NUR 807 Home Page

Clinical Decision Making

College of Nursing

Michigan State University

Spring 2002

These sites contain information on decision making from a variety of perspectives.
You will find that we will use some parts of the sites for classes throughout the
semester. We will create links to the specific areas as the time comes but now you
may just want to explore a little and find out what decision making is all about!

Society for Medical Decision Making (http://www.gwu.edu/~smdm/)

Glossary of Terms in Evidenced Based Medicine
(http://cebm.jr2.ox.ac.uk/docs/glossary.html)

Centre for Evidenced Based Medicine
(http://cebm.jr2.ox.ac.uk/docs/adminpage.html)

MIT Clinical Decision Making Group (http://medg.lcs.mit.edu/)

Harvard Center for Risk Analysis
(http://www.hsph.harvard.edu/organizations/hcra/NEJM.htm)

Netting the Evidence (http://www.med.unr.edu/medlib/netting.html)

British Medical Journal (http://www.bmj.com/)

University of Iowa's Virtual Hospital (http://www.vh.org/)


1/18/2002
NUR 807: Clinical Decision Making

Spring 2002

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Click here to access the NUR 807 Web Talk System
Click here to access the NUR 807 Home Page

WELCOME

Welcome to NUR 807, Clinical Decision Making. The course was developed to reflect the need for advanced practice nurses to have a sound theoretical basis in making clinical decisions. The course will focus on the theory and application of decision making as it applies to clinical situations that are frequently encountered by APNs in primary care.

This course builds on the work you have done in NUR 820/830. In addition, your pathophysiology course will provide substantial foundation for the development of differential diagnoses. You may find that "revisiting" these courses will be important as the course progresses.

The focus of NUR 807 is on the provider's decision making process. In the subsequent management courses the decision making process of the patient and family will be addressed. We think you will find the content in this course to be invaluable in your future practice.

Objectives

At the completion of the course, the student will be able to:

1. Analyze the significance of key concepts relative to clinical judgment and decision making theory(s) in formulating differential diagnoses.

2. Analyze clinical decision making in relation to limitations of human capacity, heuristics, and biases.

3. Critique the clinical significance of using evidence based practice and clinical guidelines in primary care.

4. Analyze relevant subjective/objective data to develop differential diagnoses for common primary
5. Discuss the key concepts of a decision tree and its significance in clinical decision making.


**Format**

The course has both a seminar and a clinical lab component.

**Seminars:** Weekly 2 hour seminar sessions will feature discussion of the conceptualization of decision making, diagnostic reasoning, and differential diagnoses. Recognizing the thinking processes behind clinical decision making provides one approach to building sound decision making skills. Application of decision making concepts will be interwoven throughout the course. Case study application will emphasize differential diagnoses as well. Students are encouraged to bring clinical examples from their work practices to facilitate application as well.

This course also uses web based components. The classroom setting only provides a limited number of hours on content important to clinical decision making. Access to web components provides an adjunct to traditional teaching and helps keep up with information explosion. In addition, the web components provide the opportunity to increase interaction between faculty and students. We expect students/faculty will actively participate in use of the web to share cases, new information and ask questions that cannot be answered otherwise. Make sure to check announcements and assignments on the web based component, Web Talk, regularly since new content will be added on a regular basis.

The Gaylord and East Lansing classes will be combined via codec with faculty present at each site.

**Clinical:** This course has 1 cr. or 3 hours designated per week as clinical/lab time. There will be a variety of practice assignments each week. Lab exercises will include solving clinical puzzles, completing case studies, practicing collection of HPI and other relevant data. Students will meet weekly for one hour with a clinical faculty member to discuss clinical implications of assigned cases (i.e., HPI, POR documentation, and differential diagnoses). East Lansing cohort will meet 12:00 - 1:00. Patty Peek will meet with her group after class. It is expected that the remaining two hours per week will be spent carrying out clinical activities, some independently. Other clinical hours may be more formalized.

During the first three weeks you will be asked to pair up with another student to practice organized data collection. You will also participate in peer review of documentation.

