

# Regional Anesthesia in Orthopedic Surgery

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# Disclosures

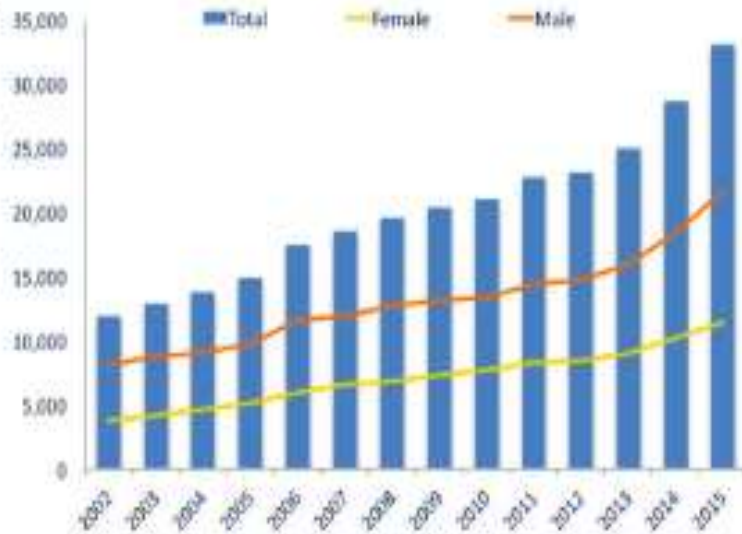
- Chief of Regional Anesthesia and Acute Pain Management at BUMCP
- No financial disclosures
- All around good guy

# Opioid Epidemic

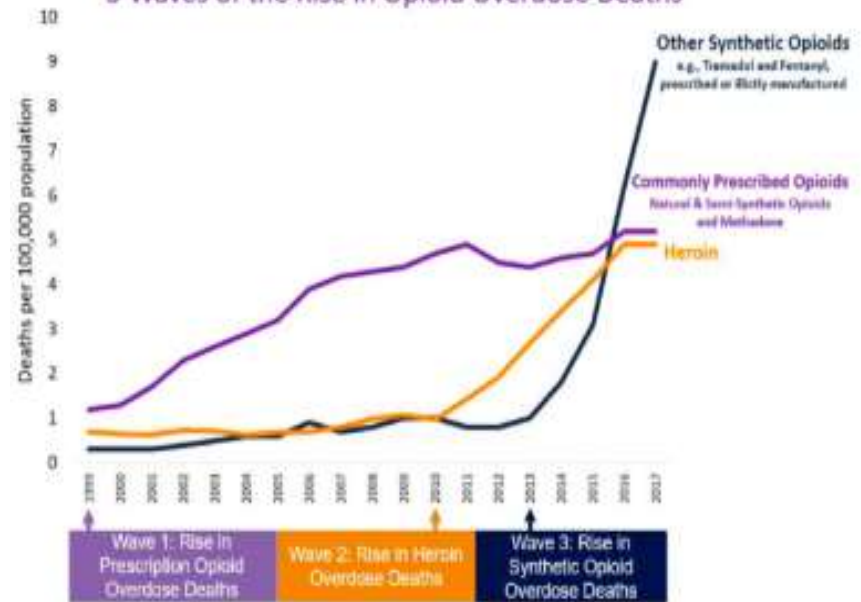
- 115 Americans die every day from overdosing
- 67,000 deaths due to opioid overdose in 2018
- More deaths than from HIV/AIDS at the peak of its epidemic in 1995
- Cost the U.S. over 500 billion dollars last year

# Opioid Epidemic

**National Overdose Deaths**  
Number of Deaths from Opioid Drugs



**3 Waves of the Rise in Opioid Overdose Deaths**



# Multimodal Analgesia

- Pain management approach that focuses on limiting or even sparing opioids
- Regional Anesthesia
- Non opioid medications
  - NSAIDs
  - Acetaminophen
  - NMDA antagonists
  - Anti-convulsants
  - Lidocaine
  - Alpha 2 agonists

