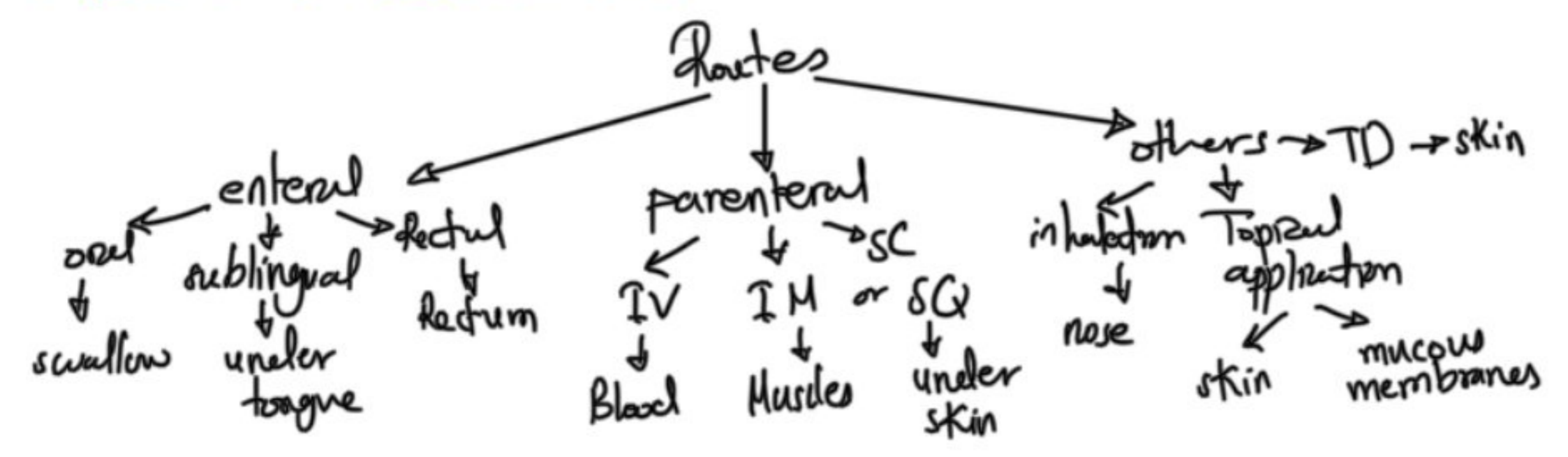


* Routes of administration:



parenteral Routes: → X GI

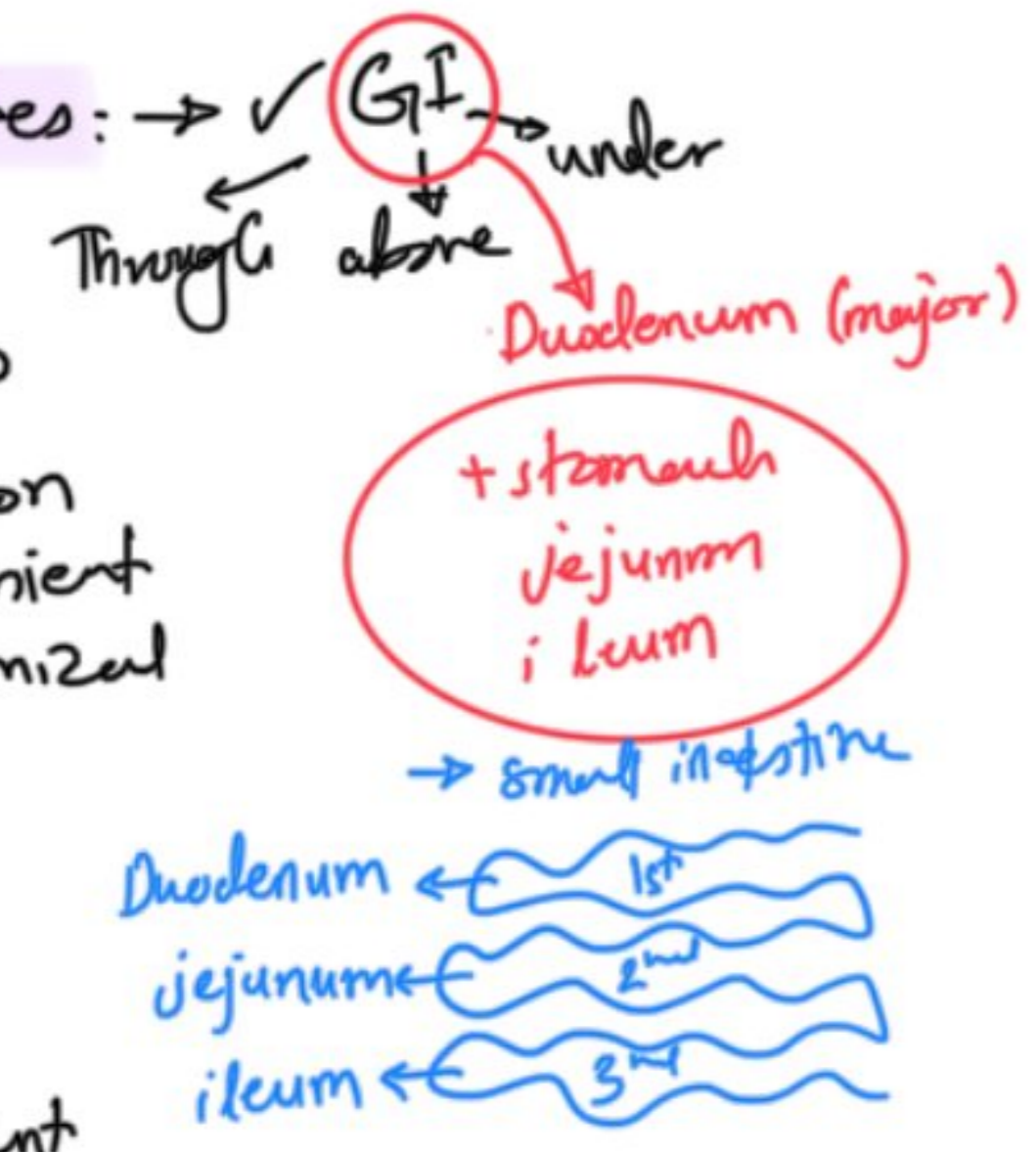
① IV: Blood
 Bolus / infusion
 → Drug: aqueous solution
 X Oily vehicles
 X blood constituents precipitates

