

<b><i>Clostridium difficile</i></b>	<b>Type: Clinical Guideline</b> <b>Register No: 06024</b> <b>Status: Public</b>
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Consulted With	Post/Committee/Group	Date
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#### Document Review History

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- Appendix 2 *Clostridium difficile* Patient information leaflet – you have been exposed (embedded)
- Appendix 3 Pathway to Aid the Assessment and Care of Patients with Diarrhoea
- Appendix 4 *Clostridium difficile* Care Pathway
- Appendix 5 *Clostridium difficile* Patient information leaflet (embedded)
- Appendix 6 Treatment of antibiotic-associated diarrhoea (Microguide)
- Appendix 7 Management of *Clostridium difficile* Positive Patients in Operating Theatre

## **1.0 Purpose**

- 1.1 To comply with the Health and Social Care Act 2010. Trusts must have and adhere to policies designed for the individual's care that will help to prevent and control infections.
- 1.2 To inform staff of the Department of Health (2007) Saving Lives: reducing infection, delivering clean and safe care, care bundle to reduce the risk from *Clostridium difficile*.
- 1.3 To comply with the Department of Health Mandatory reporting of all *Clostridium difficile* cases over the age of 2 years.
- 1.4 To inform of the standard of care required for a suspected or confirmed case of *Clostridium difficile* so that appropriate isolation and infection prevention precautions are put in place, as outlined in the Department of Health/Health Protection Agency guideline "*Clostridium difficile* infection: How to deal with the problem."
- 1.5 To set out what is required of the Trust when there is a positive *Clostridium difficile* case over 72 hours of admission – a root cause analysis investigation needs to be undertaken.
- 1.6 To inform Trust staff of the contributory factors and risks of *Clostridium difficile* infection to patients, staff and visitors.
- 1.7 To inform staff of appropriate stool sampling.

## **2.0 Definition**

- 2.1 *Clostridium difficile* infection: one episode of diarrhoea, defined either as stool loose enough to take the shape of a container used to sample it or as Bristol Stool Chart types 5–7 (Appendix 1), that is not attributable to any other cause, including medicines, and that occurs at the same time as a positive toxin assay (with or without a positive *Clostridium difficile* culture) and/or endoscopic evidence of pseudomembranous colitis. (Department of Health/Health Protection Agency 2009)

## **3.0 Introduction**

- 3.1 *Clostridium difficile* is an infection of the gastrointestinal tract that can be acquired in both hospital and community settings and is recognized as a major cause of diarrhoea in hospital patients.
- 3.2 Once established the bacteria produces toxins, which are responsible for the diarrhoea and which damage the cells lining the bowel. This could lead to pseudomembranous colitis (severe inflammation of the colon) and/or toxic megacolon – severe and life threatening complications.
- 3.3 Repeated enemas and gastro-intestinal surgery can also increase a person's risk of developing the disease.
- 3.4 *Clostridium difficile* can cause outbreaks in ward situations and in community care establishments. Humans can be asymptomatic carriers of the organism.

- 3.5 Spores are the transmissible form, which contaminate the environment, where they survive for long periods and are resistant to many disinfectants. They may be transmitted by contaminated hands of healthcare workers, patients and visitors and via equipment or objects in a room.
- 3.6 *Clostridium difficile* infection most commonly occurs after the use of antibiotics, which alter the gut flora and enable it to thrive.

#### **4.0 Scope**

- 4.1 This policy applies to all staff employed by the Trust on a substantive and temporary basis.
- 4.2 This policy applies to all suspected or confirmed cases of *Clostridium difficile*.

#### **5.0 Equality and Diversity**

- 5.1 The Trust is committed to the provision of a service that is fair, accessible and meets the needs of all individuals.

#### **6.0 Responsibilities**

##### **6.1 Chief Executive**

- The Chief Executive has overall responsibility for ensuring that the Trust has the necessary management systems in place to enable the effective implementation of this policy and overall responsibility for the health and safety of staff, patients and visitors.

##### **6.2 Chief Medical Officer**

##### **6.3 Chief Nurse**

- The Chief Nurse has strategic responsibility for ensuring that systems are in place to facilitate the nursing staff's awareness of this policy and that appropriate support is given to enable staff in delivering practice as outlined in this policy.

##### **6.4 Director of Infection Prevention and Control (DIPC)**

The DIPC will;

- have operational responsibility for the effective implementation of this policy
- give expert advice around the care of affected patients and liaise with the medical teams around positive results and antibiotic treatment if required
- liaise with the patient's GP if required regarding the management of these patients
- include the number of *Clostridium difficile* cases in both hospital and community in the monthly and annual DIPC reports

- in the event of an outbreak (two or more cases epidemiologically linked), chair the outbreak meetings and determine appropriate actions to be taken
- include details of all outbreaks in the monthly and annual DIPC reports
- liaise with outside agencies i.e. Health Protection Unit where required
- ensure lessons learnt from any positive *Clostridium difficile* case are communicated across the Trust

#### 6.5 **Infection Prevention and Control Team (IPCT)**

- Will ensure all staff are made aware of this policy and have access to the *Clostridium difficile* patient information leaflets
- Inform the ward staff and medical team of a positive result
- Offer expert infection prevention and control advice and information to staff caring for patients with *Clostridium difficile* including the risk assessments required to prioritise the use of single rooms / cohort nursing and the standard infection prevention precautions required
- Support medical and nursing staff in explaining the result to the patient and to give advice to and information to patients and their relatives
- Ensure lessons learnt from any positive *Clostridium difficile* case are communicated at the Infection Prevention Link Practitioner meetings
- Arrange for positive results to be sent to the patient's GP if the result becomes available post discharge
- Investigate promptly if there is more than one case on the same ward / department to determine whether the cases are epidemiologically linked, collate all the necessary information and feed this back to the DIPC.
- Organise terminal cleaning and / or enhanced cleaning where there is more than one case associated with an area.

