

# Pharmacology

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Archive

Lecture 8

Pharmacokinetics  
(Excretion)

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Edited ✓

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

Answer: D.  $0.07 \text{ } v_d$  divided by Cls.

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".

13) Drug with half-life 4 hours. Taking 200 mg from it ... what is the concentration after 8 hours?

- A) 100
- B) 25
- C) 50
- D) 200

Answer: C

14) Which of the following parameters is used to calculate the maintenance dose of a drug?

- a) Half-life ( $t_{1/2}$ )
- b) Bioavailability (F)
- c) Volume of distribution (Vd)
- d) Clearance (CL)

Answer D

15) Which of the following statements about first-order kinetics is WRONG?

- a) The rate of elimination is proportional to drug concentration
- b) A constant fraction of drug is eliminated per unit time
- c) The amount of drug eliminated per unit time is constant
- d) Most drugs follow this kinetic pattern

Answer C

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