

Clinical Guideline

# MANAGEMENT OF CLOSTRIDIUM DIFFICILE

<b>SETTING</b>	Trust wide
<b>FOR STAFF</b>	All clinical staff
<b>PATIENTS</b>	This guideline applies to all patients who are: Confirmed <i>Clostridium difficile</i> toxin positive (Infected/CDI) <b>OR</b> <i>Clostridium difficile</i> colonised (CDC)

## Guidance

### Background Information

*Clostridium difficile* is a gram-positive, spore-forming, anaerobic bacillus. It is found as part of the normal bowel flora in approximately 66% of infants and 3% of healthy adults, this rises with age and is why the elderly are at greater risk together with those who have been treated with broad-spectrum antibiotics or who have severe underlying disease.

Spores are produced when *Clostridium difficile* bacteria encounter unfavourable conditions, such as being outside the body. They can survive for many months on equipment and environmental surfaces. The organism can be transmitted by contact with contaminated hands or equipment, on clothing or in dust spores.

Once the organism or the spores are ingested, they can start to multiply. Certain strains are capable of producing toxins, which can lead to the development of CDI.

People can either develop an infection straight away, or become colonised with *C. difficile*. Patients who are colonised with the organism can develop an infection at a later point, and also shed the organism in their stool, and therefore potentially be a factor in spreading the infection.

### Symptoms

*Clostridium difficile* infection (CDI) ranges from mild to severe diarrhoea to rarely, a severe inflammation of the bowel known as pseudomembranous colitis, megacolon and perforation.

Diarrhoea usually starts within a few days on commencing antibiotics, but can take up to 1 month to develop. There is usually a characteristic foul odour and colour; but stools are rarely bloody, depending on the extent of the colitis; abdominal pain with or without pyrexia may occur.

It is standard practice that every inpatient should have a documented assessment of their normal bowel habit, with a stool chart commenced on admission.

The stool chart should be completed on every shift.

## When to Test

The onset of type 5-7 stools will act as a trigger for patients to be reviewed for suspected infectious diarrhoea according to the SIGHT mnemonic protocol:

S	Suspect
I	Isolate
G	Gloves/Aprons
H	Hand Washing
T	Toxin Test Sample

If previously infected or colonised and symptomatic on admission, please send specimen asap and notify the Infection Prevention and Control (IPC) Team via the Medway referral system (within 48 hours of admission).

If patient has had one episode of unexplained Type 5-7 stools where there is no explainable cause, complete the risk assessment for isolation and send specimens within 48 hours as per UHBristol Stool Sample Guidance.

Do not send repeat samples for patients with previous *Clostridium difficile* infection/colonisation unless symptomatic and on admission or following discussion with the IPC Team or Medical Microbiologist. Retesting to confirm clearance is not required.

\*Refer to UHBristol Stool Sample Guidance for further information.

## Diagnosis

In the laboratory, an initial screening test to detect the *C. difficile* antigen is undertaken on the faeces sample using glutamate dehydrogenase (GDH). A positive test for GDH means that a strain of *C. difficile* bacteria is almost certainly present. However, the strain may be non toxin producing, in which case it would not be clinically relevant, as it will not cause infection.

Stool samples that are GDH-positive are therefore further tested for the presence of toxin. Toxin positive samples are reported as positive for ***C. difficile* infection**.

Samples that are GDH positive, but toxin negative, will undergo a further test by PCR, to detect the presence of the toxin producing gene. PCR positive results suggest that the sample contains a strain that is capable of producing toxin, but toxin levels are not high enough to be detected by the toxin test. These patients may only be **colonised** with *C. difficile*, or they may have low level infection that may require treatment. In either case, infection control precautions (isolation) are necessary, and clinical assessment to determine the need for treatment needs to be undertaken.

## Treatment

- Clostridium difficile colonised (CDC):

CDC is usually asymptomatic and treatment is not necessarily required. If clinicians are concerned about patient's symptoms and clinical condition, treatment needs to be discussed with Infection Control Doctor or Consultant Microbiologist.

- Clostridium difficile infection (CDI):

Where appropriate, possible precipitating antibiotics must be stopped and the appropriate antibiotics commenced (refer to 'Guidelines for Treatment and Management of Clostridium difficile Infection in Adults' available on the DMS).

