Prevention and Management of *Clostridium Difficile* Infection Policy

V6.0

May 2019
Summary

The Bristol Stool Chart documentation indicates the patient has Type 5, 6 or 7 stools

On completion of a Diarrhoea Risk Assessment C.Difficile is suspected

- Inform the IPAC Team
- Isolate the patient
- Terminally clean the bed space
- Submit a stool specimen
- Soap and water to be used for hand hygiene
- Source isolation procedures as per the Isolation Policy to be followed

C.Difficile confirmed

Additional actions:
- Provide patient with verbal and written information
- Consider transfer to Isolation Ward
- Medical staff to review current medication and prescribe C.difficile treatment as appropriate

Maintain an accurate stool chart

Clinical teams to assess severity of C.Difficile daily

Fluid balance chart must be maintained and a nutritional assessment undertaken

Isolation to continue until the patient has had 72 hours without diarrhoea and normal bowel habits have returned

Terminal cleaning must be undertaken once the patient has vacated the bed space. Hydrogen Peroxide Vapour should be used for a terminal clean of a side room.
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1. Introduction

1.1. The toxin produced by Clostridium difficile (CDI) was first identified as the cause of antibiotic associated colitis and diarrhoea in 1977.

The bacterium produces two potent toxins (Toxin A & B) that cause mucosal damage and inflammation of the large bowel. Although in most cases it causes a relatively mild illness, occasionally, particularly elderly patients may develop a severe form of the disease called 'pseudomembranous colitis'. This condition is characterised by significant damage to the large bowel, and may lead to gross dilation with possible rupture or perforation of the bowel leading to sepsis and death. C. difficile infection is often acquired in hospital, and almost all patients who develop C. difficile diarrhoea are taking, or have recently been given antibiotic therapy. Nearly all antibiotics have been causally associated with C. difficile however; some such as cephalosporins, piperacillin-tazobactam, co-amoxiclav, ciprofloxacin, levofloxacin, clindamycin and meropenem are more strongly associated whereas gentamicin, vancomycin, and trimethoprim are much less often associated.

It has been firmly established that person to person transmission can occur in the hospital setting and indeed major outbreaks have resulted. Staff hands are the most important mode of transmission, but studies have also demonstrated that C. difficile, as a spore forming organism, can survive for long periods of time in the environment and on contaminated equipment.

The sensible use of antibiotics is the key to the prevention of C. difficile infection. Unnecessary use of antibiotics must be avoided. Where possible, short courses of narrow-spectrum antibiotics, of only three to five days, are preferred to longer courses. All antibiotic prescriptions should be kept under review.

Trust antimicrobial prescribing guidance must be followed. Antimicrobial prescribing audits will be conducted regularly.

1.2. This version supersedes any previous versions of this document.

1.3. Data Protection Act 2018 (General Data Protection Regulation – GDPR) Legislation

The Trust has a duty under the DPA18 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed and documented. We can’t rely on Opt out, it must be Opt in.

DPA18 is applicable to all staff; this includes those working as contractors and providers of services.

For more information about your obligations under the DPA18 please see the ‘information use framework policy’, or contact the Information Governance Team rch-tr.infogov@nhs.net
2. **Purpose of this Policy/Procedure**
This policy provides details on how to reduce the risk of transmission of *Clostridium difficile* within healthcare settings and information on the appropriate treatment of patients with *Clostridium difficile* infection. This document takes into consideration the prevalence of *C. difficile* both locally and nationally and national guidance.

3. **Scope**
This policy applies to all staff working in The Royal Cornwall Hospitals NHS Trust.

4. **Definitions / Glossary**
Definitions are also contained within the text.

- CDI - *Clostridium difficile*
- GDH - Glutamate dehydrogenase
- CDAB VIDAS - *Clostridium difficile* A & B Vitek Immuno Diagnostic Assay System
- IPAC - Infection Prevention and Control
- DIPC - Director of Infection Prevention & Control
- CDRNE - *Clostridium difficile* Ribotyping Network for England
- PCR - Polymerase chain reaction

5. **Ownership and Responsibilities**

5.1. **Role of the Care Group Triumvirate and Matrons**
Care Group triumvirate and Matrons must ensure that resources are available for health care workers to undertake effective standard and isolation precautions.

5.2. **Role of Ward Sister/Charge Nurses and Departmental Managers**
Ward Sisters/Charge Nurses and departmental managers are responsible for ensuring that staff are aware of this guidance and that the guidance is implemented.

5.3. **Role of Medical Staff**
Medical Staff are responsible for managing *Clostridium difficile* as a diagnosis in its own right.

