GEISEL SCHOOL OF MEDICINE
AT DARTMOUTH

**MEDICAL EDUCATION COMMITTEE MEETING**

TUESDAY, MAY 28, 2013
4:00 – 5:30 PM
DHMC – AUDITORIUM D

**MINUTES**

1. **Call to Order** - *Richard Simons, MD*

   The meeting was called to order with the following people in attendance:

   Voting Members: Ken Burchard, Benjamin Colby, Scottie Eliassen, Aniko Fejes-Toth, Sarah Johansen, Dean Madden, Harold Manning, David Nierenberg (for his presentation only), Christiaan Rees

   Non-voting Members: Laura Cousineau, Diane Grollman, Cynthia Hahn, Virginia Lyons, Brian Reid, Glenda Shoop, Richard Simons, Cynthia Stewart

   Guests: Gene Nattie, Andy Daubenspeck, Donald Bartlett, Lionel Lewis (for his presentation only)

2. **Approval of the April meeting minutes**

   ***A motion was made and seconded to approve the minutes of the April MEC meeting. A vote was taken and the motion passed unanimously.***

3. **Announcements** - *Richard Simons, MD*

   June 25, 2013 from noon – 3:30 PM in room 201 of the Life Sciences Center, the Office of Medical Education is hosting a presentation and workshops with Dr. David Elkowitz from The Hofstra School of Medicine regarding Case Based Learning. The idea is to acquaint faculty with case based learning.

   The survey report from LCME has been received and will go to the LCME committee. The survey report mirrored what was initially sent to Geisel. Geisel will likely be cited as non-compliant for about six issues including lack of inter-professional education, institutional standard on diversity, services learning opportunities (this is being refuted as it is believed Geisel was inappropriately cited for this), lack of active learning in curriculum/relying too much on lectures (will be address with new curriculum and in the meantime course directors are already addressing this), and the lack of regular annual faculty reviews. Several issues that could need monitoring include duty hours, mid-clerkship feedback, timeliness of clerkship grades, lack of a course

review system with data that shows the action plans have been followed and courses show improvement as a result. The report is not yet final; the LCME committee has the opportunity to add/remove citations. The committee will make Geisel aware of accreditation and cycle status after the fall meeting.

4. **Cardiovascular and Pulmonary Physiology (Year 1) Course Review –** *Virginia Lyons, MD*

Dr. Lyons presented the course review – see the attached PowerPoint slides for full details of Dr. Lyons presentation.

Dean Madden noted that this course has shown deficiencies in the past and therefore this committee will need to be careful to follow up. First year students noted a negative reputational problem for this course.

Drs. Bartlett, Daubenspeck and Nattie all thanked Dr. Lyons for the thorough review and then presented their written action plan (see the enclosure for full details).

Dr. Johansen asked if faculty development is needed in order to assist with giving narrative feedback. Dr. Simons suggested a standardized format for providing narrative feedback developed by borrowing ideas from other course directors. Dr. Bartlett noted that they will make a note of this and discuss this further. Dr. Nattie noted that the timing of the narrative feedback was set after much discussion and with the benefit of the student in mind. After reviewing the action plan, Dr. Lyons noted that faculty development was not addressed in this action plan. Dr. Nattie responded to this by stating that the problem is generic, and they don't have enough conference leaders; he feels that there will always be a weaker conference leader. Dr. Simons suggested doing some peer evaluation to provide feedback.

Dr. Madden asked the students about the reputational problem with this course and how to change the current reputation for this course; what can be done to show the course has changed to remove the negative reputation? First year students have spoken with course directors – historically the course may not have been reviewed as well, but there is acknowledgement that the course has been improved and with that, the reputation could begin to change. Dr. Lyons noted that one of the newest highlights is the creation of iBooks by Dr. Daubenspeck, and these types of improvements (and by calling attention to that early on) could make a big impact.

Dr. Simons noted that just as the action plan reflects, big changes are being made to this course and with these modifications we'll see improvement. Dr. Johansen agrees with Dr. Simons and is really excited about the course this year. Dr. Simons asked the students to share the news of these big/exciting changes with new students. Dr. Madden suggested highlighting the iBook by adding a line into the action plan, under item number 6 that indicates that iBooks are being added to clarify some of the difficult concepts.

Dr. Johansen asked if it would be possible for DCAL to set up an elective/recommended course to focus on small group teaching. Ms. Trietley noted that students have reported on the teacher's enthusiastic attitudes at Tuck and how that strong enthusiasm is so intriguing and exciting to students and how that same type of attitude with this course could help with changing the reputation.

It was also noted that the action plan does not address the issue of formatting exam questions. Dr. Nattie pointed out that for years they gave all of the previous quiz questions back to students to study; a year ago, they chose not to. The ramifications of that decision resulted in annoyed students and choosing the best performing questions. Dr. Nattie will consider using student groups to review exam questions and will also seek further review from Drs. Simons and Nierenberg.

Dr. Nattie noted that they have spent a fair amount of time trying to organize a simulation lab.

