The Newcastle upon Tyne Hospitals NHS Foundation Trust

Clostridium (Clostridioides) difficile Policy

Version No.:	6.0
Effective From:	03 February 2020
Expiry date:	03 February 2023
Date Ratified:	28 January 2020
Ratified By:	Clinical Policy Group

Policy at a glance

NHS Improvement refer to diarrhoea as type 5-7 stool. Patients experiencing diarrhoea should be reviewed for infective causes, if infection is suspected the patient should be isolated, enteric precautions commenced and a stool sample should be submitted on the 1st episode.

C. difficile **toxin testing** service is available 7 days/week via the Microbiology Department, Freeman Hospital. Routine hours Monday – Friday 8am – 6pm, Saturday – Sunday 8am – 12.30pm. Last routine collection from RVI Mon-Fri is 16:55; outside of routine collection times, arrangements for urgent transportation for FH must be made. Any out-of-hours arrangements must be made via the Microbiology on-call team. It is essential to include appropriate patient identifiable information, clinical details and recent/current medication information (antibiotics, PPIs, laxatives or aperients) on the request.

Stool specimens should be sent for toxin testing on the **1st** episode of Bristol Stool Chart (BSC) type 5 – 7 diarrhoea of unknown cause ensuring sufficient quantity is sent for testing, i.e. fills up to 1/5th of the container as a minimum.

Do not send a stool sample if the patient is on or has had laxatives, aperients or bowel prep in the previous 24 hours, **unless the patient is systemically unwell or there is a significant clinical indication to do so**. There may be exceptions to this e.g. liver disease and those in critical care areas. In these instances liaise with Microbiologist or the patient's clinician for advice.

Antimicrobial treatment should be prescribed based on the severity of *C difficile* infection (CDI); please refer to Rx Guidelines (Adult Guidelines – CDI) or seek Microbiology, Infectious Diseases or Gastroenterology advice in children.

A red clean must be performed for the bed space once a patient is asymptomatic for >48 hours and ideally has passed formed stool (type 1-4) and therefore isolation ceases, after discharge, transfer or death. If the patient has been asymptomatic for >48 hours but has not passed a formed stool the Nurse in Charge must risk assess whether isolation can cease, with support from IPCN Team or PSC if needed.

Hand hygiene must be performed with soap and water as alcohol based hand rub is not effective against *C. difficile* spores.

1 Introduction

Healthcare Associated Infections (HCAI) are a major concern both in the acute and community setting. The cost of HCAI is huge and includes both the direct effects on the patient and their carers in terms of increased morbidity/mortality and also the financial costs to the NHS.

All NHS Trusts in England are required to report all *Clostridium (Clostridioides) difficile (C. difficile)* toxin positive cases, in patients over 2 years of age, to the Department of Health's (DH) mandatory surveillance programme. A significant proportion of HCAI can be prevented by the adoption of evidence-based Infection Prevention and Control (IPC) standards which are designed to protect patients from the risk of infection.

2 Scope

This policy applies to all healthcare professionals delivering care in both acute and community services within Newcastle upon Tyne Hospitals NHS Foundation Trust. This includes medical staff, nurses, allied health professionals, locum/agency staff and students.

3 Aim

The aim of this policy is to prevent avoidable CDI by supporting clinical staff in initiating early diagnosis, prompt isolation, and compliance with hand hygiene, personal protective equipment (PPE) and antibiotic stewardship. It also supports risk assessment for staff working in community settings.

4 Duties (Roles and Responsibilities)

4.1 **The Chief Executive** has overall responsibility for the implementation, monitoring and review of this policy; this responsibility is delegated to the **Executive Chief Nurse** as part of the Executive Team.

4.2 The **Infection Prevention and Control Committee (IPCC)**, chaired by the **Director of Infection Prevention and Control (DIPC)**, will review this policy and any new evidence base within the time frame set out in the policy, ensuring an effective and integrated approach, to prevent and reduce CDI.

4.3 The **Microbiologists** are responsible for undertaking an initial assessment and where clinically indicated, providing a regular review and guidance on management of patients with known or suspected CDI, providing expert advice in the treatment and prevention of CDI.

