



CLINICAL GUIDELINE

Clostridioides Difficile infection: management of suspected or proven infection in adults

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

Version Number:	11
Does this version include changes to clinical advice:	Yes
Date Approved:	12 th November 2024
Date of Next Review:	28 th February 2027
Lead Author:	Ysobel Gourlay
Approval Group:	Antimicrobial Utilisation Committee

Important Note:

The Intranet version of this document is the only version that is maintained. Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

Start empirical treatment for CDI (see below) if patient has loose stools and either a history of recent antibiotic(s)/ hospitalisation (and no alternate diagnosis) or stool positive for *C. difficile* toxin.

Monitor frequency and severity of diarrhoea **DAILY**. NB Life-threatening CDI may present with ileus rather than diarrhoea. If toxin negative but loose stools continue, think about alternative cause and discuss with infection specialist (a microbiologist or infectious diseases physician). Daily bloods for creatinine and white blood cell count are only required if there are clinical concerns about the patient. Record progress daily in the medical notes.

Where possible:

- **Stop/ rationalise non-anti-clostridial antibiotics***
- **Stop laxatives**
- **Stop anti-motility agents (e.g. loperamide, opiates)**
- **Stop gastric acid suppression**, if safe to do so e.g. PPIs, H2 antagonists, Antacids
- **Review medicines** which may cause a problem if the patient is dehydrated e.g. non-steroidal anti-inflammatory drugs, angiotensin-converting enzyme inhibitors, angiotensin-2 receptor antagonists and diuretics.
- **Rehydrate** the patient
- **X-ray abdomen** if abdominal tenderness/ distension and consider X-ray if temp > 38.5°C, WBC > 15 x 10⁹/L or Creatinine > 1.5 x baseline

**Note Rifaximin (usually given for prophylaxis of hepatic encephalopathy in cirrhotic patients) should be suspended during the CDI episode. The decision whether to re-start rifaximin after CDI episode should be based in a risk benefit discussion with a liver specialist.*

Severity Markers – These are a guide only and if any clinical concern seek senior medical review

- Evidence of severe colitis in CT scan or X-ray
- Temperature > 38.5°C
- Acute rising serum Creatinine, > 1.5 x baseline
- WBC > 15 x 10⁹/L
- Suspicion of/confirmed pseudomembranous colitis, toxic megacolon or ileus

Suspected or Proven 1st Episode of *Clostridioides difficile* Infection (CDI)

First Line treatment (unless ileus/colonic dilatation):

Oral Vancomycin 125mg 6 hourly
Duration 10 days

If patient unable to swallow vancomycin capsules, vancomycin IV can be made up and given orally or via feeding tube (details on page 4).

If oral or enteral route not available:

IV* metronidazole 500mg 8 hourly
Duration 10 days

** Change to oral vancomycin once the oral or enteral route is available. In this situation vancomycin should be given for 10 days in total.*

CDI Treatment If ileus/colonic dilatation:

Discuss with on call surgical team

Oral Vancomycin 500mg 6 hourly
(Oral / enteral/ intra-colonic route; see page 4 for administration / dosing guidance)

PLUS

IV Metronidazole 500mg 8 hourly
(STOP IV Metronidazole when ileus resolved)

Duration 10 days

In patients who fail to improve after 7 days, or worsen with oral vancomycin, consider other diagnoses e.g. inflammatory bowel disease, ischaemic colitis etc. and discuss with microbiology / Infectious diseases. Treatment will depend on severity and clinical setting. **If underlying condition excluded/ unlikely then proceed to second line treatment (below). Treatment choice will depend on patient factors and disease severity. Discuss with micro/ID and if concern (e.g. colonic dilatation/ileus) then discuss with surgical team also, as colectomy may be life saving**

Second Line Treatment (EXCLUDING patients with ileus / colonic dilatation)