In an effort to tie faculty development to poorly rated lectures it was suggested that they could begin rating each lecture/lecturer to identify those that are receiving poor ratings. Dr. Nattie responded that there is some variety, and he feels that the people that give the lectures are extremely knowledgeable about the topic but have varying communication skills. Small group scores are higher across the board. One step that has been taken to address this issue is to limit the number of lectures and have more small groups. He strongly believes in the academic principle in allowing teachers to teach on their own and if they become so poor at teaching the chair should remove them. Dr. Lyons clarified that the committee would like to provide feedback and not be micro-managing. Dr. Bartlett noted that the lectures are going to be reinvented and that faculty do attend lectures and will provide candid feedback. Dr. Madden noted that there is still resistance to faculty development from some faculty members. Dr. Madden would like something about identifying underperforming faculty and subsequently recommending faculty development and a way to show their improvement added into the action plan. Dr. Bartlett noted that it is very difficult to generalize. Dr. Simons asked to add a line to the action plan to reflect this as well as adding a bullet about the exam questions as discussed above. <u>The amended action plan will be sent to Cassie</u>.

***A motion was made and seconded to approve the course review and amended action plan to contain all of the additions mentioned above. A vote was taken and the motion passed unanimously.***

5. **Clinical Pharmacology & Therapeutics (Year 3 & 4) Course Review–** *John Dick, MD & David Nierenberg, MD*

Dr. John Dick presented the course review (see the attached PowerPoint slides for full details). The action plan was presented by Dr. Nierenberg and Dr. Lionel Lewis. See the attached PowerPoint slides for full details.

Dr. Nierenberg noted that changing the grading system to pass/fail for next year will be experimental as Dr. Nierenberg and Dr. Lewis both have differing opinions on the student's desire to achieve higher standards based on the grading system used. Determination of the success of the pass/fail grading system will be based on all components of the course.

Dr. Lewis noted that all group presentations are about real cases (all the same).

Dr. Nierenberg also presented an excel spreadsheet that he created called "Course Objectives Evaluation Form" which will be submitted to the MEC for consideration at a future meeting.

Dr. Davis noted that the material regarding treating pregnant women should be made available to everyone (not just OB/GYN students) and not cut from the course. Dr. Nierenberg agrees with her and noted that this will not be cut from the course.

***A motion was made and seconded to accept the course review and action plan as presented. A vote was taken and the motion passed unanimously.***

6. **4th Year Course Proposal –** *John Dick, MD*

Dr. Dick brought two clerkship proposals with him to the meeting, but because the committee has not had a chance to review these in advance, it was decided that they would be distributed electronically and an electronic vote would be taken. Dr. Johansen asked about how the clerkships would be evaluated – Drs. Weinstein, Simons and Nierenberg will visit and there will be student evaluations.

7. **Curriculum Redesign Discussion**

Dr. Simons was hoping to discuss further questions at tonight's meeting to allow for a vote in June before MEC membership changes (potentially delaying the vote).

Dr. Simons provided a brief updated noting that 90% of course directors have been appointed. Each course is led by co-directors consisting of a basic scientist and a clinician. The first course directors meeting will happen in June. By the end of March course syllabi will be created. Session design will come in 2014-15 for general session objectives. In order to meet the needs of the small group sessions an additional 1-2 FTEs will be needed; Dr. Souba has agreed to devote funds to this effort.

Dr. Madden voiced remaining concern he has about how the MEC wants to supervise this process. Dr. Simons suggested a way to provide oversight without micro-managing. In order for the MEC to assure integration of appropriate material they will hear presentations from course directors as courses are presented. The first level of review is at the curriculum redesign level,

and then the MEC will hear each course being presented. Specific questions will need to be raised in order to provide more clarity. MEC members will need to pay attention and ask questions as each course is presented. Dr. Simons can give periodic updates on the redesign process (not from course perspective). Dr. Madden is concerned that one hour presentations may not present the clarity they are looking for. Questions will be run through the curriculum redesign team and the MEC. Dr. Madden noted that the overarching competencies should be a long term discussion within the MEC. He felt that the process to do that last time got convoluted and the previous approval was very rushed. Dr. Shoop responded to this by referring to a group that is already working on this process (part of the MELD group); the plan is to get it to a workable point and then bring it to the MEC for further discussion. Dr. Simons noted that according to the by-laws, all major curriculum changes need to go to the faculty. The MEC will need to approve the objectives and but not necessarily pursue a faculty vote for those objectives. Dr. Madden questioned where the MEC will find time to review current and new courses, as they are already pressed for time as they are right now. The MEC may have to hold more meetings in order to accommodate these reviews. Dr. Madden suggested dealing with some items electronically and the committee agreed to look for appropriate opportunities to do that. In an effort to save time effective immediately, course reviews and action plans will be sent to committee members to be reviewed in advance of the meeting with a brief summary presented and opportunity to ask questions at the meeting.

Referring back to the curriculum redesign, Dr. Johansen inquired about the process of the appointment of course directors. Dr. Simons indicated that the process has been very smooth so far, with all course directors who have been appointed showing enthusiasm and having received approval from their department chair/division chief.

The condensing of clerkships down to 12 months will be done by moving GAM and making that part of medicine; neurology will move to the 3rd year; and the duration of some of the clerkships will change. This will bring more elective time to 3rd year, addressing a previously stated student concern. Discussions are still underway and will not be brought to this committee until those have come to close.

**Future Agenda Items:**

June:

Curriculum Redesign

July:

Draft revised policy for attendance by David Nierenberg and Virginia Lyons. Will need to be revised and voted on in July.

