



Parasternal & PECS for Partial Manubriectomy, Sternectomy, Claviculectomy, and Bilateral 1-3 Rib Resection: A Case Report

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Introduction

Case report describing a unique, extensive chest wall and bony resection going beyond what is described in the literature for regional techniques

- Goal: To achieve adequate perioperative pain control with multimodal techniques to minimize adverse hemodynamic and pulmonary complications
- **Performed bilateral PECS-1 and parasternal blocks**

Methods

- Literature review investigating regional techniques for extensive chest wall reconstruction
- Patient gave consent to perform bilateral parasternal and PECS-1 blocks
- Fellow obtained written consent for post-operative case report
- Thorough chart review performed as part of case report
- Exempt from IRB review per University of Colorado Anschutz Office for Research policy given that no patient identifiable information is included

Citations:

- Ben Aziz M, Mukhdomi J. Thoracic Paravertebral Block. 2023 Feb 28. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan. PMID: 34033322.
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- Parasternal Nerve Blocks. Regional Anesthesiology and Acute Pain Medicine [Internet]. Accessed 3/23/2025.
- Versyck B, van Geffen GJ, Chin KJ. Analgesic efficacy of the Pecs II block: a systematic review and meta-analysis. Anaesthesia. 2019 May;74(5):663-673. PMID: 30957884.
- Wong HY, Pilling R, Young BWM, Owolabi AA, Onwochei DN, Desai N. Comparison of local and regional anesthesia modalities in breast surgery: A systematic review and network meta-analysis. J Clin Anesth. 2021 Sep;72:110274. PMID: 33873002.

