CLINICAL GUIDELINE

Suspected Clostridium Difficile Infection Management 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.

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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.

Management of Suspected *Clostridium difficile* Infection in Adults

NHS Greater Glasgow and Clyde

Early (empirical) Management of *Clostridium difficile* (CDI) may be life saving

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 & severity of diarrhoea daily. ***NB.*** Life-threatening CDI may present with ileus rather than diarrhoea. If toxin negative but loose stools continue, think alternate cause & discuss with infection specialist.

Where possible:

- **Stop/ rationalise** non-clostridial antimicrobials
- **Stop** gastric acid suppression e.g. PPIs
- **Stop** anti-motility agents (e.g. loperamide, opiates)
- **Rehydrate** the patient
- **X-ray** abdomen if abdominal tenderness/ distension and consider X-ray if temp > 38.5°C, WBC > 15 x 10^9/L or Creatinine > 1.5 x baseline

Assess severity of disease DAILY. Severity markers:

- 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 10^9/L
- Suspicion of/confirmed pseudomembranous colitis, toxic megacolon or ileus

NO Severity Markers
Mild/ moderate CDI

Oral Metronidazole 400mg 8 hourly.
Duration: 10 days
(**NB.** Do not use Metronidazole suspension. If unable to swallow Metronidazole tablets, see next page for Vancomycin administration/dosing guidance).

If oral/enteral route not available:
IV Metronidazole 500mg 8 hourly

- Monitor bowel movements, symptoms (WBC, fever, hypotension), nutrition & fluid balance and for signs of increasing severity.

If loose stools continue after 5 days or if clinical condition worsens at any time switch treatment to:
Oral Vancomycin 125mg 6 hourly.
Duration: 10 days

If after 10 days treatment, diarrhoea still persists:
Seek advice from Microbiology/ ID.

≥ 1 Severity Markers
Severe CDI

Oral Vancomycin 125mg 6 hourly. Duration: 10 days
(**NB.** Higher Vancomycin doses required for enteral route administration). $^{\Delta}$

If oral/enteral route not available: IV Metronidazole 500mg 8 hourly. Change to Vancomycin once oral/enteral route available. See next page for administration/dosing guidance.

- Monitor bowel movements, symptoms (WBC, fever, hypotension), nutrition & fluid balance and for signs of increasing severity.
- Ensure intravenous fluid resuscitation, electrolyte replacement and pharmacological venous thromboembolism prophylaxis.
- **Life threatening CDI. Surgical review required if ≥ 1 of the following:** admission to ICU for CDI, hypotension +/- required use of vasopressors, ileus or significant abdominal distension, mental status changes, WCC ≥ 35 or < 2 x 10^9/L, serum lactate > 2.2 mmol/L, end organ failure (mechanical ventilation, renal failure etc).

If ileus detected: IV Metronidazole 500mg 8 hourly PLUS Vancomycin 500mg 6 hourly (oral/enteral/intra-colonic route; see next page for administration/ dosing guidance). STOP IV Metronidazole when ileus resolved. Continue oral/enteral/intra-colonic Vancomycin 500mg 6 hourly for total 10 days.

If after 10 days treatment, diarrhoea still persists:
Seek advice from Microbiology/ ID.

Treatment of recurrent CDI (*NB.* CDI which re-occurs within 8 weeks after onset of previous episode)*

1st recurrence loose stool AND positive *C.difficile* toxin OR clinical suspicion of CDI	2nd or subsequent recurrence loose stool
Oral Vancomycin 125mg 6 hourly. $^{\Delta}$ **Duration: 10 days** **If oral/enteral route not available: IV Metronidazole 500mg 8 hourly.** Change to Vancomycin once oral/enteral route available. See next page for administration/dosing guidance. **If ileus detected:** See treatment recommendations above.	Seek advice from Microbiology/ ID ****NB.*** If > 8 weeks then treat as first CDI episode.

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Alternative routes of administration and preparation of Vancomycin for the treatment of *Clostridium difficile* Infection in Adults

NHS Greater Glasgow and Clyde

Administration via oral route (unable to swallow capsules but able to swallow liquids)

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.

- 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.

Administration via enteral feeding tubes

Usual vancomycin dose: 500mg 6 hourly
(*do not administer via IV route*)

This is an unlicensed route of administration and is only recommended under the advice of Infectious Diseases/ microbiology.

- 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 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.

Administration of intra-colonic vancomycin enemas

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.

This is an unlicensed route of administration and is only recommended under the advice of Infectious Diseases/ microbiology.

- 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 medicine protocol.

Further advice may be obtained from Infectious Diseases (based at the Queen Elizabeth University via hospital switchboard) or via the Duty Microbiologist (via hospital switchboard).

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