**Simulation exercises** will be carried out as well. When collecting HPIs and focused aspects of the physical exam relevant to a chief complaint, you will be paired with other students. One student will be the simulation patient, the second student will be the interviewer, and the third student will be the evaluator. These roles will change each week so all students will have the opportunity to participate in each role. The clinical faculty will provide you with the simulations.

**Clinical Experience in a Primary Care Setting:** The clinical ambulatory experience is a 4 week experience starting approximately the last 4 or 5 weeks of the course. The overall objective of this academic experience is to provide the student with the opportunity to shadow an Advanced Practice Nurse in the ambulatory care setting and observe clinical data gathering skills, diagnostic reasoning, and clinical problem solving. Hopefully you may be able to collect an HPI. This experience is also meant to serve as a bridging experience, moving the student from a more passive learner to an actual educational...

http://nursing.msu.edu/downloads/syl807SS02.html

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experience in observing the Advanced Practice Nurse in action. The college will place students after the course is underway. We will ask you to write a one page resume about yourself in preparation for entering the clinical setting.

**Required texts:**

Dains, Joyce et al (1998) *Advanced Health Assessment and Clinical Diagnosis in Primary Care*. St. Louis: Mosby. - Dains will be used primarily for the clinical/lab component of the course. You will find it very helpful both this semester and in future clinical courses.


Sox, Harold et al (1988) *Medical Decision Making*. Boston: Butterworth-Heinemann - This is a classic text with wonderful application to health care. You may find it particularly helpful with some of the more complex theory of decision making. Chapters will be interwoven throughout the course and helps to better understand the logic of decision making.

**Optional texts**

Several other texts may be helpful to you. They may be ordered for purchase from the bookstore.

Rosser, Walter and Shafir, M. Sharon (1998) *Evidence-Based Family Medicine*. Hamilton: BC Decker Inc. - Rosser will be used also in subsequent courses. NUR 807 will focus on Part I of the text.

Wilkinson, J.M. (2000) *Nursing Diagnosis Handbook with NIC and NOL Interventions*. - Purchase only if you do not have a nursing diagnosis handbook.

**Evaluation**

Student evaluation will be dependent on the following:

Midterm exam (decision making theory) 35%

Final exam (diagnostic reasoning/clinical) 35%

**Analysis paper** (focus on diagnostic testing ) 30%

**Additional credit** (click here for information)

**Keeping in touch**

We all have busy schedules. Certainly you may contact faculty before, during or after class, however, you know that time is sometimes quite short.

We will be setting up web based chat rooms. Those of you who recently took NUR 805 are accustomed to this form of communication.

The chat rooms (i.e. Web Talk) allows students and faculty to carry on a sort of running conversation

http://nursing.msu.edu/downloads/syl807SS02.html

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and discuss clinical decision making issues/situations from your own practice and experience that is read by all in the course. During the first class, we will explain how to use the Web Talk. We will be making announcements about the course via the Web Talk so we would encourage you to participate on a regular basis.

Certainly you may contact each of us via email. This is really the preferred format for communication since often we are unavailable by phone.

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Please do not hesitate to contact us if you have questions, concerns or comments about the course.

**General Web Sources:** (Go to NUR 807 Homepage)

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**Course Outline**

Week 1: January 10
Content: Introduction to the course and evidence based practice. Application to clinical practice.

Week 2: January 17
Class content: Information processing, how we make decisions; basics of probability, heuristics and biases. Application to clinical practice.

Week 3: January 24
Class content: Nursing clinical judgment and it's relationship to decision making and differential diagnoses.

Week 4: January 31
Class content: Test characteristics; sensitivity and specificity; predictive positive and predictive negative.

Week 5: February 7
Class content: Continuation of test characteristics discussion; follow up to assignment; clinical guidelines.

Week 6: February 14
Class content: Student presentations of an algorithm on a primary care condition and application to clinical judgment.

Week 7: February 21
Class content: Problem based case studies - NO CODEC.

Week 8: February 28 - Mid-term

http://nursing.msu.edu/downloads/syl807SS02.html

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Week 9: March 7 - Spring Break

Week 10: March 14
Class content: Overview of decision analysis and decision trees.

Week 11: March 21
Class content: Examples of decision trees.

