Calculation

☆ Flux (molecules/unit time) =C1-C2 x [(Area x Permeability coefficient)/ Thickness]

☆ Henderson-Hasselbalch Equation:Log [protonated/unprotonated] = pKa − pH

☆ (IV) administration   → Bioavalability $F = 1$ (100%)

The area under the blood concentration versus time curve(AUC) is a common measure of the extent of bioavailability.

Full absorption → (F) = 1-ER.   *extraction ratio (ER)
F = (f) . (1 - ER)   *extent of absorption(f)

Bioavailability Rate:$1/t\ peak$

VD = Ab/Cp

CL = rate of elimination/Cp
Renal clearance (CLR) = (Cu*V)/Cp
CLH = blood flow * (Ci- Co)/Ci
CLH = Q*ER
ER = (Ci− Co)/Ci

Zero-Order Drug Elimination• Rate of elimination = (Vmax* C) / (Km + C)
First-Order Elimination Rate:Rate of elimination = k * [Drug]

k x t½ = 0.693
CL = k * Vd
t½ = 0.693 * Vd/CL

LD = VD* Cssdesired
MD = CL * Cssdesired

Therapeutic Index $= \dfrac{T\ dose}{E\ dose}$
→ Toxic
← effective