

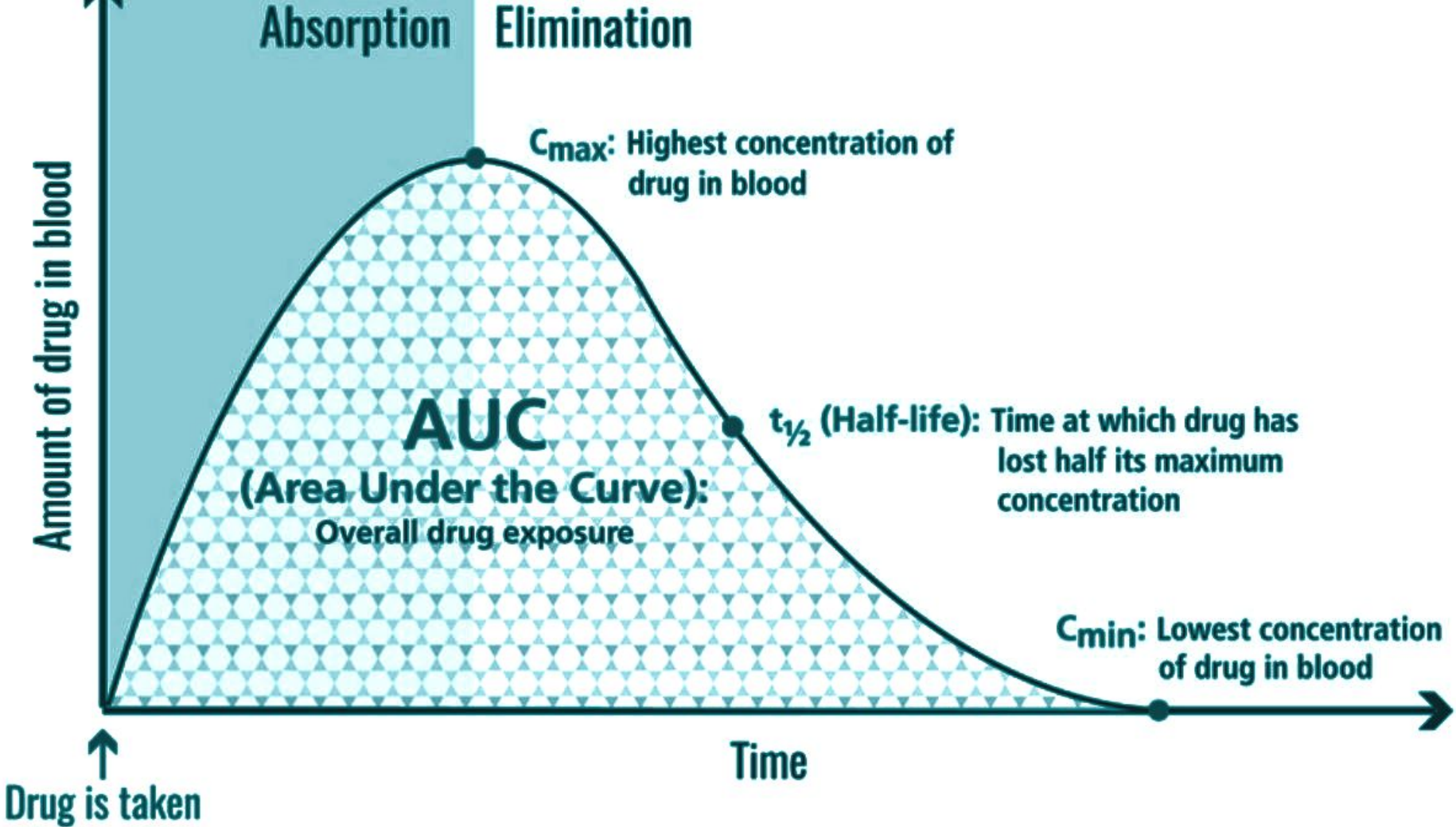
# *Pharmacokinetic parameters part 2*

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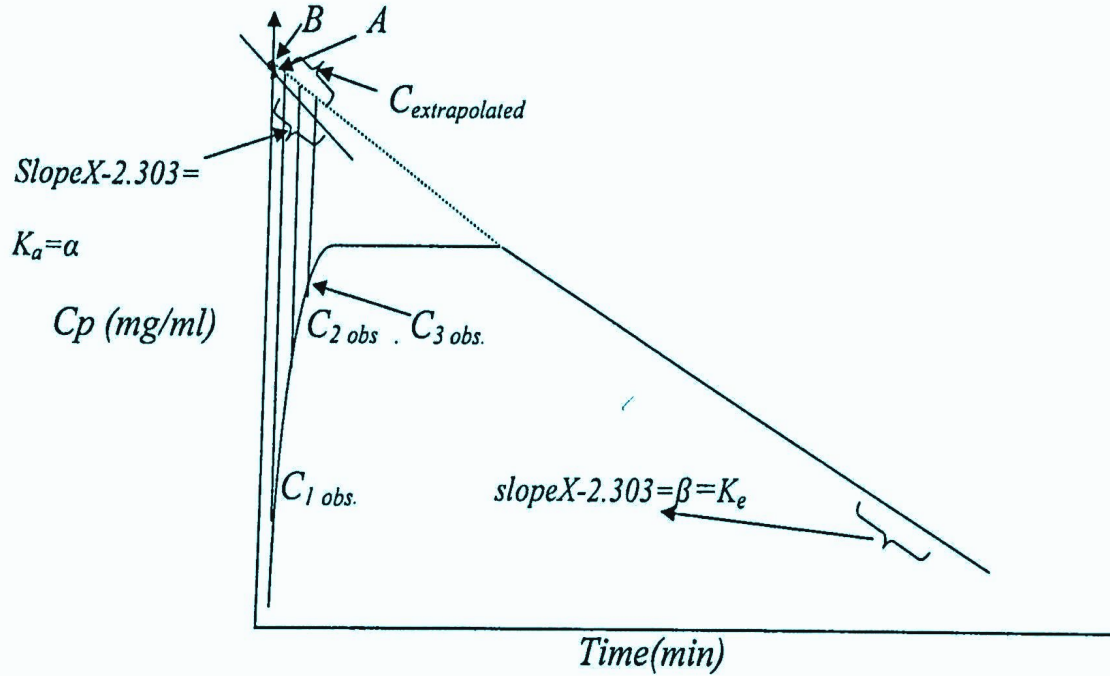


*Determination of pharmacokinetic parameters  
from extravascular data*

*Extravascular route of drug administration includes: oral ,S.C , IM, rectal, vaginal , intranasal, intraocular ,I.P and topical*



A-method of residual:- (on semilog paper)



Time	$C_{extr.}$	$C_{ob.}$	$C_{res.}$
$t_1$	$C_{1extr.}$	$C_{1ob.}$	$C_{1res.}$
$t_2$	$C_{2extr.}$	$C_{2ob.}$	$C_{2res.}$
$t_3$	$C_{3extr.}$	$C_{3ob.}$	$C_{3res.}$