#### 6.6 **Matrons / Lead Nurses**

- Have systems in place whereby a root cause analysis investigation is undertaken in a timely manner on all positive cases over 72 hours of admission in their area(s) of responsibility and followed up appropriately so that lessons can be learnt

#### 6.7 **Head of Hotel Services**

- Organises and manages any additional cleaning requirements as requested by the Infection Prevention Team

## 6.8 All relevant staff

- Must comply with this policy and apply the SIGHT mnemonic protocol ( see section 11)
- Should liaise with the IPCT if advice and support is needed regarding: patient placement, the infection prevention precautions required or explaining the result to the patient
- The Team caring for a patient with a positive result, should explain the result to the patient and ensure a patient information leaflet is provided if appropriate
- All staff have a responsibility to ensure that infection prevention is embedded into their everyday practice and applied consistently at all times, adhering to appropriate infection prevention precautions
- Medical staff must comply with the antimicrobial prescribing policy
- Cleaning services and ward based staff have a responsibility to ensure that the clinical environment, including bathrooms, toilets, commodes and radiators are regularly cleaned
- The Team caring for a patient with a positive result should undertake a root cause analysis investigation (with the help of the Infection Prevention team) and establish what lessons may be learnt from the case

## 7.0 At Risk Groups

- 7.1 *Clostridium difficile* can affect everyone, especially the elderly, the debilitated and the immune compromised.
- 7.2 Those most at risk are people who have recently been treated with broad spectrum antibiotics. The infection is particularly associated with the use of the third generation cephalosporins and quinolones, and also if a cocktail of antibiotics are used.
- 7.3 Antibiotics alter the normal gut flora allowing *Clostridium difficile* to multiply and produce toxins in the absence of competition.
- 7.4 Any patient who has received antibiotics is at risk for approximately six weeks as this is the time it takes for the gut flora to normalise.
- 7.5 Any member of staff who is receiving or has had antibiotics in the last six weeks is at risk and therefore should not care for a confirmed case of *Clostridium difficile*.
- 7.6 The gut flora may also be altered by laxatives, enemas, administration of proton pump inhibitors (PPIs), bowel surgery, enteral / naso-gastric feeding and non surgical gastro-intestinal procedures e.g. endoscopy.
- 7.7 Frequent hospital admissions.
- 7.8 Although most commonly acquired in hospital, community associated *Clostridium difficile* infection has been increasingly recognised. A British study reported many

community cases having been neither recently admitted to hospital nor in receipt of antibiotics (Wilcox et al 2008).

- 7.9 Any patient exposed to the infection prior to the infected case being isolated. This will include the other patients in the bay. The risk to these patients must be explained by the IPT and an information leaflet given to them (see Appendix 2).

## 8.0 Clinical features

- 8.1 The illness ranges from mild self-limiting diarrhoea to explosive watery and foul smelling diarrhoea.
- 8.2 The patient may also have fever, loss of appetite, nausea and abdominal pain / tenderness.
- 8.3 Some patients could develop severe pseudomembranous colitis with ulceration of the colon, toxic mega colon, perforation or peritonitis, all which may result in death.

## 9.0 Pathology Specimens

- 9.1 Symptoms alone cannot diagnose *Clostridium difficile* infection however treatment can be commenced on suspicion of infection before results are known.
- 9.2 If a patient is admitted with stools of type 5-7 (see Appendix 1) a sample should be taken as soon as possible and within 24 hours, even if the patient states that this is normal for them or the patient has some underlying disease which can cause loose stools.
- 9.3 If the patient develops loose stools after admission an assessment should be made using the diarrhoea care pathway (Appendix 3) and a stool sample taken if an infectious cause is suspected / cannot be ruled out.
- 9.4 The relevant clinical history and details of all antibiotics the patient has taken recently along with the date of admission must be included on the request card.
- 9.5 The Microbiology Department will test for *Clostridium difficile* if the patient is over 2 years and the stool is type 5-7 according to the Bristol Scale. 'Clostridium difficile' testing should be requested on Ordercomms, along with culture and sensitivity if other pathogens are to be investigated. Patients under 2 years of age will not be tested for *C. difficile*.
- 9.6 The specimen pot must be at least ¼ full. Samples are accepted if contaminated with urine. Samples must be sent promptly as the toxins degrade at room temperature.
- 9.7 The pathology department carry out a 3 part test procedure. The stool sample is tested for;
- **Glutamate dehydrogenase (GDH)** – an antigen produced by Clostridial organisms. If this is negative no further *Clostridium difficile* testing is performed on the sample
  - **Clostridium difficile toxin** – samples that are *Clostridium difficile* toxin positive are reportable to Public Health England

- **The toxin gene (through a PCR test).** A negative result indicates that the patient does not have a toxin producing strain of *Clostridium difficile* in their bowel (even if GDH was positive). A positive result shows that the patient does have a toxin producing strain of *Clostridium difficile* in their bowel (even if the toxin result is negative at that time).