5.4. **Role of the Hospital Infection Prevention and Control Committee**
The Hospital Infection Prevention and Control Committee is responsible for:

- Approving this policy
- Monitoring the implementation and compliance with this policy

5.5. **Role of Individual Staff**
Each individual has a clinical and ethical responsibility to carry out effective Infection prevention and control procedures and to act in a way, which minimises risk to the patient.
6. Standards and Practice

6.1. Principles of Management

Clinicians should apply the following mnemonic protocol when managing suspected potentially infectious diarrhoea:

<table>
<thead>
<tr>
<th>S</th>
<th>Suspect that a case may be infective where there is no clear alternative cause for diarrhoea.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Isolate the patient and consult with the infection prevention and control team (IPAC) while determining the cause of the diarrhoea.</td>
</tr>
<tr>
<td>G</td>
<td>Gloves and aprons must be used for all contacts with the patient and their environment.</td>
</tr>
<tr>
<td>H</td>
<td>Hand washing with soap and water should be carried out before and after each contact with the patient and the patient’s environment.</td>
</tr>
<tr>
<td>T</td>
<td>Test the stool for toxin, by sending a specimen immediately</td>
</tr>
</tbody>
</table>

6.2. Diagnosis

- Based on national guideline diagnosis of CDI is done by two tests strategy. All stool samples are initially screened by GDH (Glutamate dehydrogenase) assay. GDH concentration in stool increases during Clostridium difficile overgrowth in the gut, therefore detection of GDH indicates Clostridium difficile colonisation but not necessarily toxin production. GDH positive specimens are tested by cytotoxin/CDAB VIDAS assay for confirmation of toxin production. A positive toxin production confirms the diagnosis of C. difficile infection. (Appendix 8 and 9)
- Specimens must be obtained and sent promptly from patients with suspected infective diarrhoea. Diarrhoeal stool samples submitted from all hospital in-patients (excluding neonates) will be tested routinely for C. difficile toxin.
- In General Practice, only diarrhoeal stool samples from patients over 65yrs of age will be tested routinely for Clostridium difficile toxin. If a GP requires a C. difficile toxin test on a younger patient this must be specifically requested.
- Other departments specifically requiring a C. difficile toxin test (e.g. out-patients) must request that test on the form when sending the sample.
- Samples taken early in C. difficile infection may be toxin negative. Samples should be repeated after 48 hours in patients presenting a clear clinical picture of C. difficile infection with on-going symptoms and a negative initial sample.
- A microbiology request form must be completed appropriately and the specimen container closed securely to avoid leakage.

6.3. Management of a patient with diarrhoea/suspected C. difficile infection
(See Good Practice Guide to C diff – Appendix 6)

6.3.1. Isolation

- The patient must be isolated a single room, with en-suite facilities where possible and dedicated items of equipment. Where en-suite facilities are unavailable, a dedicated commode should be allocated. Source isolation procedures as per the Isolation Policy must be followed.
• If there are several cases on a ward and there are not enough single rooms to isolate all cases, considerations should be given to cohorting cases in a designated bay with a toilet specifically allocated to the bay.
• Symptoms must be assessed using the Diarrhoea Assessment form CHA2993 and documented using a Bristol stool chart (appendix 3)
• The vacated bed space must be cleaned prior to admitting the next patient as per instructions for terminal cleaning in Source Isolation Policy.

6.3.2. Hand Hygiene
Staff hands are the most important mode of transmission from patient to patient. Soap and water must be used for hand hygiene rather than alcohol rub - soap and water is far more effective. Patients must also be encouraged to wash their hands. If the patient is bed bound, patient wet wipes should be offered for hand hygiene as an alternative to soap and water.

6.3.3. Maintaining Standards of Care
Infection control measures should not compromise the patient’s care and should not affect the patient’s freedom to be mobilised or attend other departments for health care related visits.

6.3.4. Protective Clothing
Gloves and aprons must be worn for direct patient contact with symptomatic patients or when cleaning the isolation room/bay. Hands must be washed with soap and water following removal of protective clothing.

6.3.5. Family Visitors
Protective clothing is unnecessary unless involved in personal care. Visitors should be advised to wash their hands immediately prior to leaving the isolation room. Visitors should be advised to avoid eating and drinking within the room. If visitors disclose the fact that they are taking antibiotics, they should be advised of the increased risk of infection.

6.4. Action required once Clostridium difficile confirmed

6.4.1. Isolation precautions
Transfer to the isolation ward must be considered and should be arranged via the site coordinator. Previously described isolation precautions in single room or cohort must be maintained. Hand hygiene and protective clothing measures as above.

6.4.2. Hand Hygiene
Staff hands are the most important mode of transmission from patient to patient. Soap and water must be used for hand hygiene rather than alcohol rub - soap and water is far more effective. Patients must also be encouraged to wash their hands. If the patient is bed bound, patient wet wipes should be offered for hand hygiene as an alternative to soap and water.

6.4.3. Protective Clothing
Gloves and aprons must be worn for direct patient contact with symptomatic patients or when cleaning the isolation room/bay. Hands must be washed with soap and water following removal of protective clothing.
6.4.4. Patient Information
The affected patient should be provided with an explanation of C. difficile infection and an information leaflet.

6.4.5. Staff
Staff very rarely suffer from symptoms related to C.difficile. However, should staff be receiving antibiotics then they may be at some risk of infection, and therefore should avoid contact with known cases of C.difficile infection.

6.4.6. Family visitors
Protective clothing is unnecessary unless involved in personal care. Visitors should be advised to wash their hands immediately prior to leaving the isolation room. Visitors should be advised to avoid eating and drinking within the room. If visitors disclose the fact that they taking antibiotics, they should be advised of the increased risk of infection.

6.4.7. Cleaning
A chlorine based disinfectant must be used for daily routine cleaning of the environment where patients with Clostridium difficile are being nursed. This may be single rooms or a cohort bay.

