

POLICY AND PROCEDURES FOR CONTROL OF CLOSTRIDIUM DIFFICILE DIARRHOEA

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**In Consultation
With:** Control of Infection Committee

Status: Approval date: November 2007

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Review date: November 2020

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History

Issue	Date Issued	Brief Summary of Change	Approved by
1	Nov 2007	New policy	Clinical Governance Committee
2	Apr 2008	Updated in line with the revised Health Act in January 2008 The reporting of Clostridium difficile infections by the Chief Executive	Michaela Morris, Director of Nursing & Operations
	Feb 2010	Updated in line with Department of Health and Health Protection Agency Report Clostridium difficile How to Deal with the Problem (2008)	Caroline Becher, Chief Nurse
3	Mar 2014	Updated in line with guidance on the Management and Treatment of Clostridium difficile infection and expiry of review date.	Suzanne Rankin, Chief Nurse
4	Aug 2015	Updated in line with Clostridium difficile infection objectives for NHS organisations in 2015/16	Suzanne Rankin, Chief Nurse
5	Feb 2017	Amended stool type to type 5-7 to be tested Added up to date RCA tool Added diarrhoea assessment tool and Bristol stool chart Duty of candour added Fluid balance and nutrition assessment added	Heather Caudle, Chief Nurse

For more information on the status of this document, please contact:	
Policy Author	Infection Control Team
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Review due	November 2020
Ratified by	Clinical Governance Committee
Audience	All Trust staff

POLICY AND PROCEDURES FOR CONTROL OF CLOSTRIDIUM DIFFICILE DIARRHOEA

See also:

- Trust Antibiotic Guidelines**
- Infection Control Outbreak/Incident Policy including Major Outbreak Policy**
- Hand Hygiene Policy for Healthcare Workers**
- Standard Precautions Policy**
- Isolation Policy**
- Cleaning and Disinfection Policy**

1. INTRODUCTION

Clostridium difficile diarrhoea can be acquired during a hospital admission, which occasionally, and particularly in the elderly, may result in a serious illness and even death. Two features of this bacterium are of special interest; one is the production of toxins which can damage the cells lining the bowel, and the other is the ability to form spores which enable this bacterium to persist in the environment.

Almost all patients who develop Clostridium difficile diarrhoea are on, or have recently been given antibiotic therapy. Diarrhoea is the most common symptom, but abdominal pain and fever may also occur. In the majority of patients, the illness is mild and full recovery is usual. Elderly patients may become seriously ill with dehydration as a consequence of the diarrhoea. Occasionally, patients may develop a severe form of the disease called "pseudomembranous colitis" (PMC) which is characterised by significant damage to the large bowel. This may lead to a grossly dilated bowel "toxic megacolon" or even perforation. The only treatment for toxic megacolon is a total colectomy.

2. PURPOSE

Clostridium difficile is a specific alert organism which is reported on the Public Health England (PHE) Data Capture System. This policy makes for prompt diagnosis, isolation, infection control procedures, environmental decontamination and antibiotic prescribing. All cases are reviewed by the CCG and if any lapse in care is identified, the Trust is liable for a possible financial penalty if the Department of Health target is breached.

3. DEFINITION

Clostridium difficile diarrhoea – diarrhoea not attributable to any other cause, which occurs at the same time as a positive stool.

4. TRANSMISSION OF SPREAD OF THE ORGANISM

This bacterium produces highly resistant spores so it can be spread by

- direct patient to patient contact
- the hands of health care workers
- contact with the contaminated environment
- inappropriate use of antibiotics

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Those most at risk are elderly or immunosuppressed patients receiving antibiotics on a ward where there has already been a case or cases.

5. PREVENTION

One of the key measures in preventing the development of *Clostridium difficile* is control of antibiotic usage.

- short courses of only 5–7 days are preferable to longer courses.
- narrow spectrum antibiotics are preferable to broad spectrum agents or combinations.
- avoid high risk antibiotics for patients aged 60 years or more. High risk antibiotics are clindamycin, ciprofloxacin, cefixime, cefotaxime, ceftriaxone and to a lesser extent, cefuroxime, co-amoxiclav and piperacillin/tazobactam.