② IM: muscle fibers
 Deltoid (shoulder) / Gluteus Maximus (hip) / Vastus lateralis (thigh)
 → Blood supply dependant
 ↑ supply ↑ absorption
 → circulatory failure/shock
 ↓ supply ↓ absorption

③ SC or SQ: under skin
 → Blood flow dependant
 Drug: X irritating to tissues
 ✓ solid pellets (implant under skin)
 ↳ weeks - months
 ✓ slow/sustained absorption

→ Enteral Routes: → ✓ GI → under

① Oral: Swallow
 ✓ most common
 ✓ most convenient
 ✓ most economical
 ✓ safest



② Sublingual: under tongue

X first-pass effect
 ✓ Rapid onset:
 angina pectoris (عسر عسر)
 X common

X first-pass effect:
 heart (right) → lung → heart (left) → circulation
 X liver

* Disadvantages:

- ① ↑ initial conc. → Toxic ✓/X?
- ② injected ✓ → ✓ Drug (overdose?)

→ other Routes:

① Inhalation / Pulmonary route:

Drug: ✓ Gaseous
 ✓ volatile
 ✓ Solids (in aerosol)
 Bronchial asthma

→ pulmonary epithelium + mucous membranes) absorption
 Rapid absorption
 X first pass effect
 ✓ elimination by lung → elimination effect

② Topical application:

- mucous membranes:
 - ① conjunctiva
 - ② nose
 - ③ mouth
 - ④ nasopharynx
 - ⑤ oropharynx
 - ⑥ vagina
 - ⑦ rectum
 - ⑧ colon
 - ⑨ urethra
 - ⑩ urinary bladder
- skin:
 - ↑ lipid soluble (systemic absorption)
 - ✓ abrased skin
 - ✓ burned skin
 - ✓ inflamed skin

③ TD: skin (systemic effect)
 ✓ sustained effect
 X first-pass effect

* Disadvantages:

- ① cooperative patient
- ② variable absorption
 - vomiting (x oral)
 - food delay
 - intestinal motility
 - X disintegration
 - X dissolution
- first-pass effect (metabolized)
- splanchnic blood flow
- gastric acid + intestinal flora (destruction)

③ Rectal: Rectum

- 50% first-pass effect
- patient: vomiting / unconscious
- Drug in GI: poorly absorbed → unstable
- ✓ → local effects
- Rapid
- ✓✓ Aseptic technique

→ absorption: incomplete, irregular, unpredictable

Good luck ♡
 -Bissan Abo-Halawa