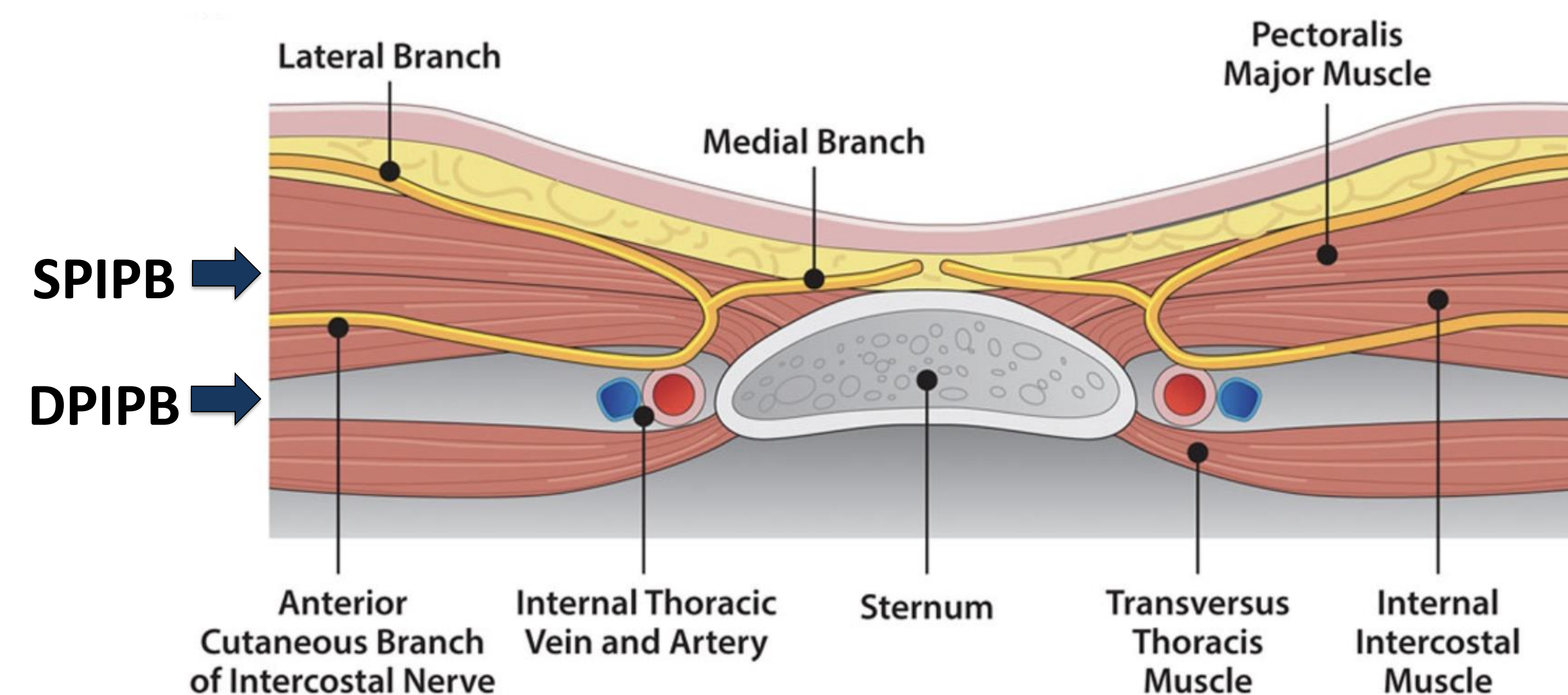


Comparing 2 Different Superficial Parasternal Intercostal Plane Block Techniques on the Same Patient