- 9.8 *Clostridium difficile* bacteria produce two principal toxins A and B. Diagnosis of *Clostridium difficile* infection is confirmed on detection of these specific toxins in a stool sample in the microbiology laboratory.
- 9.9 **Do not** send specimens to confirm a patient is negative. Follow up stool specimens are of no value since the result will often remain positive when patients have recovered symptomatically. The Microbiology Department will not test a stool sample if the patient has had a previous positive result within the previous 28 days.
- 9.10 Before sending a sample, check with the nurse in charge to ensure it is appropriate.
- 9.11 If the first stool sample is negative but there is strong suspicion of *Clostridium difficile* infection, re-test 24 hours later.

## 10.0 How is it spread?

- 10.1 *Clostridium difficile* is spread by the faecal-oral route via spores that survive in faecal matter.
- 10.2 Diarrhoea caused by *Clostridium difficile* tends to be ‘explosive’ and spores in the faeces can contaminate patients’ skin and hands, the hands of health care workers, equipment and the environment. Contamination of patient equipment such as commodes, cot sides, chairs and bathroom facilities will increase the risk of spread.
- 10.3 Spores are resistant to heat, alcohol and acids in the stomach and can survive in the environment for long periods of time.

## 11.0 What should you do if you suspect someone has *Clostridium difficile* infection?

- 11.1 The SIGHT mnemonic protocol must be applied as below;

<b>S</b>	Suspect that a case may be infective where there is no clear alternative cause for diarrhoea
<b>I</b>	Isolate the patient and consult with the IPCT while determining the cause of diarrhoea
<b>G</b>	Gloves and aprons must be used for all contacts with the patient and their environment
<b>H</b>	Hand washing with soap and water must be carried out before and after each contact with the patient and the patient’s environment
<b>T</b>	Test the stool for toxin, by sending a specimen immediately

- 11.2 The IPCT and Lead Nurse for the area should be informed.

- 11.3 On presentation of unexplained loose stools the patient must be isolated in a side room (an en-suite with a separate toilet is preferable), and update the Lorenzo system
- 11.4 In accordance with the Isolation Policy a standard isolation sign must be placed on the side room door, and the door kept closed unless contraindicated by the patients' condition. In such cases the reason must be documented in the patient's nursing notes.
- 11.5 Record in the patient's nursing notes that isolation has been commenced and the reason why.
- 11.6 If the side room is not en-suite a dedicated commode must be allocated to that patient.
- 11.7 If unable to isolate in a single room when *Clostridium difficile* infection being suspected for any reason, escalate this to the Matron, Infection Prevention Team and out of hour's Clinical Operations Manager. The reason for being unable to isolate must be documented in the patient's notes.
- 11.8 Obtain a stool sample as soon as possible and send to the microbiology laboratory and request *Clostridium difficile* toxin test via order comms.
- 11.9 Maintain documentation of stools on VitalPAC
- 11.10 If the patient is receiving antibiotics these must be reviewed and stopped if no longer required, as should all other drugs that might cause diarrhoea. Particularly avoid cephalosporins, co-amoxiclav, ciprofloxacin, levofloxacin, amoxicillin, clindamycin, erythromycin and clarithromycin if possible.
- 11.11 Commence the *Clostridium difficile* care pathway.(Appendix 4) as a precaution. This is based on High Impact Intervention 7; Care bundle to reduce the risk from *Clostridium difficile*.

## **12.0 Action following receipt of a positive *Clostridium difficile* toxin result**

- 12.1 All the precautions in section 13 must be followed.
- 12.2 *Clostridium difficile* infection should be managed as a diagnosis in its own right, with each patient having a daily review regarding fluid resuscitation, electrolyte replacement and nutrition. Monitoring for signs of increased severity of disease must be undertaken, with early referral to critical care as patients may deteriorate very rapidly.
- 12.3 Sigmoidoscopy will assist in confirmation of a diagnosis and correct and prompt treatment being commenced and may be considered for patients where;
  - there is suggestion of severe disease
  - pseudomembranous colitis is suspected before receiving a stool sample result
  - the first stool sample is negative.

- 12.4 The IPCT receives all the *Clostridium difficile* toxin positive results from the laboratory during working hours. The IPCT will then inform the ward staff of any positive result. At weekends the wards will be phoned directly by microbiology.
- 12.5 The IPCT will visit *Clostridium difficile* PCR and toxin positive inpatients on the first working day of diagnosis.
- 12.6 The IPCT will create an alert for the patient on Lorenzo electronic patient record system as soon as possible.
- 12.7 The patient should already be in single room isolation and loose stools must be documented on Lorenzo at the time they occur.
- 12.8 Member of staff receiving result to commence the *Clostridium difficile* care pathway (if not already started) (Appendix 3).
- 12.9 The patient should be informed of the result together with an information leaflet (Appendix 5) and an explanation of what this means for them.
- 12.10 The IPCT will inform the following of all new cases attributable to the Trust
- Chief Executive
  - Chief Nurse
  - Director of Nursing
  - Medical Director
  - Associate Chief Nurse and Lead Nurse for the clinical area involved
- 12.11 The IPCT will facilitate a root cause analysis investigation to determine the root cause of this infection. This is to be completed by the nursing/medical team involved in the patient's care and an action plan to be completed where appropriate. The RCA form can be found on the Infection Prevention page of the Intranet under commonly used forms. The investigation will determine if the case was potentially avoidable.
- 12.12 A panel review of all post-72 hour cases will take place within 2 weeks of positive *C. difficile* results being known. This is to establish if the case could have been avoided and if so, what steps are required to reduce the risk of further cases.

