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Issue 4
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Change Your Calendar—New Date!

New Curriculum Update Retreat

Tuesday, November 22, 2005

5:30-8:30PM

Location to be announced

THEME OF ISSUE 4:

MORE THAN JUST A NEW LOOK FOR ANATOMY

Anatomy is getting an exciting new look inside and out reflecting the trend toward interactive teaching and independent learners sweeping U.S. medical schools. **Block 7** of the new curriculum, **Structure: Anatomy, Histopathology, and Radiology**, is designed as a *longitudinal* block, with sessions that occur every week throughout the first year and one-half of the curriculum. The four weekly two-hour interactive group sessions will help students bring together anatomy, histopathology, and radiology into a clinically meaningful whole. The intent is to integrate all three disciplines right from the beginning of medical school. **Barbara Freeman, Ph.D.**, Block 7 design leader, described radiology as “demonstrating” anatomy and histopathology—as being there to indispensably “illustrate” the other two.

Influenced by today’s widespread use of **imaging** by physicians, students will learn to recognize human structure in the context of CTs, MRIs, plain films, and injection studies. Students will have access to **digital images**, viewing equipment, and new computers in the anatomy teaching area.

Case’s current 115 anatomy content hours will be reduced, as is the trend in medical schools across the country. **Prosections** done ahead of time, with demonstrations in class, will be used extensively **in addition to selected gross dissection experiences**. The new curriculum will also incorporate skillfully-designed and specially-prepared materials for students to consult before coming to class

The third floor gross anatomy labs will be adapted to accommodate the changes that the Structure Block is planning. **Eventually**, a designated 12,000-square-foot **ground floor** area will be gutted and remodeled to become a **Gross Anatomy Teaching Suite** shared by medical, dental, nursing, and graduate students.

Dr. Freeman, who sees herself as both “a teacher of anatomy” and “a learner of anatomy,” explained Block 7’s integrated approach. She described **anatomy** as “**a language**” and as being **similar to “geography.”** In her words, “you cannot practice clinical sciences without the language, and you need to know your way around!” The Structure block involves 1) normal histology (microscopic anatomy), 2) gross anatomy and function (“macro,” or whole organ, anatomy), and 3) pathology and abnormal structure and function (the clinical science that reveals what went wrong). Dr. Freeman emphasized the **intertwined nature of structure and function**. You cannot discuss structure (anatomy) without function (physiology), nor can you comprehend function unless you understand structure. Historically, anatomy and physiology have been two separate areas. Dr. Freeman predicts that combining much of both areas in the new curriculum will make it

easier for the students. To develop the complete picture, the learner needs structure and function to complement each other, producing a whole greater than the sum of its parts.

In contrast to the current anatomy curriculum with its many lectures, anatomy in the new curriculum will offer **only an occasional**, well-placed **“framing” lecture**. Block 7 will make use of **weekly cases** specifically created to direct students to the pertinent histology, pathology, and gross anatomy. Note how this sample case drives learners to consider structure and function of the neck and thorax.

A previously healthy 21-year-old man is admitted for IV antibiotics for failure to respond to 4 days of oral amoxicillin therapy for tonsillitis. After 2 days of intravenous antibiotics he is worse, bothered by fever, malaise, shortness of breath, neck stiffness and dysphagia (difficulty swallowing). A chest x-ray reveals widening of the mediastinum and pleural effusion. What fascial spaces in the neck allowed the infection to travel from the tonsils to the thorax?

The Structure design team plans to work with clinicians to create opportunities for **simultaneous learning of anatomy and clinical skills**. One such activity integrates Physical Diagnosis with anatomy as the learner performs an eye examination using an ophthalmoscope. For instance, what about the anatomy of the retina and its blood supply and of the optic nerve would contribute to an understanding of what is seen with the ophthalmoscope? Learning “in context” should improve retention of gross anatomy, and learning pertinent anatomy should improve the mastery of clinical skills.

Dr. Freeman sees Block 7’s integration of information as key in addressing student apprehension about mastering such a vast amount of information. She feels that concerns about memorization of arcane details have negatively contributed to anatomy’s reputation. Dr. Freeman hopes to liberate the “awe” from the “awful” reputation anatomy has at times endured and focus on its “wonders” instead. Emphasis will be on **reasoning** over memorization.