Brian Greathouse, MD; Jacob Loyd, MD
University of Colorado School of Medicine

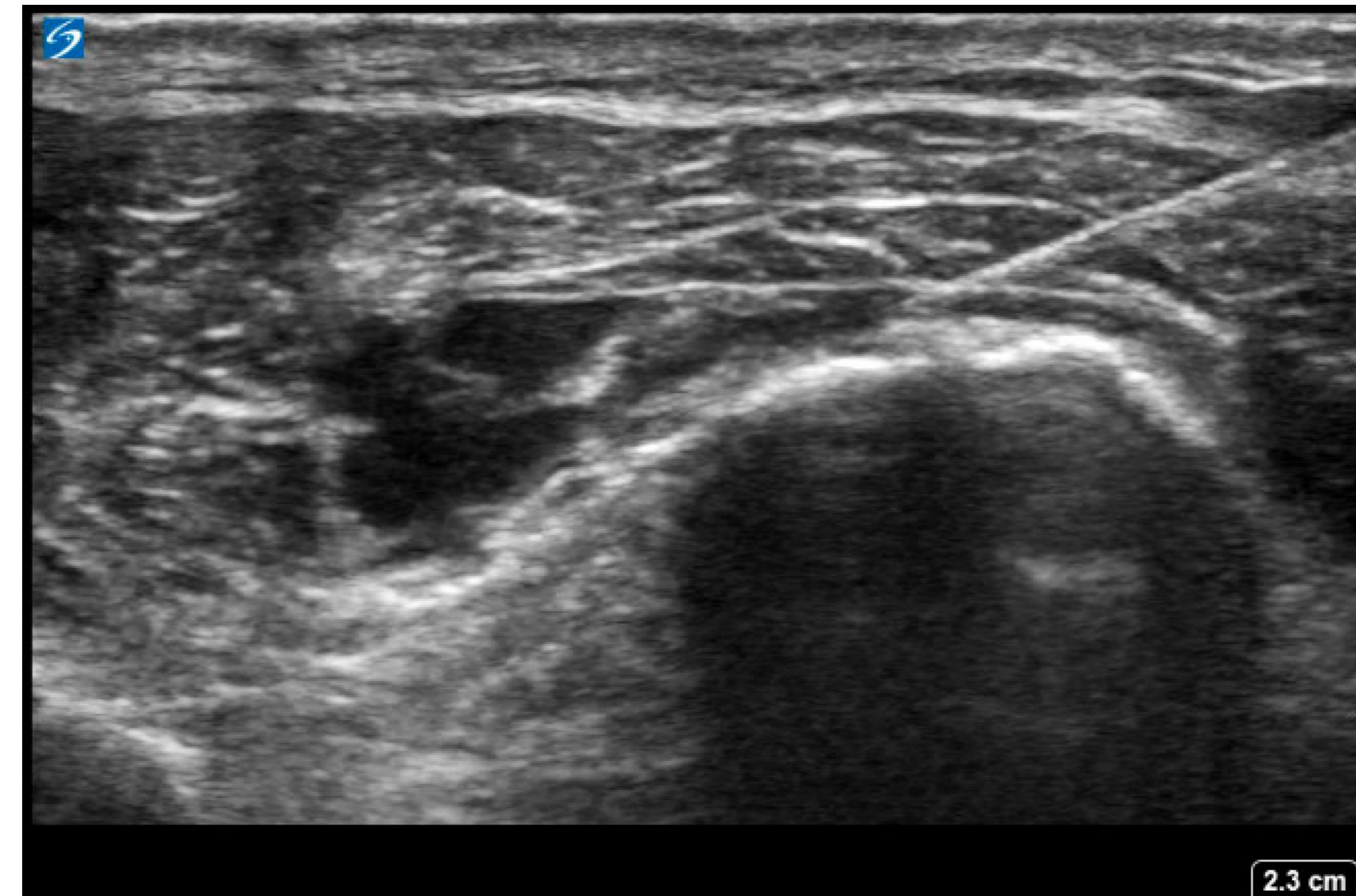
Introduction

- Superficial Parasternal Intercostal Plane (SPIPB) Block is a newer block technique for sternal analgesia
- SPIPB has shown similar efficacy to Deep Parasternal Intercostal Plane (DPIPB) Block with less potential for complications
- **SPIPB target plane is between the pectoralis and intercostal muscles, ~2cm lateral to sternal border**

