

Distinguished Career Award - Acceptance Speech  
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I would like to thank the Academy and the Section on Critical Care Medicine for this singular honor. When I told my Chairman I had been selected to receive this award, he suggested I had just outlived the competition. I am gratified and humbled, nonetheless. There's nothing wrong with outliving the competition...

It is a special treat to speak to colleagues and peers without an assignment, and in the middle of the day. My letter did not say: "Turn out the lights at the end of your talk", or "There will be 5 minutes for rebuttal." Rather, I have been left to my own devices. So please let me take this opportunity to say "thanks" by giving something back, by sharing with you.

In the next few minutes, I hope to share some of what I have learned from the opportunities a career in pediatric critical care has afforded me. Then, having helped to train intensivists for a quarter century, I feel compelled to share some observations on the personal qualities that suit and attract physicians to this line of work. And finally, I plan to share a personal insight and reveal the most secret joy of pediatric intensive care.

First, what, if anything, have I learned?

Some of what we learn comes from mentors and colleagues. My first mentor, Russell Lucas, was Chief of Pediatric Cardiology at the University of Minnesota during my fellowship. He taught me that: "You can't grow grass and kids at the same time." My four children, Barbara, Andrea, David and Bethany have proven him right. I've never had much of a lawn. Russ also taught me: "Never poke a sleeping snake", a lesson that has served me well professionally, especially in my administrative endeavors. But his best lesson to me was that vision is an active process. You have to learn to see. You can't just glance at an x-ray or at an angiogram and get the full meaning of it. We now look into the heart by sonar with clarity and precision, into the head, through the bones, by CT and by MRI... but we only grasp what we learn to see. We see with our eyes and with our mind. To provide good patient care, the intensivist must examine the patient, as well as the images, with the mind as well as the senses. There are, after all, two kinds of people: those who see, and those who just look. Critical Care is for those who see.

My patients have taught me many things. From them I have learned that: “A stitch in time saves nine”. In critical care, anticipatory treatment is essential to good outcomes. Like immunization - anticipation, early identification of problems, prompt responses and decisive action prevent disease. These patterns of care protect the patient from complications and from the avoidable consequences of illness. Good critical care is, by its nature, preemptive. To practice intensive care, the practitioner must develop good reflexes and broad-based responses, both of which come from experience and from constant practice. These are the skills that make the critical care specialist indispensable to the ICU, the skills that define the career intensivist.

My patients have taught me that critical care is problem-oriented. To the patient, illness is a constellation of noxious problems. Illness is not a diagnosis. If you don’t address the problems, the disease works its worst. The patient wants solutions; the family wants solutions; your colleagues want solutions. In pediatric critical care we do not wait for a diagnosis before addressing the patient’s problems.

My patients have also taught me that teamwork is vital to critical care. Specialists of different sorts must work together to serve the patient. Collaboration is critical in the ICU. That is not to say that we must all deal with each of the patient’s problems. Intensive care requires some division of labor, and it is the intensivist’s role to divide that labor, to be certain that an appropriate team addresses each and every problem. Doctors, nurses, respiratory therapists, pharmacists and a legion of other care-providers staff the ICU, and they are all on the same team. There are basically two kinds of people, collaborators and cowboys. Every ICU should post a sign reading: “NO COWBOYS”.

I have gained some insight just by living through the history of our profession. Much has changed since I entered the field. Like all “old timers” I enjoy reminiscing about the past. But I don’t long for it. I don’t miss epiglottitis, Reye’s syndrome, every other night residency rotations or the cold war. I especially don’t miss practicing intensive care on the general pediatric wards. Concentrating critically ill children in a geographically distinct setting, now familiar to us as the PICU, has allowed us to adopt special technology, to train skilled nurses, to assemble special teams, to provide special training to physicians, in short, to become a subspecialty. The geographic Pediatric ICU was a gift from the hospital. Now that we

have our territory, further progress in critical care will depend very much upon us. This is a special obligation we must bear together, the responsibility to sharpen the cutting edge of our art, to advance our own science. There is always room for new ideas, why not for ours? Ideas nourish the practice of critical care just as food nourishes the body. And, like a hungry person, our specialty “is what it eats” and it will either “eat or die”.

Clearly the color of intensive care comes from technology. Monitoring, bedside diagnostics, novel therapies, new means of respiratory and cardiovascular support, together produce a striking aura of progress. Technology intimidates the patient and often the consultant, but it comforts the intensivist. It adds drama to the ICU and, indeed, saves lives and reduces morbidity. But if technology gives the ICU color, my patients and their families have convinced me that attention to the personal aspects of critical illness and family centered care give the ICU its texture. The Pediatric ICU hurtles into the future on the crest of waves of discovery and invention in all of the other subspecialties. The speed of it can be blinding, even bewildering to an older practitioner like me. It is shiny and effective, but cold. Yet the family’s need for comfort, information and a role in care requires nothing that would have seemed revolutionary to Marcus Welby.

