

No simple answers

By Arnold M. Katz, M.D.

Every spring, a ceremony is held at Dartmouth Medical School to celebrate second-year students' transition from learning the scientific underpinnings of medicine, mostly in classroom settings, to learning the practice of medicine in their third-year clinical clerkships, in both inpatient and outpatient medical settings. In 2010, Dr. Arnold Katz was chosen by the second-year class to speak at the event. The essay that follows is a slight adaptation of his speech to the students.

I am honored that you elected me to speak at this ceremony, which marks one of the most important transitions you will ever make: your passage from the classroom to the bedside. You have just completed what is often called the "preclinical" phase of your medical education, which is really an extension of college and, in many ways, of high school. Until now, you have been presented with a body of scientific knowledge and told by your teachers to learn it. Your mastery of this material has usually been measured by your ability to identify a few facts on an examination.

You are about to learn, however, that your success as a physician will lie not in your ability to come up with the right answer, but instead in how effectively you respond when you have come up with the *wrong* answer. This will happen frequently—not because you are unintelligent or inattentive, but because there are few "right" answers in medicine. This will become obvious, as none of your patients will be immortal.

Iterative process: As you make this transition from the second year to the third year, your goals will shift from knowing facts to being able to answer difficult questions—questions such as "How do I make a correct diagnosis?" or "What drug should I use to treat this patient?" or "Should I operate?" You will learn what to do if, as will often be the case, your initial answer turns out not to be the best answer. You will learn an iterative process—how to ask, and find answers to, a series of linked questions.

You may, for example, find yourself asking, "Why is this 30-year-old married mother of three young children short of breath?" If the patient's history suggests that she has heart failure, you will measure her heart size; if her heart is enlarged, you will be on the road to starting today's standard therapy for heart failure with a dilated left ventricle. You are also about to learn what to do if her heart size turns out to be

The Grand Rounds essay offers insight or opinion from a member of the Dartmouth medical faculty. Katz is a visiting professor of medicine and of physiology at DMS. He has held many other academic posts and was most recently a professor of medicine and the chief of cardiology at the University of Connecticut. His achievements in biomedical research have been recognized with a number of awards, including the 2007 Lifetime Achievement Award from the Heart Failure Society of America. A 1956 graduate of Harvard Medical School, he trained in medicine and cardiology at Massachusetts General Hospital and the University of London, and he has taught medical students since 1964.



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normal, which would mean that you must ask if this patient really does have heart failure, or whether you went down the wrong road and overlooked a pulmonary problem or some other cause for your patient's distress.

Stated simply, you will learn how to think through a complex clinical problem—and they usually do turn out to be complex—and what to do if you find you are going in the wrong direction.

This ceremony marks another, even more important transition: you will soon realize that medicine is more an art than a science. You will learn that after you have made a correct diagnosis and proposed an appropriate course of therapy, your tasks as a physician will have only begun. Assume that the patient described above has a dilated left ventricle and that her family history and genetic testing indicate that she is suffering from an inherited heart muscle disease. That means you are now talking to a woman who will probably die before her 40th birthday, leaving her family without a wife and mother. And it means she is likely to have relatives who will experience a similar illness in future years.

Issues: How do you help your patient and her family deal with these issues? There is no simple answer. The fears and emotional needs of each patient and each family member will be unique and so must be managed differently. If you do this well, you can do at least as much good, and often more good, compared to prescribing the medications that you learned about as you approached this transition.

Understanding how to deal with the emotional needs of your patients and their families will come from knowing not the science of medicine, but the art. This is not something that can be learned from books or the classroom. You will learn some of the art from the expert physicians you will observe at the bedside. You will learn even more from your patients, from whom you will discover how your statements and actions can help—and how, sadly, they can do harm. You will learn how to interpret your patients' words and body language, and how your words and gestures can convey the confidence, understanding, and personal warmth that can help your patients deal with their suffering. This is the art, which, when practiced well, will be the most important way you will help your patients.

Transitions: Knowing your class, I have no doubt that you will make these transitions smoothly as you begin to experience both the challenges and the rewards of caring for patients. I know that throughout your careers as physicians you will continue to gain new knowledge of science, and new appreciation of medicine's art. Above all, speaking 56 years after I made the same transition you are now celebrating, I hope that a half-century from now you will be able to look back on a rewarding professional career and a rich and full personal life. ■