



## The Society for Cardiac Angiography & Interventions

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### *President's Page*



## Too Good But Not Good Enough: Training Caught in Transition

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Recently a laboratory experienced an unusual complication during a catheterization procedure with catastrophic results and an ultimately fatal outcome. The operators were stunned by this unexpected development. Although they correctly diagnosed the problem, they had never seen this problem before and were unsure about the full range of possible responses to the crisis. They performed well and stayed calm, but in the aftermath they were clearly troubled by the fact that neither of them, both experienced operators, had ever seen this problem nor had to deal with it before.

This led to some reflection by me. The historical approach of “see one, do one, teach one” has given way in our era of complex and technically challenging procedures to a more prolonged and codified training experience. Internal medicine has grown from two years of training to three years, cardiology from two to three years, and interventional cardiology adds another one to two years. Twenty years ago one could practice a full range of invasive cardiology procedures, as they were then available, after four years of post-doctoral training (two IM and two cardiology). That same level of practice now requires at least seven years.

This reflects expanded knowledge of disease mechanisms, more comprehensive avenues of disease manage-

ment and intervention, and mastery of new technologies as well as a more challenging patient population (older, with more co-morbidity). Most of us would agree that expanded training is essential to properly educate a new generation of invasive/interventional cardiologists.

Despite these expanded and more comprehensive training requirements, many of our trainees, and us for that matter, have completed rigorous programs and still not seen the full range of anticipated complications and outcomes. Some might say this is inevitable—no one can experience or see all variations of the biologic theme. There is some truth to this. Nonetheless, I wonder if, despite the expanded years of training, many of our fellows and us are not completing the curriculum adequately prepared for what lies ahead.

In recent years, acknowledgement of a unique body of knowledge requisite for interventional cardiology led to development of the certificate of added qualification known as the Interventional Boards. Most participants in the ACC/SCA&I Board Review Program have felt it to be worthwhile, with educational content either not previously known or largely forgotten.

No one program can have expertise in every area underlying interventional practice. To that end, development of an educational slide set for interventional pro-

grams will be a real asset. This new SCA&I membership benefit, under the direction of President-elect Ted Feldman, will soon make available a downloadable slide library patterned after the content of the Board Review course. This should broaden and deepen the educational core of all programs, and be especially valuable to small/medium size programs whose faculty has limited time to prepare lectures.

But there is more than the didactic core. As our subspecialty embraced coronary and vascular intervention, we moved more closely to our surgical colleagues in many ways. Ours is no longer a purely cognitive discipline but also has a significant component of technical expertise. Although new developments in drugs, devices and treatment strategies have significantly reduced risk and improved outcomes for our patients, problems still remain. Our current climate has a heightened awareness of—and sensitivity to—adverse therapeutic outcomes.

It is imperative that all of us be not only fully trained but also demonstrate maintained competence. New devices and drugs and changed patient demographics mean that many of us now have less exposure to certain procedures. Two of many examples: patiently pursuing excellent work with balloon angioplasty alone, exposure to patients requiring careful and detailed hemodynamic as opposed to anatomic diagnosis. Further, it is entirely possible that a fellow can complete an entire training program in a busy institution and never see some major and potentially catastrophic complications. How can we

then say that our people are well trained and fully competent if we are not exposed to such situations?

New technology may have some of the answers. The development of medical simulators patterned after flight simulators may offer some hope. Although not yet fully developed and proved, the notion that one could experience pre-programmed disasters and have one's performance monitored, critiqued and improved, all without exposing a single patient to risk, is very appealing.

I don't know if this technology will provide the answer to the dilemma I see or not. Suffice it to say, we have now advanced to a point in our treatment outcomes that many of our younger colleagues have never seen nor dealt with some of the disasters we older members have seen. Frankly, I'm very happy about that. So are our patients.

Nonetheless, to provide adequate training, we must still expose our fellows to such situations and provide them with the cognitive and technical skills to deal with them effectively. In a sense, we have become "too good"—too good to see many of these problems in practice. But somehow, as current practitioners and educators of the next generation, we have a responsibility to train our fellows to handle the unexpected.

Our concern about these issues and the diligence with which we pursue solutions means greater safety and enhanced outcomes for patients, both now and in the future. And, isn't that what our core mission really is?

Please let me know your thoughts. Send comments to me by e-mail at [president@scai.org](mailto:president@scai.org). Thanks.