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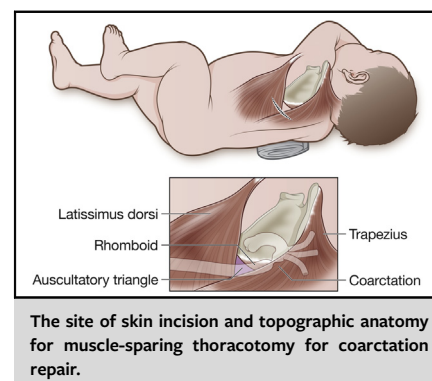


Commentary: Muscle-sparing thoracotomy in children: is it safe for coarctation repair?

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Coarctation of the aorta (COA) is typically repaired in infancy via a left posterolateral thoracotomy, with excellent results.¹⁻³ Traditional posterolateral thoracotomy involves division of the latissimus dorsi and serratus anterior muscles, which may result in significant postoperative pain, prolonged recovery, and shoulder dysfunction. Muscle-sparing thoracotomy preserves these muscles. Whether COA repair via a muscle-sparing thoracotomy can provide equivalent safety and lasting quality of repair and reduce thoracotomy-related morbidity has remained unclear.

In this issue of the *Journal*, Berset and colleagues⁴ present their results of COA repair performed through a muscle-sparing thoracotomy. Their thoracotomy technique involves raising subcutaneous flaps and widely mobilizing the posterior edge of the latissimus dorsi. This allows the chest wall muscles to be retracted without division, providing access to the intercostal spaces. In 31 consecutive children with a median age of 9 days who underwent COA repair between 2002 and 2004, the authors demonstrated freedom from reintervention of 90% at



CENTRAL MESSAGE

Muscle-sparing thoracotomy in children appears to be a safe approach for coarctation of aorta repair.

10 years. Furthermore, all children were free of hypertension. These results demonstrate that muscle-sparing thoracotomy is safe and allows for good-quality COA repair with acceptable long-term hemodynamic outcomes. They also show low rates of winged scapula (3.6%) and scoliosis (7.4%).

Many units, including our unit at the Royal Children's Hospital in Melbourne, have adopted routine muscle-sparing thoracotomy for COA repair. In our hands, the muscle-sparing anatomic dissection of the auscultatory triangle (Figure 1) provides excellent exposure for COA repair in children. Similarly, Berset and colleagues have demonstrated that even in neonatal patients <1 kg, a muscle-sparing approach can be safely adopted for COA repair. Although muscle-sparing thoracotomy appears to be a safe and less traumatic technique, there is little evidence to support its superiority over traditional thoracotomy. In adult patients, predominantly in the setting of lung cancer surgery, posterolateral muscle-sparing thoracotomy has been associated with less pain, better shoulder function, and earlier hospital discharge.^{5,6} Whether muscle-sparing thoracotomy in children with COA would provide similar benefits is unclear, but this technique clearly does not compromise the exposure for COA repair in children. Thus, it appears that the muscle-sparing posterolateral thoracotomy is a safe approach for COA repair in children. Should we all use this approach?

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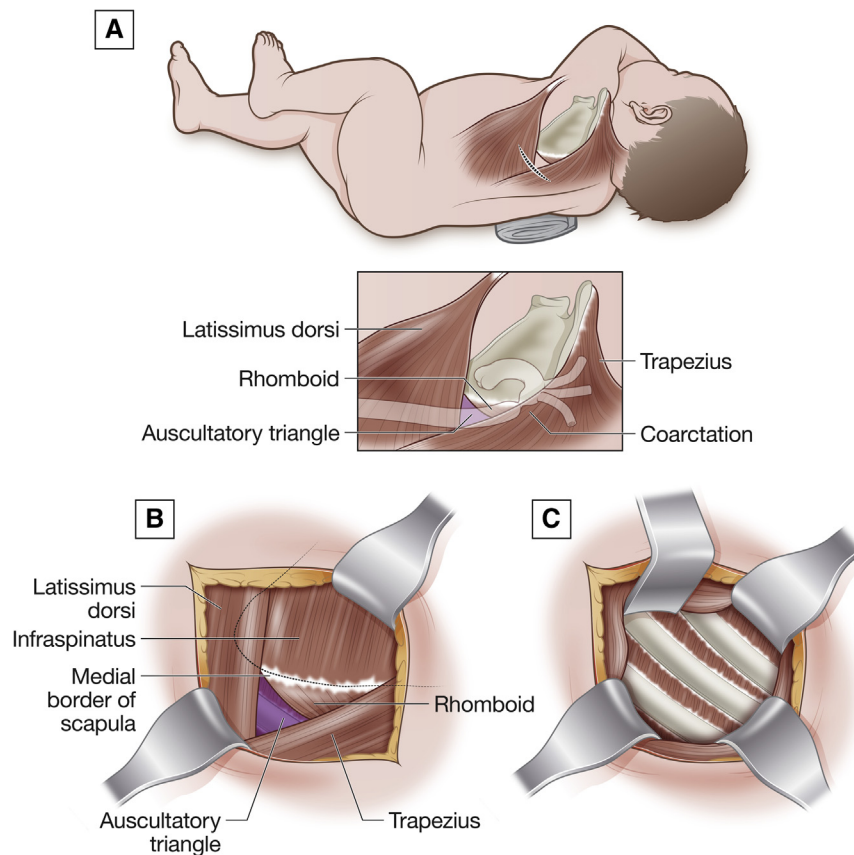


FIGURE 1. A, Site of skin incision and topographic anatomy showing the auscultatory triangle. B, Mobilization of the subcutaneous tissues expose the auscultatory triangle. C, Retraction of the scapula and latissimus dorsi muscle expose intercostal spaces.

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