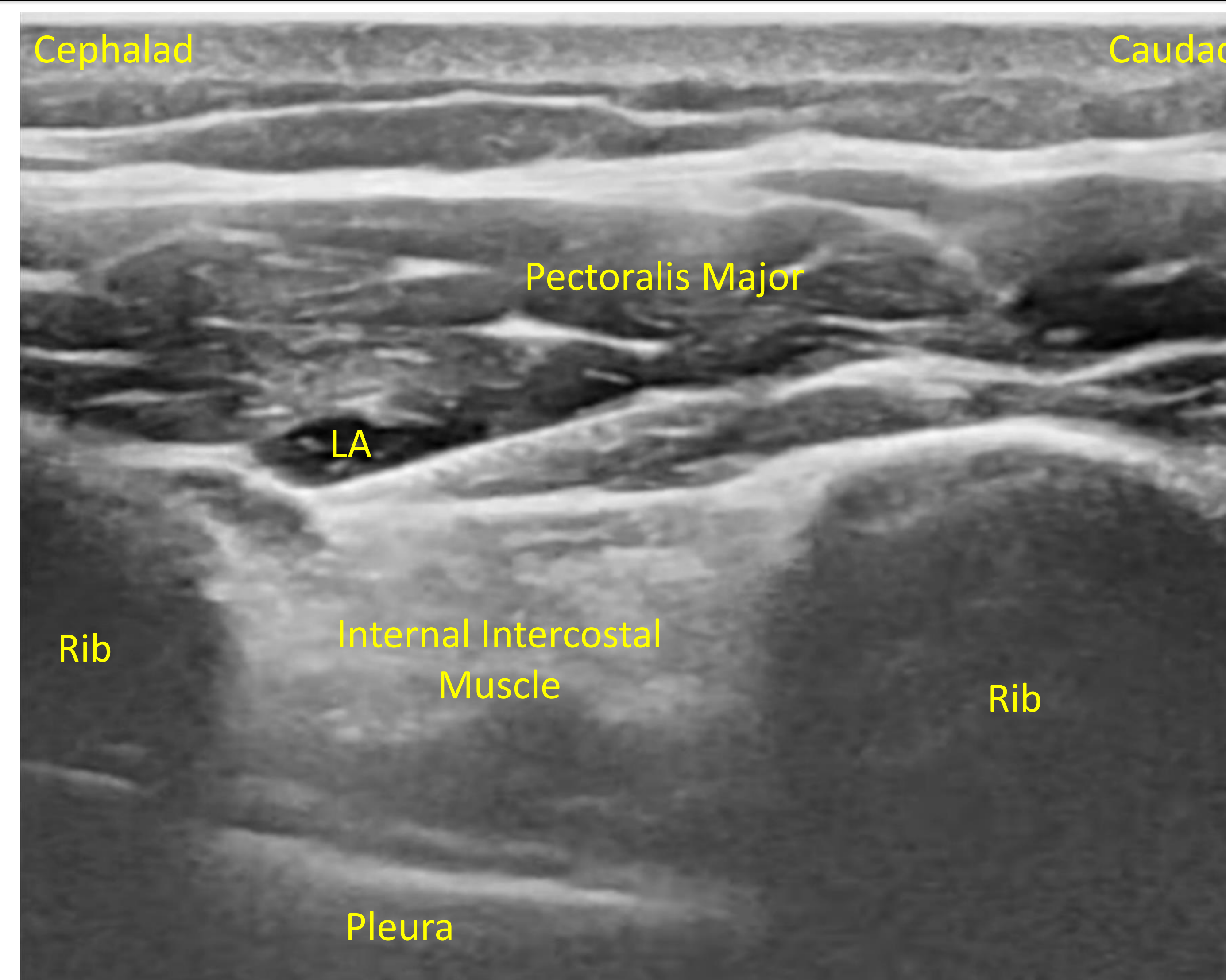
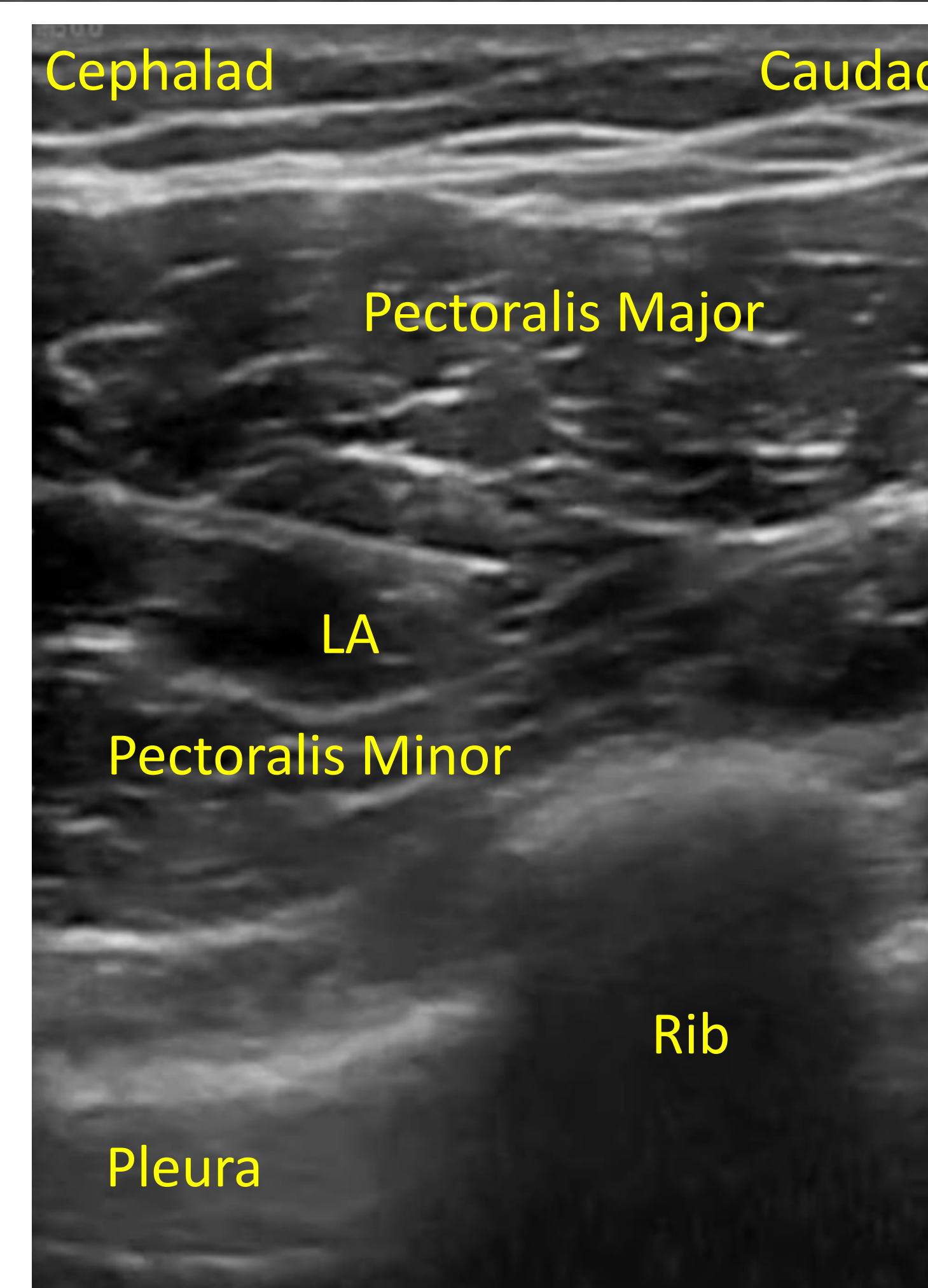


Figure 1
US images of parasternal (top) and PECS-1 (right) blocks. LA, local anesthetic.



Case Report

67 year-old, 91kg female:

- PMH malignant papillary thyroid cancer with recurrence and sternal invasion
- Presenting for manubriectomy, partial sternectomy, partial claviculectomy, bilateral 1-3 partial rib resection, reconstruction and PEC flap advancement
- Performed bilateral PECS-1 and parasternal blocks immediately prior to surgery
- Patient positioned supine, US utilized for visualization of muscle planes and needle trajectory
- Six blocks performed: four parasternal, two PECS-1
 - 10cc 0.375% bupivacane, 1.67 mg dexamethasone, 16.7mg clonidine deposited with each block
- Intraoperatively patient received 100mg fentanyl, 50mg ketamine, 1mg hydromorphone
- Pain in PACU: 0-2/10 per patient report
- Pain by 11h postoperatively: 5/10 per patient report
 - Additional 0.6mg hydromorphone self-administered by PCA

Discussion & Conclusions

We combined bilateral PECS-1 and parasternal blocks to adequately cover the dermatomes, osteotomes, and musculature affected by this complex surgery.

- PECs-1: Pectoralis major and minor via medial and lateral pectoral nerves
- Parasternal: Anteromedial chest wall via anterior cutaneous intercostal nerve branches directly adjacent to the sternum

Combined, bilateral PECS-1 and parasternal blocks were a useful adjunct for perioperative pain control, providing relief for the first 11h postoperatively.