Objectives

- Discuss value and use of PECS I and II
- Overview of involved anatomy
- Briefly describe cytokine issues with general anesthesia
- Risks and benefits of adding a PEC block with ultrasound guidance

Pectoralis Blocks

- First described in 2012 at the ESRA Spain Congress by Blanco et al.
- Also know as PECS I, PECS II (Serratus-intercostal plane block (SIP))
- PECS I: median and lateral pectoral nerves
- PECS II: Long thoracic, Intercostal nn. (T2-T6) and thoracodorsal nerve
Lateral Pectoral N. (C5-C7) off lateral cord, innervates pec major

Medial Pectoral N. (C8-T1) off medial cord, innervates pec minor and major

Long Thoracic N. (C5-C7) off proximal brachial plexus, innervates Serratus Ante

PECS I

- medial and lateral pectoral nerves (mid-clavicle)
  - **Medial Pectoral nerve (C8, T1):** immediately from Medial Cord (late anterior division).
    - Innervates Pec minor and Pec major (lower 1/3)
  - **Lateral Pectoral nerve (C5, C6, C7):** immediately from Lateral Cord
    - Innervates Pec Major
PECS I

- Infiltration technique under ultrasound guidance
- Head turned opposite side.
- Shoulder abducted and elbow flexed
- Similar probe position as Infraclavicular
- Linear probe
- Technique for muscle related pain
**PECS I**
- Target: fascial plane between Pec major and pec Minor. (L. and M. pectoral nn. branches)
- Vascular concern is branches from thoracoacromial artery and vein.
- Analgesic technique.
- Lower Concentration and Higher volume
  \((0.25\% \text{ LA}, 20\text{cc Volume})\)

**PECS II**
- Additive technique for PECS I and breast surgery
- Long thoracic, Intercostal nn. (T2-T6) and thoracodorsal nerve
- Analgesic benefit for WLE, mastectomies, and axillary dissection

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Infiltration technique under ultrasound guidance
- Head turned opposite side.
- Shoulder abducted and elbow flexed
- Similar probe position as Infraclavicular along breast toward latissimus dorsi m.
- Linear probe
- Technique for muscle and dermatomal analgesia
**PECS II**

- Target: fascial plane between Pec minor and serratus ant. m. or superficial to serratus anterior m. (T3-T6)
- Long Thoracic nerve is immediately superior-posterior along Latissimus dorsi and serratus
- Analgesic technique.
- Lower Concentration and Higher volume
  (0.25% LA, 20cc Volume)

**Three Pearls: PECS Blocks**

- Inject PECS II, then PECS I to preserve anatomy/view
- Excellent alternative to paravertebral for breast surgery
- Similar to TAP block, PECS are High Volume blocks!