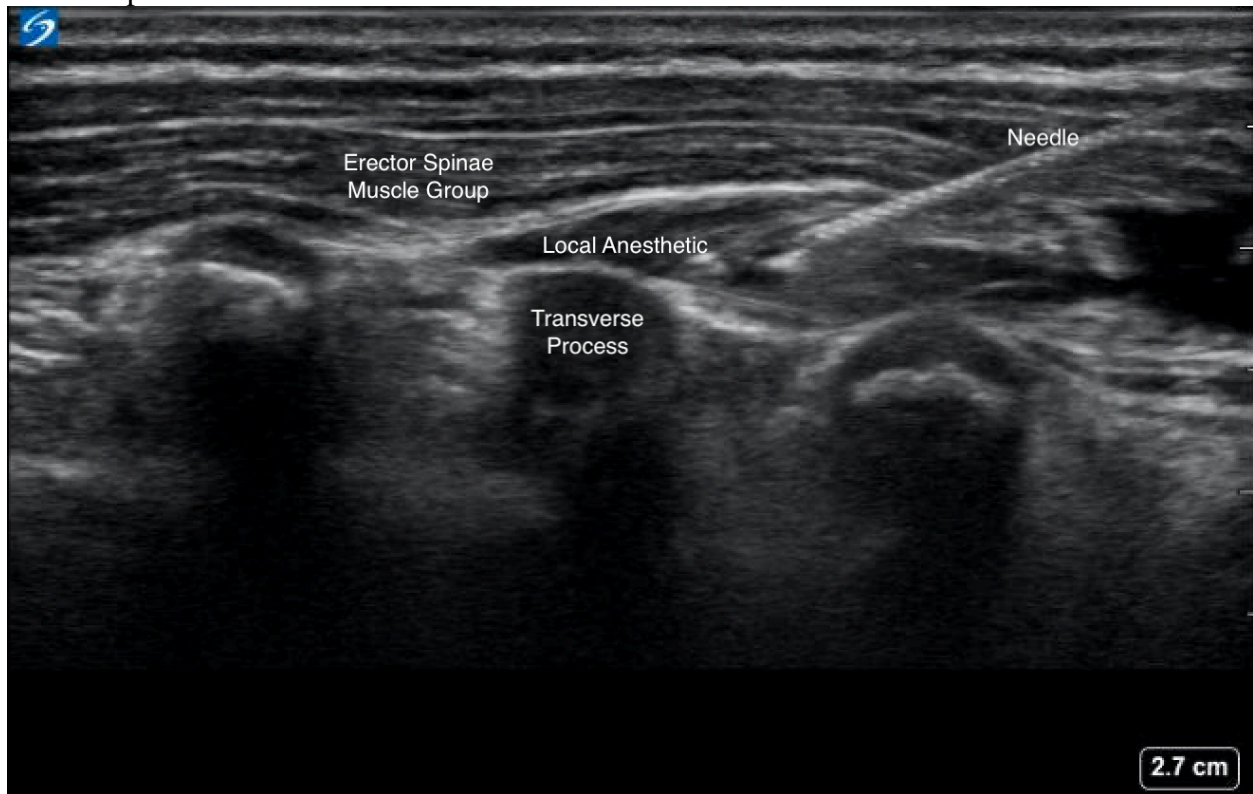


The ultrasound image pictured below illustrates three transverse processes with a needle depositing local anesthetic in the plane just above a transverse process and below the erector spinae muscle group. These boundaries define the erector spinae plane. The lens shape expansion of local anesthetic can be seen in the image and represents an injection of local anesthetic in a plane below the muscle rather than an intramuscular plane.