For further information refer to the Trust's Antibiotic Guidelines.

Do not give anti-motility agents such as Loperamide (risk of toxic megacolon).

6. ISOLATION

In general, patients with unexplained diarrhoea should be isolated in a single room (within two hours of onset) until stool specimen tests show no infective cause or diarrhoea has resolved. Please refer to the Diarrhoea Assessment Flow Diagram (APPENDIX 1) to aid your assessment. If more than one patient on the ward develops unexplained diarrhoea the Infection Control Nurse must be informed and both/all patients isolated.

Patients with confirmed *Clostridium difficile* diarrhoea should be isolated (prior to confirmation of result) in a single room, preferably with its own toilet. If the isolation room has no toilet a commode must be designated for that patient's use only. If there is no isolation room contact the CSNP or Infection Control Nurses for advice.

Patients who have formed stools for 48 hours can be placed in a main bay, however should the patient experience further diarrhoea then they must be isolated again immediately. There is no need to send a stool sample for testing. Patients must have a ward toilet/commode designated for their own use only until diarrhoea stops. Patients must be instructed about the importance of maintaining their own hand hygiene. Cohort nursing *Clostridium difficile* patients may be advised.

7. DIAGNOSIS

From 2012 *Clostridium difficile* is now tested by a combination of two tests; the test performed is a GDH EIA (enzyme immunoassay). A Glutamate dehydrogenase (GDH) is an enzyme produced by *Clostridium difficile*. If GDH is detected a second test is performed for *Clostridium difficile* toxin. If the first test is positive and the second test is negative it is reported as GDH positive (presence of *Clostridium difficile* in the gut). If both tests are positive this is reported as *Clostridium difficile* toxin detected. Toxin producing *Clostridium difficile* bacteria causes *Clostridium difficile* infection (diarrhoea).

- There is a daily (including weekends) service for testing stools for *Clostridium difficile*.
- Stool type 5-7 only should be sent for testing (as per Bristol stool chart APPENDIX 2).

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- When a patient is admitted from the community with suspected Clostridium difficile diarrhoea, stool is tested for C&S plus Clostridium difficile toxin. Once a patient has a positive stool for Clostridium difficile further specimens are not required unless a cause other than Clostridium difficile is suspected.
- Contact the Infection Control Team for further advice should the following arise:
 - Patients with suspected Clostridium difficile diarrhoea who have a negative result for Clostridium difficile toxin and continue to have diarrhoea.
 - Previously confirmed and treated Clostridium difficile patients who develop symptoms of diarrhoea i.e. relapse.

8. INFECTION CONTROL PROCEDURES

Clinical staff must wear gloves and aprons when:

- in direct contact with the patient, their bedclothes and equipment in their bed area
- disposing of excreta
- clearing up spills of body fluid

Porters should wear gloves when transporting patients to another department.

Housekeeping staff should wear gloves to clean the isolation room.

Visitors do not need to wear gloves because they are not going to touch another patient. However visitors should be careful with hand hygiene and wash their hands on entering and leaving the room.

Take gloves off first, then remove apron and wash hands with soap and water:

- when leaving isolation room
- after disposing of excreta in the sluice
- after clearing up body fluid spills

N.B. Alcohol sanitiser is not sufficient for hand decontamination as it does not kill Clostridium difficile spores.

Change gloves and apron before assisting the patient to eat, administering oral medicines or moving from a “dirty task” to a “clean” one.

Dispose of:

- Excreta immediately
- Gloves and aprons into a clinical waste bag
- Wipe bedpan/slipperpan holders/commodos after use with Clorox wipe (5,200ppm chlorine). Wear PPE and use one wipe at a time.
- Ensure the underneath seat of commodos are wiped over after every use and commode labelled as clean.
- Soiled linen into a red stitched bag. Seal the bag up immediately in the room, then place in outer white plastic bag and take it immediately to the sluice for collection

Equipment and furniture:

- keep to a minimum
- move as little as possible between patients
- Isolation room/bay to be cleaned daily using Tristel Fusion (chlorine dioxide) (especially places that patients touch like locker tops, cot sides, commode arm rests)

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- Following discharge room must be terminally cleaned and all equipment must be cleaned with Clorox (5,200ppm chlorine). Wear PPE and use one wipe at a time.