6.4.8. Treatment
- C. difficile infection must be treated as a diagnosis in its own right.
- Stop antibiotics, if possible. This may suffice to prevent diarrhoea developing further. If symptoms are judged enough to warrant treatment, refer to Antibiotic Policy.
- Refer to treatment algorithm (Appendices 4 & 5)
- Treatment days should be counted from the end of any course of other antibiotics if they cannot be stopped immediately.
- Do NOT give anti-motility agents such as Loperamide (risk of toxic megacolon).
- For advice contact the duty Medical Microbiologist.
- If patient develops bloody diarrhoea or signs of an acute abdomen the possibility of pseudomembranous colitis must be considered, and an urgent surgical opinion should be sought, in addition to further discussions with a Microbiologist.
- After 5 days treatment with metronidazole or vancomycin, if the patient still has diarrhoea reconsider diagnosis.

6.4.9. Monitoring of condition
The severity of CDI must be assessed each day by the clinical team as follows:

- Mild CDI is not associated with a raised WCC; it is typically associated with less than 3 stools of type 5–7 on the Bristol Stool Chart (see Appendix 3) per day.
- Moderate CDI is associated with a raised WCC that is <15 x10^9/L; it is typically associated with 3–5 stools per day.
- 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 may be a less reliable indicator of severity.
• Life-threatening CDI includes hypotension, partial or complete ileus or toxic megacolon, or CT evidence of severe disease.
• NB: Neutropenic patients will have a low WBC/no WBC. Advice must be sought from a microbiologist and/or the patient’s consultant.

An accurate stool chart and Fluid balance chart must be maintained. A nutritional assessment undertaken.

6.4.10. Clearance
• It is not necessary to send specimens to confirm a patient is negative for C. difficile toxin unless asked to by a member of the IPAC team or Microbiologist.
• Follow up stool samples are of no value since they often remain positive even in patients who have recovered symptomatically.
• Once a patient has had 72 hours without diarrhoea and a return to normal bowel habits they can be considered non-infectious. Source isolation precautions can then be stopped.

6.4.11. Relapse
If further diarrhoea occurs, relapse must be suspected. The patient must be isolated and treatment discussed with a Medical Microbiologist. The IPAC Team must also be informed.

6.4.12. Transferring of Patients with C.difficile
• Minimising the movement of patients between wards will reduce the exposure of other patients to C. difficile when a case of C. difficile infection has been identified.
• If it is necessary to transfer a patient with C. difficile due to clinical need, the receiving area must be informed prior to transfer.
• The IPAC Infection Prevention & Control Team must be informed of the transfer as soon as possible.
• When a patient has been positive but symptoms have resolved, the receiving area should be informed. This will ensure that the diagnosis of C. difficile is considered if the patient has any further diarrhoea.

6.4.13. Discharge
• Medical staff must ensure that the diagnosis of C. difficile infection is noted on the information sent to the patient’s General Practitioner, and the patient should be advised to report to their GP if they experience further diarrhoea.
• Patients must be advised not to take anti-diarrhoeal agents such as Loperamide, if they experience further diarrhoea.
• If a patient still has symptoms on discharge, agencies that will provide care for the patient must be informed and the information completed on the transfer form.

6.4.14. Cleaning of the vacated bed space
Terminal cleaning of the single room/bay must be undertaken once the bed space becomes vacant (appendix 7). Hydrogen Peroxide Vapour should be used for the terminal cleaning of the single room.
After a case of clostridium difficile, the mattress (static and pressure relieving) must be cleaned with a chlorine based detergent. A check of the mattress integrity must be carried out. Any potential damage must be reported to the equipment library immediately so that an alternative mattress can be supplied. All items of equipment must be cleaned (having consulted with manufacturer’s guidance) with a chlorine based detergent.

6.5. Increased Incidence and Outbreak

A period of increased incidence (PII) is defined as: two or more new cases (occurring >48 hours post admission, not relapses) in a 28-day period on a ward.

An outbreak of *C. difficile* diarrhoea: 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.

The following actions must be undertaken if a PII is identified on a ward

- The Care Group Triumvirate, Matron, Ward Sister / Charge Nurse must be informed by the IPAC team
- A weekly *C. difficile* ward audit must be undertaken jointly by the ward staff and the IPAC team, using the CDI acquisition enhanced measures audit form. The audit should continue until the weekly score is >80% in the three sections for three consecutive weeks and there have been no further >48 hours cases of CDI on the ward during that period. The audit results must be fed back to the Matron.
- A weekly antibiotic review in the ward (using local tools); must be carried out by the antibiotic pharmacist.
- The whole ward must be cleaned with chlorine based detergent agent until no further symptomatic patients are present on the ward. Each bed space must be cleaned separately with separate cloths.
- The microbiology laboratory must use the HPA *Clostridium difficile* Ribotyping Network for England (CDRNE) or Centre for Infections to undertake PCR (polymerase chain reaction) Ribotyping of all isolates from patients in the ward.
- An incident meeting must be held as determined by the size and rate of growth of the PII by assessment of the situation by the Director of Infection Prevention & Control (DIPC) and/or the duty microbiologist with the clinical director and consultants, depending on the number of cases.
- The Infection prevention & control team should carry out an automatic review of ward PIIs each week.