**Meeting was adjourned at 6:20**

**Future Meeting Dates:**

- June 18, 2013 – Auditorium A
- July 16, 2013 – Auditorium A
- August 20, 2013 – Auditorium A

# Review of Year 1 Physiology

- Course occurs in the fall term of Year 1
- Course Directors – Gene Nattie, M.D.
  Andy Daubenspeck, Ph.D.
- Course has 58 curricular hours
- Course was last reviewed in April 2012

# *Recommendations from 2012 Review*

- Minor changes to conference session objectives
- Provide clear objectives for every session in the course, and correlate assessment questions to these objectives
- Assign students to the same conference leader so narrative assessment could be provided
- Continue to reduce lecture hours in the course and provide opportunities for active learning (59% in 2012)
- Facilitate faculty development for faculty that are not meeting expectations with regard to teaching

# *Recommendations from 2012 Review*

- Provide opportunities for students to practice applying their knowledge before the assessment
- Provide a glossary of abbreviations and acronyms
- Revise lecture notes to make sure important concepts are clearly conveyed
- Explore opportunities (e.g. computer simulations) to include activities where data is observed, measured and analyzed
- Provide guidance to conference leaders to assure agreement regarding core concepts/material discussed

# Course Objectives – Content Review

There are 15 course objectives that fulfill Geisel competencies as follows:

- 13 address specific knowledge in the preclinical domain, and seem appropriate
- 1 addresses communication skills
- 2 address components of professionalism

Currently no course objectives are mapped to Geisel competencies 2 (clinical skills), 5 (personal improvement) and 6 (health care systems).

# Course Objectives – Content Review

*Recommendation 2012: The subcommittee suggests adding some additional session objectives for the conferences relating to team skills, punctuality, problem-solving skills, etc..*

- Most conferences have one session objective that addresses items mentioned above: "Communicate effectively with fellow students and faculty regarding principles of cardiorespiratory physiology." (Note: this was missing for conference #2, and is probably a typo that needs to be corrected in Ilios).
- The lack of additional session objectives is not a "problem" in this course, but it is a missed opportunity.

# Course Objectives – Content Review

*Recommendation 2012: Provide clear objectives for every session in the course, and correlate assessment questions to these objectives.*

- Session objectives listed in notes did not match session objectives in Ilios, and were not written in the correct format (i.e. with action verbs such as “describe” or “explain” rather than “learn” or “understand”).
- In some cases the notes for the conferences had a “checklist” that included the session objectives in Ilios, however this was confusing as students now had two sets of objectives for the same material.

# Objectives: Step I Brochure and APS

- Course Objectives were not changed since the course was reviewed last year, and correlation was good with the Step I Brochure.
- The American Physiological Society (APS) and Association of Chairs of Departments of Physiology (ACDP) collaborated to produce a list of session objectives that was updated in 2012, thus the subcommittee recommends the course directors continually refer to this to keep their session objectives current.

# *Summary regarding Objectives*

- Content of objectives seems appropriate for this course
- Currently no objectives map to competencies 2, 5 and 6, however this is not a major problem for a basic science course
- The course objectives in Ilios are listed in the syllabus.
- The majority of session objectives are not listed in course materials in the correct format, and they do not match the objectives listed in Ilios.
- There are opportunities to add additional session objectives to the conferences.

# Course Learning Opportunities

*Recommendation 2012: Continue to reduce lecture hours in the course and provide opportunities for active learning (lectures comprised 59% of the course in 2012).*

- Lecture 34 hrs. (59%)
- Conferences 18 hrs. (31%)
- Correlation Clinic 2 hrs. (3%)
- Laboratory Demonstration 4 hrs. (7%)

# Course Learning Opportunities

*Recommendation 2012: Explore opportunities (e.g. computer simulations) to include activities where data is observed, measured and analyzed.*

- A computer simulation lab activity was added for the respiratory portion of the course, although the course director reports it wasn't completely successful.
- The subcommittee recommends that the course directors explore additional opportunities to include these activities, e.g. using the simulation lab.

# *Summary regarding Pedagogy*

- Percentage of lectures in the course (59%) is higher than recommended by LCME; if additional conferences are not feasible then course directors need to explore other ways to incorporate active learning into the course.
- We appreciate that the course directors piloted a computer simulation activity; we recommend that they continue to explore options to include activities where data is observed, measured and analyzed.

# Assessment

- Written Quizzes (5)
- Final Exam
- Conference performance

# Grading Policy

Successful completion of Physiology 110 will require each student to earn grades of Pass in two components of evaluation:

- Preparation for and participation in the conferences, as evaluated by the faculty leader. Any student receiving an initial grade of Fail for this component may take an oral examination conducted by faculty members other than the student's conference leader.
- Test scores, for which the average of the quiz scores will be weighted equally with the final exam score. Passing this component of the course will require an overall average of at least 70% and a score of at least 60% on the final examination.