No special precautions are necessary for crockery and cutlery.

The patient should be encouraged to keep hands as clean as possible, especially after toileting and before eating. Encourage handwashing and use of disposable hand wipes. Fingernails must be kept short and clean.

Patient can come out of isolation when diarrhoea has stopped and he/she has resumed formed stools for 48 hours, it is not necessary to have a negative stool result first.

Do not send repeat specimens unless advised by the Infection Prevention and Control Team/Consultant Microbiologists.

9. DUTY OF CANDOUR

To ensure duty of candour, an explanation of the result must be provided to the patient and/or relative and this must be recorded in the medical notes. When explaining this information it is particularly important, where required, to work with interpreters and other communication support to provide information in a format that patients can understand.

10. MANAGEMENT

If possible antibiotic treatment should be stopped because this helps to resolve the diarrhoea. However sometimes antibiotics must continue e.g. for treatment of pneumonia.

First choice of treatment for *Clostridium difficile* diarrhoea is oral metronidazole 400mg tds given until 48 hours after diarrhoea stops ie formed stool passed. Metronidazole can be given for up to 14 days. If diarrhoea has not stopped after 14 days the patient should be reviewed. Intravenous metronidazole can be used if patient is nil by mouth but is less effective.

The second choice of treatment is oral vancomycin 125mg qds, given until 48 hours after diarrhoea stops. Intravenous vancomycin cannot be used as it does not cross into the bowel.

Oral vancomycin should be used as first line treatment for severely ill patients because it settles diarrhoea 1 day earlier than metronidazole. However it should be used with caution to reduce the chance of creating vancomycin-resistant enterococcus (VRE) in that person's bowel.

If the patient does not respond to vancomycin discuss with Consultant Microbiologist.

Antibiotic treatment should continue for one week until formed stool after a relapse of *Clostridium difficile*.

There is no indication for Yakult, Actimel or any other probiotic product either in the prevention or treatment of *Clostridium difficile*.

A fluid balance chart must be maintained and a nutritional assessment undertaken.

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11. DISCHARGE OF PATIENT

The isolation room must have a thorough terminal clean with Tristel Fusion (chlorine dioxide) sporicidal disinfectant. Disposable and non disposable curtains must be changed and the latter laundered.

The patient's general practitioner must be informed that he/she has had Clostridium difficile diarrhoea in hospital. This is so the G.P. will know to avoid antibiotic treatment if possible, (especially for the next 3 months) and can observe for relapse. If the patient is transferring to another healthcare setting the receiving health care professionals must be informed prior to transfer.

In the event of an outbreak of Clostridium difficile the Infection Control Team may initiate cleaning of rooms and/or bays using the hydrogen peroxide fogging machine once the outbreak is over.

12. REPORTING OF HEALTHCARE ASSOCIATED INFECTIONS (HCAI) CLOSTRIDIUM DIFFICILE INFECTION

It is a mandatory requirement that the Trust's Chief Executive reports all cases of Clostridium difficile infections in patients aged 2 years and over (provided there has not been a positive Clostridium difficile result within the previous 28 days) to the PHE as directed by the Department of Health. All new cases are entered onto the Healthcare Associated Infection Data Capture System by the infection control nurses. This is then signed off by the Chief Executive.

A Serious Incident form also needs to be completed for outbreaks and where Clostridium difficile is on Part 1 of the death certificate. This ensures that the outbreak or case is reported as a serious untoward incident.

A Root Cause Analysis must be completed for all HCAI Clostridium difficile cases and this will be reviewed by the CCG to identify if there were any lapse in care attributable to the Trust.

13. DISSEMINATION AND IMPLEMENTATION

The policy has been written by the Infection Control Team, been agreed by the Control of Infection Committee and ratified by the Clinical Governance Committee. The policy will be available on TrustNet and as a hard copy at ward/department level for ease of access.