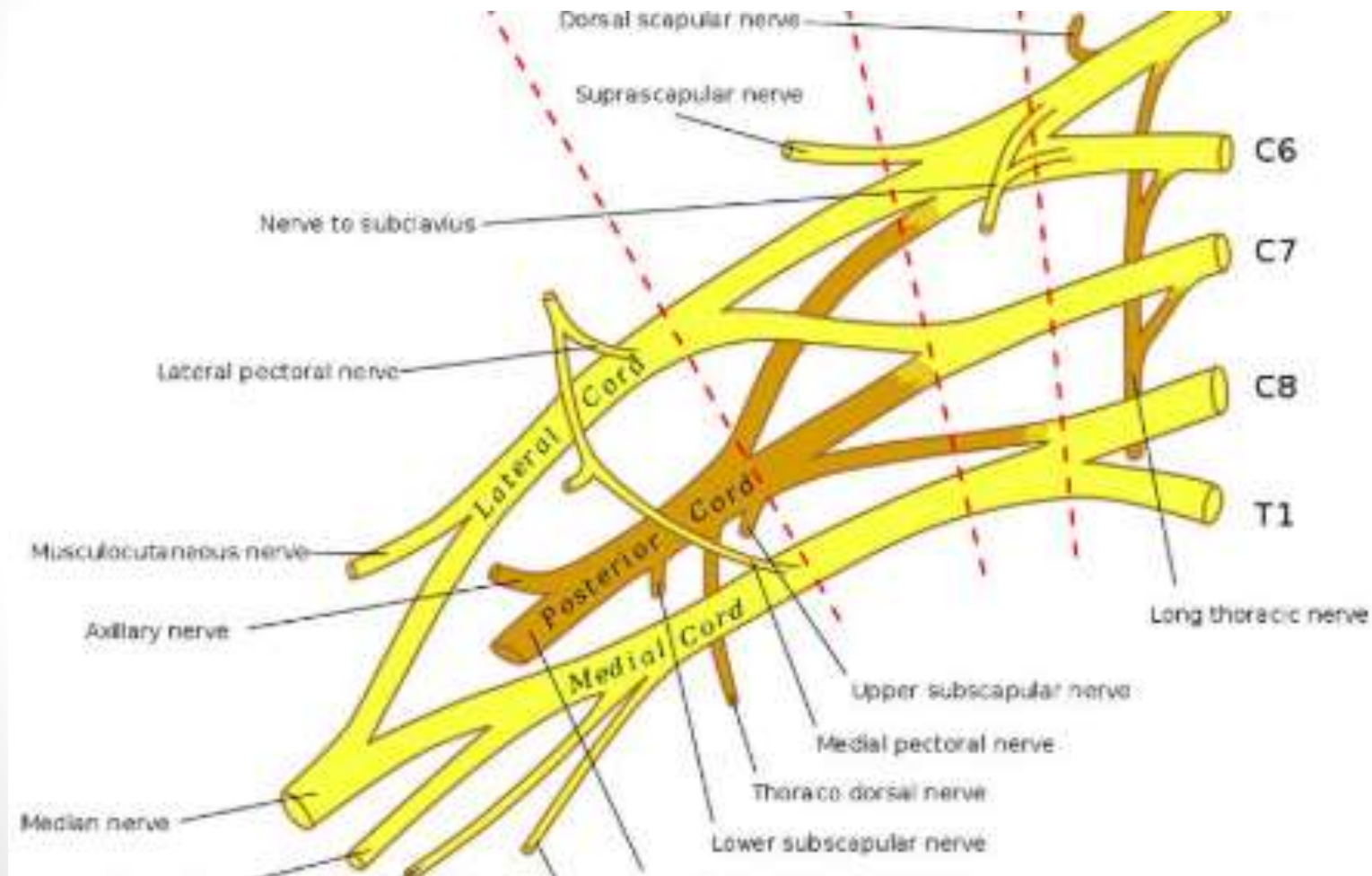
# Peripheral Nerve Blocks

- Anesthetize specific body parts
- Surgical anesthesia
- Perioperative analgesia
- Minimize need for opioids
- Avoiding risks associated with GA and opioids
- Decreases risk of chronic pain

# Peripheral Nerve Blocks

- Injection of local anesthetic under U/S guidance
- Type of LA determines duration of block
- Nerve blocks continue to evolve
- Low risk
  - Incomplete/failed block
  - Neuropraxia/persistent paresthesia
  - LAST (intravascular injection)
  - Poor provider to patient communication

