



Policy / Procedure Information
Management and Treatment of Clostridium Difficile
(Policy no CS016)

Subject	(This policy is subject to periodic review and will be amended according to service development needs)
Applicable to	This policy applies to all staff, volunteers and contractors who work for or provide care on behalf of Nottinghamshire Hospice.
Date issued	Feb 2022
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Lead responsible for Policy	Director of Care
Policy Reviewed by	Infection Prevention and Control Team - Nottingham CityCare Partnerships Care Service Team
Notified to	Quality and Safety Group
Authorised by	Board of Trustees
Links to other Policies	Infection Prevention and Control Policy
Summary	This document aims to provide a clear understanding of Nottinghamshire Hospices Infection Control Policy.
Target Audience	The policy aimed at all staff, volunteers and contractors who work for or provide care on behalf of Nottinghamshire Hospice

IMPORTANT NOTICE: Staff should always refer to the website or the folder on the 'N' drive for the most up to date information.

If the review date of this policy or procedure has expired staff should seek advice from their clinical lead or manager regarding the appropriate action to be taken.

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1. Abbreviations and Definitions

Clostridium difficile (*C. difficile*) is a bacteria that exist in the environment and can become established in the colon of healthy people (up to 3% of adults and 66% of babies) (NICE, 2017).

Spores: These are an inactive form of the microorganism (*C. difficile*) and have a protective coating allowing them to live for months or sometimes years in the environment. The microorganisms become active again when these spores are swallowed and reach the intestines.

C. difficile infection: (CDI)

C. difficile Toxins: (CDTdt)

C. difficile Polymerase Chain Reaction: (PCR):

Pseudomembranous Colitis: Severe inflammation of the large intestine (Colon) usually secondary to *C. difficile* infection .

2. Introduction and Purpose

C. difficile infection occurs when the other harmless bacteria in the colon (Human Flora) are disrupted which may be by taking antibiotics or when the immune system is compromised. This allows the numbers of *C. difficile* bacteria to increase to high levels (NICE, 2017). You can become colonised with *C. difficile* if you ingest the spores through contact with a contaminated environment or person.

Microbiology testing for *C. difficile* detects *C. difficile* Toxins (CDT) or *C. difficile* Polymerase Chain Reaction (PCR). A positive CDT identifies the bacteria are producing toxins in the gut and PCR positive indicates the clostridium bacteria is present in the gut but not causing an infection (gut carriage). An infection caused by *C. difficile* can cause inflammation of the bowel, abdominal pain and frequent diarrhoea, whereas gut carriage of *C. difficile* can cause little or no symptoms.

The clinical picture in *C. difficile* infection may vary from mild diarrhoea, but can lead to more serious infections of the intestines with severe inflammation of the large bowel (pseudomembranous colitis). *C. difficile* is the biggest cause of infectious diarrhoea in hospitalised patients. Other symptoms can include fever, loss of appetite, nausea and abdominal pain or tenderness. This type of infection can be related to the use of antibiotics, which can disrupt the protective normal bacterial flora of the gut, allowing colonisation by *C. difficile*. The diarrhoea and colitis occur as a consequence of toxins secreted by *C. difficile*.

Symptoms may start as early as day one of antibiotic use or even up to four weeks after discontinuation of antibiotics. *C. difficile* infection can potentially affect any individual who is taking antibiotics whether they are in hospital, a care home environment or in their own home. Outbreaks of *C. difficile* are associated with hospitals and care home environments.

The purpose of this policy is to give management and treatment guidance to all staff working within the Hospice caring for patients with *C. difficile*

3. Evidence Base and Interaction with Other Policies and Procedures

- Nottinghamshire Hospice Specimens SOP (excluding Blood Specimens)

- Nottinghamshire Hospice Blood Body Fluids and Vaccine Spillages SOP
- Nottinghamshire Hospice Hand Hygiene SOP
- Nottinghamshire Hospice Outbreak Management SOP
- Nottinghamshire Hospice CityCare Personal Protective Equipment SOP Nottinghamshire Hospice CityCare Waste Management Policy
- Department of Health (2008) Clostridium difficile infection: How to deal with the problem
- NHS Improvements (2019) Clostridium difficile infection objectives for NHS organisations in 2019/20 and guidance on the intention to review financial sanctions and sampling rates from 2020/21

4. Scope and Responsibilities

This policy has been developed for all staff working for Nottinghamshire Hospice caring for patients with Clostridium difficile and may be adapted by independent contractors for whom the Infection Prevention and Control team are contracted to provide a service in accordance with the disclaimer on the front page of this document.

