A featured article by Phil Masters in this edition on the changes we have made to "modernize" the third year clerkship in internal medicine during the past 3½ years, and our students’ lack of enthusiasm for such change stimulated my thinking about our mission as educators and teachers. We sometimes forget or get distracted from the notion that the College of Medicine and its education mission is the raison d’être of this medical center complex. The hospital could certainly exist and function independently of the College, and a research institute, perhaps with graduate students and postdoctoral trainees, could do likewise. We are bound together here around the education of the next generation of physicians through the College of Medicine. Therefore, we must commit ourselves to this essential mission knowing full well there is not adequate funding to support it fully. It means going the extra mile to not only teach in formal settings, but

Medical Education Update - What's Happening With the Medicine Clerkship

Philip A. Masters, M.D.

Try to remember your first ‘real’ internal medicine experience as a student. This likely occurred during the basic medicine clerkship during the third year. I vividly recall working with an extremely broad range of incredibly intelligent people during this early clinical rotation and caring for amazingly complex patients. It was then and there that I decided I wanted to become an internist – I wanted to be like them.

Amazingly, since the time that William Osler, the ‘father of internal medicine’, designed our current model of clinical medical education in the late 1890’s, this early and intensive exposure to the world of internal medicine has endured and remains a key component of all students’ medical training.

What has changed over the years are the details of how we expose our students to the rapidly changing world of medicine and, in particular, internal medicine. For example, the shorter hospital stays and increasing complexity and acuity of hospitalized patients has dramatically changed the inpatient learning experience for students. The times when a typical patient stayed in the hospital for a week or more, giving students and faculty ample time to learn and reflect on the details of disease and the experiences of patients, have long passed. Additionally, the increased focus on the internal medicine subspecialties coupled with the continued need for general internists to care for increasingly complicated patients longitudinally have made exposing young students to the depth and breadth of internal medicine challenging. To this end, the third year medicine clerkship at Penn State has continued to evolve in many ways in recent years.

The clerkship continues to be eight weeks in length. Students spend four weeks participating in a key role on an inpatient general medicine service at the medical center or one of our affiliated institutions (Lebanon Veterans Administration Medical Center in Lebanon, York Hospital, and Pinnacle Health System in Harrisburg). Changes in our affiliations for inpatient training in the clerkship include the ending of our long-standing educational relationship with Lehigh Valley Hospital in Allentown and new affiliations with Holy Spirit Hospital in Harrisburg and Mount Nittany Medical Center in State College (near the main campus of Penn State University College of Medicine).
The Division of Nephrology saw several notable changes in the past year. On the clinical front, Dr. Navin Verma has established a home hemodialysis program for patients seeking a flexible alternative to in-center dialysis. The program now includes 18 patients, making it one of the largest home hemodialysis programs in the state. Patients use a dialysis machine specifically designed for home use (NxStage) and dialyze 6 days a week for about 2 hours each treatment, instead of the conventional three times weekly, four hour schedule. Although long-term data are still lacking (an NIH trial is in progress), patients report enhanced well-being and generally have better control of blood pressure, azotemia, anemia, and secondary hyperparathyroidism than patients on conventional hemodialysis. When combined with our large home peritoneal dialysis program, our home programs account for about 33% of our total dialysis population, a percentage which greatly exceeds the national average. In addition to home dialysis, our in-center hemodialysis population also continues to grow. We have an increasing presence in area community dialysis units which our physicians cover including units in Elizabethtown (Verma), Palmyra (Miller), Harrisburg (Fitzsimons and Reeves) and Camp Hill (Fitzsimons and Verma). Dr. Muriel Fitzsimons heads efforts to grow our practice on the West Shore. She also provides nephrology consultations at the Penn State Rehab Hospital until the new facility in Hershey opens. Our outpatient clinic moved from UPC600 to UPC300. Our co-localization with the Endocrinology clinics should facilitate collaborative care of the large population of patients with diabetic kidney disease. Plans for the upcoming year include the establishment of specialty clinics, such as a glomerulonephritis clinic and a CKD clinic.

We welcomed two new clinical fellows to our training program this summer. Both are graduates of the Penn State Hershey Internal Medicine Residency program. Christin Spatz is enrolled in the ABIM Physician-Scientist Track. She will spend the next four years in training to pursue a career in academic nephrology. She is getting off to a quick start as she wrote and was awarded a research grant from Genzyme Corp. to study the role of FGF23 in chronic kidney disease. Her faculty mentor on the project is Dr. Navin Verma. Lawand Saadulla was involved in a number of research projects as a resident (and was the recipient of the Housestaff Award for Excellence in Research last year). We are delighted to have them both on our team. We are also pleased to report that our nephrology fellowship program, under the direction of Dr. Ronald Miller, received three years of accreditation from the ACGME.

