

# Erector Spinae Plane Block for Relief of Chronic Intercostal Neuralgia After Chest Tube Placement

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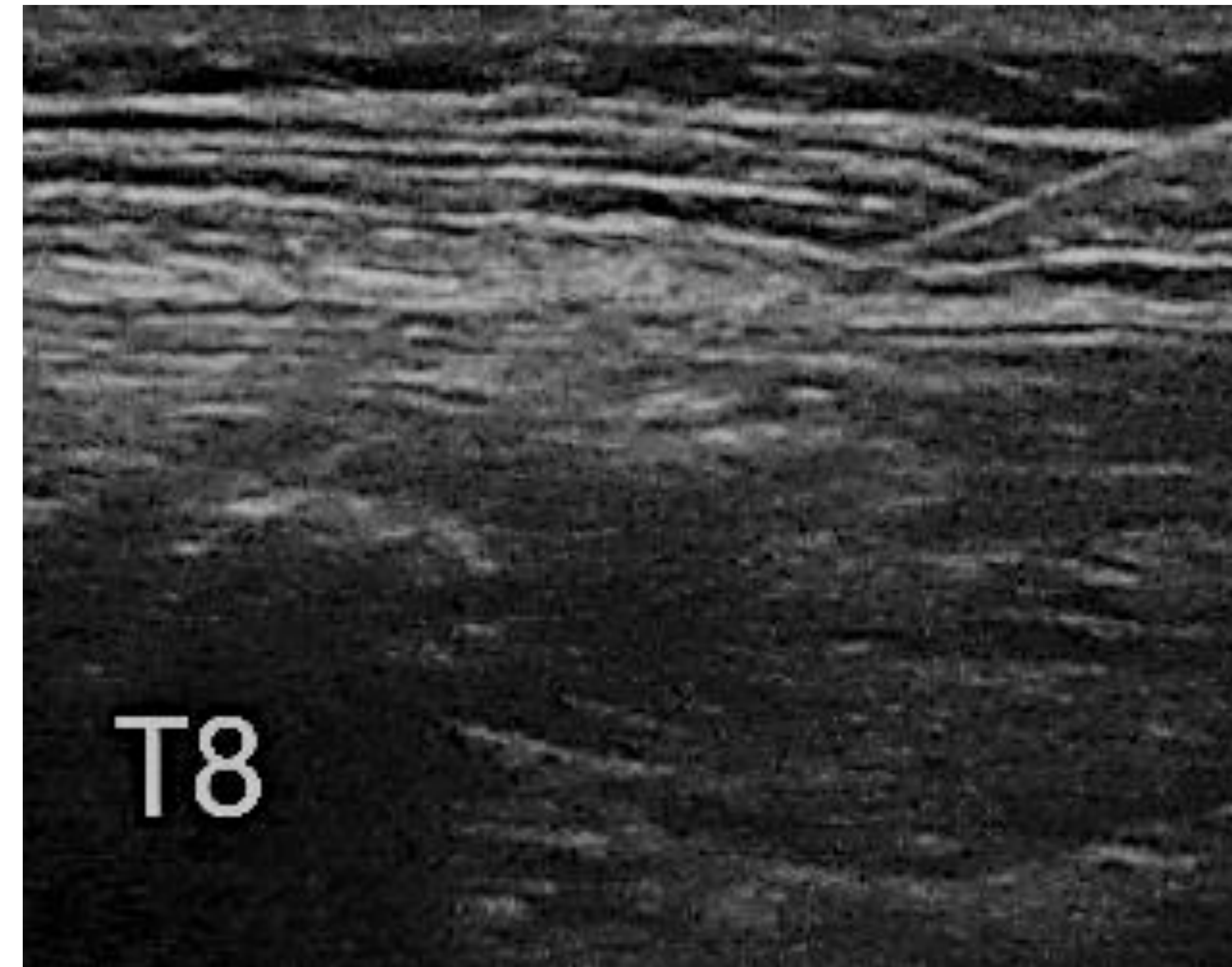
## INTRODUCTION

The erector spinae plane (ESP) block is a regional technique that can be used to provide analgesia for a variety of acute and chronic pain indications. The first report of the successful use of this procedure was in 2016 to manage thoracic neuropathic pain in a patient with metastatic disease with rib fractures. The usage of this block has expanded dramatically in acute pain management for surgery including thoracotomies, ventral hernia repairs, and even lumbar fusions. The block is relatively simple to perform and has expanding indications in the perioperative and acute post-operative setting. This block has been infrequently used in the setting of chronic pain; here we describe the use of ESP block for the treatment of chronic intercostal neuralgia after a history of chest tube placement.

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## BLOCK APPLICATION



**Block Approach:** An eight centimeter, twenty-two gauge (8cm, 22G) Pajunk needle was introduced under ultrasound guidance at the T8 level. The needle tip was clearly visualized while advancing into the therapeutic plane. Following in-plane technique, a total of 10mL injectate (8ml 1% lidocaine with 2mL 4mg/mL dexamethasone) was injected. The patient tolerated the procedure well with no immediate complications.

## CASE DESCRIPTION

The patient is a 45 year-old male with a past medical history remarkable for diabetes, obesity, migraines and viral pericarditis with recurrent pericardial and pleural effusions. In 2016, he required bilateral chest tube placements and drainage. His recovery was complicated by chronic intercostal neuralgia and chest wall pain over several dermatomes that was not relieved with conservative treatment. The patient presented to the pain clinic with bilateral chest wall pain with the right sided pain more axillary and left sided pain more posterolateral. He described pain that was sharp and burning in nature averaging 7/10 in intensity on a 10 points scale. His pain severely intensified with sneezing and deep breathing, and the patient reported that it was especially problematic at night and interferes with sleep. Previous treatments included a variety of medications for pain control including acetaminophen, NSAIDs, lidocaine patches, neuropathic medication, and muscle relaxants – all with limited success. He was using low dose opioids at night to help him sleep. Given that the patient failed a variety of medication trials for his pain control we opted to try an ESP block for his pain. We performed the block under ultrasound guidance (see image) at the T8 level using an 8cm 22G, radiopaque needle. We used 8mL of 1% lidocaine with 2mL of 4mg/mL dexamethasone for a total of 10mL volume of injectate for this block. The block was performed using an in-plane technique and allowed for good visualization of local anesthetic lifting the erector spinae muscle off of the tip of the transverse process.

## RESULTS

The procedure was performed without complications and the patient received significant relief and requested the procedure be performed on his left side shortly afterwards. The patient had the procedure repeated and reports significant pain relief that lasts 10 months to a year on each side. Additionally, he is off all pain medications and only requires intermittent use of NSAIDs for his pain management after this block.

## DISCUSSION

The ESP block is a relatively easy and safe block to perform under ultrasound guidance and has great versatility. It is very useful in the acute pain setting as it can be used for post-operative analgesia. The block is also gaining popularity in the chronic pain setting and is a good option for patients with chronic chest wall pain and intercostal neuralgia. Our case further demonstrates the utility of this block for long term pain control in a patient with chronic intercostal neuralgia.



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