6.6. Root Cause Analysis (RCA)
A RCA must be undertaken for all reported cases of *C. difficile*. The investigation will be co-ordinated by the IPAC team. (see Appendix 10)

6.7. Death
- If *C difficile* causes or contributes to the death of a patient, the clinician in charge of the patients care must discuss the case with the Coroner prior to the death certificate being issued (this is a local policy agreement with the coroner).
• If a patient with C. difficile dies, the death certificate must state whether C. difficile was part of the sequence of events leading directly to death or whether it was the underlying cause of death. If either case applies C. difficile should be mentioned in Part 1 of the certificate.
• If C. difficile was not part of the sequence of events leading directly to death but contributed in some way to it, this should be mentioned in Part 2.
• A root cause analysis investigation must be implemented for patients where C. difficile is mentioned on part one of the death certificate.

7. Dissemination and Implementation
This policy will be implemented via the following routes:

• Information regarding the policy will be included in the Infection Prevention and Control newsletter.
• The policy will be included in the Trust's Document Library
• The policy will be circulated to all Link Practitioners and Matrons

8. Monitoring compliance and effectiveness

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>The management of patients with C. difficile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>IPAC team</td>
</tr>
<tr>
<td>Tool</td>
<td>Through practice review and audits.</td>
</tr>
<tr>
<td>Frequency</td>
<td>Weekly during ward visits and documented on ICNet.</td>
</tr>
<tr>
<td>Reporting arrangements</td>
<td>Reporting to Ward Sister/Charge Nurse on the day if isolation not carried our appropriately. Reporting to microbiologists any concerns regarding treatment. Report by exception to the Infection Prevention and Control Steering Group persistent non-compliance with policy.</td>
</tr>
<tr>
<td>Acting on recommendations and Lead(s)</td>
<td>Ward Sister/Charge Nurse to take immediate action where non-compliance with policy identified.</td>
</tr>
<tr>
<td>Change in practice and lessons to be shared</td>
<td>Required changes to practice will be identified and actioned immediately. A lead member of the team will be identified to take each change forward where appropriate. Lessons will be shared with all the relevant stakeholders</td>
</tr>
</tbody>
</table>

9. Updating and Review
This policy will be reviewed within 3 years.

10. Equality and Diversity
10.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the ‘Equality, Diversity & Human Rights Policy’ or the Equality and Diversity website.

10.2. Equality Impact Assessment
The Initial Equality Impact Assessment Screening Form is at Appendix 2.
Appendix 1. Governance Information

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Prevention and Management of Clostridium Difficile Infection Policy V6.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Issued/Approved:</td>
<td>13 May 2019</td>
</tr>
<tr>
<td>Date Valid From:</td>
<td>May 2019</td>
</tr>
<tr>
<td>Date Valid To:</td>
<td>May 2022</td>
</tr>
<tr>
<td>Directorate / Department responsible (author/owner):</td>
<td>Louise Dickinson, DIPC and Dr Chakrabarti Infection Prevention and Control Doctor</td>
</tr>
<tr>
<td>Contact details:</td>
<td>01872 254969</td>
</tr>
<tr>
<td>Brief summary of contents</td>
<td>This policy has been developed to provide a practical document to equip all healthcare staff at the Royal Cornwall Hospitals NHS Trust with the necessary information on the recognition, management and treatment of Clostridium difficile infection.</td>
</tr>
<tr>
<td>Suggested Keywords:</td>
<td>GDH, Clostridium difficile, diarrhoea.</td>
</tr>
<tr>
<td>Target Audience</td>
<td>RCHT ☑ CPFT KCCG</td>
</tr>
<tr>
<td>Executive Director responsible for Policy:</td>
<td>Chief Nurse</td>
</tr>
<tr>
<td>Date revised:</td>
<td>28 November 2018</td>
</tr>
<tr>
<td>This document replaces (exact title of previous version):</td>
<td>Prevention and Management of Clostridium Difficile Infection Policy V5.0</td>
</tr>
<tr>
<td>Approval route (names of committees)/consultation:</td>
<td>Hospital Infection Prevention and Control Committee</td>
</tr>
<tr>
<td>Divisional Manager confirming approval processes</td>
<td>Louise Dickinson</td>
</tr>
<tr>
<td>Name and Post Title of additional signatories</td>
<td>‘Not Required’</td>
</tr>
<tr>
<td>Signature of Executive Director giving approval</td>
<td>{Original Copy Signed}</td>
</tr>
<tr>
<td>Publication Location (refer to Policy on Policies – Approvals and Ratification):</td>
<td>Internet &amp; Intranet ☑ Intranet Only</td>
</tr>
<tr>
<td>Document Library Folder/Sub Folder</td>
<td>Clinical/Infection Prevention &amp; Control</td>
</tr>
<tr>
<td>Links to key external standards</td>
<td>Regulation 12</td>
</tr>
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</table>

Health Protection Agency. Regional Microbiology Network. (2007) A good practice guide to control *Clostridium difficile*.


