

Getting

CREATIVE

TIVE

with
the
Curriculum

By Melissa F. Pheterson

How students explore career interests, begin thinking like scientists, and learn how to answer questions as well as how to ask them.

How do you maximize the teaching of medical students at the patient's bedside without creating a bottleneck? How do you keep the curriculum fresh, relevant and responsive to the changing dynamics of medicine? And how do you grant medical students sufficient opportunity to explore career interests before they begin interviewing for their residency? Creative thinkers in the School of Medicine have found an answer in a new and innovative curriculum program known as "selectives."

"A 'selective' describes part of the curriculum that's somewhat elective, but with a list of options from which students must choose," says Paul M. Wallach, M.D., vice dean for medical education. Last July, the School of Medicine began offering some 100 selectives, starting in the third year of medical school. The program provides a way to rotate students through their major clerkships and then into a selective that still relates to the clerkship but does not draw from the same resources. Three out of seven clerkships—internal medicine, pediatrics and surgery—have carved out two weeks for selectives that focus on sub-specialties, recent breakthroughs or research findings from a related field, with encouraging results.

"We are seeing a national trend among many medical schools seeking ways to allow students more choices in the third year," says Gladys M. Ayala, M.D., M.P.H., senior associate dean for student affairs and a member of the team that put together the program. "The goal is to offer a more diverse range of educational offerings that will allow some exploration before a student's career path is set in stone. We've been careful to arrange selectives in a manner that complements the weekly clerkship themes and core curriculum. This allows students a broader and deeper educational experience—one that goes beyond the core curriculum without distracting from its most important tenets."

Jennifer L. Koestler, M.D., associate dean for medical education, is another member of the think tank that helped restructure the curriculum, fitting more students into a complicated matrix of clinical



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Once he captures their attention, he gets to the meat of the class: how to critically evaluate research. “So many people judge a study by the journals that publish it, or whether it was covered in *The New York Times*,” he says. “Patients can Google studies on cancer and diabetes and assume the findings apply to them.” To Fried, the word “translational” has two different meanings. “First, what are the pathways by which basic knowledge is translated into practical outcomes for clinicians? Second, how do you translate new findings into lay language for patients who’ve been reading about them in the press or online?” Fried says he deploys “no specific technical material, just logic and common sense” to sharpen his students’ analytic skills. “Patients will come in and say, ‘Doc, I hear that if I go on a low-calorie diet, I’m going to live longer.’ When we hear that, we look carefully at the paper to see if the data can justify the conclusions.”

“I spend five years teaching critical thinking to graduate students,” Fried allows. “In two weeks, I don’t expect medical students to become experts, but I do want them to stop, think and ask the right questions.” From the medical literature, each student evaluates a study that may be awaiting clinical trials. One student reviewed a paper that sought a link between the flu vaccine and autism and schizophrenia in mice,

training opportunities that is becoming tighter every year. For Koestler and her fellow forward-thinking educators, the selectives option is a clear win for students. “Part of the role of a selective is to permit students to try out something they might not otherwise learn about, and also pursue interests they are passionate about,” she says. One selective in surgery, for example, is devoted to hyperbaric medicine to review new wound care therapies. Selectives in pediatrics include adolescent care, genetics and metabolism, neurology and developmental psychology. In their fourth year, students take two more selectives—one in emergency medicine, another of the students’ choice—for a total of five. The small class size (fewer than ten, often just one or two enrollees) allows professors and students to become better acquainted and speak their minds.

A TOUCH OF THEATRE

Among the most popular selectives—though you might not guess it by the name—is Translational Research, designed in response to new medical education guidelines that reflect “a growing interest in making sure medical school graduates understand medical research,” Wallach explains. “That kind of bench-to-bedside process is how life-saving therapies are produced, but it’s something few doctors could articulate. We wanted to ensure our graduates had a firm grasp on it.”

