

TITLE:

Therapeutic Dose Monitoring requirements for oral Vancomycin used for the treatment of *Clostridioides (formerly Clostridium) difficile* infection (CDI) in adults

V1

FOR USE BY:

Medical, Nursing and Pharmacy staff

LIAISES WITH:

Pharmacy staff, Chemical Pathology staff and Consultant Microbiologists

Rationale

Oral vancomycin is not typically systemically absorbed; however absorption may be enhanced in patients with inflammatory disorders of the intestinal mucosa or *Clostridioides difficile*-induced pseudomembranous colitis.

When is therapeutic drug monitoring (TDM) required?

- If Vancomycin high dose (500mg qds) po/ng is prescribed as per [CDI treatment guideline](#), monitoring of drug level is required to ensure that blood levels are not in the toxic range
- Note that lower doses of oral / NG Vancomycin less than 500mg qds po/ng **do not** require TDM

When should a level be taken?

- The first pre-dose level should be taken on the third day of the vancomycin course. The drug chart can be annotated to show when pre-dose (trough) vancomycin levels are due to be taken. Subsequent doses should be administered whilst waiting the result
- Further levels should be taken twice weekly

Where are levels sent?

Vancomycin levels are performed by CHEMICAL PATHOLOGY. Send requests for vancomycin levels on CHEMICAL PATHOLOGY (electronic) request forms via Sunrise Clinical Manager.

Information on vancomycin levels can be found on the [Pathology Intranet pages](#)

Most vancomycin levels are planned (non-urgent) investigations - samples should ideally not be collected or sent for testing between midnight and 6am, except in exceptional circumstances.

Electronic requests should include the following minimum information:

- Date and time of blood sample taken
- Dose, frequency and route of vancomycin
- Start date of the vancomycin course

What level should I be aiming for?

- Pre-dose (trough) Vancomycin levels should be maintained below 20mg/L.

What action should I take if the level is above 20mg/L?

- Seek advice from pharmacy or microbiology

What else should be monitored?

- Monitoring of renal function should be performed when treating patients with underlying renal dysfunction or patients receiving concomitant therapy with an aminoglycoside or other nephrotoxic drugs
- Monitoring of auditory function may be helpful in order to minimise the risk of ototoxicity in patients with an underlying hearing loss, or who are receiving concomitant therapy with an ototoxic agent such as an aminoglycoside.

References

Vancomycin SPC accessed 22/03/21 https://www.medicines.org.uk/emc/product/6256/smpc#CLINICAL_PRECAUTIONS

BNF accessed 22/03/21 <https://bnf.nice.org.uk/drug/vancomycin.html#monitoringRequirements>

NICE *Clostridioides difficile* infection: antimicrobial prescribing Draft for consultation, January 2021 <https://www.nice.org.uk/guidance/GID-NG10144/documents/draft-guideline>