Members of the review panel will include;

- The DIPC
  - Members of the IPCT
  - Consultant for the patient
  - Senior member of nursing staff for the clinical area
  - Matron / Lead Nurse for the clinical area
  - A member of the Clinical Commissioning Group
- 12.13 The IPCT will update the number of *Clostridium difficile* cases attributable to the Trust Infection Prevention and Control monthly report.

## **13.0 Preventing the spread**

### **13.1 Prudent antibiotic prescribing**

- Prescribe antibiotics according to the MEHT Antimicrobial Policy

- Record clinical indication for antibiotic use must be included on the drug chart and in the medical notes
- Review antibiotics daily
- Institute a 5 day antibiotic stop unless clear reason for doing otherwise

## 13.2 Isolation

- 13.2.1 There must be rapid physical separation of the symptomatic patient with new onset diarrhoea from other vulnerable patients, in order to prevent the spread of *Clostridium difficile*. This must take place as soon as possible on the day of recognition of symptoms triggering a request for a stool sample
- 13.2.2 The number of staff entering the isolation room should be limited
- 13.2.3 The isolation room door must be closed at all times apart from necessary entrance and exits. If it absolutely necessary that the door needs to remain open a written risk assessment is required in the nursing notes and reviewed daily. A laminated isolation card should be displayed in accordance with the Isolation Policy
- 13.2.4 The patient should be provided with their own toilet facilities or a designated commode. Healthcare waste and linen, including curtains must be treated as contaminated.
- 13.2.5 Any bay previously occupied by a *Clostridium difficile* toxin or PCR positive patient must be terminally cleaned, including hydrogen peroxide misting where possible (i.e. where the room is able to be sealed). The cleaning of each bed space must be recorded in the cleaning folder.
- 13.2.6 Where isolation would compromise patient safety, or where isolation in a single room is not possible because capacity is exceeded this should be escalated to the Matron for the area. The IPCT will advise on assessment of risk for the safest care of the patient and others if needed.
- 13.2.7 Staff must consider patient safety risks and the psychological affects of isolation, and take these into account when planning care

## 13.3 Hand Hygiene

- 13.3.1 It is vital to perform hand hygiene before and after each patient contact regardless of glove usage and other protective measures
- 13.3.2 Hand washing must be used for all contact with *Clostridium difficile* patients, and those with diarrhoea of unknown origin and their environment. Alcohol hand rub is not effective in removing *Clostridium difficile* spores. Hand washing with soap and water is important because it physically removes the spores. This must be performed inside the room. (Department of Health, 2007)
- 13.3.3 Hands must be cleansed with alcohol hand rub immediately after leaving the isolation room

13.3.4 Encourage the patient to decontaminate their hands after using the toilet and before eating. If patients cannot access a hand wash basin then moist hand wipes may be offered

13.3.5 Visitors should be instructed to use alcohol gel to decontaminate their hands on entry to the room and wash their hands with soap and water prior to leaving the room

13.3.6 The use of gloves **does not** replace the need to decontaminate hands

#### 13.4 **Personal Protective Equipment (PPE)**

13.4.1 Disposable aprons and gloves should be used by all staff and visitors assisting in 'hands on care' of the isolated patient e.g. moving and handling a patient, bed making

13.4.2 Disposable gloves and apron should be worn when there is potential for contact with bodily fluids

13.4.3 Visitors do not need to wear protective clothing unless carrying out physical care for the patient such as bed bathing. In this instance, a disposable apron and gloves is appropriate

13.4.4 Protective clothing is not required if entry to the room does not involve physical contact with the patient or their bed linen (e.g. delivering meals, drugs or simply to talk to the patient). However, hand hygiene should still be undertaken on entry and exit of the room as described in section 13.3

13.4.5 Prior to exit from the room, gloves must be removed before the apron and discarded in the clinical waste stream followed by thorough hand washing with soap and water. Alcohol hand rub must be applied after leaving the room

#### 13.5 **Notes and Charts**

13.5.1 Notes and charts including drug chart should be kept outside the room.

#### 13.6 **Environmental Decontamination**

13.6.1 All patient care equipment must be decontaminated in between patients

13.6.2 Single-use items should be used where appropriate

13.6.3 The environment must be kept clean and free of clutter and should be damp dusted daily using a sporicidal disinfectant. All reusable equipment used on or by the patient must be effectively decontaminated using a chlorine dioxide based agent i.e. Tristel fuse

13.6.4 Commodes must be cleaned in between each patient use with Tristel fuse. If the dedicated commode is left in the isolation room it must be cleaned with Tristel fuse on returning the bedpan

#### 13.6.5 **DO NOT USE ALCOHOL SPRAYS / WIPES TO CLEAN**

- 13.6.6 When an inpatient is identified with *C. difficile*, the IP Team will identify any non-isolation area occupied by the patient during that admission and request terminal cleaning (and fogging with hydrogen peroxide where possible)
- 13.6.7 When patient is taken out of isolation (following discussion with IPCT) or discharged the room / bed area must be terminally cleaned and fogged with hydrogen peroxide. This must include radiators. Refer to cleaning policy.
- 13.6.8 Evidence of cleaning is to be recorded in the cleaning folder.
- 13.6.9 Terminal clean and fogging to be requested via the bed office. Also see Isolation Policy.
- 13.6.10 Isolation precautions must not be discontinued and the isolation sign must not be removed until the room has been terminally cleaned