4.4 **The Infection Prevention and Control Nursing (IPCN) Team** are responsible for providing expert advice in accordance with this policy, for supporting staff in its implementation and assisting with risk assessment where complex decisions are required.

4.5 **The IPC Healthcare Scientist** is responsible for ensuring that microbiology samples are processed in accordance with national guidance and maintains quality service provision which allows accurate diagnosis of CDI.

4.6 **The Information and Data Manager is** responsible for developing and improving reporting of CDI, and analysing the learning from completed investigations of CDI via the return of the fully completed Root Cause Analysis (RCA) Forms.

4.7 The role of the **Antimicrobial Pharmacist,** the **Chair of the Antimicrobial Steering Group** and the **Directorate Antimicrobial Leads** in in leading the antibiotic stewardship programme to promote safe antimicrobial prescribing is outlined in the Antimicrobial Stewardship Policy.**(AMSG)**.

4.8 **Consultants, medical staff and their juniors** are responsible for reviewing antibiotic prescribing on all ward rounds. This includes reviewing IV antibiotics each day, stopping unnecessary prescriptions and changing those that do not comply with national guidelines and local policy. Doctors should consider CDI as a diagnosis in its own right, grading each case for severity, treating accordingly, reviewing each patient daily and monitoring bowel function.

4.9 **Patient Services Coordinators (PSC)** in collaboration with clinical staff and IPC Nurses are responsible for ensuring patients are allocated beds in accordance with this policy. In any situations where safe placement cannot be achieved this will be escalated as appropriate to site IPC Doctor, DIPC and Senior Nursing Team to ensure the most appropriate placement and to minimise the risk to the patient and others.

4.10 **On–Call Managers and Directors** are responsible, in the out-of-hours period, for providing senior and executive leadership to ensure implementation of this policy and for ensuring infection risks are fully considered and documented when complex decisions need to be made regarding capacity and patient flow.

4.11 **Directorate Managers, Clinical Directors and Matrons** are responsible for on-going development, review and monitoring of Directorate HCAI Action Plans ensuring there are effective prevention and control processes in place and that local actions to prevent CDI are initiated and completed.

4.12 It is the responsibility of **line managers and heads of department** to ensure that policies, procedures and access to education and training are made available to all staff to minimise the risk of infection and ensure clinical practice is in line with policy.

4.13 It is the responsibility of **all staff** to ensure that they understand and implement this policy and attend mandatory and other, training sessions as specified in their role.

5 Stool Specimen Collection and Laboratory Diagnosis

5.1 *C. difficile* toxin testing service is available 7 days/week via the Microbiology Department, Freeman Hospital. Routine hours Monday – Friday 8am – 6pm, Saturday – Sunday 8am – 12.30pm; any out-of-hours arrangements must be made via the Microbiology on-call team. It is essential to include appropriate patient identifiable information, clinical details and recent/current medication information (antibiotics, PPIs, laxatives or aperients) on the request.

Refer to the 'Management of Diarrhoea Poster'

5.2 Stool specimens should be sent for toxin testing on the 1st episode of BSC type 5 – 7 diarrhoea of unknown cause ensuring sufficient quantity is sent for testing, i.e. fills up to 1/5th of the container as a minimum.

Do not send a stool sample if the patient is on or has had laxatives, aperients or bowel prep in the previous 24 hours, **unless the patient is systemically unwell or there is a significant clinical indication to do so**. There may be exceptions to this e.g. liver disease and those in critical care areas. In these instances liaise with Microbiologist or the patient's clinician for advice

N.B. Following multi-disciplinary review, if a patient **who does not have a history of *C. difficile* carriage or infection**, but is symptomatic of diarrhoea which is not deemed to be infectious in origin e.g. attributed to nasogastric (NG) feed, isolation is not required. **This must be documented in the medical notes. Bowel actions must continue to be monitored for change in frequency/stool type, consider re-sampling if infection is suspected.**

5.3 In suspected cases of 'silent' CDI, such as ileus, toxic megacolon or pseudomembranous colitis without diarrhoea, other diagnostic procedures, such as colonoscopy, white cell count (WCC), serum creatinine and abdominal CT scanning, may be required.

