

Erector Spinae Plane Block

The Erector Spinae Plane Block (ESPB) is a relatively new regional anesthesia technique that has gained popularity due to its simplicity, safety profile, and effectiveness. It is primarily used to provide analgesia for various surgical procedures and pain conditions involving the thoracic, abdominal, and lumbar areas.

Definition The ESPB involves injecting a local anesthetic into the plane between the erector spinae muscle and the transverse processes of the vertebrae. This results in the diffusion of the anesthetic toward the dorsal and ventral rami of the spinal nerves, as well as potentially the dorsal root ganglion.

Indications Acute Postoperative Pain: Thoracic surgeries (e.g., thoracotomies, mastectomies). Abdominal surgeries (e.g., laparotomies, cholecystectomies). Spine surgeries. Chronic Pain: Intercostal neuralgia. Oncologic pain. Trauma: Rib fractures. Chest wall contusions. **Advantages** Simplicity: Less complex than other regional anesthesia techniques. Safety: Low risk of major complications, such as pneumothorax. Effectiveness: Provides broad analgesic coverage due to the diffusion of the local anesthetic. Versatility: Can be performed unilaterally or bilaterally. **Contraindications** Infection at the injection site. Allergy to local anesthetics. Severe coagulation disorders. Previous surgeries that alter local anatomy. **Technique Preparation:**

Position the patient in the lateral decubitus or sitting position. Perform aseptic preparation of the injection site. Use real-time ultrasound guidance (recommended). **Identification:**

Locate the transverse processes of the thoracic or lumbar vertebrae using an ultrasound probe. Identify the erector spinae muscle and the interface between the muscle and the transverse process. **Needle Insertion:**

Advance a block needle until it contacts the transverse process. Withdraw slightly to reach the correct plane. **Injection:**

Administer the local anesthetic (typically 20–30 ml of ropivacaine or bupivacaine at 0.25%–0.5%) while observing the expansion of the plane on ultrasound. **Complications** Infection. Hematoma at the injection site. Systemic adverse effects due to local anesthetic absorption. Block failure due to improper technique. **Considerations** The level of analgesia depends on the dose and volume of the local anesthetic. Although safe, this block should be performed by experienced clinicians trained in ultrasound-guided procedures. It can be combined with other multimodal analgesia methods to enhance pain relief.

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