### 13.7 **Disposal of excreta**

- 13.7.1 Excreta can be disposed of directly into the toilet adjoining the room. If no toilet is available, cover the bed pan, take directly to the sluice and empty into the sluice hopper and place the bedpan or urinal immediately into the washer/disinfector
- 13.7.2 Ideally bedpans etc. should be passed from the nurse inside the isolation room to another nurse, wearing the appropriate protective clothing, outside the room for immediate disposal/decontamination
- 13.7.3 If a second nurse is not available, the nurse within the isolation room may leave the room, without removing the apron (unless visibly soiled). However remove gloves, decontaminate hands, obtain a fresh pair of gloves, cover the bed pan, take directly to the sluice and empty into the sluice hopper and place the bedpan or urinal immediately into the washer/disinfector
- 13.7.4 Remove protective clothing, discard as clinical waste. Hands must then be thoroughly washed and dried

### 13.8 **Linen**

- 13.8.1 All linen from isolation rooms should be placed into pink soluble seamed bags within the room and then into a white outer bag outside the room. Bags should not be overfilled but disposed of when 2/3 full. These should not be allowed to build up in the room but removed regularly even if not full. Linen must not be disposed of as clinical waste. All actions must be in accordance with the Linen Policy

### 13.9 **Waste**

- 13.9.1 All waste must be disposed of into clinical waste bags. Double bagging of clinical waste is unnecessary. Waste must be taken immediately to the designated waste disposal storage facility
- 13.9.2 If incontinence products are severely contaminated place in small orange waste bag and dispose of immediately
- 13.9.3 All actions must be in accordance with the Waste Policy

## **14.0 Treatment of *Clostridium difficile* infection**

- 14.1 The Microbiologist will advise on treatment.
- 14.2 Pre-existing antibiotic therapy should be reviewed and discontinued if possible, along with any other therapy which may alter the gut flora.
- 14.3 The first line antibiotic for the treatment of *Clostridium difficile* infection is oral Metronidazole 400mgs TDS for 14 days.
- 14.4 Treatment for *Clostridium difficile* can be found in Microguide on the intranet and also in Appendix 6. If the patient does appear to be responding to treatment or may be developing moderate to severe *Clostridium difficile* disease (as defined in Microguide) advice from the Duty Consultant Microbiologist should be sought.
- 14.5 Nursing / medical teams to assess nutritional status and refer to dietician if appropriate.
- 14.6 Do not use anti motility drugs unless advised by the microbiologist.

## **15.0 Management of *Clostridium Difficile* Positive Patients in Operating Theatre**

- 15.1 This is summarised in Appendix 7

## **16.0 Duration of isolation**

- 16.1 Ideally patients should be isolated in the side room until discharge as *Clostridium difficile* infection can reoccur in at least 20% of cases.
- 16.2 Isolation can only be discontinued following a risk assessment and discussion with the IPCT. This will only be considered if the patient has had normal stools and been free from diarrhoea for at least 72 hours and is not receiving antibiotics.
- 16.3 If isolation is discontinued the patient must be re-isolated in a side room if antibiotics are to commence or diarrhoea reoccurs. Any clinical concerns about the patient should be discussed with the Microbiologist.

## **17.0 Recurrence of symptoms**

- 17.1 Recurrences of *Clostridium difficile* diarrhoea are common, occurring in at least 20% of cases.
- 17.2 If a patient becomes symptomatic again, they should be regarded as infectious and be returned to isolation. The IPCT should be informed.
- 17.3. Reinstate infection control precautions as in section 11 and 12.
- 17.4 If the patient has had a recent positive *Clostridium difficile* result discuss with the Microbiologist before sending a repeat sample

## **18.0 When is the patient clear of the infection?**

- 18.1 A patient is deemed infectious while continuing to have symptoms of diarrhoea.
- 18.2 Ideally, patients should remain in the side room until discharge, but if necessary precautions can be discontinued when the patient is 72 hours diarrhoea free and the room/bed space has been thoroughly decontaminated. During this time they must also have passed a formed stool (type 3-4 on the Bristol Stool Chart) and/or be back to their normal bowel habit. If this is difficult to determine the IPCT should be contacted for advice.
- 18.3 **Do not** send specimens to confirm a patient is negative. Repeated stool specimens are of no value since the result will often remain positive when patients have recovered symptomatically.

## **19.0 Outbreak**

- 19.1 An outbreak is defined as “two or more cases caused by the same strain related in time and place over a defined period that is based on the date of onset of the first case (Department of Health 2009). In such cases the IPCT will investigate, an outbreak meeting will be held and control measures identified. This may include cohort nursing in a bay with a solid partition including a door, separating it from the rest of the ward. In exceptional circumstances it may be necessary to designate an existing ward as an outbreak ward.
- 19.2 A period of increased incidence (PII) of *Clostridium difficile* infection is identified as 2 or more cases, occurring >48 hours post admission,(not relapses) in a 28 day period in ward or department (Department of Health 2009). A PII will necessitate additional auditing by the IPCT and Antimicrobial Pharmacists, along with enhanced environmental cleaning and typing of the specimens.
- 19.3 The following interventions will be implemented if the IPCT identify a high prevalence of *Clostridium difficile* infection:
- Increased activity of the IPCT
  - Reviewed isolation procedures
  - Intensive local surveillance
  - Ward cleaning and disinfection optimised
  - Diagnostic microbiology results communicated as rapidly as possible
  - Reduced movement of patients and staff to an operationally effective minimum
  - Enhanced communication with all parties and staff

## **20.0 Visitors and Relatives**

- 20.1 Visitors should be advised of the risk of cross infection and their responsibilities whilst visiting. They should also be informed of the risk to themselves especially if they have been taking antibiotics in the preceding 6 weeks
- 20.2 Visitors must carry out hand hygiene for all contact with the patient and their environment (Department of Health 2009). They may discuss issues related to the infection with clinical staff, and if further information is required they should be referred to the IPCT. The information provided is dependent on the patient's consent.