5. Equality & Diversity

Nottingham CityCare Partnership less favourable treatment of anyone on the grounds of their age, disability, gender, marital status, being pregnant or on maternity leave, race/ethnicity, religion or belief, sexual orientation, gender reassignment, responsibility for dependents, trade union or political activities, or any other reason which cannot be shown to be justified will not be tolerated.

Equality Impact Assessment Form (Short)

		YES/NO	COMMENT
1.	Does the policy affect one group less or more favourably than another on the basis of:	No	
	Age	No	
	Disability – learning disabilities, physical disability, sensory impairment and mental health problems	No	
	Gender Reassignment	No	
	Marriage/Civil Partnership	No	
	Pregnancy/Maternity	No	
	Race	No	
	Religion or Belief	No	
	Sex	No	
	Sexual Orientation	No	
2.	Is there any evidence that some groups are affected differently?	No	
3.	If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?	N/A	
4.	Is the impact of the policy/guidance likely to be negative?	No	

5.	If so can the impact be avoided?	N/A	
6.	What alternatives are there to achieving the policy without the impact?	N/A	
7.	How can the impact be reduced by taking different action?	N/A	

If you have identified a potential discriminatory impact of this procedural document, please refer it to the sponsoring director; together with any suggestions as to the action required to avoid/reduce this impact

6. Risk Management

C. difficile is associated with considerable morbidity and risk of mortality and therefore management should be reviewed regularly to ensure the optimum care is being received. The information and treatment recommended within this policy relates specifically to C. difficile. Therefore, it should only be applied when this infection is suspected and/or confirmed.

C. difficile spreads by the faecal-oral route (ingestion). Affected individuals with diarrhoea secrete large numbers of C. difficile spores (a protective state in which the bacteria can survive). This can lead to contamination of the surrounding environment. The spores are resistant to most commonly used disinfectants and transmission of infection is generally thought to occur via contaminated hands of staff, direct contact with affected individuals, or contaminated surfaces e.g. bathrooms, furniture, and bed sheets. C. difficile disease appears to be age specific and affects the elderly more than any other population group. The national mandatory surveillance system collects data on all cases from the age of two upwards. In all patients applying infection control principles are an important aspect in the prevention or spread of Clostridium difficile and the Infection Prevention and Control Team should be consulted for further advice if required.

If an outbreak of C. difficile or increased incidents i.e. 2 or more cases which appear to be related, are suspected by staff the Infection Prevention and Control Team should be informed.

7. Equipment List (if applicable)

- Stool specimen pot sourced from University Hospital laboratory. See Collection of Specimens SOP (excluding Blood Specimens) available on the POD.
- Pathology Specimen envelope/form.
- Community Specimen carrier. *NB: to be decontaminated after every use*



8. Testing for Clostridium difficile

If an individual has diarrhoea (Bristol Stool Chart type 5-7) that is not clearly attributable to an underlying condition (e.g. Inflammatory Colitis, Overflow) or therapy (e.g. laxatives, enteral feeding) then it is necessary to determine if this is due to Clostridium difficile (NHS Improvement, 2019))

If C. difficile infection is suspected then a stool sample should be taken and sent to the laboratory as soon as possible as the toxins biodegrade at room temperature, increasing the possibility of a

false negative result. Stool samples should therefore be placed in a specimen fridge if there is to be any delay in transportation for collection the next day.

If there is no fridge available the specimen should be taken directly to microbiology. The laboratory undertakes sample testing for *C. difficile* toxin seven days a week. Specimen collections are scheduled Monday – Friday from all Health Centres and GP Surgeries, each having a designated collection time and a few have collections between 6-6.30pm. Please check with the centre or surgery for up to date collection times. Samples taken at the weekend should be transported directly to the lab for processing. The sample needs to be in the lab by 9.30 am on Saturday or Sunday/ bank holidays for same day testing. Telephone the on call microbiologist through NUH switchboard 0115 9249924 to let them know a sample is being dropped off.

Clearance samples are not required following treatment and a formed stool will not be tested for *C. difficile*. The stool sample must take the shape of the container and ideally be at least ¼ filled. (NHS Improvement, 2019).

