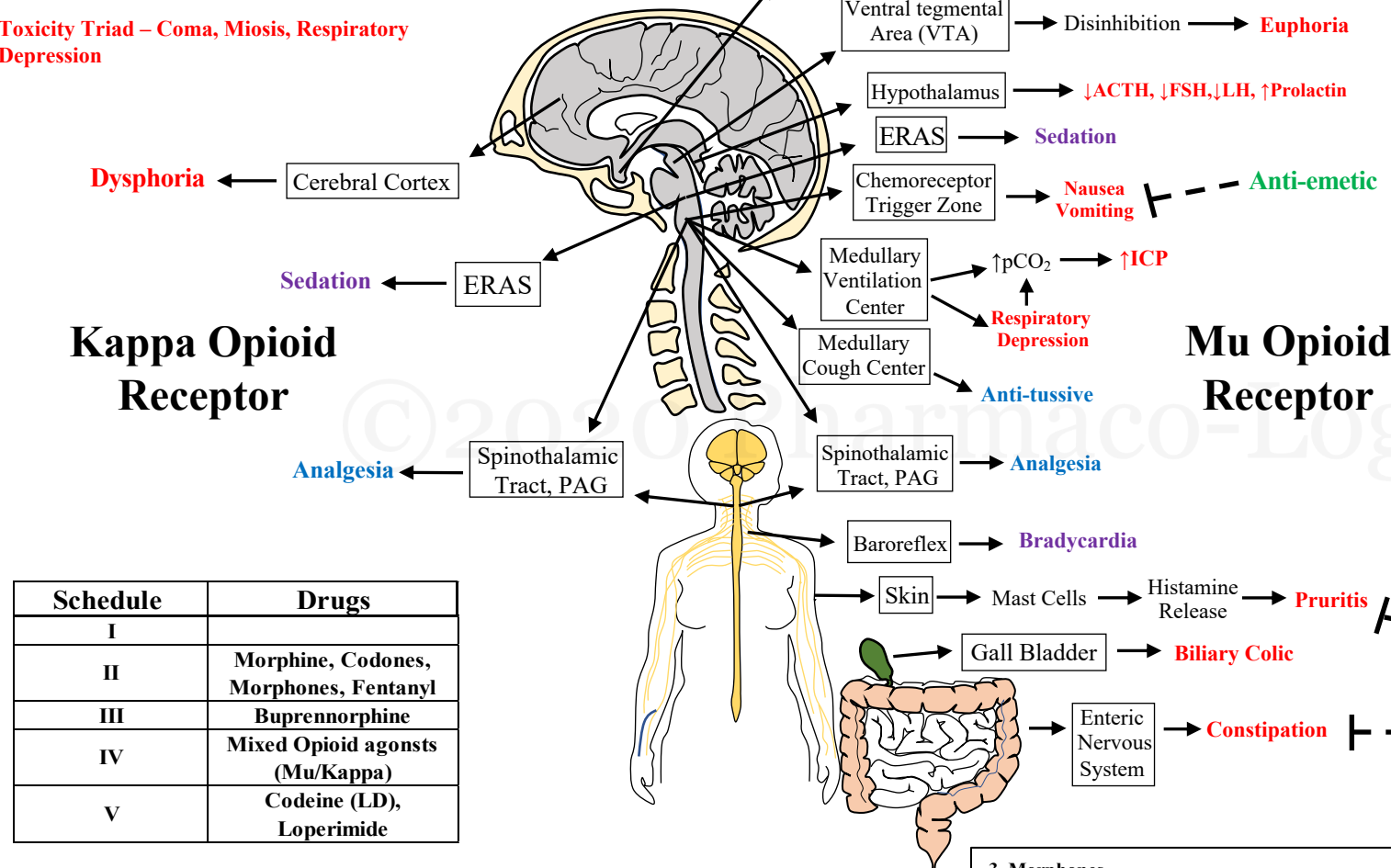


- Contraindications**
- Pure agonist with Weak partial Agonist → Precipitated withdrawal
  - Head injuries → increased ICP (CAUTION)
  - Pregnancy → crosses the placental barrier
  - Impaired pulmonary function → Decreased Ventilation
  - Impaired Hepatic and renal function → decreased excretion/metabolism
  - IBD or gastroenteritis → toxic megacolon