20.3 Visitors must be advised not to eat and drink in the room.

20.4 If visitors are visiting more than one patient, they **MUST** visit infectious patients last.

## 21.0 Staff

21.1 Any member of staff with unexplained diarrhoea must contact the Occupational Health department where a risk assessment will take place and advice given.

21.2 All staff on antibiotic treatment or having received antibiotics in the previous six weeks should not nurse *Clostridium difficile* positive patients.

## 22.0 Patient Transfer

22.1 Symptomatic patients should not leave the ward unless unavoidable. Visiting another department for an investigation due to clinical necessity is permitted. Good communication and documentation is essential.

22.2 If a clinical investigation is necessary consider: -

- If it can be postponed until the patient is asymptomatic
- If it can be performed on the ward?

If unable to do either of these: -

- Liaise with the IPCT
- Inform staff in the receiving department in good time who will then take the relevant precautions e.g. - putting patient last on list
- Ensure time spent in the department is kept to a minimum and the area/equipment is thoroughly cleaned after use

22.3 If the patient needs to be transferred to another ward or unit, the receiving area must be fully aware of the precautions required prior to the transfer. The patient must not be transferred until the receiving environment is prepared. Transfer of a patient with *Clostridium difficile* infection without full knowledge of the receiving ward should be regarded as an untoward incident and must be reported.

22.4 If patients need to leave the side room for mobilisation/ rehabilitation purposes, they should have been asymptomatic for 24 hours, be encouraged to wash their hands before leaving the room and only mobilise away from other patient areas (e.g. in the corridor, not into bays). If the patient touches hand rails or equipment these should be cleaned afterwards with a disinfectant or detergent wipe.

## 23.0 Patient Discharge

23.1 Patients should only be discharged to residential care settings when their stool has returned to normal.

23.2 Patients can be discharged to their own home if they still have diarrhoea but are improving.

23.3 The patient, GP and the residential/care home, where relevant, should be informed that the patient has been *Clostridium difficile* positive during the admission, so that future antibiotic therapy is appropriate.

23.4 When a patient is discharged the room must be terminally cleaned as described in section 13.6.

#### **24.0 Managing Deceased Patients**

24.1 Infection control precautions for handling deceased patients are the same as those used when the patient is alive.

24.2 Plastic body bags are not necessary unless the patient is leaking bodily fluids.

24.3 There is negligible risk to mortuary staff or undertakers provided that standard infection control precautions are used as above in sections 11 and 12.

24.4 Where *Clostridium difficile* is included in parts 1a or 1b of a death certificate a serious untoward incident investigation will be carried out.

#### **25.0 Surveillance**

25.1 All new cases of *Clostridium difficile* will be part of the ongoing Trust mandatory surveillance of Infection Control and reported to the Department of Health.

25.2 All cases of *Clostridium difficile* identified in hospital (pre or post 48 hours), or GP samples in patients who have had a recent hospital admission to MEHT will be ribotyped if possible so aid the investigation of potential transmission.

25.3 All cases of *Clostridium difficile* will be investigated by root cause analysis which is discussed at a local panel review then fed back to the Clinical Commissioning Group

25.4 *Clostridium difficile* isolates are monitored in the Clinical Commissioning Group performance management framework.

#### **26.0 Audit and Monitoring**

26.1 Compliance with this policy will be monitored as part of the Infection Prevention and Control audit programme. Results are reported in the directorate scorecards reported in the DIPC report and monitored by The Infection Prevention and Control Group. Directorates are required to develop localised action plans as appropriate.

26.2 The Infection Prevention and Control Group reviews the Infection Prevention and Control policies.

26.3 The DIPC will include the number of *Clostridium difficile* cases in both hospital and community in the monthly and annual DIPC reports.

26.4 The DIPC will include details of all outbreaks in the monthly and annual DIPC reports.

## 27.0 Implementation & Communication

27.1 This policy will be issued to the following staff groups to disseminate. These individuals will ensure their staff are made aware of the policy:

- Ward Sisters/Charge nurse
- Departmental Managers - issue to relevant nursing staff within their department
- Bed Management Team / Service Co-ordinators
- Heads of Nursing & Director of Operations
- Lead Nurses
- Head of Hotel Services
- Consultants – to issue to relevant medical staff
- Occupational health

27.2 The guideline will also be issued via the Staff Focus and made available on the Intranet and discussed at the Infection Prevention Link Practitioner meetings.