# Brachial Plexus

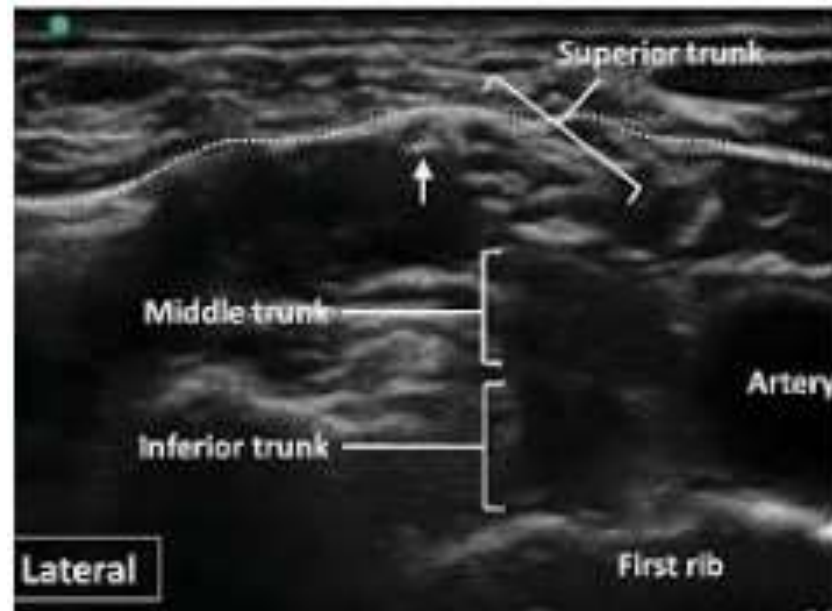




# Superior Trunk/Interscalene Block

- Indicated for shoulder and upper arm surgery, surgery of the clavicle
- LA injected at the level of nerve roots or trunks
- Complications include phrenic nerve involvement (100%), Horner's syndrome, pneumothorax, nerve injury, intravascular injection
- Superior trunk block is an advanced block

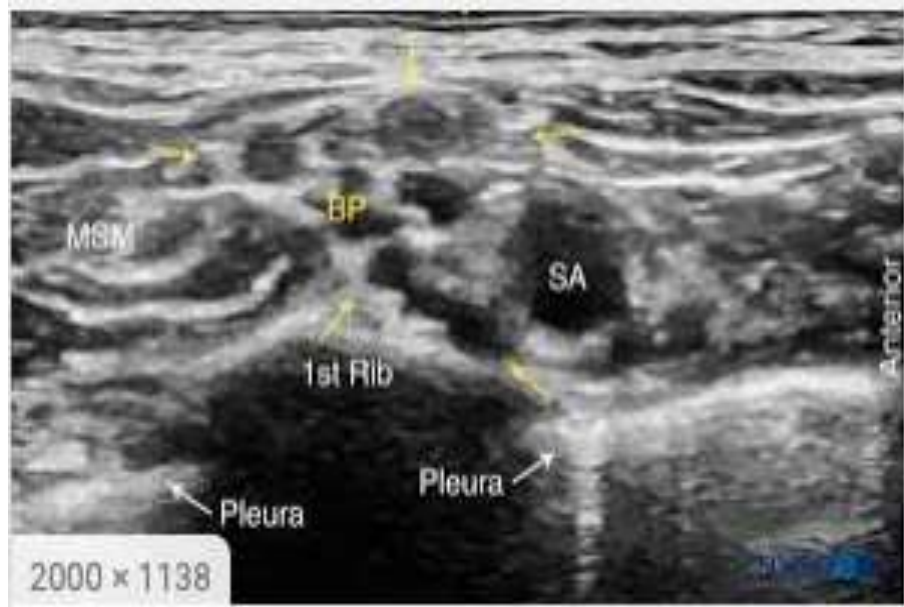
# Superior Trunk/Interscalene Block



# Supraclavicular Block

- Indicated for upper arm, elbow, and forearm surgery
- LA injected at level of trunks/divisions
- Complications include phrenic nerve involvement (30-50%), pneumothorax, nerve injury, intravascular injection
- Maybe the most common block