**Toxicity Triad – Coma, Miosis, Respiratory Depression**



Schedule	Drugs
I	
II	Morphine, Codones, Morphones, Fentanyl
III	Buprenorphine
IV	Mixed Opioid agonists (Mu/Kappa)
V	Codeine (LD), Loperimide

**1. Morphine**  
**MOA: Pure opioid agonist**  
 PK: Glucuronidated, First-pass metabolism, Tolerance  
 USE: Analgesia, pulmonary edema  
 SE: Respiratory depression, Euphoria, hormonal imbalance, constipation, miosis, N/V, pruritus  
 DDI: CNS depressants, MAOIs

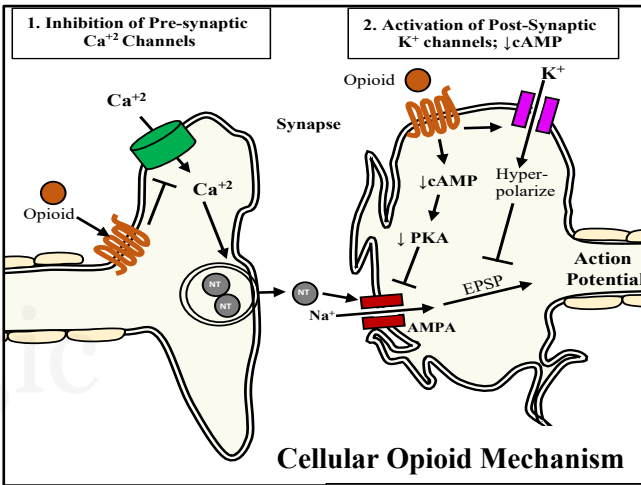
**2. Codones – oral opioid (usually with NSAID)**  
**MOA: Pure opioid agonist**  
*Codeine* → morphine  
*Oxycodone* → Oxymorphone  
*Hydrocodone* → hydromorphone  
 PK: Metabolized to morphones  
 USE: Analgesia, diarrhea  
 SE: Respiratory depression, Euphoria, hormonal imbalance, constipation, miosis, N/V, pruritus  
 DDI: CNS depressants, MAOIs

**3. Morphones**  
**MOA: Pure opioid agonist – stronger than Morphine**  
*levorphanol*  
*Oxymorphone*  
*Hydromorphone* - Less GI SE than others  
*Meperidine* – WEAK -fatal interaction with MAOIs  
 USE: Analgesia, diarrhea  
 SE: Respiratory depression, Euphoria, hormonal imbalance, constipation, miosis, N/V, pruritus  
 DDI: CNS depressants, MAOIs

**8. Opioid Antagonists**  
**MOA: Blockade of Mu and Kappa receptors**  
*Naloxone*  
*Naltrexone* – Alcohol cessation, Weight loss  
*Nalmefene* – long T1/2  
*Naloxagol/methylnaloxone* - does not cross BBB → TX constipation  
 USE: Opioid induced toxicity, Weight loss  
 SE: Withdrawal

**6. Mixed opioid agonists**  
**MOA: Activation of Mu and Kappa receptors**  
*Pentazosin*  
*Butorphanol*  
*Nalbuphine*  
*Buprenorphine* – Partial Mu, full kappa, Long T1/2  
 USE: analgesia – Less respiratory depression  
 SE: Psychomimetic effects (Kappa = crazy)  
 CI: full opioid agonists (withdrawal), MI Patients

**7. Other opioid analgesics**  
**MOA: Mixed mechanism**  
*Tramadol* – Mu agonist, NET/SERT inhibitor  
*Tapentadol* – Mu agonist NET inhibitor  
 USE: analgesia – Less respiratory depression



**Legend**  
 Blue – Therapeutic Effect  
 Purple – beneficial/Adverse  
 Red – Adverse Effect  
 Green – Management for AE

**4. Anti-diarrheal opioids**  
**MOA: Pure opioid agonist – stronger than Morphine**  
*Diphenoxylate* – combined with atropine – prevent abuse  
*Loperimide*  
 USE: diarrhea  
 SE: constipation

**5. Super strong opioids**  
**MOA: Pure opioid agonist – super strong!**  
*Fentanyl* – lollipop, patch, lozenge  
*Sufentanyl* – 10x more potent than fentanyl  
*Methadone* – long T1/2, Long QT  
 USE: Analgesia, cancer pain, anesthesia  
 SE: High risk of overdose