Clostridium difficile updates are included in the annual updates for healthcare workers. If outbreaks or clusters occur then enhanced teaching sessions are undertaken in the ward.

14. PROCESS FOR MONITORING COMPLIANCE WITH THE EFFECTIVENESS OF POLICIES

A root cause analysis (see Appendix 1) of each case is undertaken to assess compliance with the policy. This is undertaken by the ward manager in conjunction with the medical teams, Antibiotic Pharmacist and with the help of the Infection Control Team.

An audit is also undertaken using the Saving Lives High Impact Intervention audit tool. This is undertaken by ward staff. These are overseen by the matrons. All cases form part of the Best Care Dashboard presented monthly to Trust Board.

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If there is compliance an action plan is formulated and followed up by the matron.

15. EQUALITY IMPACT ASSESSMENT

The Trust has a statutory duty to carry out an Equality Impact Assessment (EIA) and an overarching assessment has been undertaken for all infection control policies.

16. ARCHIVING ARRANGEMENTS

This is a Trust-wide document and archiving arrangements are managed by Quality Dept. who can be contacted to request master/archived copies.

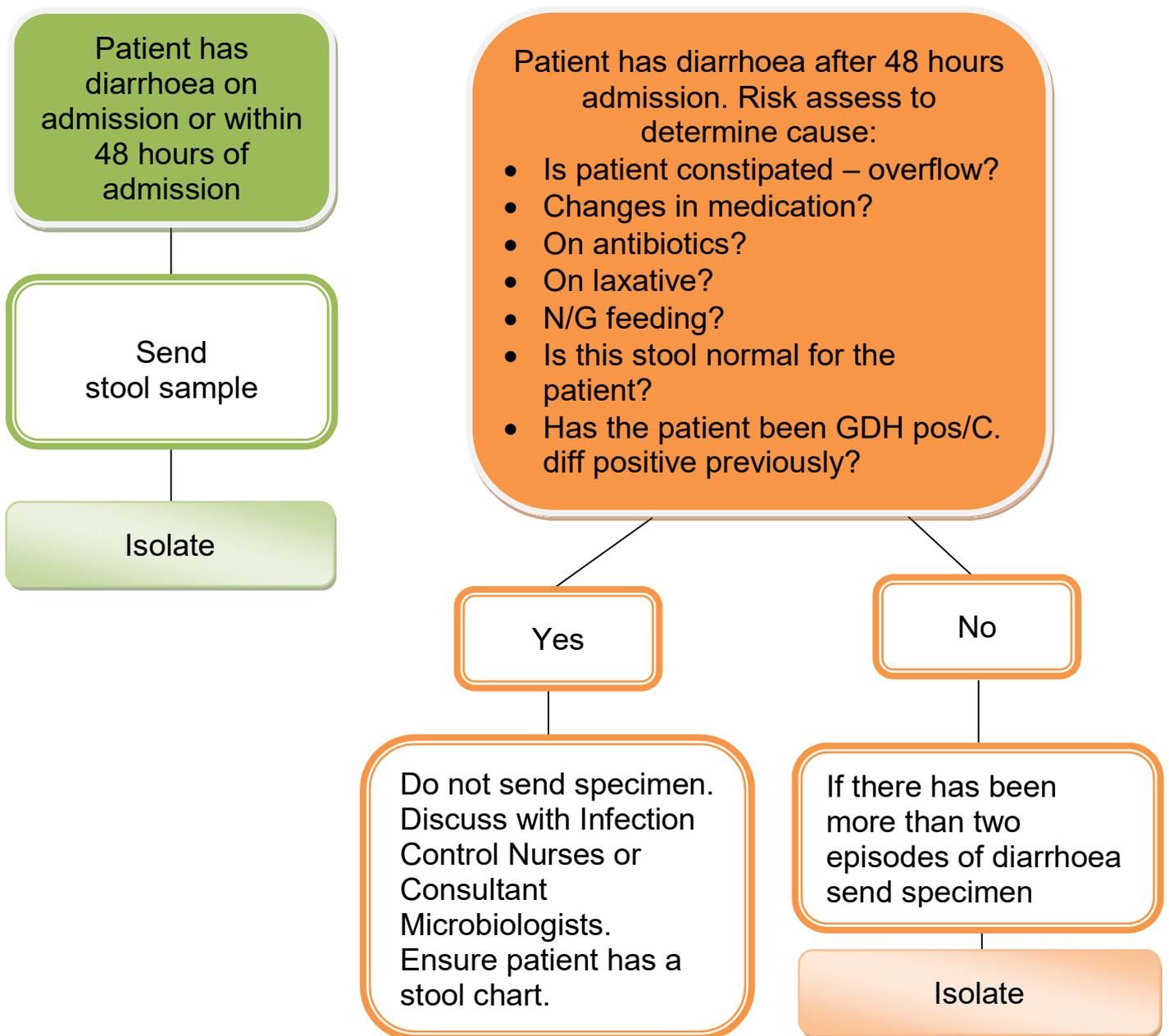
17. REFERENCES

- Department of Health 2007 Saving Lives: reducing infection, delivering clean safe care.
- The Journal of Hospital Infection. National Clostridium Standards Group report to The Department of Health, Volume 56 Supplement 1, February 2004.
- Clostridium difficile How to deal with The Problem (2008). A report by Department of Health and Health Protection Agency.
- Department of Health. 2009. The Health & Social Care Act 2008. Code of Practice for the NHS on the prevention and control of healthcare associated infections and related guidance.
- Department of Health. 2012. Updated guidance on the diagnosis and reporting of Clostridium difficile.
- Public Health England. 2013. Update guidance on the management and treatment of Clostridium difficile infection.
- Department of Health 2014. Clostridium difficile infection objectives for NHS organisations in 2015/16 and guidance on sanction implementation.

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APPENDIX 1

Flowchart for the management of patients who present or develop diarrhoea



Do not wait for result to isolate patient

Ring Infection Control Nurses if further advice required including increased number of cases

Bristol Stool Chart

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

APPENDIX 3