**Training Need Identified?** No

### Version Control Table

<table>
<thead>
<tr>
<th>Date</th>
<th>Version No</th>
<th>Summary of Changes</th>
<th>Changes Made by (Name and Job Title)</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Jan 08</td>
<td>V1.0</td>
<td>Initial Issue</td>
<td>IPAC Team</td>
</tr>
<tr>
<td>11 Mar 10</td>
<td>V2.0</td>
<td>Revised and updated</td>
<td>Louise Dickinson Consultant Nurse Infection Prevention and Control</td>
</tr>
<tr>
<td>21 Jan 13</td>
<td>V3.0</td>
<td>Revised and re-formatted. Inclusion of Hydrogen Peroxide Vapour for terminal clean</td>
<td>Louise Dickinson Consultant Nurse Infection Prevention and Control</td>
</tr>
<tr>
<td>18 Oct 13</td>
<td>V4.0</td>
<td>GDH testing procedure added. Note made regarding treatment of third episode of C.diff.</td>
<td>Louise Dickinson Consultant Nurse Infection Prevention and Control</td>
</tr>
<tr>
<td>29.01.16</td>
<td>V5.0</td>
<td>Specific information on GDH added</td>
<td>Dr Chakrabarti Infection Control Doctor</td>
</tr>
<tr>
<td>28.11.18</td>
<td>V6.0</td>
<td>Full review, reformatted, current Bristol Stool Chart added, reference to Care Groups added, Health Protection Agency flow chart removed, Terminal Clean Schedule updated, Treatment Algorithm updated, GDH Protocol updated</td>
<td>Jean James, IPAC Lead Nurse</td>
</tr>
</tbody>
</table>

**All or part of this document can be released under the Freedom of Information Act 2000**
## Appendix 2. Initial Equality Impact Assessment Form

<table>
<thead>
<tr>
<th>Name of the strategy / policy / proposal / service function to be assessed</th>
<th>Prevention and Management of Clostridium Difficile Infection Policy V6.0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Directorate and service area:</strong></td>
<td><strong>Is this a new or existing Policy?</strong></td>
</tr>
<tr>
<td>Infection Prevention and Control</td>
<td>Existing</td>
</tr>
<tr>
<td><strong>Name of individual completing assessment:</strong></td>
<td><strong>Telephone:</strong></td>
</tr>
<tr>
<td>Jean James</td>
<td>01872 254969</td>
</tr>
<tr>
<td><strong>1. Policy Aim</strong>&lt;sup&gt;*&lt;/sup&gt;</td>
<td>To provide staff with the necessary information and knowledge to effectively reduce the risk of Clostridium difficile introduction to the Trust, and to put in place systems to control and contain cases of Clostridium difficile as and when they occur.</td>
</tr>
<tr>
<td><em>Who is the strategy / policy / proposal / service function aimed at?</em></td>
<td></td>
</tr>
<tr>
<td><strong>2. Policy Objectives</strong>&lt;sup&gt;*&lt;/sup&gt;</td>
<td>To provide clinical staff with guidelines for management of patients with Clostridium difficile and to identify strategies for the prevention and control of cross infection to other patients, staff and visitors.</td>
</tr>
<tr>
<td><strong>3. Policy – intended Outcomes</strong>&lt;sup&gt;*&lt;/sup&gt;</td>
<td>To reduce the risk of transmission of infection.</td>
</tr>
<tr>
<td><strong>4. <em>How will you measure the outcome?</em></strong></td>
<td>Through route cause analysis.</td>
</tr>
<tr>
<td><strong>5. Who is intended to benefit from the policy?</strong>*</td>
<td>All staff and patients.</td>
</tr>
<tr>
<td><strong>6a Who did you consult with</strong></td>
<td><strong>Workforce</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>b). Please identify the groups who have been consulted about this procedure.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Please record specific names of groups</strong></td>
<td>Hospital Infection Prevention and Control Committee</td>
</tr>
<tr>
<td><strong>What was the outcome of the consultation?</strong></td>
<td>Policy approval</td>
</tr>
</tbody>
</table>
### 7. The Impact

Please complete the following table. **If you are unsure/don’t know if there is a negative impact you need to repeat the consultation step.**

<table>
<thead>
<tr>
<th>Equality Strands:</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
<th>Rationale for Assessment / Existing Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>✓</td>
<td></td>
<td></td>
<td>Infections may affect any age</td>
</tr>
<tr>
<td>Sex (male, female, trans-gender / gender reassignment)</td>
<td>✓</td>
<td></td>
<td></td>
<td>Infections may affect any gender</td>
</tr>
<tr>
<td>Race / Ethnic communities /groups</td>
<td>✓</td>
<td></td>
<td></td>
<td>Infections may affect any groups.</td>
</tr>
<tr>
<td>Disability - Learning disability, physical impairment, sensory impairment, mental health conditions and some long term health conditions.</td>
<td>✓</td>
<td></td>
<td></td>
<td>Infections may affect all regardless of disability</td>
</tr>
<tr>
<td>Religion / other beliefs</td>
<td>✓</td>
<td></td>
<td></td>
<td>Infections may affect any religion</td>
</tr>
<tr>
<td>Marriage and Civil partnership</td>
<td>✓</td>
<td></td>
<td></td>
<td>Infections may affect all people – married or otherwise</td>
</tr>
<tr>
<td>Pregnancy and maternity</td>
<td>✓</td>
<td></td>
<td></td>
<td>Although unlikely to occur in this group cases have been reported</td>
</tr>
<tr>
<td>Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian</td>
<td>✓</td>
<td></td>
<td></td>
<td>Infections may affect all regardless of sexual orientation</td>
</tr>
</tbody>
</table>

**You will need to continue to a full Equality Impact Assessment if the following have been highlighted:**
- You have ticked “Yes” in any column above and
- No consultation or evidence of there being consultation- this **excludes** any policies which have been identified as not requiring consultation. or
- Major this relates to service redesign or development

8. Please indicate if a full equality analysis is recommended. | Yes | No | ✓ |
9. If you are **not** recommending a Full Impact assessment please explain why.

