Commentary: The ultimate fundamental competency: Changing with the times

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Transcatheter aortic valve replacement (TAVR) procedures have steadily increased in frequency since the first TAVR device was approved in the United States during 2011. More than 300,000 patients have undergone TAVR in the United States and in 2019 TAVR procedure volumes exceeded all forms of surgical AVR for the first time. TAVR is clearly a central component of the treatment of patients with severe aortic stenosis. Cardiac surgeons continue to be a required participant in TAVR programs in the United States, both as a member of a multidisciplinary heart team and as a TAVR proceduralist. This participation is mandated by the Centers for Medicare and Medicaid Services and recommended by expert consensus.

The protected status of cardiac surgeons in TAVR programs is based on their expertise in the surgical treatment of aortic valve disease, not necessarily their expertise in the transcatheter treatment of aortic valve disease. In fact, cardiothoracic surgery residents are only required to perform 5 TAVR procedures as primary surgeon by the American Board of Thoracic Surgery before graduating. The field of structural heart disease treatment has obviously evolved significantly since this American Board of Thoracic Surgery TAVR case requirement was made in 2017 and there is a clear-cut need for cardiothoracic surgery training programs to evolve with the field. Moran and colleagues make an important first step in this evolution by identifying fundamental competencies for transcatheter cardiac surgery. I can imagine that these competencies, which were identified by a multidisciplinary panel with appropriate expertise, will be used as a resource by program directors, faculty, and professional societies and boards as they seek to set training standards that keep up with modern cardiac surgery practice.

This contribution is timely because of the dramatic changes in structural heart disease treatment and also because the status of cardiac surgeons as transcatheter proceduralists is unlikely to remain protected by Centers for Medicare and Medicaid Services and professional societies for much longer. Because of their TAVR and edge-to-edge mitral repair experience, cardiologists have rapidly developed impressive expertise in heart valve disease treatment and are rightly considered experts in the field. Structural heart disease fellowships have proliferated rapidly and are churning out cardiologists with specific training in transcatheter structural heart disease treatment and experience with hundreds of transcatheter structural heart procedures. The result is that cardiac surgeons are no longer solely qualified to assess the preparation of other surgeons to perform heart valve procedures—in many instances cardiologists can make this assessment also.

If cardiac surgeons wish to remain involved with the growing field of transcatheter treatments of heart valve disease, their training needs to evolve with the field. Moran and colleagues have made a good first step in this regard. The culmination of this process would be development of a structural heart curriculum that provides an accredited
Commentary: Transcatheter cardiac surgery training: What to teach?

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In the era of transcatheter cardiovascular procedures and the evolution of structural heart disease as a niche specialty, it is necessary for structural cardiac surgeons to be integral members of the heart team. Beyond functioning as surgical backup in case of disaster, the transcatheter skillset is broad, including understanding indications and advanced imaging and ability to execute and troubleshoot a variety of transcatheter procedures and complications for all 4 valves and the aorta. Currently, no formal curriculum exists in transcatheter cardiac therapies to assess proficiency; thus, self-reported case volume serves as the metric for validation. Many have called for a designated Structural Heart and Valve subspecialization pathway, similar to advanced fellowships in cardiac transplant, robotic, and aortic surgery.

However, the level of involvement of a transcatheter cardiac surgeon varies between institutions in the United States and Canada. It remains unclear whether a single pathway to transcatheter or structural cardiac surgery subspecialty fellowship is necessary or if the skills can be acquired during residency. It is worth mentioning that Canadian cardiac surgery residents spend 6 to 9 months training in vascular surgery, and many of the endovascular competencies and basic wire skills and techniques can be learned under the objectives of the vascular surgery rotation. Moreover, the requirement for fellowship training...