Victor A. Fried, Ph.D., professor of cell biology and anatomy, conducts the selective in a room of archived books at the Health Sciences Library. “We’re surrounded by ancient books of medical knowledge,” he says. “It’s great theatre—an almost mystical experience that hopefully gets them plugged in.”



Paul M. Wallach, M.D., Gladys M. Ayala, M.D., M.P.H., and Jennifer L. Koestler, M.D., comprise the close-knit team that has been strategizing new approaches to the medical school curriculum.

probing for design flaws and qualifiers. “The big questions arose: What were the controls? How well did the study measure DNA and RNA, or show viral load? Are the numbers statistically significant? What was the variance? How well can we extrapolate to humans?” Fried reflects that students may find his selective “an interesting break from their regular routine—where they’re mostly answering, not asking, questions.”

STUDENTS AS TEACHERS

On the flip side, selectives can also impress students’ abilities upon professors. “It is enriching to spend two weeks in a row with the same student,” says Ronald Jacobson, M.D., who directs the selective in pediatric neurology. The clinical associate professor of pediatrics and chief of pediatric neurology at Maria Fareri Children’s Hospital says, “What captured my interest and opened my heart was how much I enjoyed learning from my students. They bring a high degree of personal insight to our interactions.”

Jacobson’s students join him in seeing patients at his faculty practice in Sleepy Hollow, N.Y. “Outpatient issues in neurology tend to be much more diverse than what students would encounter in hospital rotations,” he says. “[In the selective] we often have an hour-plus to get to know the patient and explore these

issues in depth.” He makes sure the students get a thorough grounding in the basics, but he also reaches beyond medical matters to discuss ethical concerns, and will often factor in the parents’ perspective for a rich assessment of each patient’s condition.

“What does [the condition] mean for the child, his life, his family? How do parents feel about sending a child with seizures back to school? What if a child has debilitating headaches and can’t leave the house? We’re able to go way beyond textbook descriptions,” he says. Each student selects a patient’s case—often a highly specific condition that spans multiple fields—and develops a PowerPoint presentation. “The students become my teachers,” Dr. Jacobson says, praising both their research skills and their computer savvy. “These PowerPoints are professional enough to use as formal teaching tools. I’m assembling an entire library of them,” says Jacobson.

Julie Grimes, Class of 2012, enrolled in pediatric neurology last summer to gauge her interest in the field. Observing Dr. Jacobson treat a broad spectrum of neurological conditions was “enjoyable, educational and inspiring,” she says. “He was always so focused and attentive. Since then, I have made a concerted effort to incorporate those valuable conversational

skills into my own interactions with patients.” In selecting a topic to present, Grimes chose that of an 8-year-old boy who had complained of fainting during baseball practice. “His father noted that, unlike the other boys, his son did not sweat,” she says—suggesting a disorder of central thermoregulation. “When I mentioned this, Dr. Jacobson smiled and pulled a textbook off his shelf, opened to a dog-eared page, and handed it to me.” It was a chapter on pediatric disorders of the hypothalamus and pituitary gland that he wrote in 1999. “At that very early stage in my third year,” she says, “the experience of thoroughly researching a specific topic relating to patient care was a transformative one.” For her, the selective “has been truly one of the highlights of my time at New York Medical College.”

While the selectives program was conceived, approved and deployed in record time, necessitated by the closing of Saint Vincent’s Hospital, Manhattan and the attendant reshuffling of clerkships and residency programs, the benefits to students, faculty and the College have more than made up for the time crunch. “We started out thinking we had a good idea that might help to offset the need for more clerkship sites,” says Dr. Wallach. “Once the selective programs were in place, however, we realized we had a way to bring our medical school curriculum to a whole new level. It’s been a quantum leap in what we can offer our students.” ■

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Ronald Jacobson, M.D., knows that even a neurological exam can be fun. He demonstrates his method to medical student Julie Grimes and his patient, six-year-old Cyrus Arjomand.