5.3.1 If the patient remains symptomatic, seek advice from a Microbiologist; further tests might be necessary in light of clinical evidence.

5.3.2 In the community there may be other causative organisms causing BSC type 5 – 7 stool; community staff caring for patients in the community setting should carry out an assessment and if *C. difficile* infection is suspected, liaise further with the patient's GP prior to submitting a stool specimen.

6 Results (see appendix 1 for further guidance)

There are 4 possible results for a *C. difficile* test:

i) C. difficile TOXIN DETECTED, this means the patient has CDI and may require treatment.

ii) ***C difficile TOXIN EQUIVOCAL, this means the patient is a carrier of C difficile and MAY have CDI. A repeat sample is advised.*** This result **must** be interpreted in the clinical context and may require treatment.

iii) ***C. difficile CARRIER, these patients are high risk and identified as carriers of C. difficile. This means that patients are carrying C. difficile in their bowel but it is currently not producing toxin and therefore not causing CDI.*** This result **must** be interpreted in the clinical context and also discussed with the IPC Team; if there are continuing symptoms, discuss with Microbiology, Infectious Diseases and/or Gastroenterology. Diarrhoea must be monitored and low threshold for retesting, consider risk of patient developing CDI.

iv) ***C. difficile*** **toxin NOT DETECTED**, there is no evidence on this test that *C. difficile* is present. Some patients may need to be retested or considered for further investigation; this should be discussed with Microbiology, Infectious Diseases or Gastroenterology, particularly if the patient has markers of severe *C. difficile* infection.

7 Management and treatment of *C. difficile* infection

7.1 Acute Services

7.1.1 In-patient areas must commence an electronic Experiencing Diarrhoea Care Plan when a patient has one episode of BSC type 5 – 7 stool and an infective cause cannot be excluded. On confirmation of *CDI* (toxin or a carrier), the patient and/or relative provided with a *Clostridium difficile* patient information leaflet, given to ward/department by IPC team. 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.

7.1.2 Medication that may cause diarrhoea or increase the risk of *CDI* e.g. PPIs must be reviewed by medical staff and those medications not required should be stopped where appropriate.

7.1.3 Positive CDI results will be acted upon by the IPC Team, who will liaise with the appropriate clinical teams looking after the patient.

7.1.4 The member of the IPC Team will add a *C. difficile* flag to eRecord to identify the patient is *C. difficile* positive (toxin or a carrier).
Clinical staff caring for a patient in the community will add a flag to SystmOne to identify the patient is *C. difficile* positive (toxin or a carrier).

7.1.5 The clinical assessment of the patient and appropriate need for senior medical input, surgical review or critical care input should be guided by

the actions required on the Patient's Observation Chart and National Early Warning Score (NEWS2).

7.1.6 Where a case of CDI is confirmed as HCAI a *C. difficile* audit will be completed on the ward where the case is attributed by a member of the IPCT. Real-time feedback will be provided to the nurse-in-charge of the clinical area and where issues are identified, an action plan will be completed to address these.

7.2 Community Services

7.2.1 Positive *C. difficile* results from patients in the community are telephoned to the patient's GP practice by the Microbiology Laboratory; they are also sent electronically directly from the laboratory to the GP.

7.2.2 It is the responsibility of the GP to review current medication and prescribe the appropriate treatment seeking Microbiology.

7.2.3 Patients in community settings who are symptomatic should be individually assessed by staff responsible for their care, and when required, advice sought from a Microbiologist by the GP.

7.2.4 Community staff involved in patient care where the patient is *C. difficile* positive (toxin or carrier), and is symptomatic of diarrhoea, must ensure that any disposable waste contaminated with infected faecal material is disposed of in accordance with Request for Collection of Clinical Waste from a Patient's Home, this would remain the case until the patient becomes asymptomatic.

7.2.5 If a symptomatic patient is receiving clinical care from a member of NuTH community staff and becomes acutely unwell requiring admission to an acute hospital, it is the responsibility of that member of staff to notify the receiving facility of the patient's *C. difficile* status in a timely manner to ensure appropriate management.