None of the equality strands have been identified in the initial impact assessment
Keep one copy and send a copy to the Human Rights, Equality and Inclusion Lead
c/o Royal Cornwall Hospitals NHS Trust, Human Resources Department, Knowledge Spa, Truro, Cornwall, TR1 3HD

This EIA will not be uploaded to the Trust website without the signature of the Human Rights, Equality & Inclusion Lead.

A summary of the results will be published on the Trust’s web site.

Signed __ __________________

Date __________________

Prevention and Management of Clostridium Difficile Infection Policy V6.0
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**Appendix 3. Bristol Stool Chart**

<table>
<thead>
<tr>
<th>Date / Time</th>
<th>Type of stool (use number from Bristol Stool Chart)</th>
<th>Quantity of stool</th>
<th>Pain and/or distress when passing stool</th>
<th>Interventions eg. enema, laxatives etc</th>
<th>Date specimen obtained</th>
<th>Signed and designation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Type 1
- Separate hard lumps, like nuts (hard to pass)
- Types 1 - 2
- Indicate constipation

### Type 2
- Sausage shaped but lumpy
- Types 3 - 4
- Normal stools

### Type 3
- Like a sausage but with cracks on its surface
- Types 5 - 7
- Diarrhoea
- Refer to Risk Assessment

### Type 4
- Like a sausage or snake, smooth and soft
- Types 1 - 2
- Indicate constipation

### Type 5
- Soft blobs with clear-cut edges (passed easily)
- Types 3 - 4
- Normal stools

### Type 6
- Fluffy pieces with ragged edges, a mushy stool
- Types 1 - 2
- Indicate constipation

### Type 7
- Watery, no solid pieces. Entirely liquid
- Types 3 - 4
- Normal stools
Appendix 4. Treatment Algorithm - First episode

**FIRST EPISODE** of *C. difficile* infection (CDI)

- **Diarrhoea AND** one of the following:
  - Positive *C. difficile* toxin test
  - OR results of *C. difficile* toxin test pending
  - AND clinical suspicion of CDI

- If clinically appropriate discontinue non-*C. difficile* antibiotics to allow normal intestinal flora to be re-established

### Suspected cases must be isolated

- **Symptoms/signs: non-severe CDI**
  - (None of: WCC >15, acute rising creatinine and/or colitis)
  - Oral metronidazole 400mg 8-hourly 10-14 days

**DAILY ASSESSMENT**

- **Symptoms improving**
  - Diarrhoea should resolve in 1-2 weeks
  - Recurrence occurs in ~ 20% of cases after first episode, 50-60% after second episode

- **Symptoms not improving or worsening**
  - Should not normally be deemed a treatment failure until day 7 of treatment
  - However, if there is evidence of severe CDI:
    - (WCC >15, acute rising creatinine and/or signs/symptoms of colitis)
    - Switch to oral vancomycin 125 mg 6-hourly 10-14 days

### Further surgery/GI/Micro/ID consultation

- Depending on choice of therapy (see above) consider:
  1. high-dose oral/NG vancomycin (500mg PO 6 hourly)
  2. IV immunoglobulin 400mg/kg, 1 dose, and consider repeat

**Symptoms/signs: severe CDI**

- WCC >15, acute rising creatinine and/or colitis
- Oral vancomycin 125mg 6-hourly 10-14 days
- Consider oral fidaxomicin 200mg 12-hourly 10-14 days in patients with multiple co-morbidities who are receiving concomitant antibiotics

**DAILY ASSESSMENT**

- **Symptoms not improving or worsening**
  - Should not normally be deemed a treatment failure until day 7 of treatment.
  - However, if there is evidence of severe CDI continues or worsens
  - Surgery/GI/Micro/ID consultation

- **AND, depending on degree of ileus/prior treatment**
  - **EITHER** Vancomycin 125-500 mg PO/NG 6-hourly +/- Metronidazole 500 mg IV 8-hourly x 10 days **OR** Fidaxomicin 200mg PO 12-hourly
  - **PLUS CONSIDER** Intracolonic vancomycin (500mg in 100-500ml saline 4-12 hourly) given as retention enema: 18 gauge Foley catheter with 30ml balloon inserted per rectum; vancomycin instilled; catheter clamped for 60 minutes; deflate and remove (Apisarnthanarak et al., 2002)

**Antimotility agents should not be prescribed in acute CDI**
Appendix 5. Treatment Algorithm – Recurrent

**RECURRENT C. difficile Infection (CDI)**
Recurrence of diarrhoea (at least 3 consecutive type 5-7 stools) within ~30 days of a previous CDI episode **AND** positive C. difficile toxin test

**Must discontinue non-C. difficile treatment antibiotics if at all possible to allow normal intestinal flora to be re-established.**