Dr. Freeman anticipates that students will elect **additional anatomy learning opportunities** if they are considering residencies such as surgery or radiology. Fourth year medical students and graduate students participate in two **surgical anatomy courses** that are currently offered: 1) Head and Neck Surgical Dissection, and 2) Advanced Surgical Anatomy of the Trunk. A third course, Orthopedic Anatomy, is in development. Between 40 and 50 of our current students are expected to take at least one of these three elective courses. Students intending to earn an M.S. in anatomy along with an M.D. must take one of the three courses. Over the last four years, approximately nineteen medical students have earned dual degrees in anatomy and medicine. Perceived as helpful in securing better residencies, the surgical anatomy courses are taken by medical students planning to enter nonsurgical residencies as well.



Dr. Freeman has been teaching anatomy for 35 years. She taught gross anatomy at NEOUCOM (Northeastern Ohio Universities College of Medicine) for ten years and returned to Case in 1993, where she has since taught both gross anatomy and neuroanatomy. Dr. Freeman truly enjoys teaching the “future doctors of America” that fill her medical school classes and elect her graduate courses. She is constantly revising her teaching and honing in on areas that are difficult for students to master. She takes pride in helping every Case medical student to recognize the wonderful opportunity of learning from a donated body. Dr. Freeman has participated in research on carotid body and the nervous control of respiration. Dr. Freeman’s many talents extend beyond the scientific. Those at Case may best remember her as the turkey-carving Julia Child of Doc Opera fame!

QUICK OVERVIEW OF THE NEW CURRICULUM

As the development of the new curriculum continues, you will note revisions in the overview materials reflecting the most current design plans.

Use these *New Curriculum Update Bulletins* to keep informed about the progress of curriculum planning.

Recall that the curriculum vision for the CASE System of Medical Education focuses on **four pillars: civic professionalism, leadership, research and scholarship, and clinical mastery.**

The curriculum develops the pillars through **four major components:**

- 1) **Foundations of Medicine and Health**
- 2) **Research and Scholarship**
- 3) **Core Clinical Rotations**
- 4) **Advanced Clinical and Scientific Studies**

CASE System of Medical Education

Year I	Year II	Year III	Year IV
Foundations of Medicine and Health (20 months, including vacation)	Core Clinical Rotations (48 weeks, flexible scheduling)		
	Research and Scholarship (4-month block plus electives, flexible scheduling)		
		Advanced Clinical and Scientific Studies (10 months, flexible scheduling)	

Foundations of Medicine and Health

July 2006

March 2008

	Block 1		Block 2		Block 3		Block 4		Block 5		Block 6		
	Block 1 The Scholarly Physician at the Bedside and in the Community: The Ethos of Medicine	Block 2 Building a Human Being		Block 3 Food to Energy		Block 4 Homeostasis		Block 5 Host Defense and Host Response		Block 6 Cognition, Sensation, and Movement		BOARD REVIEW BLOCK	
		<i>1 Week Clinical Immersion</i>		<i>1 Week Clinical Immersion</i>		<i>1 Week Clinical Immersion</i>		<i>1 Week Clinical Immersion</i>		<i>1 Week Clinical Immersion</i>			
Longitudinal Block & Themes		(Endo, Repro, Development, Genetics, Mol Biol, Cancer Biology)		(GI, Nutrition, Energy, Metabolism, Biochemistry)		(CV Pulm, Renal, Cell, Regulation, Pharmacology)		(Host Defense, Microbiology, Blood, Integument, Auto-immune)		(Neuro, Mind Musculoskeletal)			
Block 7: Structure (Anat., Histo-Path, Radiology)													
Block 8: Clinical Mastery													
LONGITUDINAL THEMES													
• Civic Professionalism													
• Leadership													
• Population Medicine													
• Bioethics													
• Research & Scholarship													

RESEARCH AND SCHOLARSHIP

Each student will:

- Undertake a mentored experience in research and scholarship
- Have a minimum of 4 months protected time for his/her scholarly project
- Identify a research question, develop an approach to studying the question, prepare a proposal, pursue the project and interpret the observations
- Develop a thesis in the format of a journal manuscript

CORE CLINICAL ROTATIONS

The Core Clinical Rotations encompass three **16-week blocks** of clinical experiences that also incorporate basic science objectives. There are two 16-week blocks of basic core rotations (Basic Core I and Basic Core II) and 16 weeks of advanced core rotations (Advanced Core). Students experience both breadth and depth in clinical care, along with basic science integration, through clinical experiences that are developmental and provide opportunities to reinforce, build upon, and transfer knowledge and skills.

