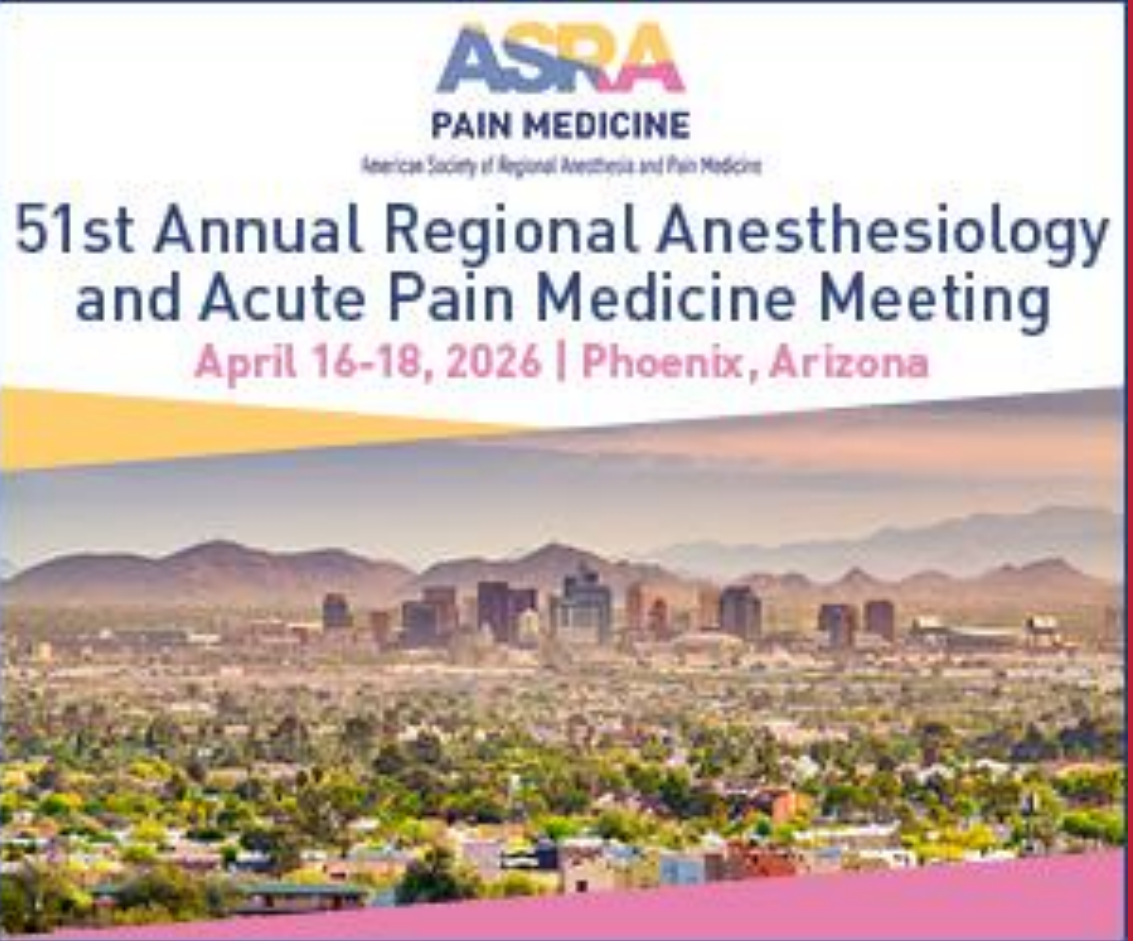




Pain Management for Patient on Buprenorphine After Partial Hepatectomy: The Role of External Oblique Intercostal Catheters

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Objectives

- Understand importance of multimodal management in patients with chronic pain or opioid use disorder on buprenorphine
- Identify limitations of neuraxial anesthesia due to coagulopathy and how location of surgical incision may preclude other peripheral regional techniques
- Learn anatomy and dermatome targets of external oblique intercostal plane block and procedure technique

Case Description

- 79M PMH obesity, HTN, OSA, tobacco use, CAD, AAA s/p aortoiliac stent graft on DAPT, atrial fibrillation on Apixaban, chronic pain on buprenorphine 20mcg/hour weekly patch
- Presenting for laparoscopic cholecystectomy with partial hepatectomy for intrahepatic cholangiocarcinoma
- Laparoscopic → open due to significant adhesions (right subcostal incision)
- Bilateral EOI catheters placed at the end of case under GA

