# Policy on the Prevention and Management of Clostridium Difficile Infection

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<th>First Issued by/date</th>
<th>Issue Version</th>
<th>Purpose of Issue/Description of Change</th>
<th>Planned Review Date</th>
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<tr>
<td>July 2011</td>
<td>1</td>
<td>Requirement of the Code of Practice</td>
<td>July 2011</td>
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**Named Responsible Officer:**
- Infection Prevention and Control Lead
  
**Approved by:**
- Infection Control Committee

**Policy File:**
- Infection Control Policy No 13
  
**Impact Assessment:**
- Screening Complete - October 2009
  
**Full Impact Assessment Required:**
- NO

## Key Indicators

1. Attendance levels at infection control training
2. Incidence of community Clostridium difficile infection
3. Level of antibiotic prescribing

*UNLESS THIS VERSION HAS BEEN TAKEN DIRECTLY FROM THE PCT WEB SITE THERE IS NO ASSURANCE THIS IS THE CORRECT VERSION*
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NHS Wirral

Policy on the Prevention and Management of Clostridium difficile Infection

Introduction

Clostridium difficile causes a spectrum of disease from mild diarrhoea to severe and life threatening illness, the disease has an association with antibiotic type consumption in certain at risk individuals.

Clostridium difficile infection (CDI) was considered a hospital antibiotic associated illness in individuals over the age of 65, however between 1990 and 2004 rates of CDI changed in different age groups in England. The greatest increase was in those in the 60-64 age group but there were also rises in younger people, with peaks of CDI in 1996/1997 and 2001/2002.

Since 2004 mandatory reporting of Clostridium difficile in patients under 65 years of age has been part of mandatory surveillance for health care associated infection, since April 2008 this reporting has included all cases in patients over the age of 2 years. This data is now separated into hospital and community acquired infection. Any new sample taken from a patient who is not an inpatient in secondary care or who has been discharged from secondary care and there is over 28 days since any previous positive specimens taken in an acute unit will be considered community acquired.

The exact incidence of community-CDI is unclear; U.K incidences vary from 2.1% to 10%.

It is a requisite of The Health and Social Care Act 2008 Code of Practice for the NHS on the prevention and control of healthcare associated infections and related guidance to have a policy in place for the control of specific organisms which contribute to health care associated infections, including Clostridium difficile.

Policy Aim

To understand the causes of Clostridium difficile infection and enable staff to prevent Clostridium difficile infection wherever possible, and appropriately manage and control symptoms.

Policy outcome

Patients will be managed appropriately to prevent Clostridium difficile infection and symptoms treated appropriately. Prevention of cross infection.
Target group

- Community Nursing Staff.
- Specialist Nursing Staff
- Community Matrons
- Unplanned care staff
- Independent General Practitioners.
- Practice Nurses
- Shared as best practice with Wirral Nursing Care Homes

Specific responsibilities

Chief Executive

The Chief Executive has overall responsibility for ensuring infection prevention and control is a core part of the Trusts governance and patient safety programmes.

Board

The Board has collective responsibility for ensuring assurance that appropriate and effective policies are in place to minimise the risks of health care associated infections.

Director of Infection Prevention and Control

It is the responsibility of the Director of Infection Prevention and Control to oversee the development and implementation of infection prevention and control policies.

Infection Prevention and Control Team

It is the responsibility of the Infection Prevention and Control Team to ensure this policy is reviewed and amended at the review date or prior to this following new developments in the prevention and management of Clostridium difficile.

Service Managers

It is the responsibility of managers to ensure that staff have read the Clostridium difficile policy.

Staff

It is the responsibility of staff to ensure they follow the advice on the prevention and management of Clostridium difficile as detailed in this policy.
Cross reference related PCT policies

Primary Care Antimicrobial Guidance
Risk Assessment for the Prevention and Control of HCAI
Hand Decontamination Policy
Use of Personal Protective Equipment (Standard Precautions) Policy
Management of Healthcare Waste Policy

Evidence to support policy

National Resource for Infection Control. Disease/organisms – Clostridium difficile
www.nric.org.uk

Health Protection Agency. - Infectious diseases – Infections A-Z – Clostridium difficile
www.hpa.org.uk

Background

Clostridium difficile is an anaerobic bacterium which can be found as part of the normal bowel flora in approximately 3% of adults. Carriage rate increases with age, the elderly are particularly at risk, over 80% of Clostridium difficile infections reported are in people over 65 years. Proton Pump Inhibitors (PPI’s), cytotoxic drugs or abdominal surgery or time spent in an environment where exposure is likely are thought to be implicated. It is known that antibiotics disturb the normal gut flora, particularly 3rd generation cephalosporins, Clindamycin and Amoxicillin.