$$\text{slope} = \frac{\log c_2 - \log c_1}{t_2 - t_1}$$

$$Auc_{elim} = \frac{B}{\beta}$$

$$C_{extr.} - C_{obs.} = C_{residual}$$

$$Auc_{ab.} = \frac{A}{\alpha}$$

Note:  $-K_{ab.} = \alpha$  = absorption rate constant

$$Auc_{(T_0 \rightarrow \infty)} = Auc_{elm.} - Auc_{abs.}$$

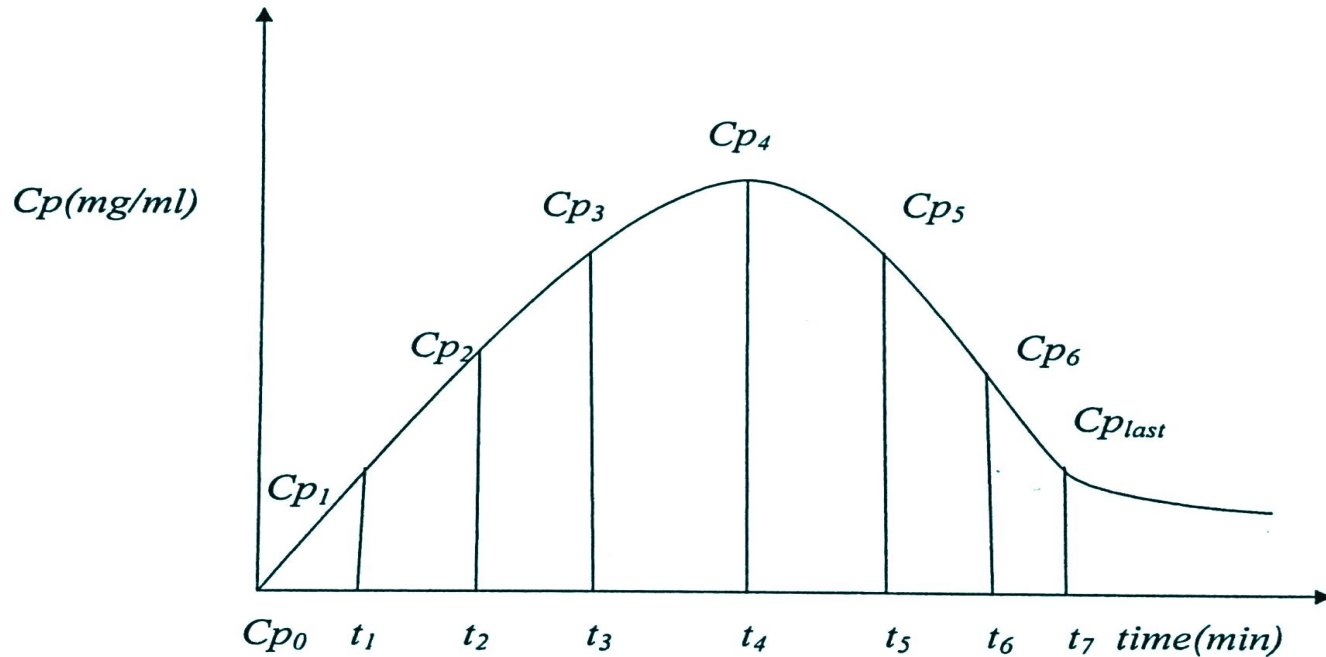
$$\text{So } Auc_{(T_0 \rightarrow \infty)} = \frac{B}{\beta} - \frac{A}{\alpha}$$

Note: - $C_{p0}$  equal approximately to zero or  $C_{p0} = \text{zero}$

$$C_{p0} = B - A = \text{zero}$$

B-method of trapezoidal :- (on ordinary paper)

Note: -from method of residual we should take  $C_{p0}$  &  $\beta$ .



$$Auc_{(T_0 \rightarrow \infty)} = Auc_1 + Auc_2 + Auc_3 + \dots + Auc_{last}$$

If there is any fluctuation in the curve it should be calculated.

$$Auc_0 \text{ or } Auc_{extrapolated} = \frac{Cp_0 + Cp_1}{2} (t_1 - t_0) = \frac{Cp_1}{2} X t_1$$

$$Auc_1 = \frac{Cp_1 + Cp_2}{2} (t_2 - t_1)$$

$$Auc_2 = \frac{Cp_2 + Cp_3}{2} (t_3 - t_2)$$

$$Auc_3 = \frac{Cp_3 + Cp_4}{2} (t_4 - t_3) \dots \dots \dots$$

$$Auc_{last} = \frac{Cp_{last}}{\beta}$$



