

Pharmacotherapy in patients with renal failure

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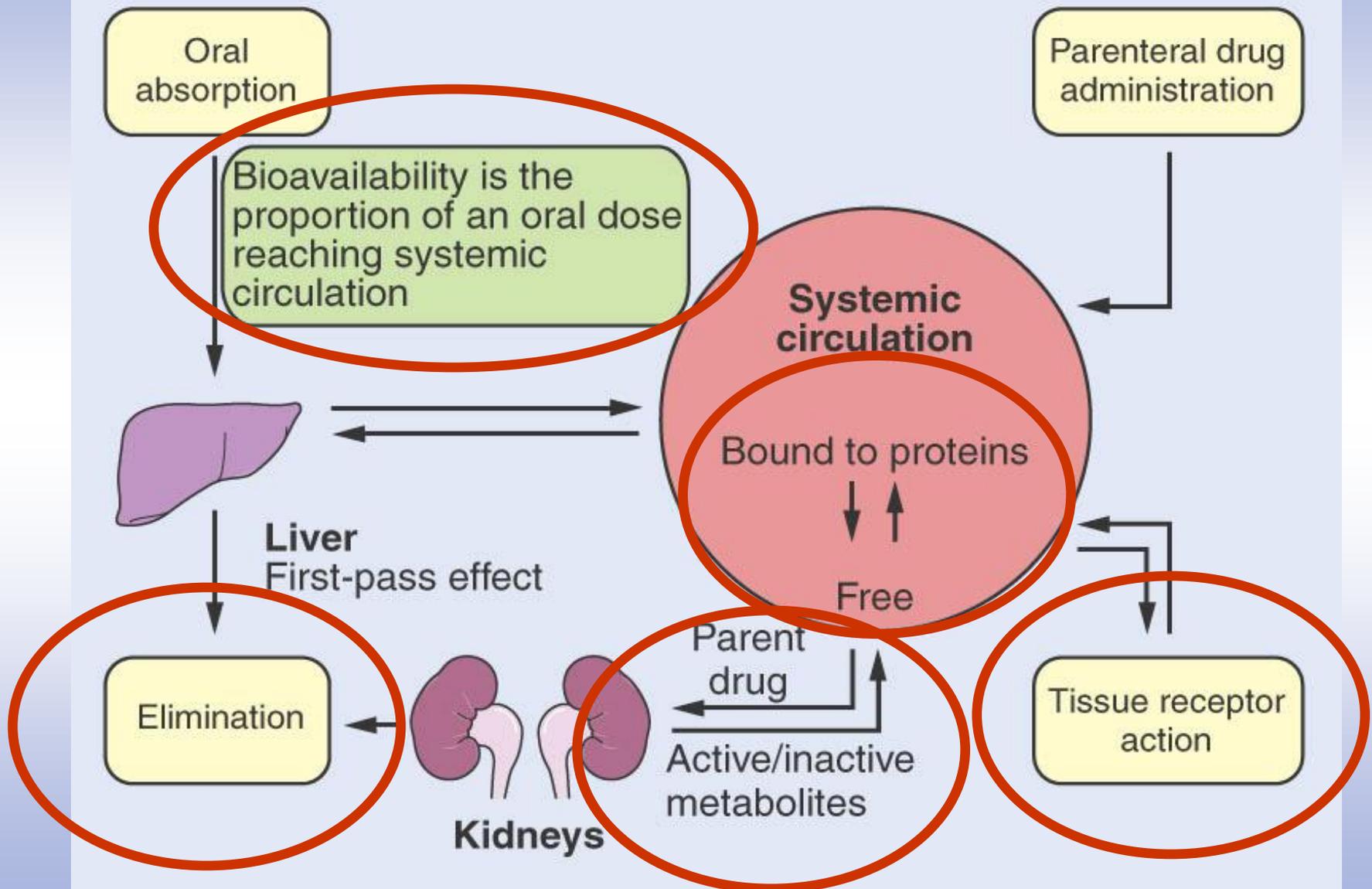
PHARMACOLOGY

- STEADY STATE
- PEAK CONCENTRATION
- THERAPEUTIC WINDOW
- LD_{50}

Pharmacokinetic parameters

Parameter (abbreviation)	Clinical Application
Bioavailability (F)	Determines the amount of drug reaching the systemic circulation and therefore the amount at the site of action
Volume of distribution (V_D)	Determines the size of a loading dose
Clearance (C)	Determines the maintenance dose
Half-life ($t_{1/2}$)	Determines the amount of time needed to reach steady-state serum concentrations

Passage of a drug dose through the body



Absorption

- Oedema
- Impaired motoric function
- Drug interactions
- Effects of urea

DRUG EFFICIENCY

- CHANGED DISTRIBUTION
- IMPAIRED METABOLISM
- CHANGED AFFINITY
- DRUG INTERACTIONS

ELIMINATION

- RENAL CLEREANCE
- IMPAIRED METABOLISM
- DRUG INTERACTIONS
- CHANGED DISTRIBUTION VOLUME
- CONCOMMITANT DISEASES

BASIC RULES

- ONLY ABSOLUTELY NECESSARY DRUGS
- ESTIMATE GFR
- ADJUST DOSAGE
- MONITOR UNBINED DRUG CONCENTRATION
- WATCH FOR INTERACTIONS

Prescribing for a patient with renal dysfunction