# Course Learning Opportunities

*Recommendation 2012: Assign students to the same conference leader so narrative assessment could be provided.*

- Students were assigned to the same conference leader for AY 2012-2013
- Narrative feedback was not provided; the course directors indicated that they find this difficult
- Discussion occurred regarding whether current conference activities allow narrative feedback; suggestions were made to incorporate activities that would enable feedback (e.g. each student present their solution to an assigned problem)

# Assessment – Quizzes and Exams

*Recommendation 2012: Provide clear objectives for every session in the course, and correlate assessment questions to these objectives.*

- All quiz and exam questions were written in formats recommended by the NBME; some required application of knowledge
- Quiz and exam questions correlated well with session objectives provided on Ilios
- Quizzes and exams primarily focused on physiologic principles that were clinically important

# Assessment – Quizzes and Exams

- The wording of questions was confusing to some students

  "It is incredibly disheartening and frustrating to feel that you know the material, and to go into a quiz and find the questions so convoluted that you can't get the correct answer, because you don't know what is being asked."

  "I would invite the course director to re-examine some of the wording on the quiz questions. Many of them were ambiguous, grammatically incorrect, and unclear."

- Some ideas: non-physiology colleagues could proof-read their questions; assemble a student focus group to look at the questions; provide a place for feedback about questions on the quizzes/exams.

# *Summary regarding Assessment*

- Narrative feedback needs to be provided for conferences since conference performance contributes to the calculation of the final grade.
- The content of quizzes and exams is very well matched to session objectives on Ilios. This is a significant improvement from previous years.
- Clarity of questions needs to be improved

# Measures of Quality – AAMC GQ

"Indicate how well you think that instruction in Physiology prepared you for clinical clerkships and electives." [1=poor; 2=fair; 3=good; 4=excellent]

| BASIC SCIENCES | Geisel mean 2008 | Geisel mean 2009 | Geisel mean 2010 | Geisel mean 2011 | Geisel mean 2012 | All schools means 2012 |
|---|---|---|---|---|---|---|
| Behavioral Science | 3.1 | 3.3 | 3.2 | 3.3 | 3.3 | 3.1 |
| Biochemistry | 2.7 | 2.8 | 2.7 | 2.5 | 2.6 | 2.6 |
| Biostatistics/Epidemiology | 2.7 | 2.8 | 2.9 | 3.2 | 3.2 | 2.8 |
| Genetics | 2.9 | 2.8 | 2.9 | 2.8 | 2.8 | 2.8 |
| Gross anatomy/Embryology | 3.4 | 3.5 | 3.6 | 3.5 | 3.6 | 3.4 |
| Histology | 2.8 | 3.0 | 2.8 | 2.9 | 3.1 | 2.9 |
| Immunology | 2.8 | 3.0 | 2.9 | 3.0 | 3.1 | 3.1 |
| Microbiology | 3.1 | 3.4 | 3.1 | 3.2 | 3.3 | 3.1 |
| Neuroscience | 3.2 | 3.2 | 3.2 | 3.0 | 3.0 | 3.2 |
| On Doctoring | 3.3 | 3.3 | 3.5 | 3.4 | 3.5 | 3.4 |
| Pathology | 3.1 | 3.1 | 3.2 | 3.1 | 3.4 | 3.3 |
| Pathophysiology of Disease | 3.6 | 3.7 | 3.5 | 3.5 | 3.5 | 3.5 |
| Pharmacology | 3.1 | 3.5 | 3.4 | 3.1 | 3.1 | 3.0 |
| Physiology | 3.5 | 3.5 | 3.6 | 3.6 | 3.5 | 3.4 |

# Measures of Quality – Step I

| | 2009* | 2010* | 2011* | 2012* | Means 09-12 |
|---|---|---|---|---|---|
| **TRADITIONAL CORE DISCIPLINES** | | | | | |
| Biochemistry | 0.50 | 0.30 | 0.40 | 0.30 | 0.38 |
| Biostatistics/Epidemiology | 0.65 | 0.90 | 0.73 | 0.43 | 0.68 |
| Genetics | 0.40 | 0.30 | 0.48 | 0.28 | 0.37 |
| Gross anatomy/Embryology | 0.50 | 0.35 | 0.53 | 0.33 | 0.43 |
| Histology/Cell Biology | 0.53 | 0.30 | 0.40 | 0.37 | 0.40 |
| Microbiology/Immunology | 0.63 | 0.42 | 0.41 | 0.31 | 0.44 |
| Pathology | 0.55 | 0.35 | 0.42 | 0.26 | 0.40 |
| Pharmacology | 0.63 | 0.15 | 0.39 | 0.22 | 0.35 |
| Physiology | 0.67 | 0.32 | 0.47 | 0.38 | 0.46 |

**values reported for core disciplines are SD above the US/Can mean for Geisel mean scores*

# Measures of Quality – Course Reviews

*scale [1=poor; 2=fair; 3=good; 4=very good; 5=excellent]*

| | Cardio 2011 (42%)* | Cardio 2012 (100%)* | Resp 2011 (42%)* | Resp 2012 (99%)* |
|---|---|---|---|---|
| Overall satisfaction of course | 2.79 | 2.65 | 2.79 | 2.79 |
| Overall usefulness of lectures | 2.70 | 2.36 | 2.70 | 2.42 |
| Overall usefulness of small groups | 3.29 | 3.37 | 3.50 | 3.76 |
| Overall usefulness of course materials | 2.51 | 2.44 | 2.63 | 2.49 |
| Congruence of assessment questions to material emphasized in course | 3.00 | 3.25 | 2.86 | 3.22 |

**student participation rate on course evaluation*

# Measures of Quality – Course Reviews

- Strengths: caring, available faculty; conferences; clinical correlations/clinical relevance of material; demonstration lab at DHMC; Costanzo textbook.

