Intraoperative graft patency validation: Friend or foe?

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Although congenital heart disease led to the earliest heart operations, coronary artery bypass grafting (CABG) has since become the flagship operation for cardiac surgeons. Since the first CABG operation performed by Dr Favaloro in 1967, the treatment of coronary disease has been heavily reliant on surgical therapy, even with the recent advent of percutaneous coronary intervention.[1] While most of cardiac surgery has evolved significantly since the 1960s, current coronary surgery is similar to what was described by Dr Favaloro and later by Dr Loop and colleagues: use of the left internal mammary artery and saphenous vein grafts.[2,3]

However, recent data have demonstrated the long-term benefits of multiple arterial grafting (MAG),[4,5] bringing forth intricacies that are distinct from saphenous vein grafts. In this issue of the *Journal*, Ahkrass and colleagues[6] provide an expert summary of the various techniques to verify the function of bypass graft. They detail common pitfalls that can affect grafts, as well as how to best interpret the findings assessed. Astutely pointed out is that measurement of flow becomes very important with MAG when bypasses are often based off only 1 or 2 inflow sources.

As the subspecialty of coronary surgery continues to evolve, particularly with the use of MAG and off-pump CABG, it is imperative that those performing it be familiar with the methods of intraoperative graft verification. One of the first lessons that surgeons learn as an intern is the adage "trust but verify." With the tools at our disposal, cardiovascular surgeons will be able to improve graft and patient outcomes through our skills with immediate verification of the results.

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CENTRAL MESSAGE

Real-time assessment of graft patency for coronary artery bypass grafting is an important component of the operation, particularly for arterial grafts. Understanding and knowledge of the application of various techniques for flow assessment is essential to making informed decisions in the operating room regarding graft patency.

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