



# Gastrointestinal



- Bisacodyl
- Calcium carbonate
- Dicyclomine
- Docusate
- Lactulose
- Loperamide
- Mesalamine
- Metoclopramide
- Misoprostol
- Omeprazole
- Ondansetron
- Promethazine
- Ranitidine
- Sucralfate
- Tegaserod



# Bisacodyl

- Stimulant laxative
- **Inhibits GI fluid reabsorption & stimulates peristalsis**
  - Bowel evacuation prior colonoscopy or surgery
  - Acute constipation
- Cramping
- N
- Fluid & electrolyte depletion
  - Hypokalemia



# Calcium carbonate

- Antacid, Ca supplement
  - **Ca salt**
  
  - **Neutralizes gastric acid**
  - **Provides Ca supplementation**
  
  - Dyspepsia
  - Hypocalcemia
  - Prevention of osteoporosis
  
  - Admin 1-1.5hr after meals & @ bedtime
- Constipation
  
  - ↓ **absorption of drugs**
    - Tetracyclines
    - Fluoroquinolones
    - Phenytoin
    - Iron salts



# Dicyclomine

- Antispasmodic
- **Muscarinic receptor antagonist**
- **Blocks PNS stim. intrinsic nervous system & ↓ GI tone & motility**
  - Directly relaxes GI smooth m.
  - IBS – cramping & pain
- Constipation
- Dyspepsia
- Dry mouth
- Urinary retention
- Blurred vision
- Decreased sweating



# Docusate

- Stool softener, laxative
- **Surface-active agent**
  
- **Facilitates hydration of fecal material & softens feces**
  - Constipation
  - Fecal impaction – rectal enema



# Lactulose

- Laxative
- **Osmotic agent**
- **↑ water content & softens feces**
- **Lowers pH of colon**
  - **Converts ammonia → ammonium ion & ↓ ammonia absorption & blood levels**
  - Chronic constipation
  - **Hepatic encephalopathy**
    - **Improves mental status**
- Cramping
- Abdominal distention
- Flatulence



# Loperamide

- Antidiarrheal
  - **Opioid analogue**
  
  - **Activates opioid receptors in GI smooth m.**
    - **Segmental contraction & inhibits peristalsis**
  
    - Mild-moderate acute diarrhea
    - Chronic diarrhea d/t IBD
    - ↓ volume of ileostomy drainage
  
    - **AVOID**
      - Pregnancy
      - Lactation
      - Children < 2 y/o
- Constipation
  - Drowsiness
  
  - Additive effects
    - Kava
    - Chamomile
    - Valerian





# Mesalamine

- GI anti-inflammatory
- **Salicylate – 5-ASA**
  
- **Inhibits prostaglandin synthesis & migration of inflammatory cells into bowel wall**
- **Scavenges superoxide-free radicals**
  - IBD
  - UC
  - Proctitis
  
  - Sulfasalazine → mesalamine & sulfapyridine



# Metoclopramide

- Promotility & antiemetic
  - **D2 receptor antagonist**
  
  - **Blocks relaxant effect of D on GI smooth m.**
  - **Blocks presynaptic D receptors & ↑ Ach release & stim. smooth m.**
  - **Blocks D2 receptors in chemoreceptor trigger zone & vomiting center**
    - Chemotherapy-induced emesis
    - Gastric stasis – postsurgical & diabetic
    - GE reflux
- **CI in Parkinson's ds & seizure disorders**
  
  - Drowsiness
  - EPS rxns
  - restlessness



# Misoprostol

- Cytoprotective
- Synthetic PGE1 analogue
- ↓ gastric mucosal secretion  
& ↑ secretion of  
bicarbonate & mucus
  - Prevent gastric mucosal injury from NSAIDs
  - Abortifacient in combo w/ mifepristone
- CI in pregnancy
- Abdominal pain
- D
- Miscarriage



# Omeprazole

- Antiulcer
- **Proton pump inhibitor**
- **Irreversibly inhibits H/K ATP pump in gastric parietal cells**
  - Prevents gastric acid secretion
  - Peptic ulcer ds
  - GE reflux
  - Zollinger-Ellison syn
  - dyspepsia
- Abdominal pain
- Inhibits metabolism
  - Diazepam
  - Cyclosporine
  - Phenytoin



# Ondansetron

- Antiemetic
  - **5-HT<sub>3</sub> receptor antagonist**
  - **Blocks 5-HT<sub>3</sub> receptors in GI vagal afferent nerves, solitary tract nucleus, & chemoreceptor trigger zone**
    - Prevent N, V from chemotherapy & radiation therapy
    - Postoperative N, V
- HA
  - Constipation
  - D



# Promethazine

- Antiemetic, antihistamine, sedative
- **H1 receptor antagonist, phenothiazine**
- **Blocks H1 & M1 receptors**
- **Inhibits stim. chemoreceptor trigger zone & vomiting center**
  - N, V
  - Preoperative sedation
  - Allergic rxns
- Neuroleptic malignant syn
- Sedation
- Confusion
- Disorientation



# Ranitidine

- Antiulcer
- **H2 receptor antagonist**
- **Blocks H2 receptors in gastric parietal cells**
  - ↓ gastric acid secretion
  - Peptic ulcers
  - GE reflux
  - Dyspepsia



# Sucralfate

- Antiulcer
  - **Cytoprotective, sulfated polysaccharide**
  
  - **Adheres ulcer crater & forms protective barrier**
  - **Prevents acid secretion & pepsin hydrolysis of mucosal proteins**
  - **Stim. prostaglandin synthesis**
  
  - Peptic ulcers
  - GE reflux
  - Prevent NSAID-induced gastric injury
- Constipation
  
  - ↓ **absorption**
    - **Fat soluble vitamins**
    - **fluoroquinolones**





# Tegaserod

- GI motility agent
- **Partial agonist @ 5-HT<sub>4</sub> receptors**
- **Activates 5-HT<sub>4</sub> receptors on sensory neurons in enteric nervous system**
  - Release neurotransmitters & ↑ peristalsis
  - IBS in women w/ constipation
- Diarrhea
- Ischemic colitis