Using this technique, the RIMA consistently has 1 to 3 additional centimeters of length (compared to the anterior technique), and avoids the concerns of stretching the RIMA over the ascending aorta. In many patients, the length of the RIMA is sufficient to perform a sequential graft to the left anterior descending artery and diagonal coronary arteries. Furthermore, the course of the RIMA posterior to the SVC, innominate vein ± aortic arch and fairly high on the aorta protects it from reentry and cannulation. However, when grafting the circumflex with an in situ RIMA, I believe the transverse sinus still provides the most direct path [2].

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Reply
To the Editor:

We thank Dr Vassiliades for his nice comments regarding the article on the right pedicled internal mammary artery to the left anterior descending artery. The technique he describes is very elegant and has at least two advantages. One is that it is somehow buried behind the actual superior vena cava and the innominate and therefore, it is not directly exposed for re-do operation. In addition it probably provides more length. As mentioned in our article we never encountered any need for extra length of the right internal mammary artery. Longitudinal without transverse fasciotomy of the pedicled right internal mammary artery has always been enough to reach the portion of the left anterior descending artery we needed to reach. As far as the issue of re-do is concerned we always make sure that the right internal mammary artery is covered with thymic, pleural, or even peicardial tissue.

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Which Is the Best Sternotomy Closure Technique?
To the Editor:

We read with interest the recent article by Cohen and Griffin on biomechanical comparison of sternotomy closure techniques [1]. The authors compared peristernal figure-eight wires, figure-eight cables, and PectoFix Dynamic Sternal Fixation (DSF) plates under constant tension. Cohen and Griffin's experimental model and results are similar to those shown at the Pectofix web site [2], indicating DSF's superiority in stiffness and yield load. The biomechanical basis of DSF's effectiveness is based on force distribution over a larger area, resulting in lower sternal stress [2]. This principle has been established in earlier sternotomy closure studies utilizing wires [3] and cables [4] threaded through sternal grommets, important biomechanical research articles not cited in the Cohen and Griffin article. Their experimental model included figure-eight peristernal closures and constantly increasing tension which might not approximate actual physiologic strain. Their article does not assess transsternal cerclage wire, among the most widely used closure methods [5], nor repetitive cycling loading, a realistic replication of the forces associated with breathing, coughing, and bodily movement which cause wire to cut through the bone [5]. The wiring system used by Cohen and Griffin might respond differently if tested under repetitive variable force cycling loads. Our ongoing sternotomy closure study uses fresh cadaveric sterna attached to a biomechanical testing device (TAHDi Texture Analyzer, Texture Technologies Corp, Scarsdale, NY). Various sternotomy repair techniques utilizing #5 cerclage wire (Ethicon Somerville, NJ), including transsternal, peristernal, and pericostal single and figure-eight closures, are tested at repetitive cyclic loads at both 400 and 800 Newtons and speeds of 0.04 mm/sec and 0.5 mm/sec. The preliminary results of sternotomy closure's failure testing (wire cutting through bone) shows striking differences in sternal displacement associated with particular closure methods and variable forces and speeds. Despite some questions about their biomechanical model's design and relationship to earlier sternotomy research studies, Cohen and Griffin's results suggest superiority of both the DSF system and cables over cerclage wires.

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MISCELLANEOUS

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