7.3 Treatment according to severity

The severity of CDI should be assessed using the following definitions:

i) **Mild or moderate CDI** is not associated with a raised white cell count or other clinical markers of severe infection.

ii) **Severe CDI** is associated with a WCC >15 x 10^9/L, or an acute rising serum creatinine (i.e. >50% increase above baseline), or a temperature of >38.5°C, or evidence of severe colitis (abdominal or radiological signs). The number of stools is not a reliable indicator of severity.

iii) **Life-threatening CDI** includes hypotension, partial or complete ileus or toxic megacolon.

Antimicrobial treatment should be prescribed based on the severity of CDI; please refer to Rx Guidelines (Adult Treatment Guidelines – CDI) or seek Microbiology, Infectious Diseases or Gastroenterology advice in children. Documentation of severity assessment is the responsibility of medical staff.

It is essential treatment is commenced promptly. Vancomycin and Fidaxomicin are available in the emergency drugs out of hours store and IV vancomycin can be used as oral preparation if required.

8 Prevention of *C. difficile* through antibiotic prescribing

Antimicrobial treatment regimens may change, therefore in conjunction with this policy, please refer to Rx Guidelines. All prescribers have a responsibility to ensure the following;

- Individual prescribers are responsible for any prescription they sign
- Prescribers must follow the *Start Smart then Focus* principles
- If the prescriber is uncertain as to what to prescribe and there are no specific Trust-wide or departmental guidelines they must seek the advice of a senior colleague, microbiologist or infectious disease physician. Advice can also be obtained from the ward and antimicrobial pharmacist when appropriate
- If a patient develops CDI, it is the responsibility of the consultant in charge of the patient to ensure a review of recent antimicrobial treatments (last 3 months) and ensure that this is recorded in the Root Cause Analysis (RCA). This can be delegated to a trainee under supervision

8.1 Use narrow-spectrum agents for empirical treatment where appropriate.

8.2 Carefully consider the use of broad spectrum agents especially in the elderly.

8.3 Restricted broad-spectrum antibiotics should be used only when indicated by the patient's clinical condition, and must be reviewed on results of microbiological testing or according to the local sensitivities of causative organisms.

8.4 Refer to Trust's Antibiotic Stop/Review Date and Indication Policy. When in doubt seek advice from site Microbiologists.

8.5 Education in prudent antibiotic use is undertaken by medical and nursing staff at induction and annual mandatory training via the Trust eLearning programme.

8.6 Ward-based audit of antibiotic usage and compliance are undertaken in accordance with the Antibiotic Stop/Review and Indication Policy.

9 Prevention of transmission of *C. difficile* through isolation

9.1 A patient with suspected infective diarrhoea must be isolated (single cubicle with designated toilet facilities) on the first episode of BSC type 5-7 diarrhoea,

in line with the Trust's Standard Precautions, Isolation, Waste Management and Procedures and the Used Laundry Management policies.

9.2 If isolation in a single room is not possible, the staff caring for the patient must contact the PSC to source a cubicle; advice from IPC team to be sought as required. If this is not possible a Datix should be submitted. Where necessary, and in exceptional circumstances, the IPC Team may consider cohort nursing in a bay or ward following discussion with clinical staff.

9.3 Symptomatic patients should not be transferred/discharged to other areas unless in exceptional circumstances and due to clinical need, a single room must be sought. Advice may be obtained from the IPC Team if required

9.4 The patient must remain isolated in accordance with the Standard Precautions, Isolation, Waste Management and Procedures and the Used Laundry Management policies until asymptomatic of BSC type 5–7 stools for 48 hours and ideally a formed stool (Type 1-4) has been passed. If the patient has been asymptomatic for >48 hours but has not passed a formed stool the Nurse in Charge must risk assess whether isolation can cease, with support from IPCN Team or PSC if needed. A red clean must be performed for the bed space prior to ceasing isolation and after discharge, transfer or death.

10 Prevention of transmission of *C. difficile* through effective hand hygiene and Personal Protective Equipment (PPE)

10.1 Acute Services

10.1.1 All staff must use disposable gloves and aprons for all contact with the patient/patient's environment. PPE must be removed before leaving the isolation room and hand must be washed with liquid soap and water as per Hand Hygiene Policy.

Alcohol based hand rub must not be used as an alternative to hand washing as it is not effective against *C. difficile* spores.

