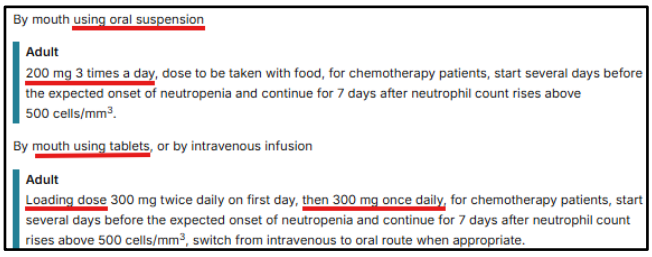
Medicines Safety Bulletin

September 2025

Posaconazole bioavailability and dose differences between tablets and oral suspension

In a recent incident, a neutropenic patient needed the antifungal medicine, posaconazole. They were initially prescribed posaconazole tablets 300mg once daily. The formulation was later changed to posaconazole oral liquid and 300mg once daily was prescribed and dispensed. However, posaconazole tablets and liquid are not bioequivalent and a higher dose of the oral suspension is required. The wrong dose was not identified when the patient was readmitted, and the patient was under-dosed for a month.



By mouth using oral suspension

Adult

200 mg 3 times a day, dose to be taken with food, for chemotherapy patients, start several days before the expected onset of neutropenia and continue for 7 days after neutrophil count rises above 500 cells/mm^3.

By mouth using tablets, or by intravenous infusion

Adult

Loading dose 300 mg twice daily on first day, then 300 mg once daily, for chemotherapy patients, start several days before the expected onset of neutropenia and continue for 7 days after neutrophil count rises above 500 cells/mm^3, switch from intravenous to oral route when appropriate.

Other drugs with bioavailability differences between the oral liquid and oral solid formulations include captopril, carbamazepine, citalopram, clobazam, phenytoin, fusidic acid, itraconazole and mercaptopurine.

Liquids may be used for children or patients with a 'poor swallow' or for dose administration via a nasogastric tube. For oral liquids of any drug, consider:

- administration instructions. For example, taking it with food.
- licensed use, which may vary between formulations. Follow MHRA guidance on prescribers' responsibility when prescribing off-licence.
- excipient differences, particularly in patients with non-drug allergies. The e-prescribing systems in KHP Trusts, Epic and Better Meds, and ePMA in SLaM do not alert prescribers to excipient allergies.

Advice for staff:

- the bioavailability and therefore dose of some drugs differs when the oral formulation is changed. Read the small print in the BNF and BNFC, particularly the 'Dose equivalence and conversion' and 'Important safety information' sections.
- administration instructions, licensing, and excipients may also vary.
- additional monitoring may be required.

Please bring this newsletter to the attention of all staff

Look-alike, sound-alike unlicensed medicines in children and neonates

Unlicensed medicines include medicines manufactured for a specific need (also known as Specials) or imported from other countries. Examples include liquid formulations and infusion bags. These medicines come with unique challenges, including similar-looking or similar-sounding names, or packaging that resemble other products. These factors increase the risk of selecting the wrong item during dispensing and administration. Mis-selection can have fatal consequences especially in children and neonates, for whom unlicensed medicines are commonly used. Unlicensed products often do not have barcodes, meaning they cannot be scanned to confirm product identify.

Examples of unlicensed LASA medicines where barcodes cannot be used include:

sucralfate liquid and magnesium glycerophosphate liquid

DEKAs essentials and DEKAs plus

Coenzyme Q10, Nicotinamide, and Riboflavin are packaged in nearly identical containers and sizes.

In a recent safety event, a patient with mitochondrial disease was given co-enzyme Q10 when riboflavin was prescribed. This led to metabolic crisis and patient deterioration due to omitted riboflavin and increased side effects due to co-enzyme Q10 administration.

Advice to staff:

- always check the product name, strength and formulation against the prescription.
- avoid multi-tasking and interruptions. Read the product name aloud from the prescription and the package.
- unlicensed medicines may not have useable barcodes and therefore **require manual checks** to ensure the correct product has been selected.
- ensure the product is stored safely – **always return the medication to the correct location**. Store medicines that look- or sound-alike separately.

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Clozapine blood levels – the importance of acting promptly

A Prevention Of Future Deaths Report has emphasised the need to respond quickly to changes in clozapine blood levels. A patient attended for a blood test and the clozapine level was later reported as being 'subtherapeutic' (details not provided). Other evidence suggested that the patient had stopped taking clozapine. No action was taken and, three weeks later, the patient took her own life.

Clozapine blood concentrations are a vital indicator of efficacy, tolerability and adherence. Any changes in clozapine levels that indicate reduced adherence, or complete non-adherence should prompt immediate action. Where available, point-of-care devices should be used to give instant results, so that action can be taken straightaway.

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