**GABAPENTIN**
(1-(aminomethyl)cyclohexane acetic acid)

**MOA**
- Structural analog of GABA but no direct GABAergic action
- Proposed MOA: antagonism of N-type Ca channels, NMDA antagonism, enhanced inhibitory input of GABA-mediated pathway, amongst others

**Clinical Indications**
**FDA approved**
- Refractory partial seizures
- Post herpetic neuralgia

**Off label (not comprehensive)**
- Neuropathic pain
- Postoperative pain
- Acute stage herpes zoster
- Migraine prophylaxis
- Anxiety, mood disorders

**Dosing**
- Varies based on indication
- Post-operative pain: 300 mg to 1.2 g as a single dose given 1-2 hours prior to surgery or immediately following surgery
- Peri-operative Pregabalin dose: 75 mg – 300 mg

**Pharmacokinetics**
- Only available as oral formulation
- Carrier dependent transport from gut is saturable so bio-availability is dose dependent: 300 mg (~60%), 600 mg (~40%), ~35% for higher doses
- Peak plasma concentrations 3-3.2 hours
- Half-life 4.8-8.7 hours
- Excretion: unmetabolized, first order renal elimination
- Removed by hemodialysis

**Perioperative Use**
- Perioperative use improves postop opioid cessation in surgical cohort
- Multimodal analgesia including perioperative gabapentin significantly reduced postoperative opioid use and pain scores
- Strong recommendation (moderate-quality evidence) for postoperative pain control by American Pain Society

**References**
3. Hah et al., *JAMA Surgery*. 2018
5. Ho et al., *Pain*. 2006

**Abrupt discontinuation of chronic therapy can cause seizures**
Use with caution in elderly patients at high risk of delirium

**Pregabalin (Lyrics®), similarly, is a GABA analog lacking direct GABAergic action**

**Creatinine clearance-based dosing in renal impairment (300 mg for CrCl< 15 ml/min)**