

The Erector Spinae Plane Block

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The erector spinae plane block (ESPB) is a recently (2016) described regional anaesthetic technique that embodies many of the qualities of the ideal block. Studies have shown it to be safe, effective, simple to perform and widely applicable to many kinds of acute and chronic pain.

The ESPB is an ultrasound guided, paraspinous fascial plane approach to a potential space adjacent to emerging thoraco-lumbar nerve roots. ESPB can be performed pre- or postoperatively, in awake/sedated or asleep patients. Because of the superficial nature of the block, ultrasound imaging is usually easy to perform. ESPB locations are distant to major vascular or neuraxial structures. There is a lower potential incidence of pneumothorax when compared to paravertebral block.

The indications for ESPB include rib fracture, Thoracic, Breast, Abdominal and Cardiac surgery. Emerging indications include shoulder, lower limb and spinal surgery.

As in common with other fascial plane blocks, mechanism of action is thought to involve distal spread of LA and DIFFERENTIAL neural blockade of (slow pain) C-fibres. There is some evidence of paravertebral and epidural LA spread (MRI and cadaveric studies).

The ESPB continuous catheter is also emerging as a useful technique in providing modern, balanced opioid-sparing analgesia, particularly for cancer surgery. ESPB catheters are an alternative to neuraxial analgesia for postoperative management of pain following major abdominal or vascular surgery, and largely avoid the devastating consequences of spinal cord injury/hematoma and infection.

Further recommended reading and viewing

1. Forero M, Adhikary SD, Lopez H, et al The Erector Spinae Plane Block: A Novel Analgesic Technique in Thoracic Neuropathic Pain - Regional Anesthesia & Pain Medicine 2016;41:621-627
2. Ivanusic J, Konishi Y, Barrington MJ A Cadaveric Study Investigating the Mechanism of Action of Erector Spinae Blockade - Regional Anesthesia & Pain Medicine 2018;43:567-571
3. ESP and Paraspinal Blocks Lecture - May 2018 Ki-Jinn Chinn
<https://www.youtube.com/watch?v=HcS3BWHNIDg&list=WL&index=4&t=387s>
4. The ESP (erector spinae plane) Block - Our Current Understanding – VR Escolar
<https://www.youtube.com/watch?v=EVowRjEFUfk>