10.1.2 Visitors need only wear gloves and an apron if directly involved in patient care which should then be immediately removed and hands washed with soap and water after care delivery. All visitors must wash their hands with liquid soap and water after before leaving the isolation room and after visiting.

10.1.3 Patients must be encouraged to wash their hands or have assistance with hand hygiene before meals and after visiting the toilet.

10.2 Community Services

10.2.1 All staff must use disposable gloves and aprons for all contact with the patient/patient's environment, and wash their hands with liquid soap and water as per Hand Hygiene policy.

10.2.2 In a patient's home where hand washing facilities are unavailable or inadequate, a moist hand cleansing wipe can be used however the member of staff must wash hands with soap and water at the first available opportunity.

10.2.3 Where it is known that relatives are involved in delivering care, they should be advised of the importance of carrying out effective hand hygiene.

11 Prevention of *C. difficile* through environmental cleaning and disinfection

The ward environment should be clutter free and Trust policy Cleaning & Decontamination of the Patient Environment & Healthcare Equipment Policy adhered to.

11.1 Routine environmental cleaning of isolation rooms or bed spaces of CDI patients is carried out twice daily by Hotel Services Staff using combined detergent/chlorine releasing agent (1,000 ppm available chlorine – **contact time 10 minutes**).

11.2 All commodes must be cleaned after each use with a sporicidal product e.g. combined detergent/chlorine releasing agent (1,000 ppm available chlorine).

11.3 A red clean must be performed for the bed space once a patient is asymptomatic for >48 hours and ideally passed formed stool (type 1-4) prior to ceasing isolation or after discharge, transfer or death.

Where available, sporicidal disinfectant wipes should be used in place of regular disinfectant wipes for equipment as they are not effective for removing spores.

Hydrogen Peroxide Vapour (HPV) or UltraViolet (UV) light should be routinely deployed for all CDI cleans, this will be performed by rapid response team and is referred to as a red clean.

11.4 Community Services

11.4.1 Community staff can offer advice to patients/carers/relatives on environmental cleanliness in the home setting. Further advice to be sought from the IPC Nurses when required.

NB: Cleaning agents containing chlorine must not be used on patient's furniture or carpets. Any faecal soiling on these items must be cleaned using warm soapy water and disposable cloths.

12 Root Cause Analysis (RCA), Serious Infection Review Meeting (SIRM) and Appeals

12.1 An RCA is completed on all patients who are confirmed *C. difficile* toxin positive; a Datix incident form is submitted for all cases where a lapse in care has been deemed to have occurred. The RCA is to be completed by the relevant clinical staff involved in the patient's care with support from the IPCT.

12.2 When *C. difficile* is identified on Part 1 or 2 of a death certificate, a Datix incident form and a HCAI Death Certificate Review Form must be completed by the clinician responsible for the patient's care. An extraordinary SIRM will be called to discuss all cases with *C. difficile* recorded on the patient's death certificate

12.3 RCAs may be discussed at the Trust Serious Infection Review Meeting (SIRM) at the discretion of the DIPC, site IPC Doctor and Matron IPC. All cases are reviewed 30 days after occurrence.

Any learning from RCA should be included in the directorate action plans and actions are to be reviewed at regular directorate SIRMs.

12.4 If following review, there are no lapses in care and the occurrence of CDI is deemed to be unavoidable, the case will be discussed with Newcastle and Gateshead Clinical Commissioning Group by the IPC Team in order to appeal the addition of that case to the Trust's trajectory.

13 Management of Period of Increase Incidence (PII) or Outbreak

13.1 A (PII) of CDI is defined as two or more new cases (occurring >2 days post admission, not relapses) in a 28-day period on a ward that is based on the date of onset of the last case.

An outbreak of *C. difficile* infection is two or more cases caused by the same strain related in time and place over a 28-day period that is based on the date of onset of the last case.

13.2 An incident meeting should be held as determined by the size and rate of growth of the PII following assessment of the situation by the Microbiologist with the relevant Consultant clinicians, depending on the number of cases. As a minimum, all cases should be reviewed by the IPC Team on a weekly basis, ensuring enhanced communication with all staff including rapid communication of microbiology results.