Week 12: March 28
Class content: Economic concepts and implications for clinical decision making.

Week 13: April 4
Class content: Case discussion, differential diagnoses and cost concepts.

Week 14: April 11
Course content: We will have a guest lecturer from the Center for Ethics and Humanities. Tom Tomlinson, Ph.D. Focus will be on ethics and decision making.

Week 15: April 18
Class content: Pulling it all together. Student presentations of the lab analysis papers with peer review.

Week 16: April 25 - Final Exam

Week 1: January 10

Content: Introduction to the course and Evidence Based Practice. Application to clinical practice.

Reading: Sox, Harold et al (1988) Medical Decision Making; read chapters 1 & 2

Evidence-Based Medicine in Primary Care: An Overview

This article to begin to wet your appetite about future topics in this course. This link gives an overview of one major component of the course. You will need to register to get to Medscape, it is free but worth it since you will need it for this class, future classes and your practice.

In JAMA: Users' Guides to the Medical Literature: XXV. Evidence-Based Medicine: Principles for Applying the Users' Guides to Patient Care
Here you will have to follow some steps to get to this article: First go to http://pubsearch.ama-assn.org/search. Then click on the "search" icon (the magnifying glass) and type in Evidence Based Medicine. This will bring you to the title of the article to read. You have the option of selecting full text (which brings it up in a web page) or PDF (which is an Acrobat Reader file format).

The last web article is from the British Medical Journal:
Evidence based medicine: What it is and what it isn't. http://www.bmj.com/all.shtml
From this point, search under "Word(s) Anywhere in Article" for "evidence based medicine. Scroll down to Editorials and the title.

http://nursing.msu.edu/downloads/syl807SS02.html
Clinical Lab Hour:

Components of the HPI Will be provided for you on January 10

Questions to ask as you read:
1. How do I make decisions? Am I consistent in my approach?
2. What information do I need?
3. What influences me?
4. Why is learning decision making theory going to improve my practice skills?

Clinical assignments

Meet with clinical faculty at the designated time to discuss HPI/POR

HPI puzzles (to be provided at the first clinical lab hour (Jan. 10) (no partner needed)
More HPI puzzles
Yet one more HPI puzzle

Identify a partner to respond to your questions. Based on your partner's response, write a complete HPI. Do HPI puzzles before clinical conference next week. Bring written HPIs, using the HPI component for each scenario for Week 2.

Week 2: January 17

Class content: Information processing, how we make decisions; basics of probability; heuristics and biases. Application to clinical practice.

Class reading:

Dr. Rothert may be providing additional readings, which will be provided to you before class.

Read Holmes, Rovner and Wills (to be provided later)

Notes to be provided in class.

Clinical content over the next 2 weeks:

- One hour of class discussion on POR and review of HPI puzzles from the week previous.
- Bring a written HPI using the components for each scenario.
- Ask a colleague to be a peer reviewer.
- Ask the evaluator to complete a peer review form on your write-ups from Week #1. (Form link under Format above.)
- Interview a colleague who has some sort of illness symptom (i.e., headache, sore throat, runny nose) and develop an HPI write-up. One student should be the interviewer and one the simulated patient.

http://nursing.msu.edu/downloads/syl807SS02.html
- In addition, the interviewer should complete what aspects of the physical exam would be appropriate based on the chief complaint and provide the rationale.

Clinical reading: Dains (1998). Read chapter 1 (very short). You should begin to use the pertinent chapters in this text as an aid in completing your HPI's.

Week 3: January 24

Class content: Nursing clinical judgment and its relationship to decision making and differential diagnoses.

Class reading: Review Benner's *Novice to Expert* Chapter 1 (from NUR 801).


Differential diagnosis:

- **Office approach to chronic cough:**
  [http://www.aafp.org/afp/981200ap/lawler.html](http://www.aafp.org/afp/981200ap/lawler.html)

- **Diagnostic Criteria for Parkinson Disease**

  Note: In 805 we looked at the pathophysiology of Parkinson's Disease, this link progresses to establish how a clinician rules in/out certain conditions using Parkinson's as the exemplar.