*sample comments:*

"Small group sessions were immensely helpful at clarifying key concepts."

"The professors were VERY available outside of class to help answer questions and they genuinely tried to help clear up the murky points..."

"The most effective part of this course was the small group conferences. It allowed the students to meet together and pull together content, questions, and add to each other's understanding...this is the best kind of learning."

# Measures of Quality – Course Reviews

*Recommendation 2012: Revise lecture notes to make sure important concepts are clearly conveyed*

- Suggestions for Improvement: improve clarity and organization of notes and slides; improve teaching in the course

*sample comments:*

"Lecture slides and notes were poorly organized and contained an overwhelming amount of information with unclear relevance."

"I found the lecture material to be convoluted and confusing, and towards the end of the term I stopped using it at all because it would often confuse me more than help."

# Measures of Quality – Course Reviews

*Recommendation 2012: Provide opportunities for students to practice applying their knowledge before the assessment*

- Suggestions for Improvement: provide more opportunities to practice applying knowledge; increase opportunities for engagement during lectures

*sample comments:*

"…since this course involves a great deal of problem solving, I believe it is actually better suited to a flipped classroom environment with increased interactive learning."

"Many of the lectures were extremely passive with no checks for understanding. "

"The practice powerpoint modules that were provided for a few of the sessions were really helpful (the ones where you could select the answers and were told why or why not it was correct). More of those would be great."

# Measures of Quality – Course Reviews

*Recommendation 2012: Provide a glossary of abbreviations and acronyms.*

- The course directors started a glossary using GoogleDocs, but the students weren't viewing it
- Some faculty put definitions in their slides, but did not use them verbally in class
- Abbreviations were defined on quizzes/exams

"The number of abbreviations made class difficult to follow and the notes/Powerpoints were often confusing."

"While a list of abbreviations is provided at the beginning of lectures, it is hard to constantly look back and clarify abbreviations in lecture when it is going comparatively fast. Abbreviations should be defined on the slide that they are presented."

# Measures of Quality – Course Reviews

*Recommendation 2012: Facilitate faculty development for faculty that are not meeting expectations with regard to teaching.*

*sample comments:*

"The main problem that I found with the course was the effectiveness of the teaching. I found that the lectures generally lost their focus, the material did not flow well thus making it difficult to follow, or at times the instructors assumed we knew too much and brushed over important points."

Small group teaching: "Dr. X was very helpful at explaining the tough points of the lecture, and I learned a lot from my fellow students. I would love if we had more conferences."

Small group teaching: "…my small group leader for the cardiovascular material didn't make us feel comfortable asking questions, so it wasn't really helpful for us."

# Measures of Quality – Course Reviews

*Recommendation 2012: Provide guidance to conference leaders to assure agreement regarding core concepts/material discussed*

- Did not seem to be a major problem this year

*sample comments:*

"The small lecture groups are the best part of this course. They are so helpful in learning the important information, and discussing the main topics of the class."

"Small group session provided an adequate forum to discuss key concepts. However, the experiences and utility of these sessions varied greatly depending upon who the small group leader was."

# *Summary regarding Measures of Quality*

- AAMC GQ data places the course in the "good-to-excellent" range, and students score above the mean on Step I in physiology
- Students rate the course in the "fair-to-good" range; comments indicate that some components of the course need work
- Improvements were made this year in small group conferences, and the correlation between assessment questions and the content emphasized in the course

# *Summary of Recommendations*

- Session objectives need to be listed in course materials in the correct format, and match the session objectives in Ilios
- The course directors should consider adding additional session objectives to conference sessions to reflect what is assessed (e.g. participation)
- Narrative feedback needs to be provided for conferences
- Course directors should continue to reduce lecture hours in the course (target of ~40% lecture) and facilitate engaged learning during large group sessions

# *Summary of Recommendations*

- Incorporate, if possible, activities where data is observed, measured and analyzed
- Improve the clarity of assessment questions (i.e. regarding wording/what is being asked)
- Improve the clarity and organization of course materials
- Provide additional opportunities (or recommend resources) for students to practice applying their knowledge prior to assessment

# *Summary of Recommendations*

- Continue to address the issue of confusion regarding abbreviations and acronyms
- Strongly encourage faculty development, consultations with members of the Academy of Master Educators, etc. to improve teaching and course materials.  Utilize the expertise (3 Academy Members) in your field.

PLANS FOR PHYSIOLOGY 110, FALL TERM, 2013,
PRESENTED TO THE MEDICAL EDUCATION COMMITTEE,
MAY 28, 2013

Based on the recommendations of the Medical Education Committee and our own assessments, our planning for the course that will begin in August, 2013 includes the following items:

1. We will be certain that the learning objectives listed in the course materials for each session match the session objectives listed in Ilios.

2. Written narrative feedback will be provided to all students by conference leaders at the middle of the course and at its conclusion.

3. We have revised the course by reducing the number of lecture hours by 11 and the total course hours by 1. Thus the revised schedule will consist of 40% lectures, down from 59%.

