Having the patience to allow a resident to operate on your grandmother

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In this brave article by Tolis and colleagues,¹ the question is posed (which is faced by every academic cardiac surgeon): Can I train the next generation of surgeons while maintaining excellent clinical outcomes? Not only does it take courage to publish such a study, Tolis and colleagues fearlessly set up training to allow residents to do entire cardiac surgery cases—not many surgeons are patient enough or dedicated enough to do this.

In a highly technical field such as cardiac surgery, tissue handling, sewing, recognition of planes, and operative judgement are critical. Imparting a set of technical skills to a trainee can be more challenging than repairing a complex aortic dissection. Clearly, there are skills used for training that are different than practicing good surgery. There are excellent technical surgeons who are lousy teachers. Fortunately, there exist good surgeons who are also good teachers, and most would agree that the best teachers of technical skills are those that permit the trainee to actually perform the surgery. This takes great patience.

The current article describes a single attending surgeon's study of outcomes after patients had surgery, either by the attending or by the resident. Although not the most rigorous clinical study (nonrandomized selection bias clearly influences the results), the basic tenet is that more experienced residents can (and should) do cardiac cases from the beginning to end. Indeed, before allowing a resident to graduate and operate on patients (eg, a grandmother, even if not your own), shouldn't they have had the opportunity to do complete cases while supervised, and not just once but several times? This rhetorical question is answered by attending surgeons every day who teach their residents in the operating room.

The guidelines in training for thoracic surgery have distinct levels/skill sets that should be met by each trainee. There is an organized manner in which advancement is documented, and the trainee is able to see which steps

Dr Melby teaching residents: Dr Kachroo and Dr Patel (now both attending surgeons).

Central Message

Training residents in the operating room is difficult and requires patience. However, it is vital and can be done safely even in today's world.

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need to be mastered before going to the next level. This helps manage expectations (both of the attending and trainee) and allows proficiency at parts of and eventually an entire case. The study done by Tolis and colleagues shows that once residents have come to a level in which they can do a cardiac case, then they indeed are able to do a cardiac case. It takes longer (almost twice as long—again showing the importance of having patience), but it can be done safely. Cases need to be selected (eg, perhaps not your own grandmother with multiple comorbidities), as they were in this series. But importantly, the results lend support to what every teaching attending surgeon hopes and believes: allowing residents to operate can be done without increasing the complication burden. In this selected group the mortality, hospital stay, bleeding, and measured morbidities were equal.

We can't afford *not* to train the next generation. We can and must patiently teach them how to operate, and this small study gives a nice roadmap of how it can be done safely.

Reference

1. Tolis G Jr, Spencer PJ, Bloom JP, Melnitchouk S, D'Alessandro DA, Villavicencio MA, Sundt TM III. Teaching operative cardiac surgery in the era of increasing patient complexity: can it still be done. *J Thorac Cardiovasc Surg*. 2018;155:2058-65.