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Ann Maderer

Scott Epstein, MD

O&A is published five times a year by the OEA. We welcome your feedback and ideas for future articles. Please direct your comments to Ann Maderer, phone 617-636-2191, email ann.maderer@tufts.edu.

Educational Strategic Plan Moves Forward

On April 2, the Tufts University School of Medicine's Curriculum Committee unanimously approved the Educational Strategic Plan (ESP). The Committee's approval clears the way for a four-year translational curriculum to be rolled out in August of this year with the incoming Class of 2013. The Committee acknowledged that additional work remains to be completed on the final structure of the 3rd and 4th year schedules. The Committee also recognized that the unfolding of this new curriculum will be an iterative process. Continuous assessment and refinement will be essential for success. The following strategies will be used to assess the curriculum: student review of courses/clerkships, peer review of courses/clerkships, focus groups of students and faculty, examination results (integrated course exams, clerkship shelf exams), end of third-year assessment (OSCE – Objective Structured Clinical Examination, see page three), USMLE scores, residency placements, AAMC graduate questionnaire, survey of graduates (annual PGY-1 Survey), survey of residency program directors of graduates, and an annual review by Curriculum Committee. In addition, the major working groups will meet yearly to review progress and make suggestions for change.



**TUSM
students in a
Learning
Community**

The ESP is the culmination of more than two years of painstaking work by 17 committees. On behalf of Dean Rosenblatt and the TUSM administration I wish to thank the nearly 150 basic science and clinical faculty and students who worked tirelessly to craft an innovative approach to medical education. I would especially like to acknowledge and thank the faculty who chaired the working groups (page two). See TUSK, <http://tusk.tufts.edu/view/url/M2044C/743177/813459>, for a full list of all committee members.

Scott K. Epstein, MD
Dean for Educational Affairs
Professor of Medicine

Educational Strategic Plan Committee Chairs

Wayne J. Altman, MD, *Public Health and Family Medicine* Foundations of Patient Care
 Ralph Aarons, MD, PhD, *Pediatrics* Learning Communities
 James Baleja, PhD *Biochemistry* MedFoundations Working Group
 Michael Barza, MD, *Medicine* Core Clerkship
 Harris Berman, MD, *Vice Dean* MedExplorations Working Group
 John J. Castellot, PhD, *Anatomy and Cellular Biology* MedCore Working Group
 Laurie Demmer, MD, *Pediatrics* MedFoundations I (Foundations of Medical Science I)
 Scott K. Epstein, MD, *Dean for Educational Affairs* From Health to Disease II and From Health to Disease IV
 Scott Gilbert, MD, *Medicine* From Health to Disease III
 Richard Glickman-Simon, MD, *Public Health and Family Medicine* Scientific Foundations of Social and Behavioral Medicine
 Nicholas Guerina, MD, PhD, *Pediatrics* Selectives and Community Service Learning
 Susan Hadley, MD, *Medicine* Key Themes
 Robert Kalish, MD, *Medicine* Key Themes
 Nora Laver, MD, *Pathology* MedFoundations II (Foundations of Medical Science II)
 Lawrence Milner, MD, *Pediatrics* Core Clerkship
 Stephen G. Pauker, MD, *Medicine* Core Clerkships Orientation
 Mark D. Pearlmutter MD *Emergency Medicine* MedExplorations Working Group
 Arthur Rabson, MD *Pathology* MedFoundations Working Group
 Beverly Rubin, PhD, *Anatomy and Cellular Biology* From Health to Disease I: The Brain
 Jonathan Schindelheim, MD, *Psychiatry* MedCore Working Group and Scientific Foundations of Social and Behavioral Medicine
 John Unterborn, MD, *Medicine* TUSM IV
 Mary Ann Volpe, MD, *Pediatrics* TUSM IV

2009 Zucker and Aisner Teaching Awardees

The winners of the 2009 Milton O. M'30 and Natalie V. Zucker Clinical Teaching Prizes are Michael Worthington, M.D. (in the Accomplishment category) and Dr. Kevin Hinchey, M.D. (in the Innovation category). Dr. Worthington is Chief of Infectious Diseases at Caritas St. Elizabeth's Medical Center, and Dr. Hinchey is the Internal Medicine Residency Program Director at Baystate Medical Center. The Zucker Clinical Teaching Award recipients are nominated by their peers and then selected by the Tufts University School of Medicine Curriculum Committee.