Discuss with Micro/ID

Oral Fidaxomicin[♦] 200mg 12 hourly
Duration 10 days

Oral Fidaxomicin[♦]

- Complete Protected Antibiotic form
- If patient unable to swallow fidaxomicin tablets, a liquid preparation of fidaxomicin is available (details on page 5)
- Fidaxomicin is not generally stocked on wards. **Every effort MUST be made to obtain a supply as soon as possible and to avoid missed/delayed doses.** Out of hours fidaxomicin is available from the emergency cupboards on all GGC sites. If the patient is switching from oral vancomycin, this should be continued until fidaxomicin is available (unless the switch is due to significant adverse effects, which are rare with oral vancomycin).

Dietary Advice

Adequate dietary fibre is important for gut health. Dietetic review of diet is advised.

Relapse or recurrence of *Clostridioides difficile* Infection (CDI)

Relapse of CDI within 12 weeks of symptom resolution

Discuss with Micro/ID

**Oral Fidaxomicin[♦] 200mg
12 hourly**

Duration 10 days

Exception, where treatment failure has been identified as incomplete initial treatment course – treat with Oral Vancomycin as per First Line Treatment.

Recurrence of CDI after 12 weeks of symptom resolution

Discuss with Micro/ID

**Oral Vancomycin 125mg
6 hourly**

Duration 10 days

If patient unable to swallow vancomycin capsules, vancomycin IV can be made up and given orally or via feeding tube (details on page 4).

Second Recurrence of CDI

Discuss with Micro/ID and consider Faecal Microbiota Therapy / Faecal Matter Transplant (FMT). Ordering FMT should be discussed with local antimicrobial pharmacist.

Pulsed Tapered vancomycin

7 week vancomycin tapering regimen

Oral Vancomycin 125mg 6 hourly for 7 days **then**

Oral vancomycin 125mg 12 hourly for 7 days **then**

Oral vancomycin 125mg 24 hourly for 7 days **then**

Oral vancomycin 125mg every 3 days for 28 days

If patient unable to swallow vancomycin capsules, vancomycin IV can be made up and given orally or via feeding tube (details on page 4).

Oral Fidaxomicin[♦]

- Complete Protected Antibiotic form
- If patient unable to swallow fidaxomicin tablets, a liquid preparation of fidaxomicin is available (details on page 5)
- Fidaxomicin is not generally stocked on wards. **Every effort MUST be made to obtain a supply as soon as possible and to avoid missed/delayed doses.** Out of hours fidaxomicin is available from the emergency cupboards on all GGC sites. If the patient is switching from oral vancomycin, this should be continued until fidaxomicin is available (unless the switch is due to significant adverse effects, which are rare with oral vancomycin).

Faecal Microbiota Treatment

Discuss with Infection Specialist and consider Faecal Microbiota Therapy / Faecal matter Transplant (FMT). Ordering FMT should be discussed with local antimicrobial pharmacist.

Dietary Advice

Adequate dietary fibre is important for gut health. Dietetic review of diet is advised.

Alternative routes of administration and preparation of vancomycin

IV vancomycin does NOT reach sufficient concentration in the GI tract to be effective against CDI.