## 28.0 Training

28.1 Training in accordance with Mandatory Training Policy and Training Needs Analysis

## 29.0 References

- Health Care Act / Hygiene Code 2010 DOH
- Department of Health (2007) Saving Lives: reducing infection, delivering clean and safe care. Care bundle to reduce the risk from *Clostridium difficile*.
- Marsden Manual (2015). The Royal Marsden Hospital. Wiley-Blackwell.
- Loveday HP et al (2013) epic3: National Evidence-Based Guidelines for Preventing healthcare-Associated Infections in NHS Hospitals in England, Journal of Hospital Infection
- Department of Health / Health Protection Agency (2009) *Clostridium difficile* infection: How to deal with the problem.
- Department of Health (2005) Infection Caused by *Clostridium difficile*, Professional Letter from the Chief Medical Officer and Chief Nursing Officer
- Wilcox MH, Mooney L, Bendall R et al. (2008) A case control study of community associated *Clostridium difficile* infection. Journal of Antimicrobial Chemotherapy advance access, published online 22 April 2008.
- Wiegand PN, Nathwani D, Wilcox MH, Stephens J, Shelbaya A, Haider S (2012) Clinical economic burden of *Clostridium difficile* infection in Europe: a systematic review of healthcare facility –acquired infection. The Journal of Hospital Infection 81, 1-14

## 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. <b>Entirely Liquid</b>

***Clostridium difficile* patient information leaflet – you have been exposed**

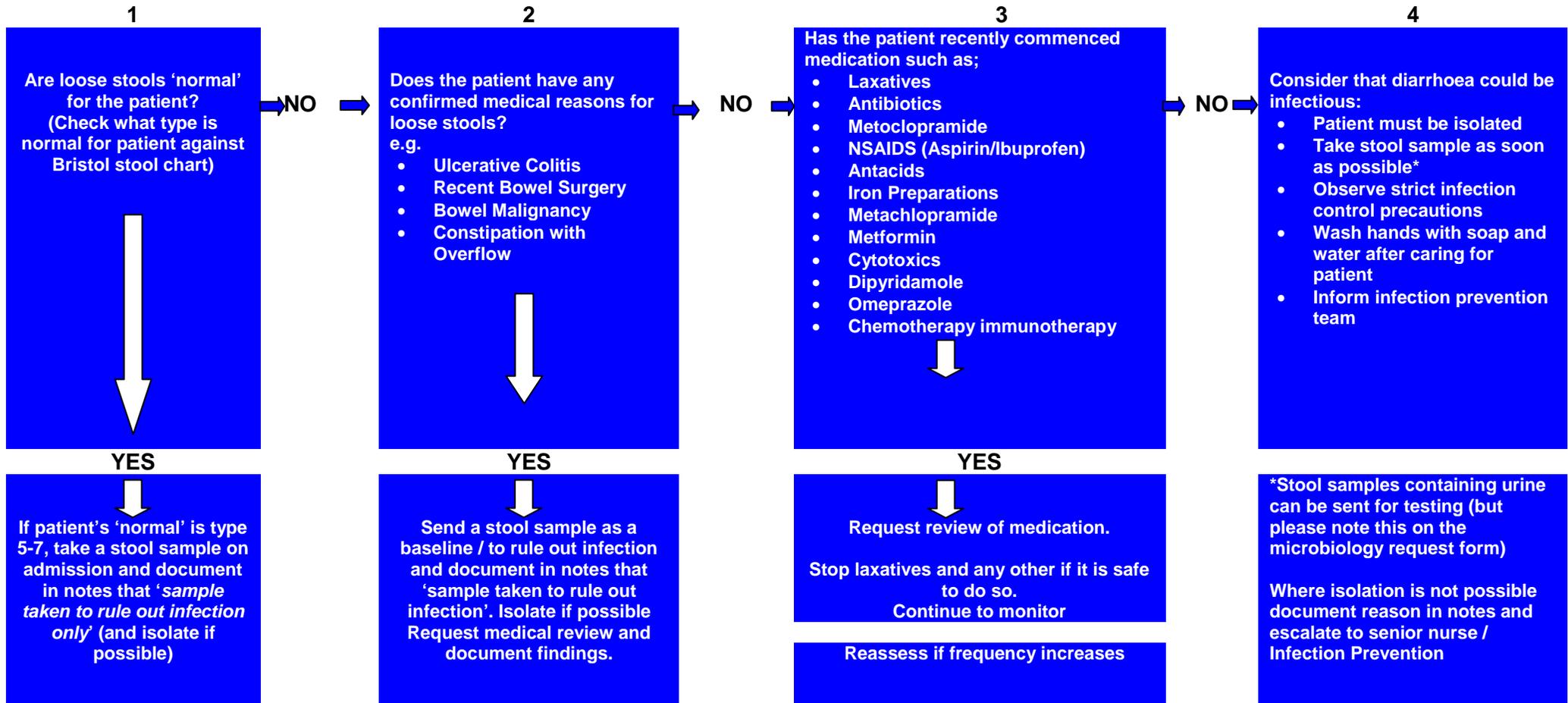


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PATHWAY TO AID THE ASSESSMENT AND CARE OF PATIENTS WITH DIARRHOEA

DO NOT WAIT FOR 3<sup>RD</sup> LOOSE STOOL – Assess first loose stool using questions 1-4 below

- All patients with type 5-7 stool should be isolated.
- If reason for admission is diarrhoea, isolate the patient and take a stool sample
- Ensure that all stools are documented on VitalPAC
- Observe standard infection control precautions at all times



FOR FURTHER ADVICE CONTACT THE INFECTION PREVENTION TEAM ON EXTN 5488 OR 6398

# Care pathway for *Clostridium difficile*

<b>Patient Name:</b>	<b>Ward / Dept:</b>	<b>Date commenced:</b>
<b>Hospital No:</b>	<b>Fix ID Label</b>	