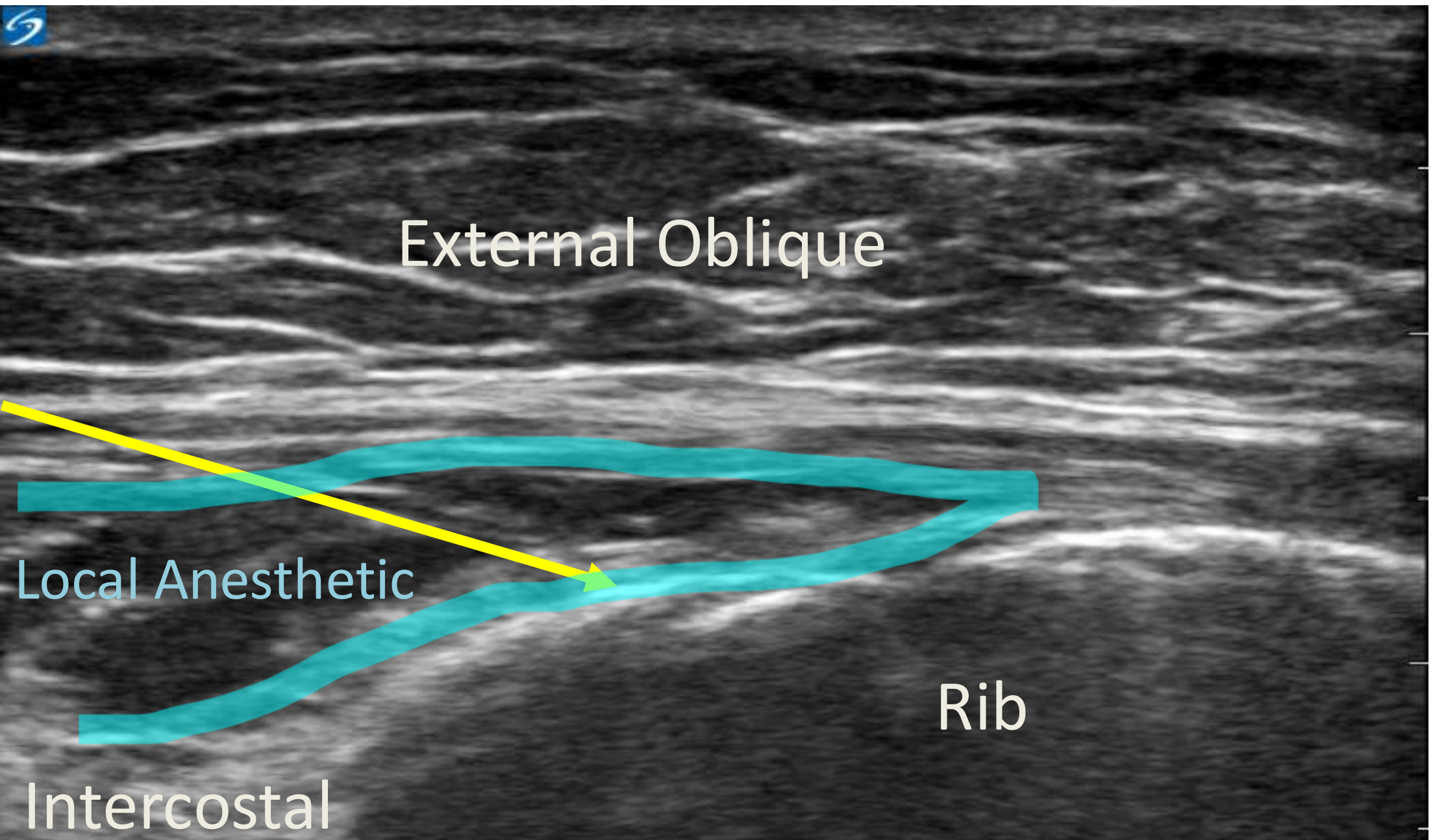


Figure 1. Ultrasound image of external oblique intercostal plane hydrodissected prior to catheter placement

Buprenorphine Management

- Partial mu-opioid agonist prescribed for opioid use disorder (OUD) and chronic pain
- Discontinuing buprenorphine may increase receptor availability but increases risk of withdrawal and relapse in patients with OUD → **current practice favors continuing buprenorphine perioperatively**
- Full opioid agonists often required for breakthrough pain, higher doses needed
- Post-operatively may consider dividing the daily dose into Q8H dosing to enhance analgesic effect¹⁻³