**Review all drugs with gastrointestinal activity or side effects (stop PPIs unless required acutely).**

**Suspected cases must be isolated**

**Symptoms/signs: not life threatening CDI**
- Oral fidaxomicin 200mg 12-hourly for 10-14 days
  (Efficacy of fidaxomicin in patients with multiple recurrences is unclear)
- Depending on local cost-effectiveness decision making, Oral vancomycin 125mg 6-hourly 10-14 days is an alternative

**DAILY ASSESSMENT**
(include review of severity markers, fluid/electrolytes)

**Symptoms improving**
Diarrhoea should resolve in 1-2 weeks

**IF MULTIPLE RECURRENCES ESPECIALLY IF EVIDENCE OF MALNUTRITION, WASTING etc**

1. Review ALL antibiotic and other drug therapy (consider stopping PPIs and/or other GI active drugs)
2. Consider supervised trial of anti-motility agents alone (no abdominal symptoms or signs of severe CDI)
3. Also Consider:
   3.1 Fidaxomicin (if not received previously) 200mg 12-hourly 10-14 days
   3.2 Vancomycin tapering/pulse therapy (4-6 week regimen) *(Am J Gastroenteral 2002;97:1769-75)*
   3.3 IV immunoglobulin, especially if worsening albumin status *(J Antimicrob Chemother 2004:53:882-4)*
   3.4 Donor stool transplant *(Clin Infect Dis 2011;53:994-1002. Van Nood et al., NEJM 2013)*
Appendix 6. Terminal Clean Schedule

| Product                      | Detergent: Hospec liquid detergent  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Actichlor solution or Hydrogen Peroxide Vapour</td>
</tr>
<tr>
<td>Equipment Required</td>
<td>High dusting tool, High dusting mop head, Dust control system (Applicator tool), Hygienic mop roll, Disposable/microfibre cloths, Mop and Bucket, Cleaning Trolley, Gloves, Warning signs</td>
</tr>
<tr>
<td>Cleaning Standard</td>
<td>Area must be clean, tidy and free from potential infection. Area should be safe and inviting for further occupancy</td>
</tr>
</tbody>
</table>
| Health and Safety (Pre)      | • Always clean from top to bottom and outside to in  
|                              | • Work in a systematic fashion from left to right  
|                              | • Display warning signs  
|                              | • Cleanse hands and fit disposable gloves and apron prior to entering room/area  
|                              | • Once cleaning in progress no items to be returned to the room |
| Cleaning Method              | Prior to Domestic Services arriving, ward staff should ensure that:  
|                              | • All patients and their belongings are removed from the room/area to be cleaned  
|                              | • All linen, both clean and dirty, is placed in a soluble bag followed by a white bag for laundering  
|                              | • Crockery, cutlery, water jugs and glasses are placed in the dishwasher  
|                              | • Medical equipment i.e. monitors, hoists, drip stands, linen holders, Zimmer frames, commodes, scales are cleaned with chlor wipes and placed in the appropriate storage area  
|                              | 1. Operative checks room/area prior to commencement of cleaning  
|                              | 2. Remove curtains (from left to right), place in a clinical waste bag. Dispose of remaining excess items i.e. magazines, newspapers, flowers, plants, serviettes, tissues, disposable bags, air pipes, handtowels, tissues, open cloths in a clinical waste bag  
|                              | 3. Remove all radiator covers  
|                              | 4. Remove all large items of litter and debris from floor and place in a clinical waste bag and tie it with a black tag  
|                              | 5. Dispose of clinical and domestic waste including sharps bins – clinical waste bags will be used for all waste disposals in an isolation room as per clinical waste stream. Using detergent:  
|                              | 6. Clean bin from top to bottom and outside in  
|                              | 7. All remaining furniture to be placed to one side of room i.e. beds, tables, chairs, lockers, footstools  
|                              | 8. Clean High Dust area, including vents, high window ledges, around ceiling corners and light fittings (Refer to High Dusting procedure)  
|                              | 9. Hand wash wall from hand height to floor (if surfaces visibly soiled)  
|                              | 10. Clean periphery of room / area especially ledges, notice boards, cupboards inside and out, lamps, Bedside TV units, pipe work, radiators, radiator covers – outside in, light sockets and frames and hand basins (Particular attention to frequently touched areas i.e. door handles, radio control, taps etc)  
|                              | 11. Clean all furniture especially underneath framework i.e. beds, mattresses, pillows, note holders, tables, chairs, lockers, footstools (Refer to damp dusting procedure)  
|                              | 12. Dust Control cleared floor area (Refer to Dust Control procedure)  
|                              | 13. Damp mop cleared floor area. (Refer to Damp mopping procedure)  
|                              | 14. All cleaned furniture to be placed to clean side of room i.e. beds, tables, chairs, lockers, footstools  
|                              | 15. Repeat steps 8-14 |
16. Terminal Clean sign off sheet to be completed
17. HPV machine to be activated OR only on the instruction by the Infection Prevention and Control team of the Site Management team Repeat steps 6 – 14 using Actichlor solution.
18. Reline clinical bin with clinical waste bag
19. Place used items i.e. gloves, cloths, aprons into clinical waste bag, tie and place for disposal. Clean and reline waste bin
20. Re-hang clean curtains (Refer to Curtain hanging procedure)
21. Reattach all radiator covers
22. Reposition furniture and equipment into original positions
23. Operative and clinical staff checks room/area prior to reoccupation
24. Operative confirms to Domestic Helpdesk that area is ready for re-use.