Two new research faculty joined our division in the past year. Dr. Kebin Hu completed a productive post-doctoral fellowship at the University of Pittsburgh. His primary research interest is in elucidating the signaling events which lead to progressive kidney fibrosis. He made the novel observation that tissue plasminogen activator, traditionally thought to be anti-fibrotic, actually promotes fibrosis through enzyme-independent membrane receptor-dependent signaling. He was recently awarded a Grant-in-Aid from the American Heart Association to pursue this work. Dr. Alaa Awad joins us from the Division of Nephrology at the University of Virginia. The focus of his research is the role of macrophages in diabetic kidney disease. He uses mouse models of type-1 diabetes, genetically modified mice and procedures to deplete specific immune cell populations in order to dissect the relationship between infiltrating macrophages and podocyte dysfunction in diabetes. His work is supported by an NIH K99/R00 grant.

Also on the research front, Dr. Nasrollah Gahramani was awarded a five year K23 NIH career development award to explore the basis for geographic disparities in kidney transplantation in the rural Appalachian region. Dr. Gahramani and I also teamed with Dr. Vernon Chinchilli and his colleagues in Public Health Sciences in a successful application to serve as the Data Coordinating Center for the ASSESS-AKI study. ASSESS-AKI is a five year NIH-funded multicenter observational study of the long-term consequences of acute kidney injury. Penn State is
Steven and Sharon Baron
Leadership Award

Laurence Thorndyke, M.D., professor of medicine and associate dean for professional development, received the Faculty award. Thorndyke is recognized as a skilled clinician and leader in the educational and organizational development areas, such as faculty development and mentorship, women’s leadership conferences, Women’s Ages and Stages Conferences, Mini-Medical School Program, Penn State Junior Faculty Development Program, community education, Distinguished Educator’s Program and, Continuing Education. She is described as an enthusiastic team member and a team leader, providing direction, maturity, and leadership.

Spotlight (Continued)

coordinating the development of the study protocol, training of research personnel, and all aspects of data and sample capture and analysis. As part of the NIH stimulus package, I received a new RO1 grant for my research into the role of inflammation in AKI. Dr. Ganesan Ramesh, assistant professor in our division, was awarded a Gottschalk Career Development Award from the American Society of Nephrology. The Gottschalk Award is highly competitive and is intended to support new investigators as they apply for NIH funding. Dr. Ramesh’s primary research interest is the mechanisms of AKI. He discovered that a protein originally identified in brain, netrin-1, plays an important role in protecting the kidney against ischemic injury. Measurement of netrin-1 in the urine may also provide an early indication of kidney disease. In addition to the Gottschalk Award, his research is supported by the American Heart Association and a College Research Start-Up Grant. I am excited at the growth in the depth and breathe of our research programs and by the potential for interactions between investigators within the division as well as across the campus and university.

Eileen Feeley, R.N. has been a dedicated nurse at the Penn State Milton S. Hershey Medical Center for more than 15 years. She has been instrumental to the care of many patients while working in liver transplantation and in hepatology. Her care has gone well beyond expectations with excellence in teaching, compassion, and meticulous attention to detail. She has developed numerous systems improvements in office flow that have improved quality and safety in our patient population. The designation of employee of the Quarter is well deserved!
In July of 2008, the Department of Medicine launched a new committee whose focus is to honor and reward its employees. The officers are Co-Chairs, Cindy Strine and Carolyn Creter, and Treasurer, Laurie Peiffer. Current committee members include Tami Cassel (GIM), Laura Delo (Pulmonary), Dr. Nasrollah Ghahramani (Nephrology), Marilyn Hoke (Rheumatology), and Rita Lahr (Medicine Finance). The committee consists of representation of employees from various divisions as well those employed by both the college of medicine and medical center. The committee was first introduced to the department at the 2008 holiday party. Since that time, it has been developing various ways to reward and recognize our employees. The committee began hosting a quarterly breakfast to recognize staff birthdays. In addition, the committee reviews department nominations and selects an employee of the quarter. Awards this past year have been granted to Renee Morton, Pulmonary; Carolyn Creter, Endocrinology; Sharon McGarrity, Medicine Finance; and Eileen Feeley; Gastroenterology. Department of Medicine faculty, residents, and staff are encouraged to nominate an outstanding department member. They may contact any member of the committee or their division administrative lead for a nomination form.