The new core clinical rotations will begin in July 2006 for current students in the Class of 2008 and will be shared by students in both the University and College programs. In the following year they will begin as early as March of the second year for students in the University program. Each 16-week block will be offered at our three affiliated teaching sites (UH/VA, MetroHealth, CCF). For Basic Core I and Basic Core II, students are based at one site for the 16-week block. The Advanced Core can be taken in modules and shared among teaching sites.

CORE CLINICAL ROTATIONS March 2008-July 2009

BASIC CORE I:

Family Medicine, Internal Medicine, Surgery
Basic Science Integration
(16 weeks at one of 3 teaching sites)

BASIC CORE II:

Neurosciences, Pediatrics, Psychiatry, Women's
Health (OB/GYN)
Basic Science Integration
(16 weeks at one of 3 teaching sites)

ADVANCED CORE:

In planning stages
Basic Science Integration
(Non-sequential rotations totaling 16 weeks, multiple sites)

TYPICAL OPTIONS FOR CORE CLINICAL ROTATIONS AND RESEARCH

March 08		July 09	
Research 16 weeks (March-July)	Basic Core I or II 16 weeks	Basic Core I or II 16 weeks	Advanced Core 16 weeks Flexible scheduling
Basic Core I or II 16 weeks	Research 16 weeks (July-November)	Basic Core I or II 16 weeks	Advanced Core 16 weeks Flexible scheduling
Basic Core I or II 16 weeks	Basic Core I or II 16 weeks	Research 16 weeks (November-March)	Advanced Core 16 weeks Flexible scheduling

ADVANCED CLINICAL AND SCIENTIFIC STUDIES

- Sub Internships
- Areas of Concentration: in-depth scholarship integrating basic science and clinical experiences
- Further clinical and research electives

OTHER UPDATES/ANNOUNCEMENTS

*News from the Office of Academic Computing:
Developing the new eCurriculum/Student ePortfolio
Thomas M. Nosek, Ph.D., Associate Dean*

As plans for the new medical curriculum begin to solidify, the Office of Academic Computing is beginning to transform the eCurriculum to support teaching and learning in the new environment. Dr. Brian Maddux has taken the lead in exploring various ways that electronic resources can be used to help students and faculty use learning objectives to guide their learning and teaching. If you have any ideas or would like to become involved in this activity, please contact Dr. Maddux at madduxb@earthlink.net or Dr. Nosek at Thomas.Nosek@Case.edu.

Over the past two years, the Office of Academic Computing has created an ePortfolio system for our students. There will be extensive use of the ePortfolio by the students in the new curriculum. It is already being used as an integral part of the RAMP program. In the context of education and learning, an ePortfolio is a portfolio based on electronic media and services. It consists of a personal digital record containing information such as a personal profile and collection of achievements. With this information as a resource, different services can be provided to the owner of the ePortfolio and the people and organizations to whom the owner has granted access. What gives ePortfolios the edge over traditional paper portfolios is the considerable increase in the number and quality of services that can be provided to individuals and to the learning community. In education, portfolio refers to a personal collection of information describing and documenting a person's achievements and learning. There is a variety of portfolio types ranging from learning logs to extended collections of achievement evidence. The CaseMED ePortfolio is made up of all of these types.

EDITOR'S CORNER

Ode to Formaldehyde

My old elevator-size office was one of those third floor rooms
Smack in the path of wafting formaldehyde fumes.
I would routinely witness many a med student en route
From the anatomy lab clad in a white space-age Tyvek jumpsuit.

It's not easy to extol the virtues of medical education
When you're working in a cluttered, cramped room without much ventilation.
Anticipating the lingering "bouquet," I'd roll my eyes and utter a moan
Each time faculty coming from the anatomy labs asked to use my phone.

Yet a "changing of the guard" triggers thoughts sentimental
About traditions like the teaching of anatomy that are so fundamental.
If digital imagery means we're headed in a "fragrance-free" direction,
We can still rely on the new curriculum's *selected* opportunities for gross dissection

To perpetuate the legacy of the med student wielding scalpel and forceps—
Intent on mastering the core steps
Of anatomy as taught at Case—
With eyes that burn and water as if struck by Mace.

Formaldehyde thrives in prosection and dissection, so students should be tickled
To find out they'll be feeling just as "pickled."
They can always watch CSI¹ if needed to get their fill of "cadavering."
On that note, it's time for me to end this palavering.

¹Crime Scene Investigation (television series)

Your ideas are welcome. Email me suggestions for future themes/features for the *New Curriculum Update Bulletin*.



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