The Award recognizes faculty members who have made outstanding contributions to clinical teaching. This year, and for the first time, the winner of the Mark Aisner, M.D. Award for Excellence in Teaching Physical Diagnosis is not an individual but a team of medical educators, located at the Lemuel Shattuck Hospital. Led by Farshid Fararooy, MD, the Shattuck team is recognized for their outstanding teaching of Physical Diagnosis (PD) to second year TUSM students.

Shattuck PD preceptors:

Arielle Adrian, MD
 Salah Alrakawi, MD
 Alin Bortan, MD
 Jack Cadigan, MD
 Farshid Fararooy, MD
 Daniella Floru, MD
 John Jameson, MD
 Carl Kramer, MD
 Ken Pariser, MD
 Rochelle Scheib, MD
 Peter Workum, MD



From left to right are Drs Workum, Adrian, Alrakawi, Scheib and Fararooy, some of the physical diagnosis preceptors at the Lemuel Shattuck Hospital site.

All awards will be presented to recipients at the **General Faculty Meeting on Monday, June 1, 2009, 5:00pm in Sackler 216A.**

Research in Medical Education Update

The American Educational Research Association (AERA) Annual Meeting took place on April 13-17, 2009, San Diego, CA. Maria Blanco, EdD, presented the paper:

Medical Student/Nurse Partnership Program: A Pilot Study of Pre-clerkship Medical Student/Nurse Interactions on the Wards.

Authors: Blanco, M., EdD; Epstein, S., MD; White, K., PhD; Brunton, M., MSN, RN, BC; Gaden, N., RN; Gravlin, G., EdD, RN, CNA-BC; Hudson-Jinks, T., RN, MSN; Sullivan Smith, M. RN, MSN; Wilder, E., MD. A description of the paper follows:

56 second-year students shadowed 37 nurses during their physical diagnosis site-based training at Baystate Medical Center, Lahey Clinic, Caritas St. Elizabeth's Medical Center and Tufts Medical Center. A mixed methods comparison group study was used.

Findings suggest that:

- Students and nurses are willing to work together (a promising learning environment);
- The program enhanced nurses' teaching contributions and promoted a mutual understanding of and respect for medical student and nurse roles (an essential first step towards collaboration and teamwork);
- The program promoted reflection on collaboration and communication, yet students put less emphasis on collaboration as a joint decision-making effort, a primary aspect of collaboration.

The program is being replicated and studied in Spring 2009.

Dr. Blanco also participated in the AAMC Northeastern Group on Educational Affairs (NEGEA) that took place on May 1-2, 2009, in Hershey, PA and represented the following medical education research:

Abstract Title: *Innovations in Education Intramural Grant Program*
 Authors: Ann Maderer, MA; Scott K. Epstein, MD; Maria Blanco, EdD; Kathleen Lowney, MHS; Mary Y. Lee, MD; Michael Rosenblatt, MD.

Abstract Title: *Student Evaluation of Facilitator Teaching Effectiveness: A Pilot Study of the Reliability and Strength of Student Anonymous vs. Face-To-Face Evaluations of PBL Facilitator's Teaching.* Authors: Maria Blanco, EdD, Ralph Aarons, MD, Scott Epstein, MD, Keith White, PhD.

Abstract Title: *Schwartz Compassionate Care Faculty Development Program: Promoting Humanistic Teaching in Health Care Educators.* Authors: Maria Blanco, EdD, Paul Summergrad, MD, Thomas Campfield, MD, Robert Kalish, MD, Yung-Chi Sung, PhD.



Objective Structured Clinical Exam (OSCE)

The Objective Structured Clinical Exam (OSCE) exams will be administered by the OEA at the Clinical Skills and Simulation Center (35 Kneeland, 3rd Floor) starting mid-May and running through mid-June with an additional date in the months July, August and October.

The OSCE is a performance-based exam for students at the end of their third year. During the exam, students are observed and evaluated by faculty as they go through a series of stations where they interview, examine and treat Standardized Patients (actors trained to be "patients") presenting with a variety of problems.

Read more about the OSCE on TUSK at <http://tusk.tufts.edu/view/url/M2044C/775325>.

AAMC 2009 Annual Meeting

This year the Association of American Medical Colleges (AAMC) Annual Meeting will take place in Boston, from November 6-11, 2009 at the Hynes Convention Center.

More information may be found at:

<http://aamc.org/meetings/annual/2009/start.htm>



Dr. Castellot in his lab. Dr. Castellot is Professor of Anatomy and Cellular Biology and Director of the Cell, Molecular, and Developmental Biology Program.

