Abbreviations

These are included for reference only - do not try to memorise them!

α = slope of the component of the plasma concentration / time curve attributable to distribution. Used for predicting C_t

A = the intercept of this line on the Y axis. Used for predicting C_t

AUC = area under the plasma concentration / time curve

$AUC_{0\text{-}inf}$ = area under the plasma concentration / time curve extrapolated to infinity

$AUC_{0\text{-}12}$ = area under the plasma concentration / time curve for the first 12 hours

AUMC = area under the moment curve. A theoretical concept used for deriving the MRT.

β = slope of the component of the plasma concentration / time curve attributable to elimination. Used for predicting C_t

B = the intercept of this line on the Y axis. Used for predicting C_t

bsa = body surface area. Corresponds more closely to metabolic rate than weight, especially important with drugs with a low therapeutic ratio. Used for extrapolating doses from big animals to small ones and vice versa.

C = C_p = plasma concentration of drug. Units usually μg/mL (M rarely used).

Css = Cpss = plasma concentration at a steady state, ie, the amount of drug going in is the same as the amount of drug going out.

CL = clearance = the volume of blood cleared of drug per unit time. Units usualy mL/min/kg

$CL_{systemic}$ = CL_{total} = the sum of $CL_{hepatic}$, CL_{renal}, etc

C_{max} = maximum plasma concentration reached after a dose of drug.

D = Q = dose or quantity, ie, amount of drug given.

F = bioavailability (fraction of dose reaching the systemic circulation).

k_a = absorption rate constant

k_{el} = elimination rate constant - slope of the plasma concentration / time curve in a single compartment model. Used in deriving the half life and other parameters.

Ln = natural logarithm

λz = slope of the terminal elimination phase in a multicompartment model (corresponding to k_{el} in a single compartment model)

MRT = mean residence time = $AUMC_{0\text{-}inf}$ / $AUC_{0\text{-}inf}$ Gives some indication of how long a drug persists in the body. nb - covers absorption as well as distribution and elimination.

$t_{1/2}$ = half life = the time it takes for drug concentration to fall by half.

$t_{1/2\alpha}$ = half life of the distribution phase

$t_{1/2\beta}$ = half life of the elimination phase

Vd = volume of distribution = the volume the drug would occupy if it was evenly distributed at the concentration found in the plasma. Gives some idea of where the drug goes.

Vd_c = volume of distribution of the central compartment

Vd_{ss} = volume of distribution at a steady state

$Vd_{\lambda z}$ = Vd_β = Vd_{area} = volume of distribution during the terminal elimination phase.