

Continuous Costoclavicular Peripheral Nerve Catheter (PNC) for Repeat Primary Anesthetic



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Background

Patients with **significant pulmonary comorbidities requiring upper extremity surgery** present many unique challenges.

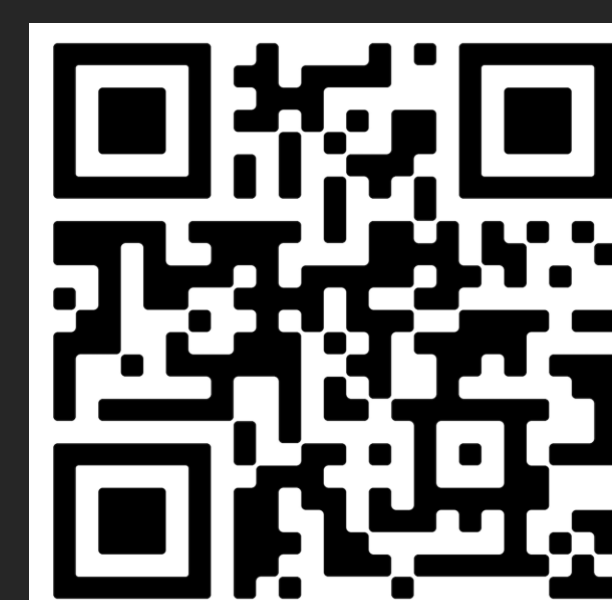
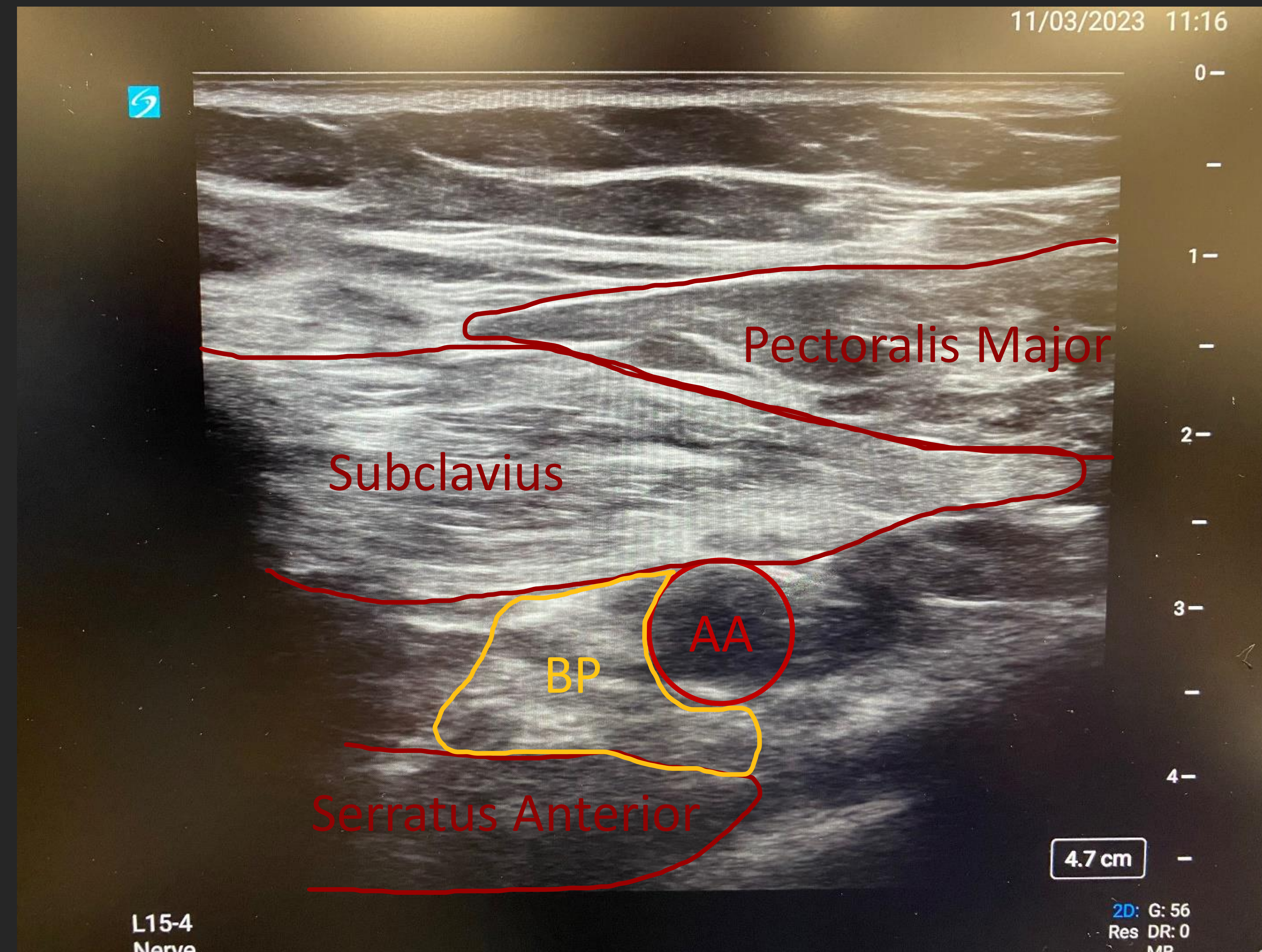
High risk of:

- Requiring mechanical ventilation
- Declining respiratory status
- Hemidiaphragmatic paralysis with brachial plexus nerve blocks

Case Description

A 53-year-old female with history of obesity (BMI 33), HTN, pHTN (RVSP 58 mmHg), COPD, and ILD on 4 L NC at baseline presented with left hand MRSA tenosynovitis for **serial irrigation and debridements**. A **costoclavicular PNC** was placed and utilized on **3 separate occasions as a primary anesthetic**. In-between cases, it was used for **post-operative analgesia**, with excellent patient-reported satisfaction. It was finally **removed on POD 7** from the original surgery.

Costoclavicular nerve blocks can be utilized as primary anesthetics and PNCs can be re-dosed and successfully used as the primary anesthetic.



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Discussion

This patient would be **high risk for postoperative respiratory failure and difficulty weaning mechanical ventilation** after endotracheal intubation.

Her **pulmonary function limited regional** anesthetic techniques.

PNC was desired due to planned serial washouts, making an **axillary block untenable**.

The costoclavicular PNC **limited need for repeat blocks** (and thus increased risk of nerve injury), endotracheal intubation and potential phrenic nerve involvement.

There were **no adverse events** related to the catheter, despite the extended duration of treatment.

The patient **avoided mechanical ventilation** for the entirety of her hospitalization.

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