<p>Administration via oral route (unable to swallow vancomycin capsules but able to swallow liquids)</p>	<p>Usual vancomycin dose: 125mg 6 hourly (do NOT administer via IV route) NB. If ileus detected: 500mg 6 hourly Vancomycin preparation for injection is licensed for oral use.</p> <ul style="list-style-type: none"> • Reconstitute vancomycin 500mg vial with 10 ml of water for injection to give a concentration of 50 mg/ml • Withdraw the required volume (e.g. for 125mg withdraw 2.5 ml and for 500mg withdraw 10 ml) and administer via an oral syringe. • This may be diluted further with 20 – 30 ml sterile water before administering. • Vials are for single use only and any remaining volume should be disposed of immediately in accordance with the safe and secure handling of medicine protocol
<p>Administration via enteral feeding tubes</p>	<p>Usual vancomycin dose: 500mg 6 hourly (do NOT administer via IV route) This is an unlicensed route of administration for some brands of IV vancomycin, but is approved for use by the NHSGGC AUC.</p> <ul style="list-style-type: none"> • Reconstitute vancomycin 500mg vial with 10 ml of water for injection to give a concentration of 50 mg/ml • Withdraw the total volume (10 ml) and administer via a nasogastric tube. • This may be diluted further with 20 – 30 ml sterile water before administering. • Flush nasogastric tube with 15 – 30 ml sterile water before and after administering vancomycin. • Vials are for single use only and any remaining volume should be disposed of immediately in accordance with the safe and secure handling of medicine protocol
<p>Administration of intra-colonic vancomycin enemas</p>	<p>Usual vancomycin dose: 500mg 6 hourly (do NOT administer via IV route) NB. Review intra-colonic route daily and change to oral/enteral route as soon as appropriate.</p> <p>This is an unlicensed route of administration and is only recommended under the advice of Infectious Diseases/microbiology.</p> <ul style="list-style-type: none"> • Reconstitute vancomycin 500mg vial with 10 ml of water for injection to give a concentration of 50 mg/ml. • Withdraw the total volume (10 ml) and add to a 100 ml bag of sodium chloride 0.9% to give a concentration of 5 mg/ml and distribute evenly in two 50 ml syringes. • Lay the patient on their side and insert a lubricated, 18 – 20 gauge, short-term Foley® catheter into the rectum with care. • Inflate the balloon with sterile water (supplied with catheter). • Administer the vancomycin solution into the catheter (avoiding forceful administration). • Securely plug the Foley® catheter with a green catheter plug (spigot for catheters). • Deflate the catheter balloon after 60 minutes dwell time is completed. • Remove and discard Foley® catheter and contents via patient commode. • Vials are for single use only and any remaining volume should be disposed of immediately in accordance with the safe and secure handling of medicines protocol

Advice for Patients with Swallowing Difficulties prescribed Fidaxomicin

<p>Administration via oral route (unable to swallow fidaxomicin tablets but able to swallow liquids)</p>	<p>For patients with swallowing difficulties,</p> <p>i) Fidaxomicin suspension 200mg/5ml is available. Prepare suspension according to manufacturer’s instructions. Store the bottle in the fridge. Standard dose 200mg/ 5ml twice daily. Fidaxomicin does not interact with food so administration with food of the appropriate texture would be the preferred option for people who need thickened fluids. Thickening the suspension would not be recommended as it is not possible to assess you have thickened to the appropriate level.</p> <p>ii) Fidaxomicin tablets can be crushed and mixed with water or apple sauce for administration (unlicensed). Ongoing advice regarding crushing or mixing tablets depends on the food and fluid the patient is able to swallow safely.</p>
<p>Enteral feeding Tubes</p>	<p>Fidaxomicin suspension 200mg/5ml is available. Prepare according to manufacturer’s instructions. Store the bottle in the fridge. Flush the enteral feed tube before and after administration of fidaxomicin. Standard dose 200mg/5ml twice daily.</p> <p>Fidaxomicin does not interact with food so administration with food of the appropriate texture would be the preferred option for people who need thickened fluids.</p> <p>Thickening the suspension would not be recommended as it is not possible to assess you have thickened to the appropriate level.</p>

References

- 1) Donald LC, Gerding DN, Johnson S, Bakken JS, Carroll KC, Coffin SE, et al. Clinical practice guidelines for *Clostridium difficile* infection in adults and children: 2017 update by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA). Clin Infect Dis. 2018;66:987–94.
- 2) Clostridioides difficile infection: antimicrobial prescribing NICE guideline [NG199] Published: 23 July 2021, accessed 2 May 2022 <https://www.nice.org.uk/guidance/NG199>