4. We have added 10 hours of large or small group conferences, including a 1-hour session in the DHMC Simulation Lab and a session in which students measure blood pressure and heart rate on themselves in several conditions.

5. Use of a single textbook (Costanzo) will be recommended.

6. All notes for the course will be reviewed for clarity and consistency. Several iBooks are being prepared. Care will be taken to define all abbreviations used in lecture notes and slides, and a glossary will be provided.

7. Conferences will be devoted less to explanation of physiological principles and more to their application than in past years.

8. More practice questions, both with and without answers, will be provided during the week before each quiz. Quiz questions will be reviewed for clarity by student volunteers.

9. In addition to critique of lectures by course directors, opportunities for faculty development for both large and small group teaching will be pointed out to all faculty members who participate in the course.

Gene Nattie
Andy Daubenspeck
Don Bartlett

# Plans for CPT Course February 2014

David W. Nierenberg, MD

Lionel D. Lewis, MD

# Strengths of course:

## We will continue to develop and refine these areas for 2013-14:

- Emergency Therapeutics sessions (increasing each year)
- Applied Pharmacokinetics sessions
- Disease-oriented lectures (e.g. Rx of salt/water problems)
- Commitment of faculty to teaching
- *Good review of both pathophysiology and pharmacology (basic sciences in clinical years): essential context for learning about advanced therapeutic decisions*
- *Preparation for practical prescribing issues as interns*
- *Anticipation of future developments in pharmacotherapy (e.g. pharmacogenomics)*
- *Excellent coverage of major topics in 2010 MSOP report and WHO report*
- *Balance of content about best current treatment of specific diseases, and content about understanding factors that make each patient unique (e.g. drugs and the kidney)*
- *Papers written about complex therapeutics topics in capstone course, with detailed written feedback to each student*

# 2013 was an unusual year for us

- **Student concerns about Pass/Fail vs H/HP/P/F**
  - Move to Pass/Fail next year as an experiment, but with detailed feedback to students on papers continued, and personal notes to students in top 10%
- **New administrative assistant who communicated directly with class, always with good intent, but sometimes with unintended adverse consequences**
  - All communications will come through Dr. Nierenberg, as in all previous years
- **Student concerns about classmates being "too competitive" or "over the top" in preparation of their group presentations**
  - Reinforce time limit of 12 min per group presentation
  - Remind student to focus on "core issues"
- **Slightly lower overall scoring of value of sessions than in previous years**
  - We see some variation year to year; consistent with Y2 experience
  - This class was tough on scoring in Y2 as well
- **This class had less class discussion and participation than we have seen in prior years**
  - They said they are well known for this!
  - Was seen in Y2 as well
  - We will incorporate more ARS as well next year for shy students

# Addressing other student concerns:

- **Provide greater clarity about written assignments:**
  - We will continue to describe written assignments in class, answer questions, and give an example of each from prior year
  - We will write out description of each written assignment in the syllabus, at the beginning of the course
- **Some cases or figures were outdated:**
  - We will continue to provide examples using mostly recent drugs and recent data
  - We will continue to refer to older information about older drugs when the educational point can't be made as well with newer drugs (e.g. example about enzyme induction)
- **Too much focus on review of pathophysiology material and basic pharmacology material**
  - We feel it is important to build our new, more complex material upon this foundation
  - This review was helpful to many but perhaps not all students
  - We will shift more review material into the "prework" for specific sessions, thereby allowing us to focus more time "in class" on working through problems and cases, which we already do
- **Students became "too competitive" in their group presentations to the class:**
  - Changing to P/F next year should help reduce this competition
  - We still want to obtain best work from student groups
  - More strictly enforce 12 min time limit on group presentations
  - Dr. Lewis and I felt that overall these group presentations were superb, and we plan to continue them: excellent peer-to-peer teaching, good problem-solving skills

# Addressing other student concerns:

- **Students going into Peds and Ob felt that some topics were less relevant to them:**
  - We believe that the large majority of these topics are relevant to all students regardless of choice of specialty
  - We will make special effort to incorporate more case examples into each lecture dealing with pediatric and ob-gyn patients and issues
  - Next year, we will again give separate lectures on pediatric clinical pharmacology, and issues related to pregnant and breastfeeding women; these were combined this year due to loss of 4 hours of contact time (a one-year issue)
- **Lack of clarity up front on grading policy, written assignments:**
  - These were explained during the first hour of class
  - Next year, we will add written material to the orientation packet addressing both of these issues right on day one
- **"General topics" (e.g. drugs and the kidney) not as useful as specific emergency therapeutics topics (e.g. management of shock)**
  - We continue to seek balance between these two areas
  - A general approach to addressing therapeutics problems will remain of value even as new drugs are continuously developed into the future