EOI Plane Block

- Innervation of upper abdominal wall is derived from intercostal nerves T6-T10
- Targets both anterior and lateral branches of intercostal nerves
- Linear ultrasound probe placed along the anterior axillary line overlying ribs 6 and 7 in an oblique parasagittal plane
- Beneficial for obese patients with excess soft tissue as rib 6 is an easy ultrasound target
- Fascial plane accommodates catheter with fluid expansion⁴⁻⁶

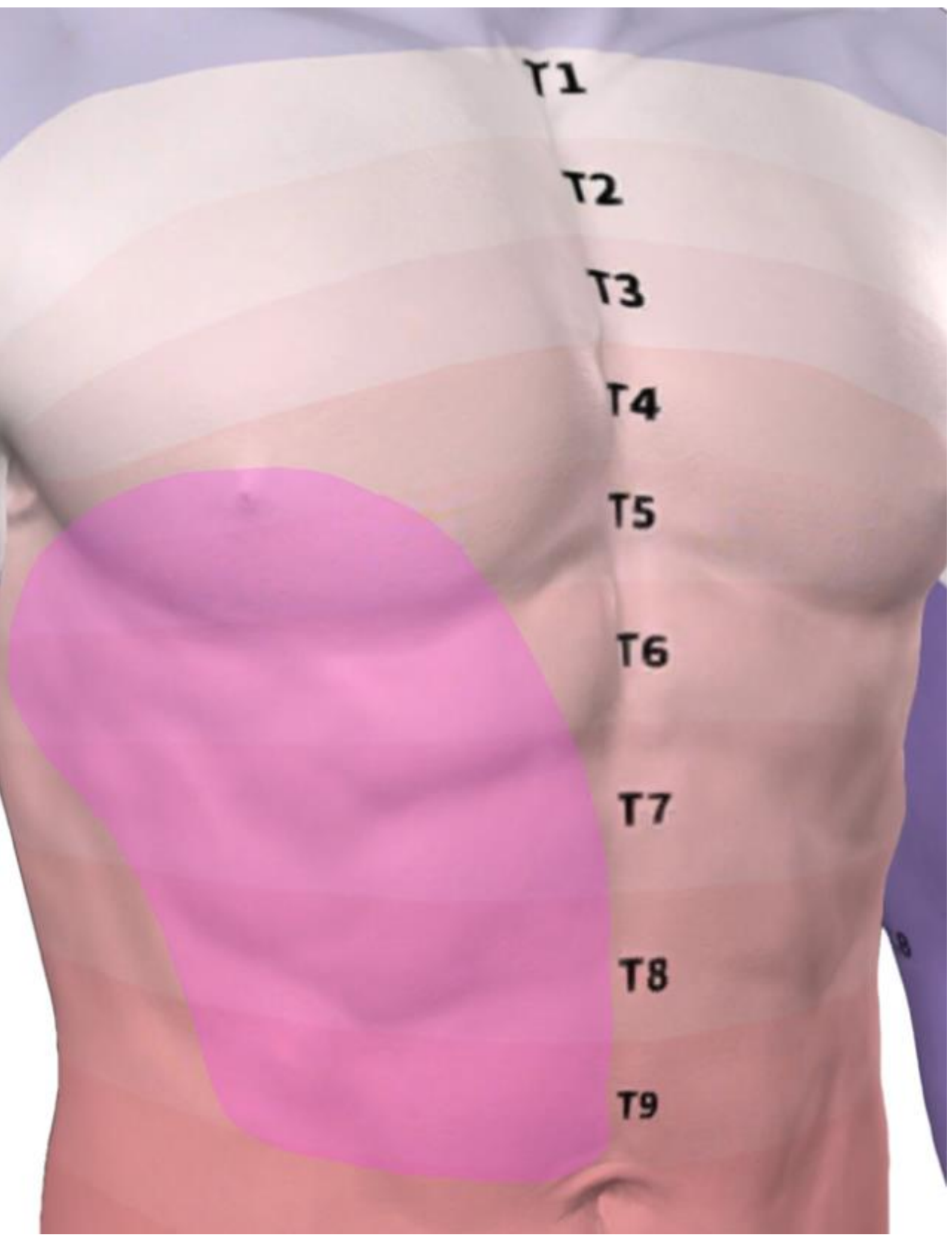


Figure 2. Dermatomal coverage of EOI plane block⁶

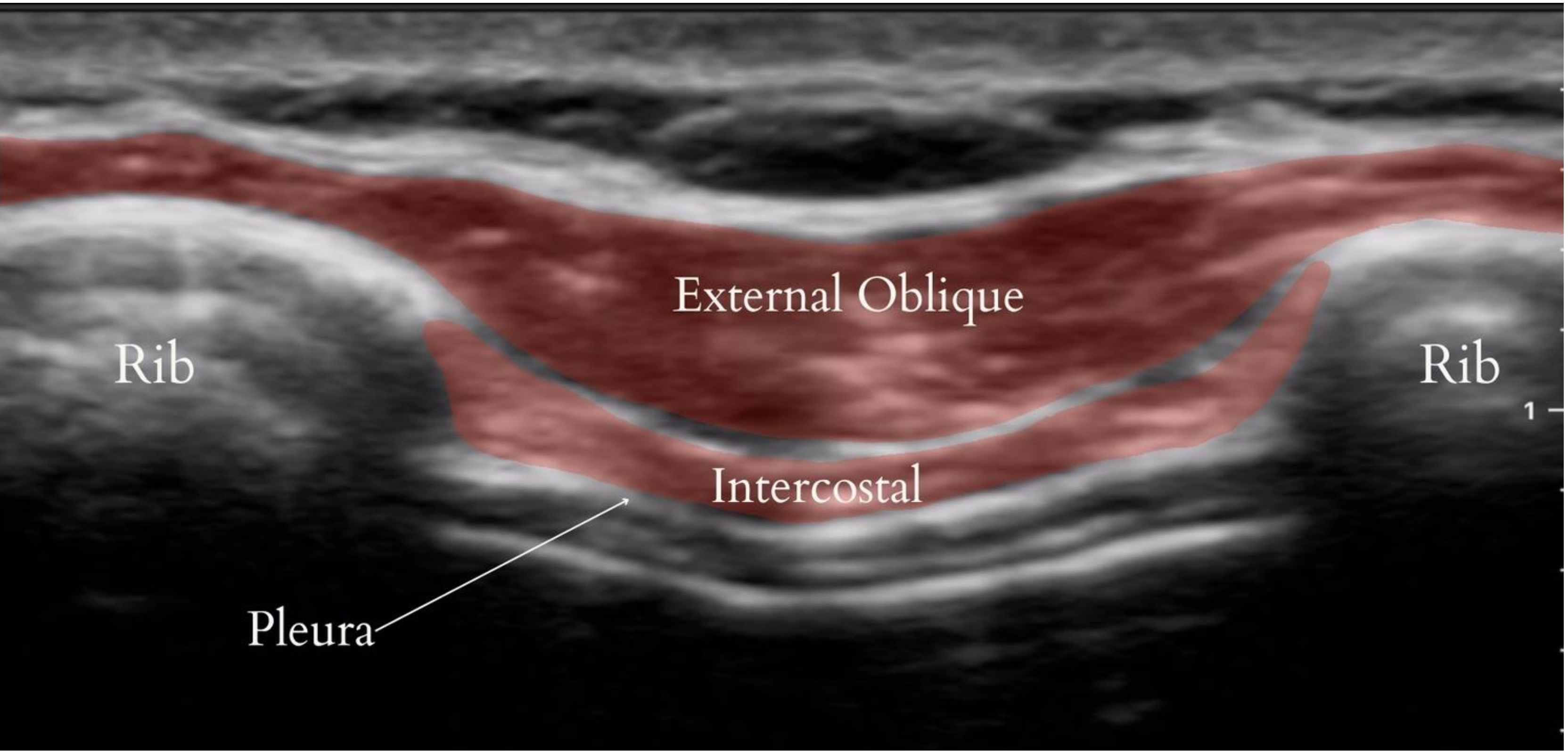


Figure 3. Ultrasound image of external oblique intercostal plane⁶

Discussion

- EOI block may be performed for upper abdominal surgery using either single shot technique or catheter placement
- EOI catheters may be considered as an alternative to neuraxial analgesia in patients with coagulopathies or as a rescue technique for laparoscopic cases that convert to open where positioning for a thoracic epidural post-operatively would not be tolerated
- Buprenorphine should almost always be continued in the perioperative period

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