

Case Presentation:

A 62-year old male status-post robot-assisted Ivor Lewis esophagectomy for esophageal adenocarcinoma was successfully managed with a regional anesthesia-based multimodal analgesic strategy. Anticipating postoperative chest wall and chest tube-related pain, a serratus anterior plane block was planned to be performed at the conclusion of the surgical procedure to allow placement of a peripheral nerve catheter (PNC) for continuous analgesia.

Following completion of surgery and prior to emergence from general anesthesia, an ultrasound-guided "double-barrel" SAP block was performed. Local anesthetic (10mL of 0.25% bupivacaine) was first deposited in the superficial serratus anterior plane to provide immediate thoracic wall analgesia. A second injection was then administered in the deep serratus anterior plane (30mL of 0.25% ropivacaine) between the serratus anterior muscle and the rib surface, after which a peripheral nerve catheter was advanced and secured. A continuous, high-volume infusion of 0.1% ropivacaine was delivered through the catheter to maintain deep-plane coverage postoperatively.

Postoperatively, the patient reported excellent analgesia with pain scores consistently at or near zero. Importantly, the patient experienced no pain related to chest tube placement or ongoing chest tube management. Opioid requirements were minimal, respiratory function remained preserved, and early mobilization was achieved. No block-related or catheter-associated complications were observed.

Discussion:

As SAP use expands, this case shows that combining superficial and deep approaches may provide complementary benefits, nearly eliminating chest tube pain with minimal opioid use postoperatively. Expanding the superficial plane first may compress the deep plane, potentially improving catheter positioning and anesthetic spread. Although speculative, this observation aligns with Wu et al.'s concerns about catheter migration and highlights how evolving regional anesthesia strategies can redefine perioperative pain management after thoracic surgery.

References:

Wu M, et al. Assessment of catheter position using chest CT in adults undergoing erector spinae plane analgesia for rib fractures. *Reg Anesth Pain Med.* 2025;50:779-785.

Meng G, et al. Superficial vs deep serratus anterior plane block for single-port VATS: randomized prospective trial. *J Clin Anesth.* 2025;106:111950.

Jackson JC, et al. Serratus anterior plane block and early recovery after thoracoscopic lung resection: randomized placebo-controlled trial. *Anesthesiology.* 2024;141:1065-1074.



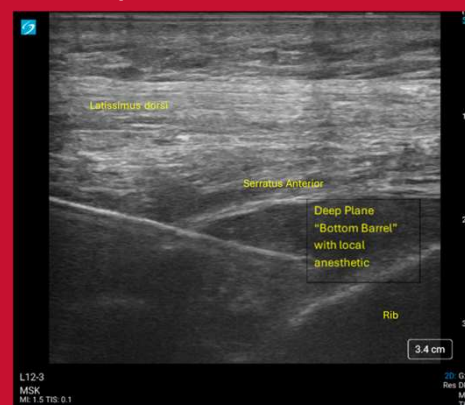
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Combining superficial and deep serratus anterior plane blocks optimizes perioperative pain control, reduces opioid use, and enhances postoperative recovery after thoracic surgery

Superficial Serratus Anterior Plane



Deep Serratus Anterior Plane



Postoperative PCA Use (Hydromorphone):

- POD1: 3.3 mg (~16 hrs)
- POD2: 3.3 mg (~16 hrs)
- POD3: 3.1 mg (24 hrs)
- POD4: 3.1 mg (24 hrs)

PCA settings: 0.3 mg demand dose, 10-minute lockout, 4-hour max 3 mg.

Why Not Both? A "Double-Barrel" Serratus Anterior Plane Block and Catheter Placement for Robotic Ivor Lewis Esophagectomy



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Introduction:

Postoperative pain following thoracic surgery remains difficult to manage, particularly with respect to chest wall and chest tube-related discomfort. Serratus anterior plane (SAP) blocks have emerged as an effective alternative to neuraxial techniques; however, given the relative novelty of this approach, ongoing debate persists regarding the value of superficial versus deep plane injections.

The serratus anterior plane block (SAPB) targets the lateral cutaneous branches of the thoracic intercostal nerves (T2-T9), which traverse the intercostal and serratus anterior muscles at the midaxillary line. Local anesthetic deposition within the superficial or deep serratus planes allows spread along the lateral chest wall, producing analgesia of the anterolateral thoracic dermatomes.

We present a novel "double-barrel" SAP block, performed postoperatively to facilitate peripheral nerve catheter placement, employing both planes to optimize analgesia.