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RADIAL ARTERY USE IS SAFE IN PLUMBERS AND SURGEONS

To the Editor:

In his Editorial Commentary in the *Journal*, Dr Craig Smith¹ declares that the “best in class” coronary surgery in 2018 is the use of both internal thoracic arteries to bypass the left-sided circulation and then the use of any graft to bypass the right coronary artery. Although this may be true, Smith¹ goes further and raises 2 important issues regarding use of the radial artery (RA)—its safety and its use in surgeons.

There is exceptionally strong evidence supporting the safety of RA use,^{2,3} despite Smith’s suggestion that harvesting the RA may result in hand ischemia, tissue loss, and even amputation.¹ This last devastating complication is of course a concern, but it is essentially a never event providing a modified Allen test is properly performed. In our experience, a negative result of an Allen test with pulse oximetry eliminates approximately 3% to 5% of potential patients, after excluding those rare patients with scleroderma, Reynaud disease, or vascular disease. This has resulted in zero episodes of any degree of hand ischemia or tissue loss in my personal experience in nearly 4000 RA harvests in 22 years. In addition, Smith¹ misrepresents the cited *Hand Clinics* article⁴ as evidence for hand ischemia after RA harvest during coronary artery bypass grafting (CABG). The referenced “plumber who used his hand as a hammer” had a complex arm injury requiring a radial artery forearm flap for elbow coverage. This failed, and he subsequently required a salvage ulnar artery reconstruction with saphenous vein to preserve his thumb and index finger. Clearly, there is absolutely no connection of this complex arm injury patient with the use of the RA during CABG.

In addition, Smith’s claim that there is “common surgical folklore” that RAs are not used in surgeons (or musicians)¹ is simply not true. I personally have used the RA in vascular, general, orthopedic, urologic, ophthalmologic and

gynecologic surgeons, all of whom returned to unrestricted surgical practice. Moreover, numerous internists and even cardiologists all returned to work full time. So, yes, the RA has been used in busy surgeons and physicians who resumed busy practices.

Across the United States, use of a second arterial graft during CABG is disappointingly and persistently low. Those cardiac surgeons considering starting a RA program are not well served by Smith’s remarks suggesting serious hand ischemia or loss of hand function with RA use. The available evidence clearly supports use of the RA as a safe and highly effective strategy to improve outcomes after CABG.⁵

I am also not yet ready to retire, but I will be delighted to have both RAs harvested should I need CABG. I am highly confident that I will be back at full-time work without limitations.

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JUST ANOTHER CABG...

Reply to the Editor:

The year 2018 is a particularly important year for coronary artery bypass grafting (CABG) surgery. After more than 4 decades of debate, the first randomized trial-based demonstration of a clinical benefit from using a second arterial graft (the radial artery) instead of the saphenous vein was published by the Radial Artery Database International Alliance (RADIAL) investigators.¹ The final results of the Arterial Revascularization Trial (ART), which have been awaited for more than 15 years, were presented at this year’s European Society of Cardiology meeting. The main intention-to-treat analysis did not show any clinical benefit related to the use of 2 versus 1 internal thoracic arteries,² although a treatment

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