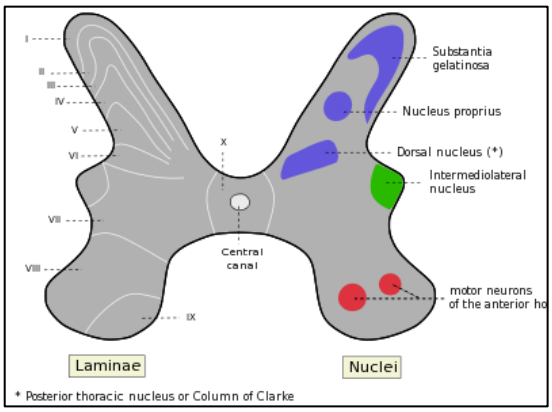
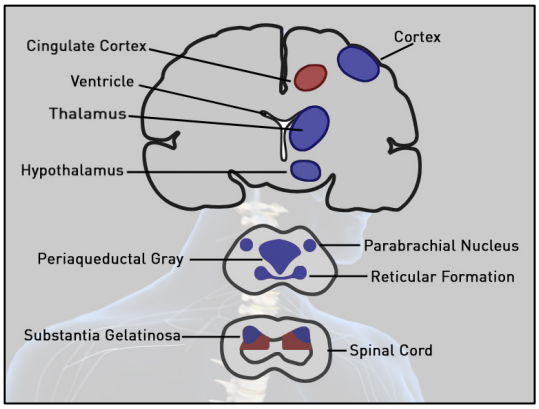
Spinal Opioids: Complications

Anesthetic Pearls: Anesthetic Implications and Complications of Spinal Opioids

Epidural & Intrathecal opioids work on the **μ** (mu), **δ** (delta), and **κ** (kappa) receptors in the dorsal horns (Laminae-1 & 5) of the Substantia Gelatinosa. Complications for spinal opioids are comparable to parental and intravenous administered narcotics. The most commonly discussed complications in regard to spinal opioids are as follows.



1. Pruritis: Most common side effect (> 90%). Classically affecting the face and chest. May be severe and cause a rash. Theories include opioid induced disruptions and alterations in 1) spinal & trigeminal processing of afferent signals, or 2) changes in efferent outflow with indirect histamine release at the peripheral site. Up to 40% may require treatment with: Antihistamines (Benadryl 12.5 mg IV), Propofol 10-20 mg IV, Nalbuphine 10-12 mg IV, Zofran 4 mg IV, Narcan 40 mcg IV followed by infusion of 40 mcg per hour (0.4 mg/1000 cc TRA 100 cc/h).



2. Nausea / Nomiting: 30-50%. Similar to that seen with IV administered narcotics. Related to the rostral transport of opioid within the CSF to the Chemoreceptor Trigger Zone (CTZ) in brainstem. Risks factors: young, female, obstetric / abdominal surgery. Treat with antiemetics (Zofran, Reglan, Metoclopramide). If intractable N/V, consider small dose infusion of Narcan.

3. Urinary Retension: 10-80%. Caused by relaxation of the detrusor muscle of the bladder. Frequently seen in young males. Problematic in the outpatient setting. May require catheterization. Treat with Naloxone or Urocholine.

4. Respiratory Depression: Most feared complication. Clinically significant incidence is low (< 1%). Classically discussed as early phase and delayed onset.

A. **Early Phase** – Reflects the absorption into the circulation with redistribution to brain stem respiratory centers. More commonly seen in the potent lipophilic opioids (Sufentanil, Fentanyl). Similar effect as if same dose given IV.

B. **Delayed Onset** – Reflects the rostral CSF spread of drug to brainstem respiratory centers. Almost only occurs with the hyrdophilic opioids (Morphine > Dilaudid). Risk Factors: Most important risk factor is the concomitant parental administration of narcotics or other sedative hypnotics (Versed, Ativan, Scopolamine). Other risk factors include: large dose, elderly (>65), pulmonary dz. Most reliable warning sign is **somnolence**. Requires continuous pulse-oximetry, frequent respiratory checks, and increased nurse supervision. For Morphine, maximal respiratory depression occurs at 2h and 8h respectively (usually manifesting within 12h).