13.3 The incident meeting will review recent Take Five audit data and determine the need for an enhanced antibiotic audit led by pharmacy with microbiology input

13.4 In conjunction with the IPC Team, environmental screening may be undertaken; additional cleaning or a deep clean of the whole ward will be undertaken where necessary.

13.5 Isolation practices and procedures must be reinforced by all staff to promote best practice; establishing an isolation ward or cohort bays if necessary. Staff and patient movement between affected and non-affected areas should be minimised and reduced movement of beds, commodes, trolleys and other equipment between areas.

13.6 RCA must be undertaken for all outbreaks and reported as Serious Untoward Incidents (SUIs) to the Commissioners. This includes all ward closures that are due to diarrhoea shown to be associated with transmission of *C. difficile.*

14 Death certification

14.1 Acute Services

14.1.1 If a patient with CDI dies, the consultant responsible for the patient's care must review whether CDI was part of the sequence of events leading directly to death or whether it was the underlying cause of death. If either case applies, CDI should be stated in Part 1 of the Medical Certificate of Cause of Death (MCCD). If CDI is not part of the sequence of events leading directly to death but contributed in some way to it, this should be stated in Part 2 of the MCCD. When CDI is recorded on either Part 1 or 2 of the MCCD, HCAI Death Certificate Review Form (July 2019) is completed by the patient's consultant..

14.1.2 The Trust will notify the Commissioners of every death of a patient where *C. difficile* is entered on either Part 1 or Part 2 of the MCCD; this will be reported as a SUI.

14.1.3 If a doctor is in doubt about the circumstances of death when writing the certificate, they should consult with the Microbiologist or DIPC.

14.1.4 Where the patient has been identified as a *C. difficile* carrier, this should not routinely be recorded on the MCCD unless the result is deemed clinically significant, the patient required treatment and after discussion with the Microbiologist or DIPC.

15 Training

All staff working on Trust premises, including Trust employed staff, agency and locum staff are responsible for accessing all relevant IPC policies (via intranet) in order to assist in the optimal management of their patients.

IPC principles are included in all mandatory IPC e-Learning training programmes. Management of *C. difficile* is included in the programmes for Medical, HCA and

Nursing and Midwifery staff. Good antimicrobial stewardship is also included in the programme for medical staff.

16 Equality and Diversity

The Trust is committed to ensuring that, as far as is reasonably practicable, the way we provide services to the public and the way we treat our staff reflects their individual needs and does not discriminate against individuals or groups on any grounds. This policy has been appropriately assessed.

17 Monitoring

Standard / process / issue	Monitoring and audit			
	Method	**By**	**Committee**	**Frequency**
Continuous monitoring of standards	Clinical Assurance Tool	Directorates and Clinical Matrons	Trust Board,	Bi-Annually
C. difficile statistics	HCAI scorecard	Information and Data Manager Patient Services	Trust Board IPCC	Bi-Monthly Monthly
Monitoring of RCA outcomes and modified Saving Lives IPCT audits (Including: • Stool sample collection • Isolation (acute) • Appropriate antibiotic treatments • Appropriate PPE usage)	IPC quarterly Report	DIPC, Matron IPC, Information and Data Manager	IPCC	Quarterly
Specimen transit and laboratory turnaround times	HCAI scorecard	IPC Healthcare scientist	Trust Board, IPCC	Bi-Monthly Monthly

18 Consultation and Review

Consultation of this policy was undertaken by members of IPCC and IPC Nurses. This policy will be reviewed annually by IPCC or as and when significant changes make earlier review necessary.

19 Implementation of Policy (including raising awareness)

Clinical Directors/Matrons/Sisters/Charge Nurses and Clinical Leads should ensure that staff are aware of this policy. This policy is available for staff to access via NUTH intranet.

IPC information is available via the Trust Intranet and Internet; additionally, patient information leaflets are available across the organisation.