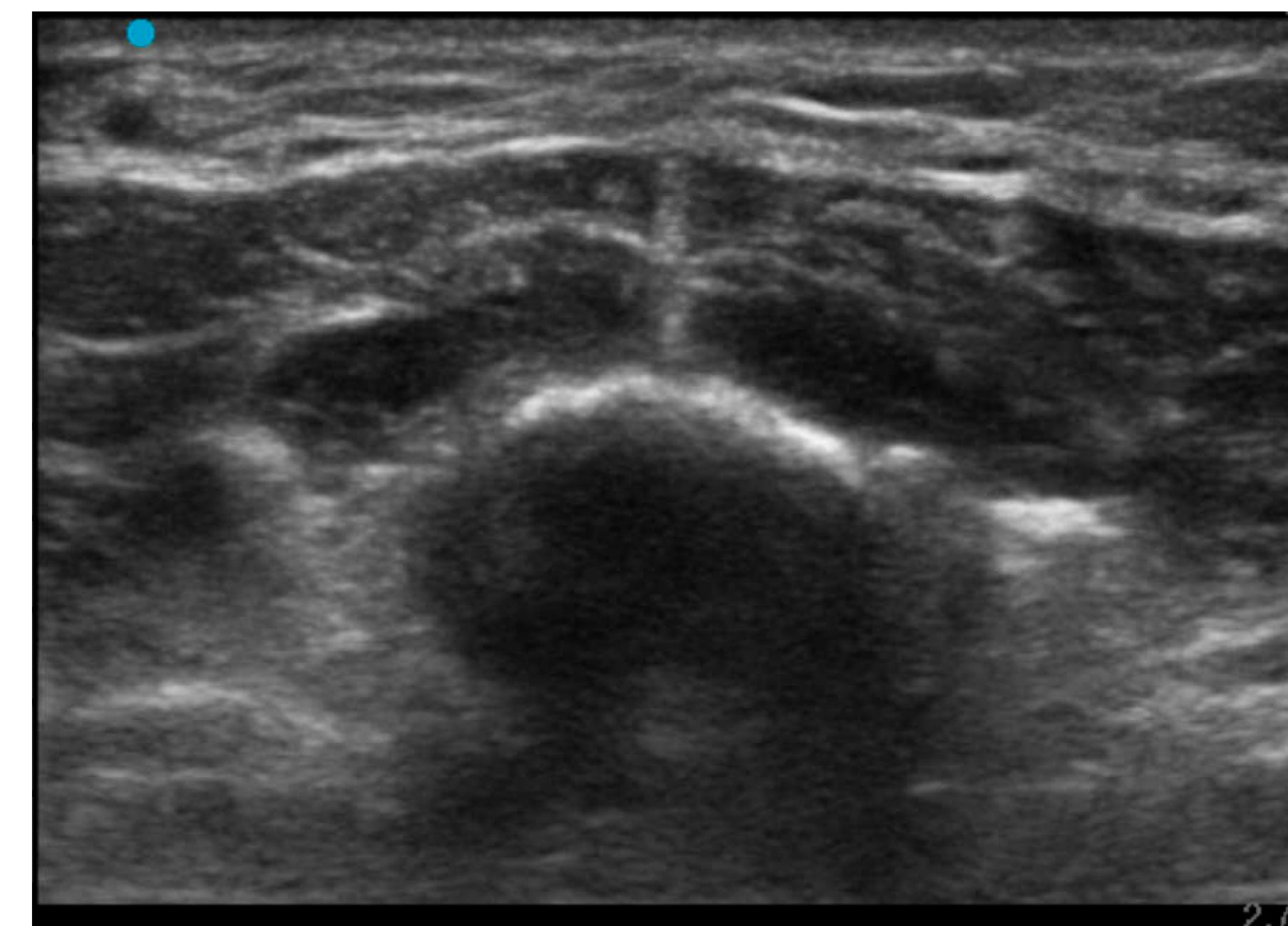


Case Report

- 69 yr-old male with a 5cm ascending aortic root aneurysm underwent an aortic root repair & hemiarch surgery via primary sternotomy, and he was extubated on POD 0
- Experienced **severe, poorly controlled postop pain despite multimodal analgesia**, thus requiring regional intervention for rescue analgesia
- **Returned to OR on POD 6 for redo-sternotomy** and PFO closure, again suffering from severe postop pain that required repeat regional intervention



In-plane needle technique aiming cranially at the 5th rib



Our-of-plane technique at the 3rd rib

In-Plane Technique

- APS consulted POD 1 for a regional block
- SPIPB performed using in-plane technique, with **bilateral injections at the 2nd and 5th ribs (4 injections total)**
- **Rib used as the backstop** for each injection, with needle aimed **cephalad at the 5th rib** and **caudally at the 2nd rib**
- 10cc of 0.25% bupivacaine injected at each location, 40cc total
- Patient's 24 hour **morphine milliequivalents (MME)** **dropped from 152.5 before to 48 after the block**, with a concomitant drop in pain scores

Out-of-Plane Technique

- APS consulted again on POD 6 for a regional block
- SPIPB performed using out-of-plane technique, with **bilateral injections at the 3rd rib** (2 injections total)
- **Rib used as the backstop** for injections once again
- 20cc of 0.25% bupivacaine with dexamethasone was injected at each location, 40cc total
- Patient's **MME decreased from 173.5 to 32 MME in the 24hrs after the block**, and his pain scores also dropped significantly

Discussion

- Our case shows that the SPIPB can be performed with various techniques, and more research is needed to elucidate which technique is superior
- We argue that **using the rib as a back stop can add a layer of protection** and potential risk reduction without affecting efficacy