Featured Faculty

John Castellot, PhD

Clinician educators are often challenged by having to modulate their message for different audiences - they teach students, interns, residents, and fellows. How do you determine what to teach 1st year medical students compared to what you teach your graduate students?

You're right that determining what to teach medical and graduate students is a real challenge. Just to give you a glimpse of the issue, if you want a PhD in Cell Biology you have to take three full courses in Cell and Developmental Biology—nearly 150 lecture hours. Even with 150 lecture-hours, the emphasis is not on learning facts, but on understanding experimental paradigms and interpreting data. In contrast, the med students get only 16 lectures on Cell and Developmental Biology. When I first started teaching at Tufts in 1988, I basically cut out 90% of the graduate course material to fit the medical school time frame. Concepts of cell behavior that were vital to the functioning of a cell were given top priority.

A couple of years after I arrived, I was at a course director's meeting complaining that it was impossible to give an entire course in cell and developmental biology in only 16 lectures. As an example, I mentioned that I could only spend 15 minutes on something as fundamentally important as nuclear transport. Arthur Rabson, who has long been one of my role models as a teacher, said "Well, nuclear transport may be vital to normal cell function, but how important is it in medicine? What would you like your doctor to know about it?" I replied, "Well, there aren't any diseases of defective nuclear transport that we know about, so I guess I wouldn't be asking my doctor about it." To which Dr. Rabson said, "Maybe it doesn't deserve 15 minutes of lecture time then." When I thought about it, he was right. From then on, relevance to medicine and disease pathogenesis drove the content of the lectures. Ironically, starting a few years ago, nuclear transport made it back into the course because a couple of important diseases have been strongly linked to defects in this process. That illustrates another major challenge—the need to look three, five, even ten years ahead and predict which important discoveries at the bench are likely to alter the way diseases are treated.

Beginning this August, your course becomes part of an integrated unit - Scientific Foundations of Medicine I (along with Immunology, Molecular Biology, Genetics and Biochemistry). What benefits to you see with this integrated model? What are the challenges?

I am really excited about the potential of this new integrated model, including the early introduction of patient experience for the students. One of the keys is the presentation of six patients at the very beginning of SFM I. They will be the focal point for integrating basic science concepts across the disciplines we are teaching simultaneously (cell bio, immuno, etc). If we get it right—and, we're committed to getting it right—it will help the students see the constant interplay between the results emerging from biomedical research and the practice of medicine. There are two challenges that I see as critical for our success. The first is the need for constant communication among course directors, along with feedback from students. This is critical if we are going to make sure major gaps or overlaps don't develop, and that key concepts are reinforced where necessary. The second is the need to assess how students have assimilated material in individual disciplines, while simultaneously assessing how well they can integrate material from different disciplines, as they will have to do for the Boards. This is where the course directors will need a lot of help from the OEA.

How have you been able to successfully integrate ethics into your course?

I have always felt that it was not enough for biomedical scientists to simply lay out the results of their work or the work of others and then leave it up to society to figure out how to deal with it. I believe we have an obligation to raise the ethical issues that arise from our work with our students.

(continued on page six)

Student Spotlight: Patricia Ritze, M'09

Maria Blanco, EdD, Vice Dean of Faculty Development and Course Director for the Fourth Year Medical Education Elective, interviewed Patricia Ritze, a student in the elective this past March.

Why were you interested in taking the Medical Education Elective?

In Internal Medicine, I know an important part of my residency will be teaching medical students and eventually teaching interns. After residency, I hope to incorporate clinical teaching in my practice. We've all had experiences during clerkships where we have the chance to learn from fantastic residents, and we have all had experiences working with residents who aren't natural teachers. I took this course because I'd like to be one of the good ones!

Please tell us about the course syllabus. What are the course topics, activities, assignments?

We were able to cover many different high yield topics during the course. Our classes had a lot of variety, but we didn't spend much time in formal lectures. We spent class time learning through roleplays, class discussions, presentations, small group activities, etc. Topics we discussed and practiced included teaching in clinical settings, teaching students with challenging personalities, giving constructive feedback, teaching on rounds as resident, teaching to students who are at different levels, etc. We learned about giving effective presentations, then we practiced by each presenting a 15 minute topic and receiving feedback from the group. We also partnered up with 2nd year students and precepted in their Physical Diagnosis II course. Overall, it was a very diverse month, and we had a lot of fun.

What are the most valuable lessons you took away from the course?

I think one of the strongest messages I took away from the course is about the importance of good feedback. I feel much more prepared to give future students good, constructive feedback, and to feel comfortable telling them honestly about areas for improvement. It was also a huge help to discuss "problem" scenarios, like disinterested students, "gunner" personality types, etc, and learning some techniques to handle tough situations.

