1. Overview of drug distribution
2. Explain apparent volume of distribution with clinical implications
3Discuss drug binding to plasma proteins and tissues with clinical implications
4. Discuss plasma half-life and its clinical implications

5. Explain redistirbution

OBJECTIVES

Basic PK Definitions and Principles Volume of distribution (Vd)

Elimination constant (Ke) and half-life (t1/2)

"Steady state"

Loading dose

Volume of Distribution

- A proportional constant that relates the amount of drug in the body to the serum concentration

- If you know a drug's Vd, you can determine how much of the drug should be given to achieve a desired plasma concentration.

FACTORS AFFECTING THE RATE OF DRUG DISTRIBUTION

- LIPID SOLUBILITY (Kp)
- IONISATION CONSTANT
- MOLECULAR WEIGHT
- BLOOD FLOW

1 LIPID SOLUBILITY

2. PROTEIN BINDING

3. TISSUE BINDING

FREE DRUG IS ACTIVE
BOUND DRUG IS INACTIVE

FACTORS AFFECTING THE EXTENT OF DRUG DISTRIBUTATION

THANK YOU