**AIM**  
Effective patient management of *Clostridium difficile*, can prevent cross-infection of patients, staff and visitors & maintain a safe clean environment

<b>ACTIONS - indicate not applicable (N/A) where appropriate</b>	Date .....	Date .....	Date .....	Date .....	Date .....
<b>Sign daily in boxes below and continue until patient is no longer symptomatic</b>					

### PRUDENT ANTIBIOTIC PRESCRIBING

01	Doctors should review current antibiotic therapy, discontinuing where possible, reviewing antibiotics daily thereafter. To include stop dates and clinical indication on anti microbial prescriptions. A ten-day course of oral metronidazole should be prescribed to treat the infection if patient is symptomatic with diarrhoea. Vancomycin is an alternative if poor response or patient is very unwell at time of diagnosis.				
02	No HCW on antibiotics to have contact with patient				
03	Advise visitors taking antibiotics not to visit where applicable				

### CORRECT HAND HYGIENE

04	All HCWs to wash hands with liquid soap and dry thoroughly before and after each episode of patient care				
05	Educate patient on the need for hand washing after using the toilet and before eating				
06	Visitors must wash and dry their hands before they leave the room where applicable				

### ENVIRONMENTAL DECONTAMINATION

07	The room should be thoroughly cleaned with Tristel fuse and daily thereafter (to include bed, toilet, commode and all horizontal surfaces).  Clean commode after every use and keep dedicated commode for duration of patient's stay where applicable				
08	If Tristel fuse cannot be used, equipment should be cleaned with detergent and water or detergent wipes then cleaned following Manufacturers recommendations				
09	A terminal clean including hydrogen peroxide fogging must take place on discharge. This should be requested through bed office. Curtains must be changed				
10	Radiator cover to be removed and radiator cleaned on discharge of patient where applicable				
11	Change all bed linen daily and treat as infected. (Use alginate bags)				
12	Use orange clinical waste bags				

### PERSONAL PROTECTIVE EQUIPMENT

13	All HCWs to wear gloves & apron for direct contact with patient & body fluids/excretions				
14	Visitors must wash and dry their hands before they leave the room Do not need to wear protective clothing unless helping with patient care.				

### ISOLATION/COHORT NURSING

15	Inform patient of result. Give fact sheet and explain reason for isolation.				
16	All patients MUST be isolated in a single room, with separate toilet or dedicated commode. The door must be closed and a source isolation sign placed on the door				
17	Once CDT has been identified, no further stool specimens should be sent unless discussed with the Infection Prevention Team (IPT). <b>No</b> clearance stool specimen required. Do not discontinue isolation - discuss with IPT.				
18	Commence stool chart if not already on one (using Bristol assessment chart)				
19	Assess nutritional status, adequate hydration essential. Refer to dietician if appropriate				

***Clostridium difficile* patient information leaflet**



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### Treatment of antibiotic associated diarrhoea (Microguide)

Clinical Manifestation	Treatment
Mild diarrhoea (3 to 5 unformed bowel movements per day), afebrile status, mild abdominal discomfort or tenderness, and no notable laboratory abnormalities.	<ul style="list-style-type: none"> <li>• Predisposing antibiotic cessation.</li> <li>• Hydration.</li> <li>• Monitoring of clinical status.</li> <li>• <a href="#">Metronidazole</a> 400mg PO 8hourly for 14 days</li> </ul>

Clinical Manifestation	Treatment
Moderate non-bloody diarrhoea, moderate abdominal discomfort or tenderness, nausea with occasional vomiting, dehydration, white cell count $> 15 \times 10^9/L$ and blood urea or creatinine levels above baseline.	<ul style="list-style-type: none"> <li>• Consideration of hospitalisation and cessation of predisposing antibiotics.</li> <li>• Hydration</li> <li>• Monitoring of clinical status</li> <li>• <a href="#">Vancomycin</a> 125mg-250mg PO 6hourly for 14 days.</li> </ul>

Clinical Manifestation	Treatment
Severe or bloody diarrhoea, pseudomembranous colitis, severe abdominal pain, vomiting, ileus, temperature $> 38.5^\circ C$ , white-cell count $> 20 \times 10^9/L$ , albumin level $< 25g/L$ , and acute kidney injury.	<ul style="list-style-type: none"> <li>• Hospitalisation</li> <li>• Oral or nasogastric <a href="#">Vancomycin</a> 250mg-500mg</li> </ul>

## Management of *Clostridium difficile* Positive Patients in the Operating Theatre

It is the responsibility of the ward staff to liaise and communicate with theatre staff before sending *Clostridium difficile* positive patients to the operating theatre.

### Before operation starts

- Patient should be last on the operating theatre list
- All non-essential operating theatre equipment and furniture must be removed before case begins e.g. stools, gratnell trolley
- Preferably anaesthetise patient in operating theatre

### During operation

- Staff should wear an apron when undertaking patient care including moving and handling patient
- Single use gloves and apron must be worn when dealing with bodily fluids
- Always wash hands after contact with the patient and /or removing gloves

### After the operation

- Patient must be recovered in the operating theatre and discharged back to the ward from the operating theatre
- All theatre equipment, furniture and fixtures must be cleaned with Tristel Fusion. Leave to dry
- Mop up excess bodily fluid spillages with a disposable cloth and clean with Tristel Fusion
- Move all equipment and furniture outside theatre to enable theatre floor to be washed & scrubbed by theatre cleaner