

# Pharmacology

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Archive

Lecture 6

Pharmacokinetics (Excretion)

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1.) Systemic clearance mean ?

- A. Renal clearance.
- B. Non renal clearance.
- C. both renal and non renal clearance.
- D. The loss of a huge sum of blood and the entry of a systematic shock.

**Answer: "C. both renal and non renal clearance".**

2.) Which of the following decrease clearance in the body :

- A. Metabolism.
- B. Absorption.
- C. Plasma protein binding.
- D. IV infusion.

**Answer: "C. Plasma protein binding".**

3.) Example of drug that follows Zero order kinetics:

- A. Penicillin.
- B. Methanol.
- C. Dopamine.
- D. Phenytoin.

**Answer: "D. Phenytoin".**

4.) Elimination  $t_{1/2}$  :

- A.  $0.693 \text{ } v_d \text{ divided by } Cl_s$ .
- B.  $0.783 \text{ } v_d \text{ divided by } Cl_s$ .
- C.  $0.930 \text{ } v_d \text{ divided by } Cl_s$ .
- D.  $0.070 \text{ } v_d \text{ divided by } Cl_s$ .

**Answer: "A.  $0.693 \text{ } v_d \text{ divided by } Cl_s$ ".**

5.) One of the following is true about elimination:

- A. The elimination is proportional to plasma concentration in first order.
- B. The elimination is not proportional to plasma concentration in first order.
- C. It indicates time required to attain  $C_{ss}$ , about  $1-2 t_{1/2}$
- D. None of the above is correct.

**Answer : "A. The elimination is proportional to plasma concentration in first order".**

6.) One of the following is not a way to eliminate:

- A. Liver.
- B. Kidney.
- C. Lungs.
- D. pancreas.
- E. Mother milk.

**Answer : "D. pancreas".**

7.) Wrong statement about half life:

- A. 90% of steady plasma concentrations occur at second half life.
- B. It is the time required to reduce the plasma concentration of the drug to half the initial concentration.
- C.  $t_{1/2}$  is constant in first order kinetics.
- D. None of the above is wrong.

**Answer : "A. 90% of steady plasma concentrations occur at second half life".**

8.) Which of the following does not include in kinetics :

- A. Absorption.
- B. Elimination.
- C. Uses.
- D. Metabolism.
- E. Distribution.

Answer : "C. Uses".

9.) All of the following are true about half life, EXCEPT:

- A. Half life increase when metabolism decrease.
- B. Half life increase when metabolism increase.
- C. After 4—5  $t_{1/2}$ ,  $C_{ss}$  can be reached.
- D. None of the above.

Answer : "B. Half life increase when metabolism increase".

10.) What is the relationship between the half-life ( $t_{1/2}$ ) of a drug and its clearance (CL)?

- A. Directly proportional.
- B. Inversely proportional.
- C. Not related.
- D. Exponentially related.

Answer : "B. Inversely proportional".

11.) Which of the following statements is TRUE regarding first-order kinetics?

- A. A constant amount of drug is eliminated per unit of time.
- B. The half-life ( $T_{1/2}$ ) is not constant.
- C. Steady state concentration ( $C_{ss}$ ) can never be reached after 4-5 half-lives.
- D. The rate of elimination is directly proportional to the drug's blood concentration.

**Answer : "D. The rate of elimination is directly proportional to the drug's blood concentration".**

12.) Which of the following best defines the term "half-life" in pharmacology?

- A. The time it takes for a drug to reach its maximum concentration in the body.
- B. The time it takes for half of a drug dose to be eliminated from the body.
- C. The time it takes for a drug to produce its therapeutic effect.
- D. The time it takes for a drug to be completely metabolized.

**Answer : "B. The time it takes for half of a drug dose to be eliminated from the body".**