Pediatric Critical Care has offered me numerous opportunities to travel. I have visited PICUs in many countries, some of them remote and exotic. The hospitality has generally put me to shame. Often those who have the least are the most generous. They are also often the most eager to learn. I have learned that healthcare resources for critical care are severely limited in many parts of the world, despite the good intentions, excellent training and hard work of their physicians. Critical care is often, in fact, a thin veneer over the level of general healthcare available... If this observation sounds mundane, that is because it is also the case here at home, in the United States. Our resources can be overwhelmed by epidemic or disaster. The PICU capacity, even of this country, is stressed during a typical winter. We should not be complacent as we are stretched thinner and thinner by nursing shortages, deteriorating hospital budgets and bottom-line driven hospital planning. We must insist on adequate resources or we risk being ineffective when we are needed most.

Pediatric Critical Care offers a vast array of academic and research opportunities, from clinical and operational to basic and applied research. From my own brush with research I have learned that there is always room

for new discovery, new invention and new understanding. I think the trick is to pose interesting hypotheses and ask interesting questions. If the answer wouldn't excite you, one way or the other, why bother to ask the question? Sometimes the hypothesis is as illuminating as the proof, because it defines and gives structure to the problem.

Reviewing and editing have taught me many lessons: One is that knowledge and understanding spread like a grease slick. Once published or reported, new insights are passed around like a cold. I also now appreciate that reading, like seeing, is an active process. You have to think about it and challenge it to digest it. Reviewers can be very annoying, but, in fact, there are very few manuscripts that aren't improved by review. Writing is an active process; few of us can dictate a finished manuscript. And once you publish it, you wear it.

I have taught fellows and residents throughout my entire career, and that process has, in turn, enlightened me. Let me share some observations as to the sort of person who is attracted to the practice of pediatric critical care, and the special personal characteristics the practice demands.

To begin with, there are really two kinds of people, adrenophobes and adrenophiles. Adrenophobes avoid adrenaline, whereas adrenophiles are drawn to excitement, anxiety and outright terror. Most will do almost anything for an adrenaline rush. In a crisis, adrenophobes shy away. Adrenophiles rush into burning buildings; break up fights in bars; and rescue drowning pets. They certainly never back away from a crisis. Adrenophiles make good intensivists.

A good pediatric intensivist must have a sleep disorder. Critical care is perfect for cat-nappers, insomniacs and for those who lack an internal clock. The day is 24 hours long. Patients are sick day and night. If you do your best work after dark, this is the job for you... at least in your youth. There are, after all, two kinds of people: those who need their beauty sleep, and those who don't.

The intensivist does not always make the difference between life and death, good outcome and bad... But he often does. That is arguably the most important aspect of the job. There are ultimately two kinds of people, good losers and poor losers. When an intensivist is not able to make a difference

and the patient's outcome is bad, it should be upsetting! One should care deeply about the outcome. Pediatric critical care is not for good losers.

There are usually several fires at once burning in the PICU. When you start a procedure, you know you are inviting a crisis at another bed-site. The pediatric intensivist seldom reaches the end of the "to do" list and almost always has more than one issue in short term memory. Critical care involves constant multi-tasking. I wish I were better at this, because the ability to multi-task is essential to everyday pediatric critical care. So, there are two kinds of people, those who can walk and chew gum, and those who must stop to chew. In critical care, you can't stop to chew.

In my youth I set out to become a neonatal cardiopulmonary pathophysiologist... neat as a pin. In the end, I became a pediatric generalist of sorts. In a sense, the pediatric intensivist is a multi-specialty group rolled into one... and paid one salary... kind of an inexpensive one-man band... The spectrum of challenges and clinical problems that confront the intensivist is astounding. One minute you are pondering the function of the kidney, the next minute, the brain. Ventilators, computers, monitors... I even know an intensivist who repairs Corvettes. Pediatric critical care is for the physician who craves variety.

Pediatric critical care leaves room for a hobby. Many pediatric intensivists sub-specialize in a single organ system. Some ask questions in the laboratory. Others do research in the ICU. Most pediatric intensivists teach. Some do administration. The addition of a niche interest to a clinical career helps to fend off burnout. Pediatric intensive care is an ideal subspecialty for the physician who craves deep immersion as a counterpoint to variety.

There are clearly two kinds of people, those who are curious and those who are not. Some people would just as soon learn nothing new. They must take some comfort from believing that they know all they need to know. In pediatric critical care, there is always more to learn. The knowledge base expands at the pace of all the other pediatric subspecialties combined, because we participate in the care of their most challenging patients. The brain of the typical pediatric intensivist is about the size of the entire universe  $10^{-33}$  seconds after the cosmic big bang, and it has far more fine structure. One might argue whether the brain fills up as we age, or whether you can keep learning to the end of a career in critical care. I believe that

you can and must keep learning, and that this profession is ideal for the curious.

Now for the secret... We all want to make a personal difference, to save a life, to rescue a child. There is a kind of person who needs to be the one to make that personal difference. And occasionally each of us is that person and makes that difference... But more often, it's not even clear that we played a major role. Often, even if we believe we did make a difference, we know in our hearts that someone else could just as well have made that very same difference. So we learn to sublimate, to take pride in the success of the team. And it is a team effort... But there are surprising cases where we know we didn't make a difference, and the patient just recovered against all odds. All the team did was buy time and wait. We often warn parents that we cannot perform miracles, but occasionally they just seem to happen. In pediatric critical care, we get to watch...

As I've said, there are two kinds of people. If you are a pediatric intensivist, you might ask yourself: "What kind of person am I? Which of my traits suits me to pediatric intensive care?"

I know you by your chosen profession. I'll bet you are the kind who loves a good miracle.