

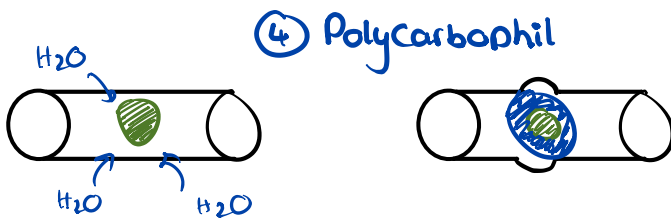
laxatives

Bulk-forming Laxatives

Indigestible, Hydrophilic Colloids, Absorb water to form a mass, which causes distension (stretching) of Colon, Promoting Peristalsis.

Examples: ① Psyllium ② Sterculia ③ MethylCellulose

● Natural
● Synthetic



Stool Surfactant Agents (Stool Softeners)

Permit H_2O + lipids to Penetrate (so used to treat piece of stool stuck in colon)
Docusate, Glycerin Suppository, Mineral Oil

Used for Constipation

Used in Hemorrhoids
(prevent rough stool surface
scraping against veins
which causes bleeding)

N.B. Mineral oil: ① you must ask patient to take mineral oil sitting upright to prevent Aspiration (which might cause pneumonia → lipid pneumonia)

② Chronic use might impair absorption of fat-soluble vitamins (Vitamins ADEK)

31.4 A 27-year-old woman who is 34 weeks pregnant is on bed rest and visits her obstetrician. During the visit, she informs her physician that she has been experiencing mild constipation. Which of the following medications will most likely be recommended to her?

- A. Castor oil. x in pregnancy.
- ☒ B. Docusate.
- C. Mineral oil. Bedridden so risk of aspiration
- D. Loperamide.

Osmotic Laxatives (Purgatives)

Soluble non-absorbable compounds, absorb H_2O to $\uparrow$ stool movement

① Magnesium Oxide (Milk of Magnesia)

② Large doses of Magnesium Citrate & Sodium Phosphate

① and ② may cause hypermagnisemia in Patients w/ Renal Insufficiency

③ Sorbitol

④ Lactulose } sugars metabolized by bacteria causing cramps & flatulence

Used in treatment of Hepatic Encephalopathy

⑤ PolyEthylene Glycol (PEG)

Safe Solution, does not cause flatus or Cramps

* For cleansing: Ingested rapidly

* For chronic Constipation: PEG mixed w/ water or juice

Stimulant Laxatives / Cathartics

Directly stimulate Smooth muscles & control electrolyte and fluid secretion $\longrightarrow$ overuse may cause electrolyte imbalance

Used for neurologically impaired & bed-bound patients in long-term care facilities

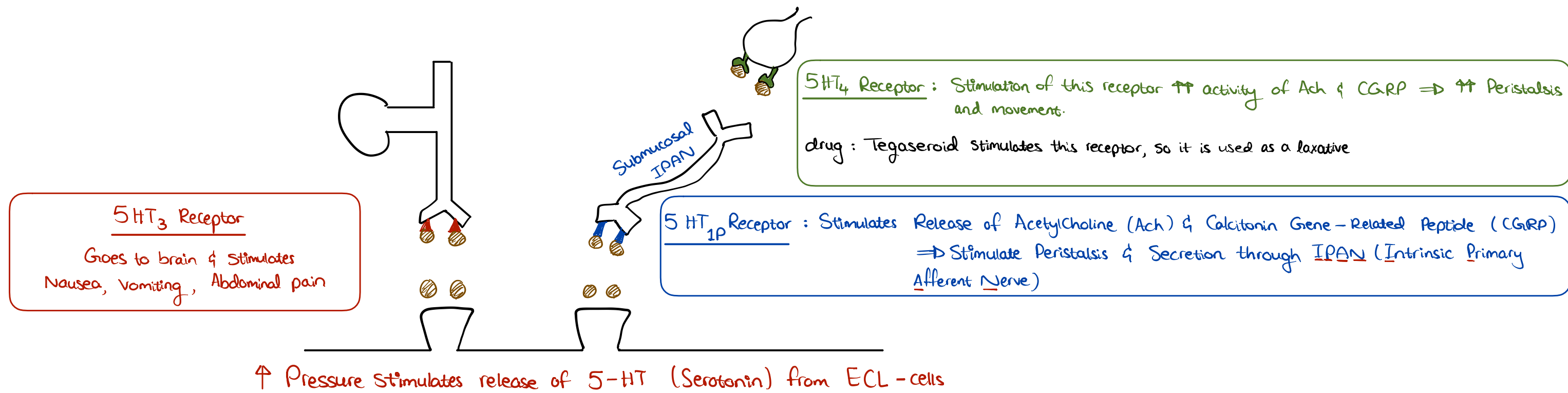
May cause dependence $\longrightarrow$ More and more use $\longrightarrow$ destruction of Myenteric plexus, causing colonic atony & dilatation
lack of muscle tone

Examples: ① Aloe ② Senna ③ Cascara

$\longrightarrow$ brown pigmentation of colon
"Melanosis Coli"

④ Castor Oil: Converted into Ricinoleic Acid which is a local irritant and could be used as a Purgative before Colonoscopy

5-HT = 5-Hydroxytryptophan = Serotonin



Tegaseroid:

- * **Partial agonist** that acts on Submucosal IPAN, ↑ ACh ↑ CGRP ↑ Peristalsis
- * Proximal bowel Contraction & Distal Relaxation
 - ACh, Sub. P
 - Nitrous Oxide, VIP
- * Increased cAMP-dependent Cl⁻ Secretion → watery diarrhea
- * No effect on Esophagus, but has effect on Stomach & Small & Large Intestine

Clinical Uses: ① Chronic Constipation

② GastroParesis (delayed gastric emptying)

③ Non-ulcer dyspepsia

- Antacids
- H₂ Antagonists
- PPIs
- Prokinetic Agents
- Tegaseroid

④ IBS (Alternating bowel Habits) ⇒ esp. Tx in constipation

A **partial agonist** is a substance that works as agonist but less than a full Agonist