Galway: GAPP - Galway Antimicrobial Prescribing Policy / Guidelines (GAPP): Gastrointestinal System

Clostridioides difficile Infection (CDI)

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1. **Clinical suspicion of CDI: Diarrhoea** (≥3 episodes unformed stool within 24 hours) where patient has been off laxatives for past 24-48 hours
2. **Detection of *C. difficile* toxin +/- gene alone does not diagnose CDI.** Clinical assessment is essential. Asymptomatic colonisation can occur in 20-40% of hospitalised patients and does not require treatment.
3. If CDI diagnosed: See table below for treatment of initial episode and first recurrence of CDI.
4. The following regimens may be recommended by **Microbiology or Infectious Diseases only**

- Regimen for tapered pulsed oral Vancomycin
- Regimen for intracolonic Vancomycin
- Reserve agent recommendation.

Antibiotics for Clostridium difficile Infection		
Infection	**1st Line Antibiotics**	**Comment**
***Clostridioides difficile* infection**	**Mild: Mildly symptomatic patient (With NO features of severe CDI)** Metronidazole PO/NG 400mg every 8 hours **IF no response 72 hours after starting treatment, consult Microbiology or Infectious Diseases.**	Duration 10 days. • Maintain hydration. • Avoid anti-diarrhoeal agents. • **Stop precipitating antibiotic(s)** if possible or switch to agents less likely to be associated with CDI. • Stop proton pump inhibitors (PPIs) if possible. • Use vancomycin injection to prepare oral solution – see IV Guide. • Prescribe vancomycin capsules if required on discharge. **Expensive** – not routinely stocked in community. Please contact ward and community pharmacy at least 24hrs prior to discharge to arrange supply.
	All other patients: Vancomycin PO/NG 125mg every 6 hours. **IF** severe discuss with Micro/ID **Severe CDI :** Suggested by any of the following: **Clinical:** fever, rigors, abdominal pain **Laboratory:** WCC ≥15 X 10^9 /L, or rise in serum creatinine >50% above baseline **Endoscopic findings:** pseudomembranous colitis **Imaging:** distension of the large intestine, pericolonic fat stranding or colonic wall thickening (including low-attenuation mural thickening).	
	Severe with ileus or toxic megacolon Vancomycin PO/NG 500mg every 6 hours + Metronidazole IV 500mg every 8 hours Consult Microbiology or Infectious Diseases.	
Clostridioides difficile First or subsequent recurrence or persistent symptoms or patients who are post-Faecal Microbiota Transplant (FMT) for CDI	Consult Microbiology or Infectious Diseases.	

Refs:

1. *HSE AMRIC National Clostridioides difficile infection (CDI) treatment guidance 2023* *https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/conditions-and-treatments/gastro/clostridium-difficile/*
2. NICE *Clostridioides difficile* infection: antimicrobial prescribing 2023.
3. Clinical Practice Guidelines for the Management of *Clostridioides difficile* Infection in Adults: 2021 Update by SHEA/IDSA

4. European Society of Clinical Microbiology and Infectious Diseases: 2021 update on the treatment guidance document for *Clostridioides difficile* infection in adults. Clin Microbiol Infect 2021 Dec:27 Suppl 2:S1-S21. doi: 10.1016/j.cmi.2021.09.038. Epub 2021 Oct 20.
5. Impact of *Clostridioides difficile* length of treatment on rates of recurrence in patients on concurrent antibiotics Am J Infect Control. 2023 Apr 25:S0196-6553(23)00336.
6. Japanese Clinical Practice Guidelines for Management of Clostridioides (Clostridium) difficile infection. Journal of Infection and Chemotherapy. 2022. 28(1045-1083).
7. Australasian Society of Infectious Diseases updated guidelines for the management of *Clostridium difficile i* nfection in adults and children in Australia and New Zealand Intern Med J 2016 Apr;46(4):479-93. doi: 10.1111/imj.13027.
8. Clinical Efficacy of Fidaxomicin and Oral Metronidazole for Treating *Clostridioides difficile* Infection and the Associated Recurrence Rate: A Retrospective Cohort Study Antibiotics 2023, 12, 1323. https://doi.org/10.3390/antibiotics12081323
9. Comparison of outcomes with vancomycin or metronidazole for mild■to■moderate *Clostridium difficile* associated diarrhea among solid organ transplant recipients: A retrospective cohort study Transpl Infect Dis 2018 Jun;20(3):e12867. doi: 10.1111/tid.12867.
10. Outcomes associated with recent guideline recommendations removing metronidazole for treatment of non-severe *Clostridioides difficile* infection: a retrospective, observational, nationwide cohort study. CA Gentry, DL Campbell, RJ Williams. Int J Antimicrob Agents 2021 Mar; 57(3):106282. doi: 10.1016/j.ijantimicag.2021.106282. Epub 2021 Jan 17

Gastroenteritis

Gastroenteritis

Avoid antimicrobial agents unless there is clinical evidence of invasive disease.

Consider viral causes if vomiting is a prominent symptom or if norovirus is active in the community or hospital.

Maintain hydration.