Clinical content:

- Bring HPI write-up of interview from Week #2 for class discussion in clinical conference.
- Continue with discussion from previous weeks.
- Simulated cases will be distributed in preparation for Week #4. At this time identify a simulated patient, an interviewer, and an evaluator. These roles will change from week to week providing the opportunity for each student to carry out all three roles.

Clinical reading:
- Do reading in Dains appropriate to your colleagues write-ups. Class notes to be provided.

Week 4: January 31

Class content: Test characteristics; sensitivity and specificity; predictive positive and predictive negative.
Class and clinical readings: Start to read Sackett, Chapter 4 on interpretation of diagnostic data. Don't worry about the computation in this chapter. It is quite lengthy and the computational part will be covered later.

Note: Additional readings will be posted on Web Talk if needed. There will be homework assigned this week to be due Week 5. (The exercise will explain the clinical significance of 2 x 2 tables.)

Clinical content: Discussion of case simulations with focus on HPI, physical exam and differential diagnoses. Weeks 4-10 for clinical focus will emphasize clinical case simulations. Clinical content will examine the HPI, what physical exam you would choose based on the patient's chief complaint. You will write down what physical exam you would do and the rationale. Make sure to write it IN THE ORDER in which you would if recording in a record (i.e., begin with the general survey and include those systems and body parts you would include). Please be specific (don't just write HEENT, but rather what parts of those you would want to examine and for what reason! Provide your rationale). We will explore differential diagnoses and begin to look at lab tests. Your clinical faculty director will help you through these remaining weeks. There will be no one hour clinical conference the week of Mid-Term Exam or Spring Break.

Clinical exercises: Additional clinical exercises are provided. Have fun! You can work on these throughout the remaining weeks.

Do case: A Blast From The Past (5 year old girl with breathing difficulties)
http://www.medconnect.com/ipeds/rlchens/ipeds_case.asp You will need to register for this site.


Have fun with: A clinical approach to arthritis cases:
http://www.medconnect.com/cme/brevviews/br1097.asp

(You will be sent here again later when we look at calculating risks for diseases. For a preview, look at the article on risk calculation for HRT )

(Interesting case on menorrhagia)

For your Reading Pleasure:

Check out the Archives of Internal Medicine for April 12, 1999.
http://archinte.ama-assn.org/issues/v159n7/toc.html

There are two articles of interest. The first is on choosing antithrombotic therapy and uses a Markov decision analytic model to identify which therapy is best! The second article is on use of the CAGE screening tool for alcoholism. This study looks at the sensitivity and specificity of the tool!!

I thought you might enjoy seeing that what we have been doing all semester is truly PRACTICE oriented!!!!!

http://nursing.msu.edu/downloads/syl807SS02.html

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Week 5: February 7

Class content: Continuation of test characteristics discussion; follow up to assignment; clinical guidelines. Decide on an algorithm to present in Week #6 (for example chest pain).

Class reading: Read: Legal and Political Considerations of Clinical Practice Guidelines: http://www.bmj.com/cgi/content/full/318/7184/661
Continue to read Sox and read Sackett chapter 4.

Clinical guidelines:

- Attributes that influence use of guidelines: http://www.bmj.com/cgi/content/full/317/7162/858

Choosing Guidelines with Confidence (If you have purchased Rosser, you can read Chapter 8)

Clinical reading: You will find that Dains will become more and more valuable as you try to decide on what PE to do. Read the appropriate chapters.

Clinical assignment: Continuation of clinical emphasis discussed in Week #4. Additional case study exercises will be provided as available.

We also would like you to try out another web site this week. It is called the Interactive Patient. This case developed by Marshall University is one in which you will be actually ask the questions of the patient (i.e., type them in), identify the PE you would do and then (if you like) identify lab you would do and the diagnosis you would make. It is really a lot of fun. It is available at: http://medicus.marshall.edu/medicus.htm. Do not get real frustrated if you cannot get on the first time. It is obviously a very popular spot and often is "full" so the URL will come up as not available. Try again later.

