Pharmacology

TAC Workshop
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Definitions

Pharmacology: study of drugs

Pharmacokinetics (PK): study of how drugs behave in a living person (or animal)
Using graphs

Graphs can show you information in a concentrated way.

There are usually 2 -axis. In this example drug concentration is measured on one axis and time is measured on the other.
Using graphs

Graphs can show you information in a concentrated way.

There are usually 2-axis. In this example drug concentration is measured on one axis and time is measured on the other.

Information can then be plotted on the graph.

Each ‘x’ tells you the drug concentration at a specific time.
Drug absorption

After taking a drug, levels peak quickly and then slowly drop as the drug is broken down and metabolised by the liver and/or kidneys.

Every drug has its own drug absorption curve
Drug absorption

$C_{\text{max}}$ = the maximum concentration - usually reach after a few hours
$T_{\text{max}}$ = the time taken to reach the maximum concentration

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Drug absorption

T 1/2 (half life) = time taken for C max to drop in half
It takes 5 x T 1/2 for a drug to be eliminated from the body

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AUC describes the total drug concentration over time.

AUC = Area Under Curve

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Drug absorption.2

When you take another doses of a drug, it boosts the level again. Each dose taken on time makes sure that you keep above a minimum level.

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Drug levels and resistance

The target drug level needs to be above the MEC to avoid resistance and not so high as to cause side effects.

MEC = Minimum Effective Concentration

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Drug levels and resistance.

If you miss a dose or are late drug levels can drop to a level where resistance can occur.

MEC (Minimum Effective Concentration)

Increased risk of resistance

Missed dose
Late dose

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