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Commentary: Lesson from 0.9538° S, 90.9656° W: Survival of the adaptable

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“The species that survives is the one that is able best to adapt and adjust to the changing environment.”

—Leon C. Megginson, Professor of Business at Louisiana State University, often misattributed to Charles Darwin

It is trite to say that cardiac surgical practice is in a period of rapid change, and that the future belongs to the most adaptable; nevertheless, these statements are true. In this issue of the *Journal*, Kilcoyne and colleagues¹ argue that, as a specialty, we must adapt our educational paradigm to the current environment lest we become irrelevant if not extinct. Specifically, they challenge us to up our game in interventional skills relevant to the treatment of “structural heart disease,” and they challenge the American Board of Thoracic Surgery (ABTS) to set supportive case requirements.

First and foremost, challenges such as this are more than welcome. They reflect the true needs defined by the lived experience of the recipients of our educational endeavors. And although change is not easy, we need look no further than our sister specialty of vascular surgery to see the rewards for nimble adaptation.

The authors cite challenges both internal to our specialty, such as competing case requirements, and outside, including competition for cases with cardiology trainees.

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Darwin's finches evolved remarkable beak diversity to food sources in a harsh environment.

CENTRAL MESSAGE

Our specialty is challenged to adapt training programs and American Board of Thoracic Surgery case requirements to the current environment lest we render ourselves irrelevant.

The ability of programs to manage the latter will be dominated by local politics to a great degree, although ABTS case requirements may provide institutional leverage. It may be a bit of a struggle, but our vascular brethren managed, and we can as well.

The internal problem—that of competing case requirements—may prove more complicated to solve. In 2007, the ABTS responded to the apparent crisis of declining interest in the specialty with introduction of a “thoracic track” case list with reduced cardiac case numbers. These authors advocate a mirror-image intervention, establishing a “cardiac track” such that “all graduates...have basic proficiency in this domain to become valvular specialists.” Although this may seem straightforward, it raises several challenges:

1. Within cardiac surgery, we must maintain balance among subspecialty domains of valve disease, heart failure and organ replacement, aortic disease, and coronary artery disease. The advances in these areas, ranging from mechanical support to ex vivo organ perfusion and hybrid aortic interventions, are arguably as significant as those facing the valve specialist. Coronary artery disease remains the most common condition treated by cardiac surgeons today.
2. Concerns may arise among program directors if they are not able to meet the new requirements even if the “cardiothoracic” pathway remains. Although only a

minority of programs offer thoracic track pathways, a proposal such as this may engender pushback from those without sufficient access to catheter-based procedures.

3. Ultimately, questions arise related to divergence of the specialty, equivalence of pathways, and subspecialty certification.

Kilcoyne and colleagues¹ are right to challenge the specialty to evolve, and we must do so. It remains unclear how much of the curriculum is the responsibility of the

“undergraduate” program and how much to leave to post-graduate subspecialty fellowships. The latter exist but are not as highly subscribed as one might hope if surgeons are going to continue to play a role in this space.

Reference

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Commentary: There's no I in TAVR: How do we train the team?

Gurion Lantz, MD, and Frederick A. Tibayan, MD

The advent and adoption of percutaneous valve interventions have transformed the field of cardiac surgery. The modern cardiac surgeon who specializes in adults must also be a competent structuralist, which requires an in-depth understanding of imaging, wire skills, fluoroscopy, and an ever-changing stable of valves and clips. As transcatheter aortic valve replacement (TAVR) has surpassed surgical aortic valve replacement in annual volume, clearly our surgical trainees must be facile in TAVR planning and performance before graduation.¹ In their thought-provoking Young Surgeon's Note, Kilcoyne and colleagues² outline new pathways and core principles to train the next generation of cardiothoracic surgeons in the treatment of structural heart disease. As the field changes, we must either change with it or be left behind. In light of this evolution, we agree that it is time to reassess the

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CENTRAL MESSAGE

As the armamentarium of transcatheter tools available to structural heart teams expands, trainees must add value in the selection, planning, procedure-related, and long-term phases of patient care.

training requirements (and sometimes, attitudes) during cardiothoracic surgery training. The authors warn that the field must skillfully navigate and embrace this sea change in the treatment of cardiovascular diseases or risk watching our roles diminish.

With this in mind, now is the time to think broadly and over a long time horizon as we define the place of the cardiothoracic surgeons on a structural valve teams. We must prepare our trainees for much more than TAVR. A perusal of the case requirements in the authors' proposed curriculum, which includes imaging analysis; structural heart team conferences; aortic, mitral, and tricuspid valve procedures; thoracic endovascular aortic repair;

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