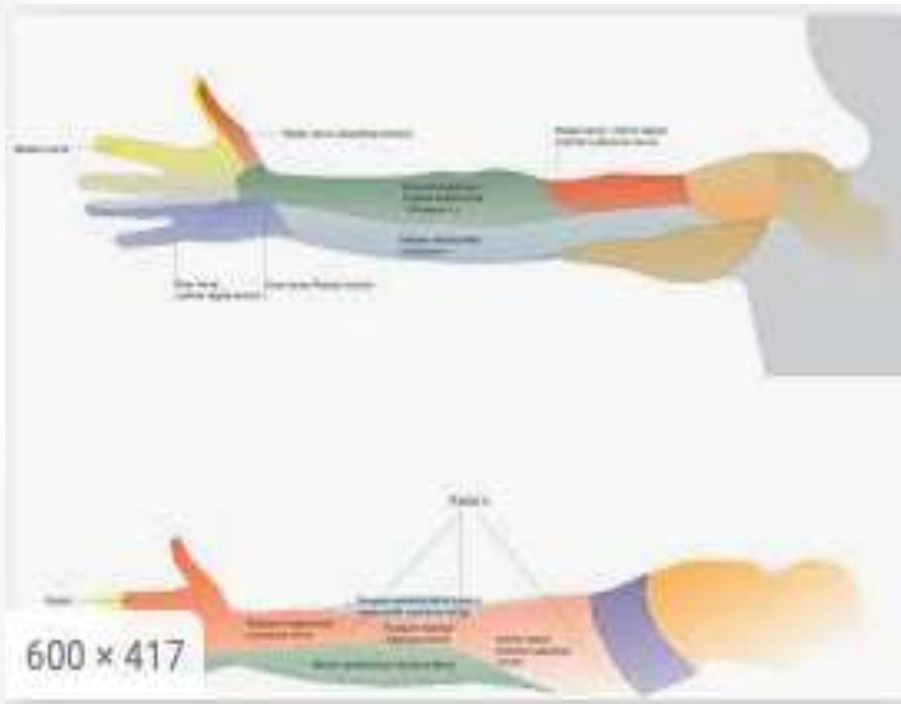
# Supraclavicular Block



# Infraclavicular Block

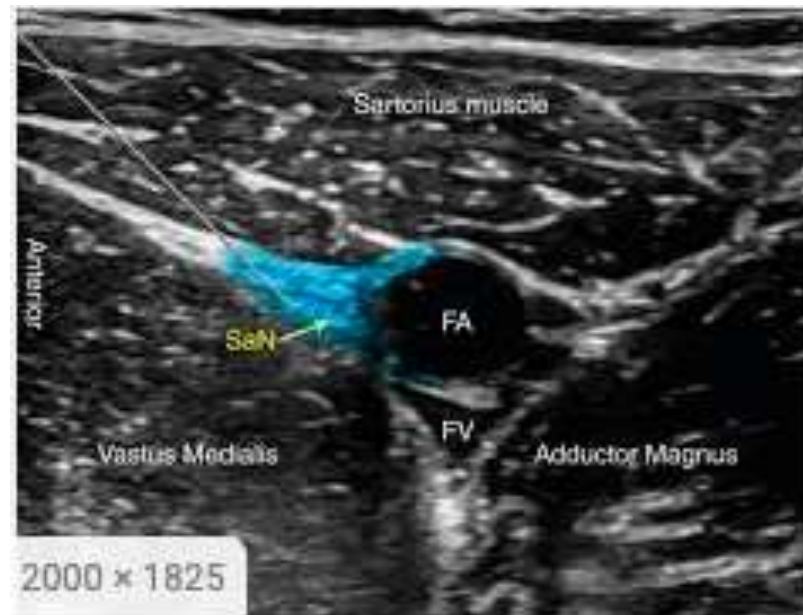
- Indicated for elbow, forearm, and hand surgery
- LA injected at level of cords
- Complications include pneumothorax, nerve injury, intravascular injection
- Most complete and dependable block for the UE