Ensure a stop/review date is documented in the prescription for all antibiotics given. Any deviation from the antibiotic guideline must be discussed with the Infection Control Doctor or Microbiologists.

Microbiology review may also be required if other antibiotics are prescribed for other clinical reasons. Indication for the antibiotic prescribed must be documented on patient's drug chart.

The use of Probiotics/Yakult/Acidophilus is not advocated by the Trust or the IPC Team.

## Investigation and Actions

Action	Responsibility	Timeframe
Check the results of any sample submitted	The clinical area managing the patient	Lab results to be checked regularly in accordance with local practice
Ensure appropriate IPC precautions in place	The clinical area managing the patient	Within two hours of risk assessment for isolation being completed or of results being notified to clinical area
Infection Prevention and Control Nurse (IPCN) to contact the clinical area to discuss positive results and confirm appropriate precautions are in place	IPCN	On day of notification to the IPC Team
Patient is informed of their results and provided with the 'Clostridium difficile: Information for patients, carers and visitors' leaflet	The clinical area managing the patient	On day of notification to the clinical area
Patient reviewed on the ward by a member of the IPC Team and a Clostridium difficile	Duty IPCN	Within 72 hours (3 working days) of IPC Team of receiving the result

Complete appropriate documentation for the period of the current inpatient admission commenced on Medway		
HCAI database us updated and Ribotyping requested	Duty IPCN	Within 72 hours (3 working days) of IPC Team receiving the result

CDI diagnosed 48 hours post admission:

In the event that a patient diagnosed with CDI has been an inpatient for greater than 48 hours\* at the time the stool sample was taken then a Clostridium difficile Incident Review (CDIR) will be undertaken.

\*Admission time for SBAR and HCAI database taken as time of arrival on the ward, unless sample was taken in ED in which case admission time identified as the time at which sample taken.

Action	Responsibility	Timeframe
Datix form with CDIR paperwork attached submitted and sent to Ward Sister/Charge Nurse and Directorate Matron of clinical area where patient was diagnosed	IPCN reviewing patient	On day of patient review by IPCN
Datix form/CDIR completed, learning identified and action plan generated	Ward Sister/Charge Nurse and Matron	Within 10 working days

The Clinical Commissioning Group (CCG) will meet with the IPC Team and Matron of the Directorate where the patient was diagnosed with CDI, to identify any attributable actions or lapses in care. The completed CDIR and SBAR clinical notes will be presented to the CCG during this meeting. Minutes will be taken and the IPC Team will update the datix form with the outcome of the meeting once the minutes are circulated.

### **Management of Clostridium Difficile**

If a patient has had unexplained episodes of Type 5 - 7 diarrhoea in the last 24 hours, complete risk assessment for isolation and send specimens within 48 hours as per UHBristol Stool Sample Guidance. The patient must be barrier nursed at the bed space or isolated as directed in the risk assessment and must be managed as a C.Diff toxin positive patient until the results from stool specimens are known.

Standard Precaution	Action
<b>Isolation</b>	<p><u><i>Clostridium Difficile</i> Toxin Positive Patients (CDI):</u> Isolation in single room (door closed) or in dedicated cohort facility. Discussion with the IPC Team is essential. Patient must be isolated or cohorted within 2 hours of notification. An infection control approved laminated isolation sign must be completed and displayed on door immediately. Patient to be isolated for the duration of in-patient stay unless clinical condition requires otherwise. Discuss with Infection Control, Microbiologist, Consultant or senior Microbiology Registrar. Documentation of the clinical risks must be clearly written in patient medical notes and reviewed daily. This is to be treated as a high risk clinical incident and the Director of Infection Prevention and Control (DIPC) will be informed by the IPC Team.</p> <p><u><i>Clostridium Difficile</i> Colonised Patients (CDC):</u> As above except that once asymptomatic for over 72 hours, <b>and</b> on the agreement of Infection Control Doctor, Medical Microbiologist or IPCT the patient can then be taken out of isolation.</p>
<b>Infection Prevention and Control Review</b>	A member of the IPC Team will visit and review within three working days (72 hours) of notification.
<b>Hand Hygiene</b>	As per Hand Hygiene Policy. Soap and water only. Never use alcohol gel, remove any solution from room/vicinity.
<b>Personal Protective Equipment (PPE)</b>	Gloves and aprons must be used when in contact with patient and their surroundings. Visitors do not need to wear PPE unless carrying out personal care activities.
<b>Decontamination of Equipment/ Environment</b>	Environment and furniture to be cleaned daily with Actichlor plus/Tristel Fuse. Actichlor plus must be used to clean equipment after use. Commodes: return to the sluice and thoroughly clean with Actichlor plus between each use and green tape applied. Commodes should not be left in side rooms or by patient's bedsides.
<b>Linen</b>	All linen must be handled as infected (red alginate bag inside a red plastic bag).
<b>Waste Management</b>	All waste must be handled as infected.
<b>Specimens</b>	Refer to UHBristol and Weston Stool Sample Guidance for further information.
<b>Visitors</b>	Visitors should be made aware of the potential risks.

