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Commentary: Dedicated—to advancing the field of coronary surgery

Howard K. Song, MD, PhD

The field of cardiac surgery has become increasingly subspecialized, with surgeons in most tertiary centers developing practices around specific disease states like end-stage heart failure, aortic aneurysms, and valvular heart disease. This process of subspecialization has led to the development of centers of excellence where advanced techniques and practices are developed, proven, and then disseminated throughout the cardiac surgery community through publications, meetings, and the training of advanced fellows who strike out to develop their own subspecialized practices in medical centers around the world. Subspecialization has immeasurably advanced the field and improved the care of patients treated by expert providers.

Coronary surgery has long been the remaining “generalist” procedure, with almost all cardiac surgeons considering themselves to be expert practitioners of it. Despite this self-belief, the fact of the matter is that many of us are not practicing state-of-the-art care in this area. For instance, evidence supporting the benefits of multiple-arterial grafting is widely accepted; however, the use of a second arterial conduit in coronary artery bypass grafting performed in the United States remains surprisingly low at only 11%.¹ In this issue of the *Journal*, Rosati and colleagues² make the argument that coronary surgery should be regarded as a subspecialty within cardiac

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CENTRAL MESSAGE

The subspecialization of coronary surgery is underway, including development of advanced fellowships. All cardiac surgeons have a role in advancing the care of patients with coronary artery disease.

surgery, and they encourage trainees to seek dedicated training in advanced coronary surgery to achieve this expertise. They propose an ambitious curriculum for such fellowships, crowned by mastery of the off-pump totally endoscopic coronary artery bypass procedure.

Whether off-pump totally endoscopic coronary artery bypass procedure is the ideal treatment for multivessel coronary artery disease is still to be determined. I do think that some surgeons with subspecialized interest should be pushing the envelope in coronary surgery to advance the field and to show us what is possible. Graduates of advanced coronary surgery fellowships will disseminate this knowledge and expertise across the cardiac surgery community.

The overall goal of coronary surgery subspecialization is improving the care of patients with coronary artery disease. Taken from this perspective, all cardiac surgeons have a role to play. An improvement as simple as increasing the use of multiple-arterial grafting does not require an extra year of training, special expertise, or a piece of equipment as complex as a robot. It does require a commitment to performing the most-effective procedure within one's capability. Leaders in cardiac surgery should demonstrate commitment to coronary surgery quality by establishing benchmarks that push the field to improve in this metric. At the practice level, we should identify surgeons with

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special interest and skill in coronary surgery and concentrate the practice experience with complex arterial revascularization in these individuals so that expertise can be developed and maintained, much as we do for surgeons with special interest in valve repair. These local experts should be key members of the coronary heart team and encourage, direct, and champion best coronary surgery practices in their medical centers.

In the last 25 years, subspecialized cardiac surgeons have pioneered new operations like valve-sparing aortic root replacement, mitral valve repair, and left ventricular assist device implant and have improved the care of their

patients and many others immeasurably in the process. The subspecialization of coronary surgery is already well underway. The steps all cardiac surgeons take to speed this process will lead to faster innovation and improved standard of care for our patients with coronary artery disease.

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Commentary: Coronary artery bypass grafting as a subspecialty: Hype or reality

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CENTRAL MESSAGE

While proficiency in basic CABG techniques is a universal expectation, it is now generally accepted that advanced bypass options within the framework of a subspecialty can improve patient outcomes.

Coronary artery bypass grafting (CABG) has been around for more than 50 years, yet its basic construct has evolved little over time with the exception of the incorporation of the internal thoracic artery.¹ In line with recent developments in other cardiac disciplines, this relative status quo is being challenged, with the goal of moving the needle on CABG without compromising safety and efficacy. Recognition of CABG as a subspecialty and the creation of dedicated training programs as proposed by Rosati and colleagues² are steps in the right direction. The passion in their manuscript is palpable and will undoubtedly be a draw for the coronary subspecialty.

The “unmet need” for a CABG subspecialty is a plausible assessment, but it is impossible to quantify. In addition, some of the arguments made by the authors in favor of certain revascularization strategies are opinion-based and not always backed by robust evidence. Nevertheless, it is worth focusing on some of the opportunities identified for improving CABG practice and education.

A dose-response relationship exists between the myocardial mass supplied by arterial grafts and patient survival.³ However not all coronary targets are created equal, and patient comorbidities and life expectancies are variable.^{3,4} Such variations, coupled with surgeon

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