<table>
<thead>
<tr>
<th>Individual responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A maximum of 5 operatives can be designated to conduct an outbreak clean in a 4-6 bedded ward bay at a time</td>
</tr>
<tr>
<td>Allocation of tasks / work responsibilities:</td>
</tr>
<tr>
<td>DOMESTICASST 1 – STEPS 3,4,5,6,8,9,10,12,13</td>
</tr>
<tr>
<td>DOMESTICASSTs 2 &amp; 3 – STEPS 3,4,5,6,7,11 &amp; 14</td>
</tr>
<tr>
<td>DOMESTICASST 5 – STEPS 2,16 &amp; 17</td>
</tr>
<tr>
<td>WARD STAFF – all steps prior to the point 1.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health and Safety (Post)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• All equipment should be thoroughly cleaned after use before leaving the room/area.</td>
</tr>
<tr>
<td>• Do not walk on wet floor</td>
</tr>
<tr>
<td>• Wipe feet and wash hands thoroughly</td>
</tr>
</tbody>
</table>
Appendix 7. GDH-cytotoxin testing protocol for Clinical Microbiology Lab

GDH VIDAS assay
7 days / week
Mon-Fri run at 14:30

GDH VIDAS assay
7 days/Week
Sat/Sun/Holiday run at 11.00

GDH VIDAS Result
Available at 16.30

GDH VIDAS Result
Available at 13.00

POSITIVE Inform IPAC Team and duty Microbiologist

NEGATIVE

VIDAS Toxin assay

NEGATIVE

EQUIVOCAL / LOW POSITIVE

Refer to action plan for management of C. difficile based on GDH-Cytotoxin assay

Cytotoxin assay
Mon-Fri

NEGATIVE

POSITIVE Inform IPAC Team and duty Microbiologist

A CASE OF CDAD
Appendix 8. Action plan for diagnosis & management of Clostridium difficile associated diarrhoea (CDAD) based on GDH & cytotoxin assay

GDH / Cytotoxin assay (Stool Bristol chart 5-7)

- GDH NEG
  - The diarrhoea is NOT due to C. difficile
  - No repeat testing within next 48 hrs
  - Possible exclusion of other causes e.g Norovirus / non infectious diarrhoea if symptom persists

- GDH POS Cytotoxin POS
  - A case of C. difficile diarrhoea, CDAD
  - Management as RCHT C. difficile guideline

- GDH POS Cytotoxin NEG
  - Colonized with C. difficile, NOT a case or CDAD
  - Isolate if symptomatic
  - Review antibiotics
  - STOP antibiotics if possible
  - STOP PPI/laxative if possible
  - Risk assessment for CDAD

- >/= 2 High risk factors
  - IBD
  - Type 6/7 stool >/= 3 /day

  - Consider oral Metronidazole / Vancomycin
  - Repeat testing after 48hr (only cytotoxin)

- Low risk factors
  - Stool Type 5 or below or Type 6/7 stool < 3 /day
  - No offensive smell

  - Consider oral Probiotics for 7 days if available
  - (if NOT immunosuppressed)
  - Repeat testing after 48hr (only cytotoxin)

If 3 samples are negative for cytotoxin, the episode is NOT due to CDAD
   - Possible exclusion of other causes e.g Norovirus / non infectious diarrhoea

Review need for Metronidazole/ Vanc
   - Consider Probiotic for 7 days if available
   - Consider repeat after 48hr if symptomatic
Appendix 9. Process to follow on receipt of Clostridium Difficile Post 72 hours of admission

On receipt of C.difficile result which has occurred 72 hours after admission, IPCN to complete Datix

IPAC Nurse to email the named Consultant and Ward Sister/Charge Nurse the RCA documentation (cc Care Group Triumvirate).
Request they return comments within 5 working days.

Audit and Surveillance Co-ordinator to enter data onto HCAI DCS

IPAC Nurse to email Antimicrobial Pharmacist with patient details and attach the Pharmacy section of the RCA document.
Request a return within 5 working days.

RCA document to be reviewed by Consultant Nurse DIPC/Infection Control Doctor/Consultant Microbiologist/IPAC Lead Nurse.
Questions raised to be forwarded to the appropriate member of staff (cc Care Group Triumvirate)
All information to be returned within 5 working days

IPAC Nurse to carry out a retrospective review of similar cases over the past 28 days to identify potential links/hotspots and commence a period of increased incidence where appropriate.

Consultant Nurse DIPC/Infection Control Doctor/Consultant Microbiologist/IPAC Lead Nurse to review RCA document and responses to questions and determine if there are any lapses of care.
Forward completed documentation to the Ward Sister, Consultant and for discussion at the relevant Governance Meeting.
Cc: Care Group Triumvirate Matron, DIPC

Governance Lead to notify IPAC Lead Nurse when this has been approved by the Care Group.
IPAC Lead Nurse to contact Governance Team so that the case can be put on the agenda for IRGL (Incident Review Learning Group).
The learning and progress of the Action plan to be shared at the Infection Prevention and Control Steering Group by the Matron or Care Group Representative.

Key points of the leaning to be added to the Infection Prevention and Control newsletter