The committee has had two successful bake sales thanks to the many contributors who donated baked goods as well as their time. The committee also wishes to thank all of the supporters who purchased our baked goods. Please be on the lookout for future committee fundraisers. Money from these fundraisers is used to help support the activities sponsored by the committee.

As the committee continues to seek ways to recognize our employees, we are also interested in any suggestions or ideas you might have. Please feel free to contact myself or any member of the committee with your input.

We look forward to seeing everyone at the Department of Medicine’s Holiday Party on Tuesday, December 8, 2009. Please stop by our table at that time to say hello and to pick up your ‘holiday gift’ from the committee.

Medical Education (Continued)

campus). These different sites provide our students the opportunity to experience the way medicine is practiced in a variety of different venues and with different patient populations.

The other half of the clerkship has students rotating through the subspecialty divisions of the department of medicine at the medical center. Termed ‘subspecialty selectives’, students are able to indicate a preference for two of nine division-based subspecialty clinical experiences. Two weeks each in length, students complete two of these rotations for the second half of the clerkship. Each selective presents students with clinical activities unique to that subspecialty area of internal medicine. Coupled with their inpatient experience during the clerkship and their ambulatory care exposure during a required third year primary care clerkship, students are able to see how subspecialty physicians practice their area of expertise and how this fits into the ‘big picture’ of medical care. The selectives also give students a chance to experience the different subspecialty areas of medicine that may ultimately be helpful in making their career choices which essentially need to occur during the third year of medical school.
Internal Medicine Residency Program Research Update

Neil Baman, M.D., Shana Bomberger, M.D., and Zachary Huston, M.D.
Chief Residents

Sandra Boyton, renowned children's illustrator, once said “research tells us fourteen out of any ten individuals like chocolate.” While this likely isn’t from a double-blinded, randomized, placebo-controlled study, our residents have expanded upon Ms. Boyton’s curiosity and are currently engaged in a variety of research, affording them the opportunity to present their work at national and international conferences. Their research is supported by numerous faculty and two research forums: the monthly department of medicine research conferences held by Dr. Reeves in the division of nephrology, and bimonthly resident research forum.

The following is a small sample of current research by a few of our residents (in alphabetical order):

Kamal Abbi is working on a retrospective study comparing the remission rates, progression free and overall survival in patients treated with various chemotherapy regimens for mantle cell lymphoma.

Abdulla Al-Damluji is engaged in a collaborative project between Penn State and Johns Hopkins to externally validate a prediction model for hospital mortality for ALI/ARDS. His poster entitled “Predictors of mortality for acute lung injury in patients with HIV infection” has been accepted at the Society of Critical Care Medicine’s 39th Congress. Finally, for a Grand Rounds to be held in the spring, Al-Damluji is currently preparing a meta-analysis on delirium in patients in the intensive care unit.

Girum Mekonnen is working on two projects related to his interest in cardiology. He specifically is looking at the relationship between strength training and cardiovascular mortality. His second research project compares events after drug-eluting stents vs. bare metal stents for saphenous vein grafts.

Mohammed Reza is examining the outcomes for patients who have undergone the hypothermia protocol after cardiac arrest or CVA.

Pradeep Yadav is submitting a paper looking at the incidence of worsening tricuspid regurgitation in patients who received an ICD/pacemaker/BiV. In addition, he is studying the association between pulmonary artery systolic pressure measured by echocardiogram following cardiac resynchronization therapy and subsequent hospital admissions for heart failure. Finally, Yadav just returned from Venice, Italy, after presenting “Anomalous origin of right coronary artery presented as exercise induced ventricular tachycardia” at the 11th International Workshop on Cardiac Arrhythmias.

We want to hear from you! This newsletter is made possible by the submissions from the department’s faculty and staff. If you wish to prepare a submission for publication, please e-mail your file as a Microsoft Word document to Susan Hassenbein (shassenbein@hmc.psu.edu). Please include the word count in your e-mail and enter “Lions of Medicine Submission” in the subject line. We also welcome comments about our publication via e-mail or telephone to any member of the editorial board.
MEET THE TEAM - NEW FACULTY

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Hematology/Oncology

Jennifer Kraschnewski, MD
General Internal Medicine

Omobolawa Kukoyi, MPH
Infectious Diseases

Yasmin Masood, MD
Cardiology

Thomas O’Leary, MD
Cardiology

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General Internal Medicine

Folarin Sogbetun, MD
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