| CPT | COURSE OBJECTIVES EVALUATION FORM | | For AY 2013-14 |
|---|---|---|---|
| Obj. # | Course Learning Objective | Maps to Geisel Competency | Method of Assessment |
| I. | MEDICAL KNOWLEDGE | | |
| **1** | Review basic pharmacology of a number of commonly used drugs, and the pathophysiology of our most common and serious diseases | 1a | Final exam |
| **2** | Demonstrate the use of appropriate statistical approaches to interventional and observational study designs | 1b | Final exam |
| **3** | Review common serious diseases (e.g. MI), common medical emergencies (e.g. anaphylaxis) and their pharmacotherapy | 1c | Final exam |
| **4** | Describe how clinical pharmacology bridges basic pharmacology and clinical medicine, and utilizes knowledge from new areas such as pharmacogenetics | 1d | Final exam |
| **5** | Describe the clinical pharmacology of drugs used to treat pain, for palliative care, and to treat substance abuse. | 1e | Final exam |
| **6** | Explain medical-legal issues related to drug development and prescribing, ethics of clinical and translational research, ethics of relationships with drug companies | 1e | Final exam, consult paper |
| **7** | Explain the various ways that drug therapy plans need to be individualized to fit the needs, preferences, and cultural background of each unique patient | 1f | Final exam; consult paper |
| II. | CLINICAL SKILLS FOR PATIENT-CENTERED CARE | | |
| **8** | Discuss the importance of the therapeutic contract or alliance | 2a,3d | Consult paper |
| **9** | Demonstrate how to document a complete drug history, and history of prior ADRs | 2b | Consult paper |
| **10** | Demonstrate the importance of developing an expanded differential diagnosis for each patient prior to developing a therapeutic plan | 2e | Case discussions |
| **11** | Explain how therapeutic drug monitoring can be usefully and appropriately applied to specific drugs | 2h | Final exam, case discussion |
| III. | INTERPERSONAL AND COMMUNICATION SKILLS | | |

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| **12** | Demonstrate how to counsel patients about their choices for drug therapy | 3a,3d | Case discussions |
| **13** | Explain all of the important parts of the complete drug history, and how to elicit patient preferences about drug treatments | 3b | Case discussions |
| **14** | Demonstrate how to print up a drug information sheet for a patient, and how to explain this information in lay language to a patient | 3c | Case discussions, written assignment |
| **15** | Communicate effectively in all media with physician colleagues | 3e | Case discussions, consult paper |
| **16** | Create a complete, unambiguous, and legal drug prescription and inpatient drug orders to facilitate clear communication with all members of the outpatient and inpatient teams | 3f | Final exam |
| **17** | Participate actively and engage constructively with classmates in case discussions and presentations | 3g | Case discussions |
| IV. | FORMATION OF MATURE, ETHICAL PROFESSIONAL IDENTITY | | |
| **18** | Demonstrate respectful behavior during class discussions | 4a | Case discussions |
| **19** | Show personal responsibility by meeting all deadlines for assignments, and by engaging fully in class discussions | 4b | Written assignments, class discussions |
| **20** | Participate actively in the discussion about potential physician conflicts of interest in prescribing medications | 4c | Case discussions, written consult |
| **21** | Develop your own personal approach to dealing with pharmaceutical representatives in an honest and responsible manner in the future | 4d | Written assignments |
| **22** | Discuss ways to relate to patients who have questions about alternative medical treatments, and their potential interactions with prescription drugs | 4e | Case discussions |
| **23** | Demonstrate the desire to learn and improve, and the ability to react positively to constructure criticism | 4f | Written assignments |
| **24** | Develop your own personal plan for keeping up with changes in the pharmacopeia each year | 4h | Written assignment |

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| **25** | Discuss how prescribing older and generic drugs, when appropriate, can help improve access of more people to basic health services | 4k | Case discussions |
| **26** | Help classmates by providing constructive suggestions after their case presentations and discussion | 4l | Case discussions |
| V. | DEVELOP THE HABIT OF INQUIRY INTO AND IMPROVEMENT OF YOUR OWN PRACTICE | | |
| **27** | Demonstrate the ability to search for and find useful and up-to-date information about latest developments in drug therapy | 5a | Two papers |
| **28** | Analyze recent primary papers about drug therapy for accuracy, validity, and statistical rigor | 5b | Two papers, class discussions |
| **29** | Demonstrate the ability to evaluate and assess clinical care processes and outcomes | 5c | Consult paper, final exam |
| **30** | Utilize the technique of root cause analysis to discover how serious medication errors occurred, and to identify opportunities for improving the healthcare delivery system for drug therapy | 5d | Case discussion, consult paper |
| **31** | Describe where you will look in the future to obtain unbiased and accurate information about new drugs that are approved by the FDA | 5e | Case discussions, written assignment |
| **32** | Create a learning environment within one's own practice | 5f | Consult paper |
| VI. | DEMONSTRATE AWARENESS OF LARGER HEALTHCARE SYSTEM, AND HOW TO CALL ON RESOURCES FOR YOUR | | |
| **33** | Demonstrate how to utilize advanced features of CP On Line in daily decisions about drug therapy | 6a | Drug interaction assignment |
| **34** | Describe how accurate communication with nurses and pharmacists leads to better and safer patient care | 6b | Case discussions |
| **35** | Describe when and how generic drugs should be prescribed appropriately over branded drugs | 6c | Case discussion, consult paper |
| **36** | Discuss the relationship between prescribing physician, nurse, and pharmacist, with emphasisis on prevention of medication errors | 6d | Case discussions |
| **37** | Describe the regulatory environment that surrounds drug prescribing, including regulations of the FDA, DEA, and state boards | 6e | Case discussions |
| **38** | Discuss how various outcome studies, including meta-analyses, are useful in ascertaining optimal drug management of various conditions | 6h | Consult paper |