Lab analysis paper: It is probably time to begin thinking about what screening lab you would like to write about for your paper. I will refer you to a really great compilation of primary care clinical guidelines. You may want to look at some of them to get an idea of what lab tests are being used for screening (i.e., cholesterol etc.). Thought it may stimulate some thought!

http://nursing.msu.edu/downloads/syl807SS02.html
http://medicine.ucsf.edu/resources/guidelines/

Week 6: February 14

Class Content: Student presentations of an algorithm on a primary care condition and application to clinical judgment.

Clinical Assignment: Continue with clinical activities as directed per clinical faculty member and interactive case studies.

http://home.earthlink.net/~emgoodman/casenumberone.htm

Week 7: February 21

Class content: Problem based case studies - NO CODEC.

Class Reading: Cases will be made available to you on Web Talk. You will use your Dains to work through the case studies.

Week 8: February 28 - Mid-term

Week 9: March 7 - No Class - Spring Break!! (Don't forget)

Week 10: March 14

Class content: Overview of decision analysis and decision trees.

Class reading: Read Sox chapter 6 and review Sackett chapter 4. You will find that a great deal of the same concepts will be covered in class. If there are further readings, we will provide a couple of copies in the classroom if unavailable on the web.

Note: Additional readings will be posted on Web Talk if needed.

The concept of evidenced based practice will be interwoven in the discussion.

I would also suggest that you visit the Evidenced Based Medicine site in Oxford England http://cebmrzox.ac.uk/docs/toolbox.html

Play around the site to find some examples of likelihood ratios, numbers needed to treat (NNT), specificities and sensitivities of labs/exams (Spins and Snouts), etc.

**Clinical assignment:** I would encourage you to SEARCH for new case web sites and share those with your fellow students. I will serve as a clearinghouse and post the sites that you find.

**Week 11: March 21**

**Class content:** Examples of decision trees. Additional readings will be provided as needed.

**Clinical content:** Starting Week #11 through #15. Students will spend four hours per week for four weeks in a clinical setting "shadowing" an Advanced Practice Nurse provider. Placement in these clinical sites will be handled through the college (arrangements will be discussed early in the course). We will continue to meet weekly for discussion of your experiences. The concepts of role, differential diagnoses, decision making, will be interwoven in our clinical conference discussions.

**Week 12: March 28**

**Class content:** Economic concepts and implications for clinical decision making. Our guest professor this week will focus on costs and types of cost analysis in health care research. We will be looking at cost of care issues. This becomes very important as we begin to make decisions about ordering lab and diagnostic work, deciding the frequency that patients should revisit clinic, lost days of work for illness, etc.

**Class readings:**

Read Sox, Chapter 10

There will be a copy of this article in class on April 5 so that students may see them and have them available for the week following.

**Assignment:**

We have an assignments for you that will require that you to contact a frequently used laboratory in your community so that you can get some idea of costs of common lab work.

Please find the approximate cost for the following:

1. CBC with differential
2. Hematocrit and hemoglobin only
3. Electrolytes
4. Blood chemistry (identify # and type of tests included for the one you cost out)
5. Lipid profile

http://nursing.msu.edu/downloads/syl807SS02.html
6. Urine culture and sensitivity  
7. Sputum culture and sensitivity  

WEEK 13: APRIL 4  

Class content: Case discussion, differential diagnoses and cost concepts. Cases will be provided.  

Clinical content: Students spend time in clinical placement and advanced practice setting.  

WEEK 14: April 11  

Course Content: We will have a guest lecturer from the Center for Ethics and Humanities, Tom Tomlinson, Ph.D. Focus will be on ethics and decision making.  

Class Readings: None of the readings that the Center recommends are available online. We will have two copies of the readings available in class the previous week so that you may take a look at them and decide if you would like to make an individual copy. We will not be testing from the readings (only the class lecture/discussion). You may also find the journals in the library or in your local hospital.  

- Tanenbaum, S.J. (1993) What physicians know. NEJM 328: 1268-1271 (To be made available for students)  

Clinical content: You will continue to work on interactive case studies and carry out your "shadow" experience in the clinical setting.  

WEEK 15: April 18  

Class Content: Pulling it all together. Student presentations of the lab analysis papers with peer review.  

WEEK 16: April 25 - Final Exam  

End of NUR807 Syllabus. Revised 1/16/02