The spores of Clostridium difficile are the transmissible form of the infection. They can contaminate the environment and can survive for long periods, germinating only when next ingested into a disturbed gut. Clostridium difficile bacteria produce toxins A and B which cause mucosal damage and inflammation to the gut and watery, offensive diarrhoea. These spores are very resistant to alcohols and most disinfectants.

Clostridium difficile is found in the gut of 66% of healthy infants under 2 years of age, which is why this age group are isolated from mandatory reporting. It rarely causes problems in children or healthy adults as it is kept in check by the normal bacterial population of the gut, and has a variable attack rate in susceptible patients.
Prevention

- Adherence to the PCT Community Antibiotic formulary
- Adherence to Infection prevention & control policies

Clinical features

- Diarrhoea (3 or more loose stools in 24 hours – Bristol Stool Chart type 5-7 – Appendix A)
- Stools may be watery and/or bloody with a distinctive foul smell and green or yellowish-brown appearance
- Diarrhoea may be self-limiting in some cases
- Fever
- Loss of appetite
- Nausea
- Abdominal pain/tenderness may be present.

Complications

- Relapse of diarrhoea
- Pseudomembranous colitis
- Toxic megacolon
- Perforation of the colon
- Sepsis
- Death

Risk factors

- Elderly (over 65 years)
- Long length of stay in health care settings
- Recent use of antibiotics especially broad spectrum e.g. Cephalosporins which are harmful to the normal gut flora (commonly in previous 4 weeks).
- Recent surgery especially gastro-intestinal surgery
- Immunocompromising conditions
- Undergoing chemotherapy
- Prolonged use of Proton Pump Inhibitors i.e. Omeprazole, Lansorprasole. (Evidence is currently under debate for this risk factor).

Specimens

Specimens of diarrhoea (Bristol Stool Chart types 5-7) should be sent to the Microbiology Laboratory from patients who are symptomatic. Samples should
clearly indicate patients’ symptoms, antibiotic history and who should be informed of the result.

Treatment

**New case or mild relapses:**
Discontinue implicated antibiotic if clinically appropriate, or change to an antibiotic with a lower risk of causing Clostridium difficile infection.

Treat with Metronidazole 400mgs tds orally for 10 days (Wirral Primary Care Antibiotic formulary). Treatment for less than 10 days is associated with greater risk of relapse.

Patients with profuse diarrhoea are vulnerable to dehydration, encourage and monitor fluids/electrolytes.

A further course of Metronidazole may be prescribed for mild relapses.

Fever should subside within 24-48 hours and diarrhoea should resolve within 2-5 days.

**Further relapses of mild symptoms:**
If diarrhoea persists despite 20 days treatment but:
- the patient is stable
- the number of type 5-7 motions has decreased
- White Cell Count (WCC) is normal.
- No abdominal pain
The diarrhoea may be due to post-infective irritable bowel syndrome. If there is no colonic dilation the diarrhoea may be treated with anti-motility agents e.g. Loperamide.

**Further relapses of moderate to severe symptoms:**
Discuss with Microbiologist.

- **New** prescriptions of Opioids i.e Codeine Phosphate, Dihydrocodiene, should be avoided as they may prolong or worsen symptoms.
- Anti-mobility drugs i.e. Loperamide should be avoided as their action makes it difficult for toxins to be dispelled.
- Do not obtain further samples from patients with formed stools, they may still be carriers of the clostridium difficile bacterium
- Do not send further samples of diarrhoea following a positive sample, for 28 days, unless infection with another bacterium or virus is suspected.

**Clearance:**
Asymptomatic patients may continue to excrete Clostridium difficile in their stools and/or remain toxin positive. There is no value in using antibiotics such as metronidazole or vancomycin to attempt to clear a patient of Clostridium difficile as these have no clearance benefit and may increase long term
carriage. Patients should be advised to use personal hygiene precautions to prevent cross infection by handwashing after using the toilet.