Do you think that having taken this course will help you become a better intern? (Or, do you think that this course will contribute to your role as an intern?)

Yes. I think next year will be challenging, because it'll be easy to overlook teaching opportunities when I'm busy trying to complete a million tasks. I think taking this course will make me more aware in general of my role as a teacher. It will help me do a better job setting expectations with my medical students, giving succinct talks on rounds, and dealing with challenging groups.



Patricia Ritze and Mt. Hood (on right)

What piece of advice would you offer to medical students who might be interested in teaching and/or academic medicine?

Just jump in and get started! There are good opportunities during 4th year to teach in PBL and interviewing, and it sounds like there might be even more chances opening up with the new curriculum. If you have time, the medical education elective is a great way to focus on developing your teaching skills. And I think it's important to always seek out feedback on our teaching – there's bound to be room for improvement!

(Dr. Castellot, continued from page four)

When I first started teaching at Tufts, I offered optional small-group sessions on the ethics of animal research. When cloning and stem cells became a huge issue in the late 1990's, I switched to these issues for the ethics sessions, and began bringing up ethical issues in my lectures on these topics. I have to say I'm gratified that although the sessions have been optional, the number of students attending has risen from about 60% when I started to 90% in the last few years. That says a lot about the type of students we are admitting now. In fact, many of them express a strong desire for even more ethics discussions, which I think is another major advancement in the new curriculum we're implementing. (Editor's note: Beginning with the class of 2013, there will be a significant increase in ethics content during first year.)

Tell us about your research.

I've always been interested in cell proliferation—I was a "cell cycle jockey" as a grad student—and began focusing on smooth muscle cell proliferation after I finished my PhD in 1978 because it's so critical in many important problems, like restenosis, fibroids, and asthma, to name just a few. So, my lab is basically a "Smooth Muscles 'R Us" operation. In the 1980's I did a lot of work on heparin as an inhibitor of smooth muscle cell proliferation in the artery wall after angioplasty and bypass surgery, in the hopes that we could develop heparin into a clinically useful drug to treat restenosis.

If I may digress for a moment, one of the things I often joke about is that while doing the structure-function studies on heparin, we published the fundamental work that led directly to the use of low molecular weight heparins for the treatment of deep-vein thrombosis. Even though this is now a \$3 billion dollar per year group of drugs, I didn't get a penny because it was the 80's, I was young and not thinking about the commercial aspects of what I was doing. However, I did get tenure because of that work and have had 30 years of NIH grant money because of it, so I've been very well compensated with a wonderfully satisfying career. It's deeply gratifying to see one's work result in drugs that are helping people.

Now getting back to the present . . . heparin has proven difficult to use clinically for restenosis, but we discovered a new protein a few years ago that is regulated by heparin, called CCN5. With our collaborator, Richard Karas at the Molecular Cardiology Research Institute (MRCI), we recently showed that CCN5 can almost completely prevent arterial smooth muscle cell proliferation in a mouse model for restenosis. The fibroid story is also fascinating. We've been collaborating with Beverly Rubin and Charlotte Kuperwasser in Anatomy and Cell Biology along with Edward Evantash in the Ob-Gyn department, and have been able to demonstrate that CCN5 can reduce human fibroid formation in an immunocompromised mouse model. We're also working with Amy Simon in the Pulmonology division at Tufts Medical Center to see if CCN5 can reduce airway smooth muscle cell proliferation, which is a key feature of chronic asthma. It's exciting times for us right now, to say the least.

OEA Student and Faculty Survey

In an effort to understand the most effective teaching and learning styles/approaches of students and faculty at TUSM, the Office of Educational Affairs is conducting a brief survey of student and faculty:

FOR STUDENTS

http://www.surveymonkey.com/s.aspx?sm=kGsRs70tgtXwf7n_2b3jUmFw_3d_3d

FACULTY

http://www.surveymonkey.com/s.aspx?sm=fw1IAmqJg5aXAxYyW7OguA_3d_3d

Our intention is to use the findings to support the understanding and improvement of teaching and learning practices at TUSM. Information derived from the surveys will be compiled and disseminated to students and faculty.

We hope to hear from you by May 31, 2009. Responses are anonymous. There are four questions, and we anticipate that the survey will take five-to-ten minutes of your time. *Thank you!*

O&A summer vacation

The next issues of the O&A will be published in September, 2009.

On behalf of everyone in the Office of Educational Affairs, have a happy, healthy and relaxing summer!