

## Blocking the Unbearable: The Case for the Erector Spinae Plane Block

Lyndsay A. Kandi, BS\*; Marcus R. Bruce, MD†; Steven T. Morozowich, DO, FASE, FASA‡; William J. Casey III, MD\*; Chad M. Teven, MD\*

Inadequate postoperative pain relief impacts recovery and quality of life, and may result in chronic postsurgical pain and long-term opioid use. Considering this and the alarming number of opioid-related complications in recent years, it is more important than ever that surgeons utilize novel nonopioid-based strategies to reduce pain perioperatively. Multimodal analgesia is the current standard and infers the use of a variety of analgesics and techniques, including local anesthetic-based regional anesthesia, which together target different mechanisms for more effective pain relief that may reduce postoperative pain beyond the duration of action of the treatments administered.<sup>1</sup> In plastic surgery, the use of regional anesthesia for postoperative pain relief is becoming increasingly common. For example, in abdominal-based breast reconstruction, the transversus abdominis plane block is extremely effective.<sup>2</sup> However, a less commonly used block is the erector spinae plane (ESP) block.

First developed in 2016, the ESP block deposits local anesthetic within the plane deep to the erector spinae muscles targeting the origin of the ventral and dorsal rami of the thoracic spinal nerves, providing analgesia to the anterior and posterior thorax three to four dermatomal levels cranially and caudally from the site of injection.<sup>3</sup> In addition, local anesthetic spread may reach the paravertebral space and sympathetic chain, potentially providing unique benefit in patients with chronic pain (eg, neuropathic).<sup>3</sup> Though more commonly utilized in orthopedic and thoracic procedures, the ESP block has been successfully used to manage postoperative pain following breast surgery.<sup>2,4,5</sup> However, to our knowledge, there is limited data on its perioperative benefit in the setting of chronic postsurgical pain and/or its use with extended-release liposomal bupivacaine.

From the \*Division of Plastic and Reconstructive Surgery, Department of Surgery, Mayo Clinic, Phoenix, Ariz.; †Department of Anesthesiology and Perioperative Medicine, Mayo Clinic, Phoenix, Ariz.; and ‡Division of Cardiovascular and Thoracic Anesthesiology, Department of Anesthesiology and Perioperative Medicine, Mayo Clinic, Phoenix, Ariz.

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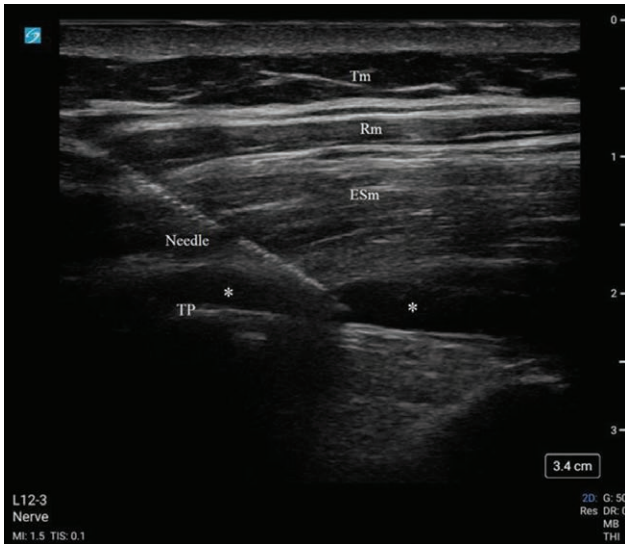
Recently, a 68-year-old woman presented with angiosarcoma of the chest wall following remote mastectomy and radiotherapy for breast cancer. Her case was initially managed with neoadjuvant chemotherapy followed by wide local excision, flap reconstruction, and irradiation. Subsequently, she developed a large anterior chest wall wound (Fig. 1) and intractable chronic postsurgical pain rated at 10/10 (numeric rating scale) with neuropathic features that were recalcitrant to narcotic pain medication. Her wound was ultimately reconstructed with a pedicled omental flap and skin grafting (see figure, [Supplemental Digital Content 1](https://links.lww.com/PRSGO/B829), which shows the reconstruction of the wound using a pedicled omental flap and skin grafting, <http://links.lww.com/PRSGO/B829>) under general anesthesia with a multimodal analgesia regimen, including a preoperative bilateral ESP block with a mixture of 0.25% bupivacaine and liposomal bupivacaine (Fig. 2). Postoperatively, she reported significantly improved chest wall pain to a degree that she had not experienced since before surgery and radiation, her opioid requirements were reduced, and she demonstrated an unexpected and prolonged improvement in her pain at follow-up.

This case highlights the successful use of the ESP block, given the relatively limited number of reports regarding its use in plastic surgery and, in particular, in those with chronic postsurgical pain. In addition, it emphasizes the



**Fig. 1.** Anterior chest wall wound (measuring 7 cm in its greatest diameter).

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**Fig. 2.** Ultrasound-guided erector spinae plane block technique. In the sitting position, a high-frequency linear ultrasound transducer was placed in a parasagittal plane 2–3 cm lateral to the T5 spinous process where an 8-cm 22-gauge echogenic block needle was advanced with an in-plane technique in a cranial-to-caudad direction through the trapezius, rhomboid major, and erector spinae muscles to gently contact the transverse vertebral process, followed by incremental injection of 15 mL of local anesthetic solution (mixture of 30 mL of 0.25% bupivacaine and 20 mL of liposomal bupivacaine) per side in the plane deep to the erector spinae muscles, producing a visible linear pattern of fluid spread (asterisk) lifting of the erector spinae muscle off the top of the transverse vertebral process (3). ESm, erector spinae muscles; Rm, rhomboid muscle; Tm, trapezius muscle; TP, transverse vertebral process.

value of regional anesthesia as a component of multimodal analgesia and should encourage surgeons to consider utilizing these techniques whenever possible as part of their overall pain management strategy.

**Chad M. Teven, MD**

Mayo Clinic

5779 E. Mayo Blvd.

Phoenix, AZ 85054

E-mail: [cmteven@gmail.com](mailto:cmteven@gmail.com)

### DISCLOSURE

*The authors have no financial interest to declare in relation to the content of this article.*

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