Patient and Staff information sheets on Clostridium difficile are available to download on the PCT Infection Prevention and Control web site.

Healthcare Waste

Healthcare waste from a patient confirmed or suspected of having a Clostridium difficile infection must be treated as infected.

Care being given by PCT employees:
Dispose of faecally contaminated waste via as hazardous waste (orange bag) – i.e. continence pads, protective clothing

Arrange collection of waste via the home collection service.

Contact Environment and Energy Project Manager if further advice is required.

Transfer and discharge Criteria

Patients may be accepted from other healthcare providers for community care if:

• The patient has had formed stools (Bristol Stool Chart 1-4 - Appendix A) for the past 48 hours.

N.B. Patients who have had colorectal procedures e.g. hemicolecetomy may have loose stools for an extended period of time post operatively and absence of formed stool in patients previously Clostridium difficile toxin positive should not delay discharge if otherwise medically fit. Staff should contact the Infection Prevention & Control Team to discuss any issues or concerns regarding discharge arrangements.

Transmission

Clostridium difficile is spread by the faecal-oral route.

• Transmission via health care worker’s hands
• Transmission by contaminated equipment/environment.

Infection Prevention and Control Practice

Clostridium difficile spores can be carried on the hands of healthcare workers, however, the spores are more resistant to alcohol. Hands must be washed
with liquid soap and dried with disposable paper towel before and after contact with the patient, their environment, equipment or body fluids. Alcohol hand gel may be used following washing with liquid soap to remove any remaining non Clostridium difficile organisms.

- Where diarrhoea is explosive in nature spores can be dispersed over a wide area, it is essential that uniforms are protected by single use plastic aprons and single use disposable gloves are worn.

- Risk assess all waste for appropriate disposal route (see Healthcare waste above).

- Advise family/carers that contaminated bed linen/towels/cloths are washed in a water temperature as hot as fabric will allow, preferably 60°C or above, in a lightly loaded washing machine. Overloading the washing machine reduces water circulation and therefore removal of contamination.

- Clean toilet/commode after each use, disinfect using a chlorine based product (at least 1,000ppm) and use disposable cloths.

- Ensure the patient is able to wash their own hands following use of the toilet or commode.

- Preferably use single use equipment. Any re-usable equipment must be disinfected using a chlorine based disinfectant.

- Patients should refrain from attending day care or hospital outpatient facilities until they have had normal bowel movements for 48 hours. If appointment is urgent staff should discuss with the PCT Infection Prevention and Control Team.

- Patients in a residential care facility should remain in a single occupancy room with toilet facilities whilst patient has bowel movements identified by the Bristol stool chart as types 5-7 and for 48 hours following formed stools (types 1-4).

- Assess severity of faecal incontinence and contact the Wirral Integrated Continence Service re: appropriate management.

**Staff exclusion due to Clostridium difficile diarrhoea**

Staff with diarrhoea should attend their General Practitioner for assessment and a stool sample. Staff should not work with diarrhoea.

Staff confirmed to have Clostridium difficile infection should be excluded from work until they have had normal bowel movements for 48 hours.
Training

Included in Essential training

Audit

General Practices with identified community CDI cases at the end of quarter 1, 2, 3 or 4 will undertake an antibiotic audit.

Archiving

Hard and/or electronic copies of previous versions of this document will be held by the Infection Prevention & Control team for the retention period required under current NHS guidance.

Risk Assessment

All patients over the age of 2 years admitted to the care of Community Nursing Services should be assessed for the risk of C. difficile infection on admission to the caseload. Patients who develop diarrhoea should be risk assessed for clostridium difficile associated disease (CDAD).

References


PL CMO (2008) Changes to the mandatory healthcare associated infection surveillance system for Clostridium difficile infection (CDI) from January 2008 DH Crown Copyright.

Glossary of terms

Anaerobic The ability of an organism to live and grow without the need of oxygen.

Gram positive An identification process for bacteria used within the microbiology laboratory using a gram stain reaction.
Spores A tough resistant protective outer casing around a bacterium.

List of those consulted in drafting process

Infection Prevention and Control Team.

Michelle Wong, Practice Pharmacist, Medicines Management Team.

Tasmin Harvey, Environment and Energy Project Manager, Capital Projects and Premises Management.

Wirral Metropolitan Borough Council.
### The Bristol Stool Form Scale

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