Pharmacokinetic Parameters Determine Dosing Interval

PK parameters play a key role in determining a medication's dosing interval[3]:

- Absorption
- Distribution
- Metabolism
- Elimination

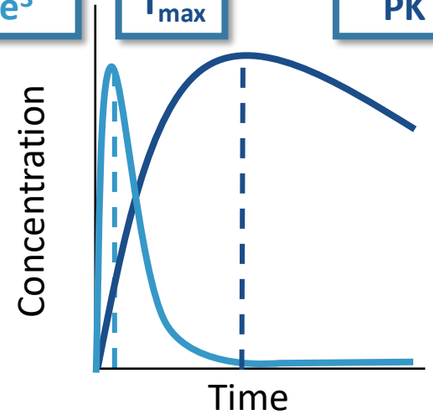
Click the button below to learn about LAI pharmacokinetics

*Click each term on the graphs below to learn more**

Oral medication PK example[3]

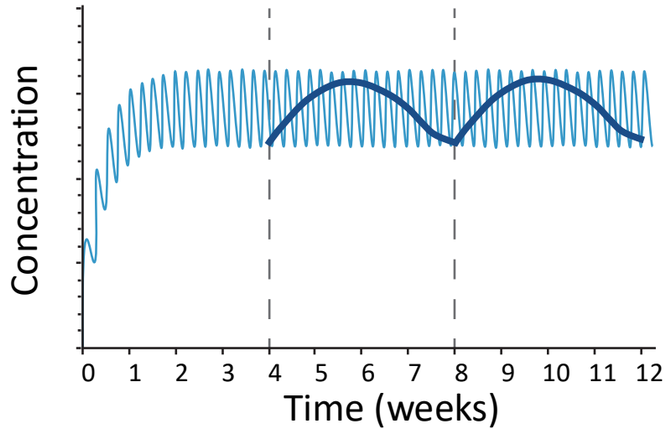
T_{max}

LAI medication PK example[3]



Oral medication with daily dosing[4,5]

LAI medication with monthly dosing[6]



T_{max} is the length of time to reach peak plasma concentration of the medication during the dosing period.[1,2]

T_{max} is determined by factors, including[3]:

- Rate of drug release from depot
- Formulation design (eg, particle size, polymer matrix, injection site)
- Drug solubility
- Susceptibility to enzymatic reactions
- Gastric pH

Oral medications[3]:

- Rapid absorption
- Shorter elimination half-lives
- Typically require daily dosing to maintain therapeutic levels

LAI medications[3]:

- Slow absorption
- Prolonged drug release
- Extended half-lives
- Longer dosing intervals ranging from weeks to months

*The figures shown are hypothetical illustrations and are not drawn to scale. LAI, long-acting injectable; MSL, medical science liaison; PK, pharmacokinetics.

1. Urso R, et al. *Eur Rev Med Pharmacol Sci*. 2002;6(2-3):33-44. 2. Sheehan JJ, et al. *Innov Clin Neurosci*. 2012;9(7-8):17-23. 3. Correll CU, et al. *CNS Drugs*. 2021;35(1):39-59. 4. Satoskar RS, et al. 26th ed. Elsevier India; 2020. 5. Raoufinia A, et al. *Curr Med Res Opin*. 2015;31(3):583-592. 6. Jain R, et al. *CNS Spectr*. 2020;25(3):323-330.

More questions?
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