Avoid anti-diarrhoeal agents.

Send stool sample (include travel history on the form if relevant).

Antimicrobial treatment for gastroenteritis is generally pathogen directed.

If there is gastroenteritis with clinical evidence of invasive disease, sepsis, colitis or a history of recent foreign travel or for men who have sex with men (MSM), **discuss empiric therapy/management with Microbiology or Infectious Diseases** to guide empiric antimicrobial therapy.

Refs:

1. IDSA 2017 Treatment guidelines for infectious diarrhoea: Clin Infect Dis 65:1963, 2017.
2. *Recommendation on aspects of management of shigellosis in Ireland in the context of current antimicrobial resistant Shigella species associated with gay, bisexual and men who have sex with men (gbMSM). HSE; June 2023.* *https://www.hpsc.ie/a-z/gastroenteric/shigellosis/guidancepublications/Recommendation%20on%20aspects%20of%20management%20of%20shigellosis%20in%*

Helicobacter pylori Infection

Helicobacter pylori Infection

1. Seek advice from gastroenterologist if 1 st or 2 nd line eradication unsuccessful.
2. While choosing a treatment regimen for *H. pylori* , patients should be asked about previous antibiotic exposure and this information should be incorporated into the decision-making process.
3. Please consider medication side effects and interactions, when choosing a triple therapy regime.
4. Second-line therapy depends on the first-line therapy and should not be the same treatment.
5. **Following triple therapy, there is no need to continue acid- inhibiting treatments (PPI).** However, if the ulcer is large, duodenal or complicated by haemorrhage or perforation, acid-inhibiting treatments can be continued for a longer duration. Patients should be **maintained** on the **lowest effective dose of acid inhibiting treatment** on an **'as required'** basis.
6. **Testing for eradication is recommended in all patients treated for *H. pylori* and should occur at least 6 - 8 weeks following treatment.** Please inform the patient and the GP - a *H. pylori* stool antigen test should be performed 6 - 8 weeks after *H. pylori* eradication. To increase accuracy, patients **must not be on any medication that affects *H. pylori*** detection; these include **antibiotics (past 4 weeks), PPIs (past 2 weeks), and**

bismuth (past 4 weeks). If symptomatic relief is required during this period, H2 receptor antagonists and anti-acid medications are recommended.

7. Referral for OGD for *H. pylori* culture and susceptibility testing should be performed following two treatment regime failures.
8. Bismuth is available in Ireland as unlicensed medicines (ULM) – and therefore not routinely stocked in community. Please contact ward and community pharmacy at least 24hrs prior to discharge to arrange supply.
9. Newer generation PPIs, e.g. esomeprazole 40mg, are considered more effective than first generation PPIs.

<table>
<tr><th colspan="5">Antibiotic regimens for Helicobacter pylori Eradication</th></tr>
<tr><th rowspan="2">1 st Line Helicobacter pylori eradication</th><th>1 st Line Therapy</th><th colspan="2">Alternative 1 st Line Therapy

If Penicillin Allergy or Clarithromycin Allergy

OR

If patient has received Clarithromycin in the past year</th><th>Comment</th></tr>
<tr><td>Esomeprazole PO 40mg (PPI) every 12 hours

+

Clarithromycin PO 500mg every 12 hours

+

Amoxicillin 1g PO every 12 hours</td><td colspan="2">Esomeprazole PO 40mg (PPI) every 12 hours

+

Bismuth subcitrate PO 120mg every 6 hours (ULM)

+

Metronidazole PO 400mg every 8 hours

+

Doxycycline PO 100mg every 12 hours</td><td rowspan="4">Duration:

14 days</td></tr>
<tr><th rowspan="3">2 nd line Helicobacter pylori eradication - <u>if still infected after 1 st line therapy</u></th><th rowspan="2">2 nd Line Therapy</th><th colspan="2">Alternative 2 nd Line Therapy

• IF Patient has received Clarithromycin in the past year</th></tr>
<tr><th>NO Penicillin Allergy</th><th>Penicillin Allergy</th></tr>
<tr><td>Esomeprazole PO 40mg (PPI) every 12 hours

+

Clarithromycin PO 500mg every 12 hours

+

Metronidazole PO 400mg every 12 hours</td><td>Esomeprazole PO 40mg (PPI) every 12 hours

+

Levofloxacin PO 250mg every 12hours

+

Amoxicillin PO 1g every 12hours</td><td>Esomeprazole PO 40mg (PPI) every 12 hours

+

Bismuth subcitrate PO 120mg every 6 hours (ULM)

+

Metronidazole PO 400mg every 8 hours

+

Doxycycline PO 100mg every 12 hours</td></tr>
</table>

Refs:

1. HSE *Helicobacter pylori – Antibiotic Prescribing.ie November 2023*
2. *Management of Helicobacter pylori infection: the Maastricht VI/Florence consensus report. Malfertheiner P, et al. Gut 2022;71:1724–1762. doi:10.1136/gutjnl-2022-327745 Management of Helicobacter pylori infection: the Maastricht VI/Florence consensus report (bmj.com)*