Relevant history and details of the antibiotics the individual has taken including dose, frequency, length of course and when started should be given on the pathology specimen form.(appendix 2)

N.B: If the first test is negative but the individual remains symptomatic indicating a strong clinical suspicion of *C. difficile* a second stool sample should be obtained 24 hours later (NHS Improvement, 2019).

If clinicians suspect that an individual may have *C. difficile* the following protocol (SIGHT) should be used:

S
Suspect that a case may be infected where there is no clear alternative cause for diarrhoea.
I
Isolate the patient and consult the infection prevention and control team, while determining the cause of diarrhoea.
G
Gloves and aprons must be used for all contacts with the patient and their environment.
H
Hand washing with soap and water should be carried out before and after each contact with patients and their environment.
T
Test stool for toxin, by sending a specimen immediately.

(NHS, Improvement, 2019)

Points to Consider

- Review if the patient is taking antibiotics and a Protein Pump Inhibitor (PPI's) and consider if they are needed as these are both risk factors for developing *C. difficile* or for ongoing recurrence of *C. difficile* disease.

- Investigate other causes for the diarrhoea, e.g. supplementary nutrition orally or via Percutaneous Endoscopic Gastrostomy (PEG) Tube, excessive laxative use.
- Stopping anti-diarrhoea medicines e.g. Loperamide and codeine based medication due to the risk of toxic megacolon.

CDI should be managed as a diagnosis in its own right as patients may deteriorate rapidly.

9. Treatment of Clostridium difficile

Please refer to the C. difficile section in the community antimicrobial guidance available on the APC website.

<https://www.nottsapc.nhs.uk/guidelines-formularies/antimicrobial-guidelines/>

10. Management of Clostridium difficile

Enteric Precautions for C. difficile Diarrhoea

Hand Hygiene:

Thorough hand hygiene and a clean environment are essential in reducing cross infection. Alcohol hand gel alone is not effective against C. difficile as it does not penetrate the spore, therefore liquid soap and paper hand towels for drying should always be used.

Environment and Protective Clothing:

In the GRACE Unit the individual should be isolated from any groups until such a time that they can be transferred home. The affected individual should have a designated toilet or commode for their own use if possible. If the toilet should be cleaned with a chlorine based product or a sporicidal wipe after every use.

Healthcare staff should wash their hands with liquid soap and water and dry with paper towels before contact with the patient and their environment and wear gloves and a disposable apron for contact with faeces.

Thorough hand washing with soap and water should be carried out after removal of gloves. Affected patients must be encouraged to wash their hands after they have used the toilet/commode.

If caring for a patient within their own home staff must ensure that they wash their hands with liquid soap and dry with paper towels. Alcohol hand gel can be applied after this if available.

Carers/family/friends and other visitors should be informed of the infection and advised to wash their hands with liquid soap on arrival, before and after any contact with the affected individual and when leaving the individuals home.

Cleaning of the environment, linen and curtains:

In the Hospice damp dust room/area and clean any hard flooring daily with chlorine releasing agents and water or a sporicidal wipe for use on hard surfaces that can tolerate it.

The toilets and commodes used by the affected individual must be thoroughly cleaned prior to being stored/used by another individual using chlorine releasing agent and water or sporicidal wipes if available.

Curtains and any carpets should be thoroughly cleaned once the infection is deemed over.

Laundry should be handled carefully and washed separately on the hottest wash the clothing/bedding will withstand. Wash hands thoroughly with liquid soap and water after handling laundry. Staff should wear gloves and aprons and contaminated laundry must be placed immediately into alginate bags and then into the washing machine. Staff should pay strict attention to hand hygiene.

Diet and Fluids:

Advise to eat small, light meals and avoid fatty or spicy foods. Good examples are potatoes, rice, bananas, soup and boiled vegetables. Salty foods help the most (NHS choices, 2016).

The most important advice is to ensure the patient drinks plenty of fluid; advise frequent small sips of water to avoid dehydration. If you're drinking enough fluid, the individual's urine will be light yellow or almost clear (NHS Choices, 2016).

Oral rehydration solution to prevent dehydration can be considered if the patient is at risk – for example, if frail or elderly.

Monitoring:

It is important to monitor the patient regularly, if the patient is self-caring advise to monitor their fluid intake to ensure they are drinking enough to keep them hydrated and to be aware of the number of episodes and type of diarrhoea. For those being cared for, fluid balance charts and the use of the Bristol Stool chart can be used (see Appendix 1).