Clostridium Difficile Infection (CDI) – Root Cause Analysis

1. Demographics	
Name	
Sex	Male <input type="checkbox"/> Female <input type="checkbox"/>
Date of Birth	
Hospital number	
NHS number	
Date of current admission	
Reason for admission	
Date of sample	
Ward or Department	
Symptoms consistent with CDI on admission?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Admission history in last 3 months	
Is this infection classified a new, a relapse or repeat within episode?	
2. Clostridium difficile infection	
Inflammatory markers at time of specimen collection	WCC = CRP =
Temperature	
Risk factors for developing diarrhoea identified on admission or at the time of specimen collection	
Recent laxatives / enemas	Yes <input type="checkbox"/> No <input type="checkbox"/>

Was the patient monitored using the Bristol Stool Chart (BSC) immediately when symptoms of diarrhoea (BSC-T5, T6 and T7) began?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
5. Treatment of CDI and patient outcome		
Was the patient treated for CDI?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Was the treatment in line with local guidance?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Treatment for current episode of CDI (medical/surgical interventions)	Treatment/Procedures with dates:	
What was the clinical outcome?	Recovered	Yes <input type="checkbox"/> No <input type="checkbox"/>
	Toxic megacolon	Yes <input type="checkbox"/> No <input type="checkbox"/>
Did the patient die within 30 days of CDI diagnosis?	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
Provide details of all conditions listed on death certificate		
6. Environmental/other IC issues		
Any environmental concerns in the clinical area? Any other IC issues (such as hand hygiene etc.)? Any other C. diff cases on ward in the 28 days prior to this case?		
7. Lessons learned		
Outline the lessons learned from this episode of CDI. Are there any recurring themes seen across this and other patient CDI assessments?		

Management updated?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
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10. Preventability

State whether you have identified any “lapses in care” that could have contributed to the development of this CDI case.

In order to facilitate learning and optimisation of patient care, please identify any other lapses in care that did not contribute to the development of this CDI case.

If you consider this CDI case occurred despite no lapses in care (and so was deemed not to be “preventable”), outline your reason(s) why.

Clinician’s comments

11. Summary of meeting with Commissioners