Erector Spinae Plane Block



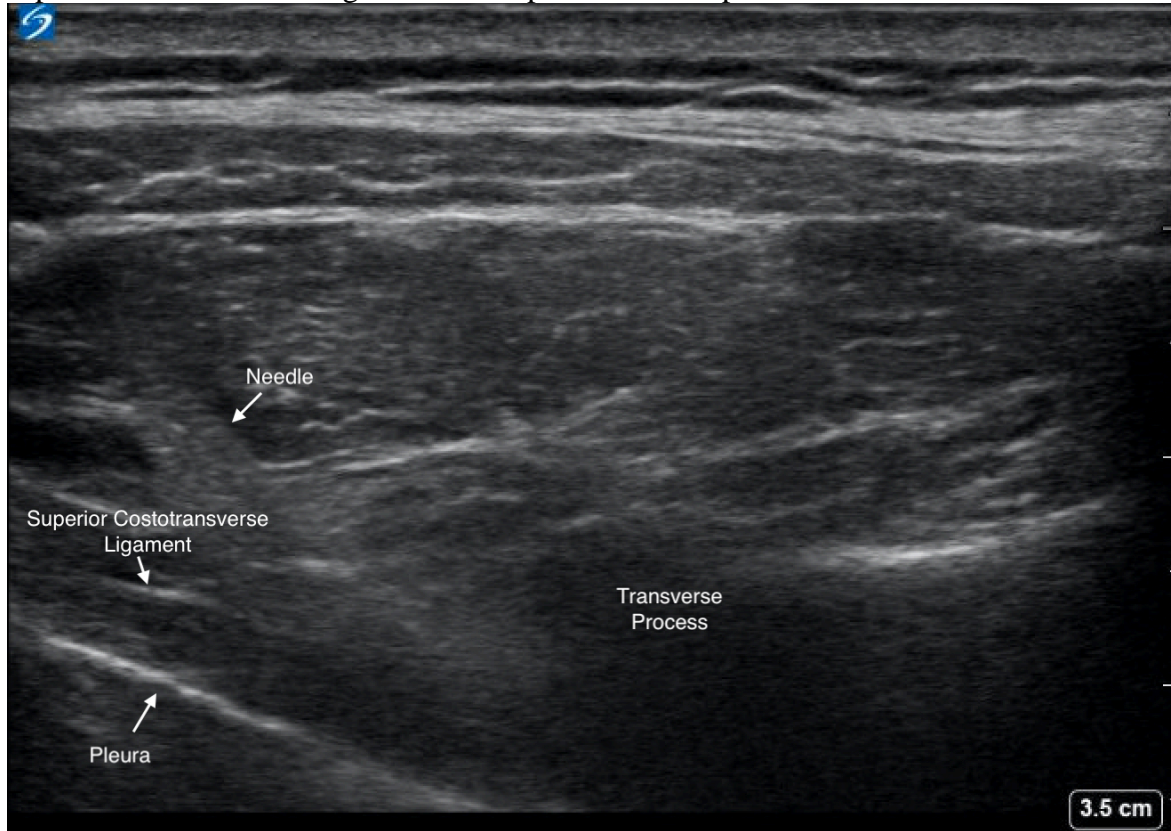
Based on the rate of publication, the erector spinae plane block (ESPB) has been employed for postoperative pain control with increasing frequency over the past five years. It has been demonstrated to provide a reliable area of decreased pain sensation in two to three truncal dermatomes from the injection point [1].

The ESPB has similar sensory distribution as the paravertebral block (PVB). However, the ESPB is performed in a more superficial tissue plane than the PVB and at a greater distance from the epidural space and pleura, making it easier and safer to perform. When performed bilaterally, the erector spinae plane block is efficacious for pain control after sternotomy. There are several published studies demonstrating its efficacy in the pediatric cardiac surgical population [2],[3].

Other regional anesthesia techniques used for the pediatric cardiac surgical population include the caudal block [4], the paravertebral block [5], the serratus anterior plane block [6], and the transversus thoracis plane block [7]. For each of these blocks, local anesthetic is injected at

different anatomical locations versus the erector spinae plane block. Ultrasound images of these regional techniques are illustrated below.

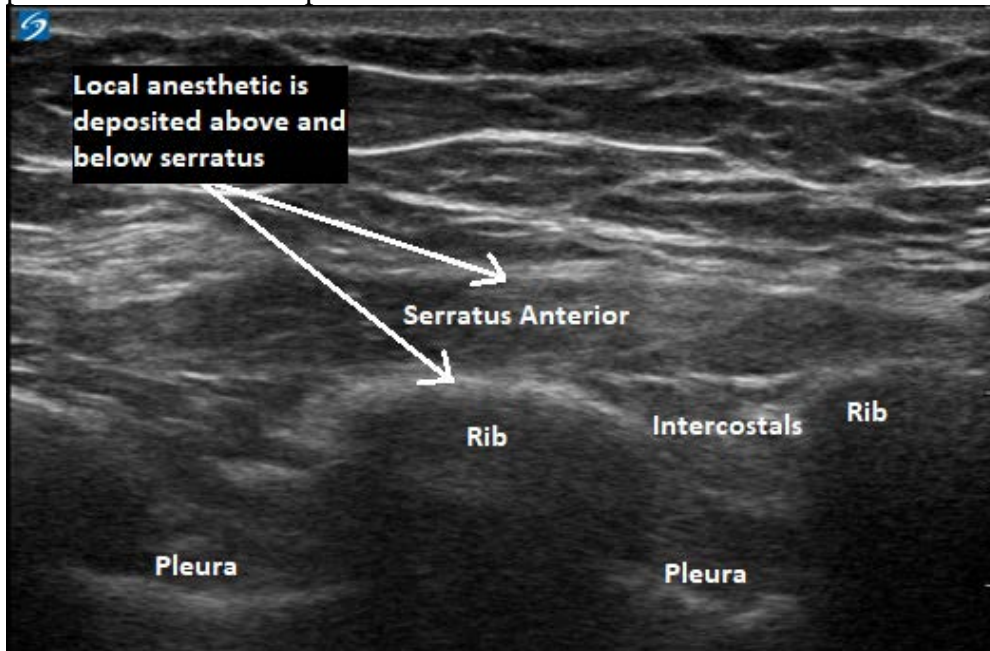
Paravertebral Block: Local anesthetic is injected into the paravertebral space located below the superior costotransverse ligament and superficial to the pleura.



Caudal Block: Local anesthetic is injected into a plane below the sacrococcygeal ligament and superficial to the ventral surface of the caudal canal.



Serratus Anterior Plane Block: Local anesthetic is injected in the plane below the serratus anterior muscle and superficial to the rib three or four. It is also injected in a plane below the pectoralis minor and superficial to the serratus anterior muscle.



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