 6
There are several methods for managing pain in a labor and delivery unit. You are specifically interested in non-pharmacological pain management. What does the evidence suggest is the most effective non-pharmacological option? Are there any non-pharmacological options that may be unsafe?

Problem 7
Causes of autism are a hot topic in the popular media. Is there a connection between vaccines containing thimerosol and autism spectrum disorders?
Problem 8
Vaping with electronic cigarettes has become a popular alternative to smoking, especially among adolescents. What are the effects of vaping? Are e-cigarettes an improvement on regular cigarettes? Are adolescents more likely to pick up vaping than traditional smoking?

Brainstorming (10 min)
Students will be allowed a certain amount of time to evaluate their problems and create a research strategy.

Searching (30 min)
Students will begin searching.

Share Answers/Processes
Groups will give brief presentations of their sentinel event and how they went about finding answers/evidence. Emphasize that the process (not so much the answer in this case) is the important part. You have VERY limited amount of time—not real life in that sense. Questions to consider:

1. What was your search strategy?
2. Where did you look? What worked the best?
3. What terms did you search (make a chart)?
4. How did you evaluate the results?
5. What level is your supporting evidence?
6. Did you identify any potential research gaps? Missing evidence? The need for more?
7. Is your supporting evidence mostly qualitative or quantitative?
8. What questions remain after your search?
9. REMEMBER: We want to hear about your research process. How you searched for the answer is more important than whether you found the answer.

Post-Class
Discussion Board Reflections
Each student will be required to answer several reflective questions through the class’ discussion board. Each student must also comment on two other posts. [Discussion boards are graded as part of participation grade.]

Potential Questions:
1. What was the biggest challenge that your group faced in answering their question?
2. Consider further how you will go about gathering information related to your work as a nurse and assessing that information when you are no longer at UTC.
3. Did this activity change the way you plan to search in the future? If so, how?
UTC Learn Survey

Students will be asked to complete a survey (responses are not identified by student, but all students will be required to complete the survey). The survey will provide quantitative data on the activity and its usefulness.