20 References

Clostridium difficile infection: How to deal with the problem DH, December 2008
A good practice guide to control Clostridium difficile: HPA regional microbiology network, Jan 2007
Essential steps to safe clean care. DH 2006
Update guidance on the diagnosis and reporting of *Clostridium difficile*. DH, March 2012
Updated guidance on the management and treatment of Clostridium difficile infection. DH, May 2013.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/321891/Clostridium_difficile_management_and_treatment.pdf
The Health and Social Care Act 2008, Code of Practice on the prevention and control of infections and related guidance (Revised 2015)
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/449049/Code_of_practice_280715_acc.pdf
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. NHSI, February 2019.

21 Associated Documentation

C. difficile Definitions
C. difficile Infections – General Management and Surveillance
Cleaning & Decontamination of the Patient Environment & Healthcare Equipment Policy
Guidelines for Skin Care
Hand Hygiene Policy
Isolation Policy
Standard Precautions
Transport of Clinical Specimens
Used Laundry Management Policy
Waste Management Policy and Procedures

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Appendix 1

Explanation of *C. difficile* testing algorithm for medical and nursing staff

Summary

Clostridium (Clostridioides) difficile infection (CDI) remains a major cause of morbidity and mortality. CDI is caused by *C. difficile* bacteria producing toxins that cause loose stools and may lead to inflammation of the bowel wall and in the most serious cases pseudomembranous colitis. There is no perfect single diagnostic test for CDI at present; therefore we use a combination of tests. The tests are only reliable when there is a clinical suspicion of CDI, therefore stool samples should only be sent under these circumstances and results interpreted in light of the clinical picture.

Types of *C. difficile* tests conducted in the laboratory:

1. **GDH (Glutamate Dehydrogenase) TEST**: GDH is an enzyme that is produced by ALL *C. difficile* species (as well as other bacteria). This test is used as a SCREENING test. If it is NEGATIVE it is unlikely that the patient has CDI. If it is positive, further tests are carried out;

2. **MOLECULAR PCR TESTING:** This test looks for the presence of the genes that encode for the production of the *C. difficile* TOXIN. If it is positive in the context of a positive GDH test it implies that the patient harbours *C. difficile* bacteria with the capability to produce *C. difficile* toxin.

3. **TOXIN TESTING**: This test looks for the presence of *C. difficile* toxin A and B in the stool, this test has poor reliability. Positive GDH & toxin tests **suggest** the patient has *C. difficile* and its toxin in their stool. If it is negative or equivocal PCR testing is carried out:

What the results mean and the clinical implications:

***C. difficile* TOXIN DETECTED (GDH +, PCR +, Toxin +);**
C. difficile toxin detected in the patients stool and this can cause CDI.

Clinical implication*:* Review in the clinical context, make a severity assessment and most likely start treatment for CDI in line with the antibiotic policies. Medical staff must review the patients medication including; antibiotics, laxatives and PPI prescriptions.

IPC implication*:* Isolate and commence enteric precautions.

***C. difficile* TOXIN EQUIVOCAL (GDH +, PCR +, Toxin Equivocal);**
This indicates the patient carries *C difficile* in their bowel and may represent low level toxin and *C difficile* infection.

Clinical implication: This result needs to be interpreted in the clinical context. The patient may have CDI OR be a carrier of *C. difficile* with the potential to develop CDI. Please send a repeat sample and consider whether treatment is clinically indicated. If there is a clinical suspicion of CDI, treatment should be commenced after making a severity assessment. Medical staff must review the patients medication including; antibiotics, laxatives and PPI prescriptions.

IPC implication*:* Isolate and commence enteric precautions.

***C. difficile* CARRIER (GDH +, PCR +, Toxin –)**
Implies that the patient carries *C. difficile* in their bowel that has the **potential** to produce *C. difficile toxin* however, the presence of the toxin has not been detected at this time and is therefore not causing disease.

Clinical implication: This result needs to be interpreted in the clinical context. The patient may have CDI (and the toxin test is a false negative) OR be a carrier of *C. difficile* with the potential to develop CDI. If there is a clinical suspicion of CDI, treatment should be commenced after making a severity assessment. Any existing antibiotic, laxative and PPI prescriptions should be reviewed. It is essential to only prescribe antibiotics in these patients if absolutely necessary.

IPC implication*:* These patients may be infectious therefore should be isolated and commence enteric precautions.