Deceased Patients:

Infection control precautions for deceased patients should be the same as when the patient was alive.

Discontinuation of Precautions:

Precautions can be discontinued when the individual is 48 hours diarrhoea free (or 72 hours if they are being transferred to a care home). They must have had a normal bowel movement before precautions are stopped. If the individual is being transferred to another area, a clear handover should be given stating if an individual has had a *C. difficile* diagnosis.

Clearance samples are **not** necessary as formed stools will not be tested. There is an information leaflet available on the intranet which can be given to individuals affected.

Antibiotics:

A major contributing factor to the rise in *C.difficile* infections in acute NHS Trusts in the UK has been the widespread use of broad-spectrum antibiotics. Care with any further anti-microbial prescribing is required in patients with a history of *C. difficile*. Quinolones, cephalosporins and co-amoxiclav should be avoided if at all possible. Refer to the Nottinghamshire Antimicrobial Prescribing Guidelines on the POD. Seek medical microbiologist advice if necessary.

11. Further Guidance

If you have any concerns or issues with the contents of this policy or have difficulty understanding how this policy relates to you and/or your role, please contact the author.

References

Nottingham CityCare, Development, Approval and Management Documents Policy.






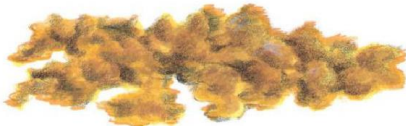

Nottinghamshire Antimicrobial Prescribing Guidelines for Primary Care.

Public Health England (2013) Updated Guidance on the Management and Treatment of Clostridium difficile Infection. London.


NHS Improvement (2019) Clostridium difficile infection objectives for NHS organisations in 2019/20 and guidance on the intention to review financial sanctions and sampling rates from 2020/21.

Microbiology website, Nottingham University Hospitals NHS Trust: <https://www.nuh.nhs.uk/staff-area/microbiology/>.

THE BRISTOL STOOL FORM SCALE

<i>Type 1</i>		Separate hard lumps, like nuts (hard to pass)
<i>Type 2</i>		Sausage-shaped but lumpy
<i>Type 3</i>		Like a sausage but with cracks on its surface
<i>Type 4</i>		Like a sausage or snake, smooth and soft
<i>Type 5</i>		Soft blobs with clear-cut edges (passed easily)
<i>Type 6</i>		Fluffy pieces with ragged edges, a mushy stool
<i>Type 7</i>		Watery, no solid pieces ENTIRELY LIQUID

Appendix 2: Microbiology Request Form

Nottingham University Hospitals NHS Trusts			
<p>Use Block Letters or Identity Label</p> <p>NHS No. <input type="text"/></p> <p>Surname.....</p> <p>Forename.....</p> <p>Address.....</p> <p>.....</p> <p>Telephone Number.....</p> <p>Date of Birth <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>Male <input type="checkbox"/> Female <input type="checkbox"/></p>		<p>Lab No. Or Barcode</p> <p>DOCTORS NAME AND FULL PRACTICE ADDRESS/including telephone Number</p> <p>Practice Code <input type="text"/></p> <p>Doctor/ Practitioner <input type="text"/></p>	
<p>Specimen</p> <p style="color: red;">HIGH RISK, HIV Hepititis Tuberculosis</p> <p style="color: red;">Fix Hazard Label here and to the Sample Tube</p>		<p>Clinical Details</p>	
Print Doctor/ Practitioner	Signature	Request	
Lab Use Codes Only			

The Microbiology Request must be made by ICE and the form must include the following information

1: Patient Details

- ✓ First name.
- ✓ Surname.
- ✓ Hospital/NHS Number.
- ✓ Date of Birth.

2: Specimen/ Sample Details

- ✓ Date and time sample was taken.
- ✓ Type and site of sample.

3: Clinical Details

- ✓ Clinical details are essential to inform of the type of test to perform and their interpretation.
- ✓ Date of symptom onset if relevant.
- ✓ Details of recent, current antibiotic therapy if applicable.

4: Requester Information

- ✓ GP contact detail are essential for microbiology to forward the results.
- ✓ The telephone number is essential to ensure microbiologists can discuss results with clinician if necessary.

5: Request

- ✓ MC and S
- ✓ Virology
- ✓ Norovirus
- ✓ Clostridium difficile
- ✓ Any other enteric pathogens