



# Pharmacology

Quiz time



Lec 4&5



?Which fluid compartment in the body contains approximately 4 liters of fluid .1

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- A) Intracellular fluid
- B) Interstitial fluid
- C) Intravascular (Plasma)
- D) Extracellular fluid

\*\*Answer: C) Intravascular (Plasma)\*\*

?The "Apparent Volume of Distribution" (Vd) is calculated by which formula .2\*\*

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- A)  $V_d = \text{Dose} / \text{Plasma Concentration (C)}$
- B)  $V_d = \text{Plasma Concentration} / \text{Dose}$
- C)  $V_d = \text{Clearance} / \text{Half-life}$
- D)  $V_d = \text{Dose} \times \text{Plasma Concentration}$

\*\*Answer: A)  $V_d = \text{Dose} / \text{Plasma Concentration (C)}$ \*\*

\*\*Drugs with a very high Vd (e.g., Digoxin) are usually .3\*\*

- A) Confined to the plasma
- B) Bound strongly to albumin
- C) Distributed into tissues and intracellular fluid
- D) Unable to cross the cell membrane

\*\*Answer: C) Distributed into tissues and intracellular fluid\*\*

\*\*?Which plasma protein is the most important for binding acidic drugs .4\*\*

- A) Alpha-1 acid glycoprotein
- B) Albumin
- C) Globulin
- D) Hemoglobin

\*\*Answer: B) Albumin\*\*

\*\*The "Free form" of a drug is characterized by being .5\*\*

- A) Pharmacologically inactive
- B) Unable to cross membranes
- C) Pharmacologically active and can be excreted
- D) Stored in the plasma as a reservoir

\*\*Answer: C) Pharmacologically active and can be excreted\*\*

اللَّهُمَّ تَوَفَّنَا مُسْلِمِينَ، وَأَحْيِنَا مُسْلِمِينَ،  
وَأَلْحِقْنَا بِالصَّالِحِينَ، غَيْرَ خَرَّابٍ وَلَا مَفْتُونِينَ

What happens when two drugs (e.g., Aspirin and Warfarin) compete for the same protein binding site? .6\*\*

- A) Both drugs become inactive
- B) The free fraction of one drug increases, potentially causing toxicity
- C) The volume of distribution decreases for both
- D) Metabolism of both drugs stops

Answer: B) The free fraction of one drug increases, potentially causing toxicity

Which of the following acts as a "Physiological Barrier" that prevents many drugs from entering the brain? .7\*\*

- A) The Liver
- B) The Blood-Brain Barrier (BBB)
- C) The Placental Barrier
- D) The Plasma proteins

Answer: B) The Blood-Brain Barrier (BBB)

For a patient with "Hypoalbuminemia" (low blood albumin), the effect of highly protein-bound drugs will .8\*\*

- A) Decrease
- B) Increase (due to higher free concentration)
- C) Stay the same
- D) Be completely neutralized

Answer: B) Increase (due to higher free concentration)

A "Loading Dose" is given to .9\*\*

- A) Decrease the risk of side effects
- B) Reach the therapeutic plasma concentration ( $C_{ss}$ ) rapidly
- C) Slow down the metabolism of the drug
- D) Clear the drug from the kidneys faster

Answer: B) Reach the therapeutic plasma concentration ( $C_{ss}$ ) rapidly

Hemodialysis is effective for treating toxicity of drugs that have .10\*\*

- A) A very high  $V_d$
- B) High lipid solubility
- C) A small  $V_d$  (confined to the circulation)
- D) Strong tissue binding

Answer: C) A small  $V_d$  (confined to the circulation)