***C. difficile* toxin NOT DETECTED (GDH -)**
No microbiological evidence on this sample to suggest CDI.

Clinical implication*:* Interpret in the clinical context. If CDI strongly suspected, send a repeat sample. Review and if possible stop any unnecessary antibiotics (antibiotic associated colitis is a common cause of loose stools). Review laxative and PPI prescriptions.

IPC implication*:* Patients with unexplained diarrhoea should be isolated and commence enteric precautions.

Please contact Microbiology or the ID team if further advice required.

The Newcastle upon Tyne Hospitals NHS Foundation Trust

Equality Analysis Form A

This form must be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval.

PART 1

1. **Assessment Date:** 27/11/19

2. **Name of policy / guidance/ strategy / service development / Investment plan/Board Paper**:

***Clostridium (Clostridioides) difficile* Policy**

3. **Name and designation of author:**

Dr. Robb, Consultant Microbiologist. Angela Cobb, Matron IPC.

4. **Names & Designations of those involved in the impact analysis screening process:**

Angela Cobb, Matron IPC. Lucy Hall, Equality & Diversity Lead.

5. **Is this a:** Policy X Strategy □ Service □ Board Paper □

Is this: New Revised X

Who is affected: Employees X Service Users □ Wider Community □

6. **What are the main aims, objectives of the document you are reviewing and what are the intended outcomes?** *(These can be cut and pasted from your policy)*

This policy provides guidance for all staff regarding by support staff with early recognition of potentially infective diarrhoea and management of the patient.

7. Does this policy, strategy, or service have any equality implications? Yes X No

If No, state reasons and the information used to make this decision, please refer to paragraph 2.3 of the Equality Analysis Guidance before providing reasons:

8. Summary of evidence related to protected characteristics

Protected Characteristic	**Evidence** **What evidence do you have that the Trust is meeting the needs of people in all protected Groups related to the document you are reviewing–** please refer to the Equality Evidence within the resources section at the link below: http://nuth-vintranet1:8080/cms/SupportServices/EqualityDiversityHumanRights.aspx	**Does evidence/engagement highlight areas of direct or indirect discrimination?** For example differences in access or outcomes for people with protected characteristics	**Are there any opportunities to advance equality of opportunity or foster good relations**? If yes what steps will be taken? (by whom, completion date and review date)
Race / Ethnic origin (including gypsies and travellers)	Provision of Interpreting service E&D Training Use of interpreters and communication support is included in the policy	Studies show that when interpreters were provided, patients had a better understanding of their diagnoses and treatment plan than patients without interpreters. Ensure communication support is available.	No
Sex (male/ female)	Male and female practitioners are available to promote the dignity of patients when required	No	No
Religion and Belief	Chaplaincy service provided with links to leaders of major faiths	No	No
Sexual orientation including lesbian, gay and bisexual people	Not applicable	No	No

Age	Innovations to support people with Dementia	No	No
Disability – learning difficulties, physical disability, sensory impairment and mental health. Consider the needs of carers in this section	Provision of BSL Signers and Deaf Blind Guides LD Liaison Nurse Links to Psychological and Mental Health Services Involving family is included in the policy. Use of interpreters and communication support is included in the policy	Information in appropriate formats is needed to support effective treatment Ensure communication support is available.	No
Gender Identity / Expression	Not applicable	No	No
Marriage and Civil Partnership	Not applicable	No	No
Maternity / Pregnancy	Not applicable	No	No

9. Are there any gaps in the evidence outlined above. If 'yes' how will these be rectified ?

No

10. Engagement has taken place with people who have protected characteristics and will continue through the Equality Delivery System and the Equality Diversity and Human Rights Group. Please note you may require further engagement in respect of any significant changes to policies, new developments and or changes to service delivery. In such circumstances please contact the Equality and Diversity Lead or the Involvement and Equalities Officer.

Do you require further engagement Yes **No**

11. Could the policy, strategy or service have a negative impact on human rights? (E.g. the right to respect for private and family life, the right to a fair hearing and the right to education?

No

PART 2

Signature of Author

ACobb

Print name

Angela Cobb

Date of completion

27/11/19

(If any reader of this procedural document identifies a potential discriminatory impact that has not been identified, please refer to the Policy Author identified above, together with any suggestions for action required to avoid/reduce the impact.)