# Infraclavicular Block



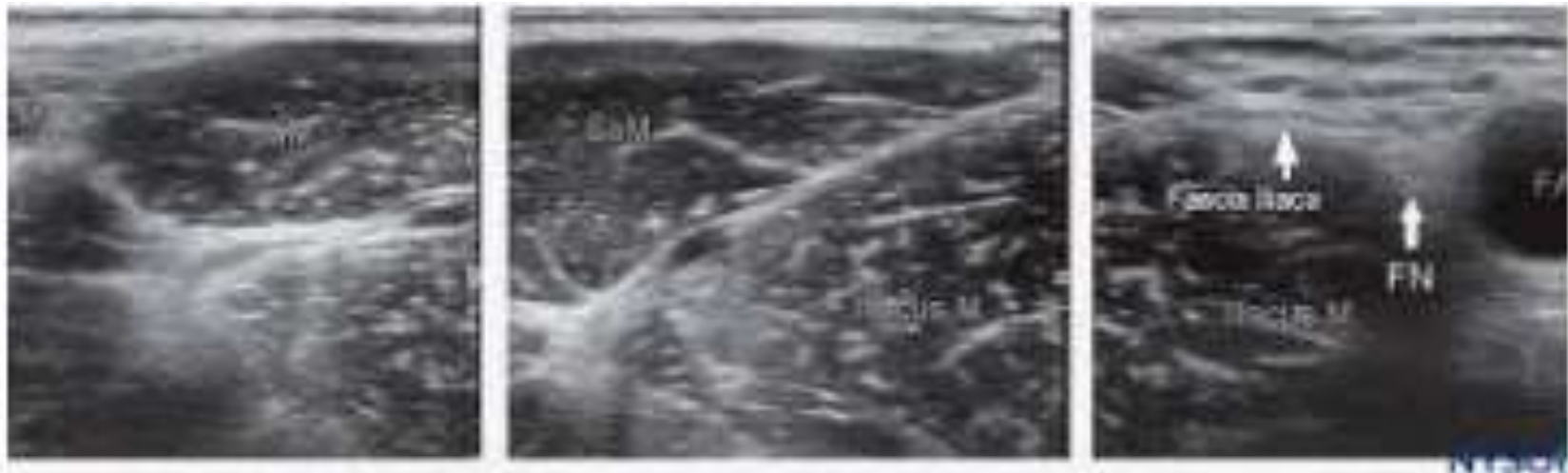
# Lower Extremity Nerve Blocks

- Femoral nerve block/Adductor canal nerve block
  - Procedures on the knee, antero-medial thigh to ankle
  - AC block is superior due to motor sparing
  - AC block is go-to LE block



# Lower Extremity Nerve Blocks

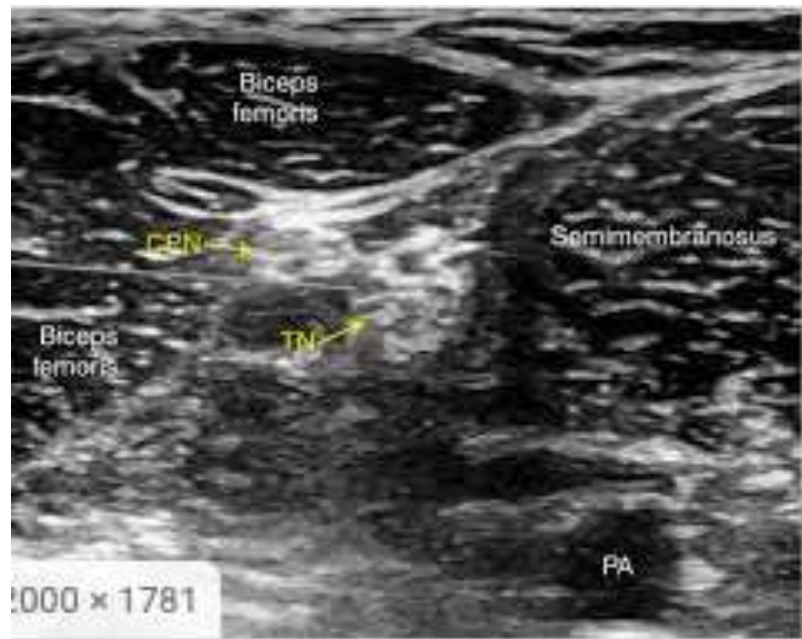
- Fascia Iliaca nerve block
  - ✓ Hip surgeries and postero-lateral thigh
  - ✓ Motor sparing block (volume dependent)
  - ✓ Innervation of hip is challenging





# Lower Extremity Nerve Blocks

- Sciatic nerve block/Popliteal block
  - ✓ Procedures on ankle, foot, poster-lateral LE
  - ✓ Surgical anesthesia
  - ✓ Largest nerve in body



Have a great day!