	Immune-suppressed visitors are advised to seek medical advice prior to visiting.
<b>OT/Physiotherapy</b>	<p>Contact the IPCNs to discuss individual cases before working with patient outside their room.</p> <p>Physio/OT work outside their side room is not advised if a patient is symptomatic.</p> <p>If asymptomatic for over 72 hours and the patient needs to mobilise/ work with Physios/OTs they may leave their side room for a short period and mobilise in an area away from the ward/unit – this could be a general corridor but not a gym or area where there may be vulnerable patients but this must be discussed with the IPC Team first. If the patient is able to wash their own hands and is continent, they may use an OT kitchen area but this must be discussed with the IPC Team.</p> <p>Surfaces must be cleaned with Actichlor plus thoroughly afterwards.</p>
<b>Clinical Investigation</b>	<p>If a patient needs to leave isolation for clinical reasons, it is the area's responsibility to inform all receiving areas of patients with an infection risk. The patient should be taken straight to the department. The investigation/procedure must be performed immediately and the patient brought directly back. Patients must not wait in communal waiting areas. Where possible they should be seen at the end of a list. The clinical area may need to be deep cleaned afterwards, seek IPC advice.</p>
<b>Discharge/ Transfer</b>	<p>Ensure patient has been provided with the information leaflet prior to discharge.</p> <p>After discussion with the IPC Team and/or Matron, the staff nurse must notify the receiving area in advance of patient's condition/symptoms/ status; the staff nurse from the receiving ward must assess the appropriateness of the transfer and ensure isolation facilities are available if appropriate. It is the ward staff responsibility to notify ambulance staff if applicable.</p> <p>Complete section on Transfer form, ensuring date of onset, samples sent/pending results and treatment to date documented.</p> <p>A 'C.Diff deep clean' must be requested and carried out once the patient has left the area. HPG is required wherever possible.</p>
<b>Last Office</b>	<p>As per Standard Infection Control Policy.</p> <p>Body bag should be used.</p> <p>Mortuary staff must be informed.</p>

## Training and Support

The IPC Team are happy to provide teaching on various aspects of *Clostridium difficile* on request. They will also provide support regarding CDIR completion and risk assessments.

**Table A**

<b>REFERENCES</b>	N/A
<b>RELATED DOCUMENTS AND PAGES</b>	<p>Hand Hygiene Policy</p> <p>Linen and Laundry Policy</p> <p>Management of Waste Policy and Procedures</p> <p>Isolation Policy</p> <p>Standard Infection Control Policy</p> <p>Stool Sample Guidance</p> <p>'Clostridium difficile Discharge Information: Your Questions Answered' leaflet</p> <p>NHS Improvement, March 2018. 'Clostridium difficile infection objectives for NHS organisations, guidance on sanction implementation and notification of changes to case attribution definitions from 2019'.</p>
<b>AUTHORISING BODY</b>	Infection Control Group
<b>SAFETY</b>	Information and explanation should be given to patient at time of confirmed diagnosis
<b>QUERIES AND CONTACT</b>	<p>Contact Infection Prevention and Control Team on Ext. [REDACTED]</p> <p>Or via Bleep: [REDACTED]. Weston Division [REDACTED], Bleep [REDACTED], Extension [REDACTED]</p>