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| **39** | Describe the importance of the physician as prescriber to serve as a catalyst for safer, more effective, and less costly patient care, thereby enabling broader access to care | 6i | Case discussion, consult paper |
| **40** | Describe how you will work to individualize the drug therapy plan that you develop for each individual patient, taking into account the many variables that make each patient unique | 6j | Case discussion, consult paper |

| Course objective | Geisel competency | Course Objective |
|---|---|---|
| 1 | 1a | Review basic pharmacology of a number of common drugs |
| 2 | 1b | Describe basic principles of biostatistics as it applies to studies of drugs (both observational and interventional) |
| 3 | 1c | Review common serious diseases (e.g. MI), common medical emergencies (e.g. anaphylaxis) and their treatment |
| 4 | 1d | Describe how clinical pharmacology bridges basic pharmacology and clinical medicine, and utilizes knowledge from new areas such as pharmacogenetics |
| 5 | 1e | Describe the clinical pharmacology of drugs used to treat pain, for palliative care, etc. Explain medical-legal issues related to drug development and prescribing, ethics of clinical research, ethics of relationships with drug companies |
| 6 | 1f | Explain the various ways that drug therapy plans need to be individualized to fit the needs of the unique patient |
| 7 | 2a, 3d | Discuss the importance of the therapeutic contract or alliance |
| 8 | 2b | Explain all of the parts of the complete drug and ADR history |
| 9 | 2d | Demonstrate how to document a complete drug history, and history of prior ADRs |
| 10 | 2e | Demonstrate the importance of developing an expanded differential diagnosis for each patient |
| 11 | 2f | Understand common and simple clinical procedures (i.e. venipuncture, catheterization, simple suturing) and be able to perform these procedures under appropriate supervision |
| 12 | 2g | Demonstrate how to use sophisticated electronic database about drugs |
| 13 | 2h | Explain how therapeutic drug monitoring can be usefully applied to specific drugs |
| 14 | 2i | Understand and participate in the performance of common operative procedures (i.e. appendectomy, laparotomy, pelvic surgery, complicated labor and delivery) |
| 15 | 3a | Demonstrate how to counsel patients about their choices for drug therapy |
| 16 | 3b | Explain all of the important parts of the complete drug history |
| 17 | 3c | Discuss the importance of printing up drug information for patients |
| 18 | 3e | Communicate effectively in all media with physician colleagues |
| 19 | 3f | Create a complete, unambiguous, and legal drug prescription |
| 20 | 3g | Participate actively in case discussions and problem sets |
| 21 | 4a | Demonstrate respectful behavior during class discussions |
| 22 | 4b | Show responsibility by meeting all class deadlines for written assignments |
| 23 | 4c | Participate actively in the discussion about potential physician conflicts of interest in prescribing medications |
| 24 | 4d | Develop your own personal approach to dealing with pharmaceutical representatives in an honest and responsible manner in the future |
| 25 | 4e | Discuss ways to relate to patients who have questions about alternative medical treatments, and their potential interactions with prescription drugs |
| 26 | 4f | Accept responsibility for all of your written assignments and grades |
| 27 | 4g | Discuss how concerns about patient confidentiality affect how you write prescriptions |
| 28 | 4h | Develop your own personal plan for keeping up with changes in the pharmacopeia each year |
| 29 | 4i | Discuss the risks of substance abuse in residents and physicians |
| 30 | 4k | Discuss the financial implications, pros, and cons of generic vs branded drug products |
| 31 | 5a | Demonstrate ability to find accurate, up-to-date resources for drug information for two required papers |
| 32 | 5b | Analyze recent primary papers about drug therapy for accuracy, validity, and statistical rigor |
| 33 | 5c | Evaluate and assess clinical care processes and outcomes in the practice environment in which they particpate, and understand how this measurement relates to the improvement of care for groups of patients |
| 34 | 5d | Utilize the technique of root cause analysis to discover how serious medication errors occurred, and to identify opportunities for improving the healthcare delivery system for drug therapy |
| 35 | 5e | Describe where you will look in the future to obtain unbiased and accurate information about new drugs that are approved by the FDA |
| 36 | 5f | Create a learning environment within one's own practice |
| 37 | 6a | Describe how CP On Line can be utilized in daily decisions about drug therapy, and to optimize drug prescribing |
| 38 | 6b | Describe how accurate communication with nurses and pharmacists leads to better and safer patient care |
| 39 | 6c | Describe when and how generic drugs should be prescribed over branded drugs |
| 40 | 6d | Discuss the relationship between prescribing physician, nurse, and pharmacist, with emphasisis of medication errors and their causes |
| 41 | 6e | Describe the role of physician, drug companies, pharmaceutical reps, and advertising in affecting prescribing practices |
| 42 | 6f | Explain how the concept of a "core formulary" can relate to providing the most cost-effective care to a population of patients, when inadequate funding is a real concern |
| 43 | 6h | Discuss how various outcome studies, including meta-analyses, are useful in ascertaining optimal drug management of various conditions |
| 44 | 6i | Describe the importance of the physician as prescriber to serve as a catalyst for safer, more effective, and less costly patient care emphasized through many examples |
| 45 | 6j | Describe how you will work to individualize the drug therapy plan that you develop for each individual patient, taking into account the many variables that make each patient unique |