POLICY FOR THE PREVENTION AND MANAGEMENT OF CLOSTRIDIUM DIFFICILE INFECTION
INFECTION PREVENTION AND CONTROL POLICY NO.13

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<tr>
<th>Applies to:</th>
<th>Employees of Wirral Community NHS Trust</th>
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<tr>
<td>Group for Approval</td>
<td>Infection Prevention &amp; Control Group</td>
</tr>
<tr>
<td>Date of Approval</td>
<td>11 July 2014</td>
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<td>Committee for ratification</td>
<td>Quality and Governance Committee</td>
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<td>Date Ratified</td>
<td>21 July 2014</td>
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<tr>
<td>Name of Lead Manager</td>
<td>Head of Infection Prevention &amp; Control</td>
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<td>Version</td>
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### CONTROL RECORD

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<td>This policy sets out Wirral Community NHS Trusts (WCT) approach to the prevention and management of Clostridium difficile infection</td>
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<tr>
<td>Author</td>
<td>Infection Prevention &amp; Control (IPC)</td>
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<td>1</td>
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<td>Revised</td>
<td>Update job titles to reflect organisational change, and reflect updated regulatory standards.</td>
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<td>2</td>
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<td>Updated to removal prescribing recommendations to ensure adherence to Wirral Antimicrobial Guidelines 2016 and change to care home audit pathway</td>
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## Policy for the Prevention and Management of *Clostridium difficile* Infection

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1. INTRODUCTION

*Clostridium difficile* is a spore forming bacteria that can inhabit the human intestinal tract as part of the normal flora. It is the major cause of antibiotic associated diarrhoea and should be considered as a cause of infection when a patient presents with diarrhoea.

*Clostridium difficile* (C.difficile or C diff) most commonly affects the elderly and those with underlying medical conditions that require prolonged treatment with antibiotics; it is rare that healthy people develop the disease. *C.difficile* infection (CDI) occurs when the normal bacteria or flora in the bowel is disrupted. The bacterium produces toxins which damage the gut and cause illness of varying severity. This proliferation and toxin production usually follows a course of antibiotics that disturbs the large bowel flora, leading to a loss of the normal protective colonic bacteria.

*C.difficile* can cause diarrhoea, ranging from a mild disturbance to a very severe illness with ulceration and bleeding from the colon (colitis) and, at worst, perforation of the intestine leading to peritonitis which can be fatal.

Patients who are most at risk include:
- elderly
- suffering from severe underlying diseases
- immunocompromised
- in an environment where they are in close contact with one another

There are other factors that may increase the risk of CDI, they are:
- use of antimicrobials
- cytotoxic chemotherapy
- recent gastrointestinal procedures
- presence of a nasogastric tube
- the use of Proton Pump Inhibitors (PPIs)

2. STATEMENT OF INTENT

*C.difficile* infection (CDI) is associated with considerable morbidity and risk of mortality, ensuring optimal treatment of CDI is important and should be reviewed regularly. This policy sets out Wirral Community NHS Trust’s (WCT) approach to the prevention and management of CDI therefore demonstrating compliance with The Health and Social Care Act 2008: *Code of Practice on the prevention and control of infections and related guidance* (Department of Health, 2015).

WCT will:
- provide all staff with Infection Prevention and Control Training to ensure staff recognise their own responsibilities in relation to Infection Prevention and Control
- provide staff with evidence based policies and guidelines to support them in preventing and controlling the spread of infections including *C.difficile*
3. DEFINITIONS

**Asymptomatic carriage**: an individual has the organism in the body but has no symptoms of infection.

**CDI**: *C. difficile* infection, one episode of diarrhoea, defined either as a stool loose enough to take the shape of a container used to sample it or as Bristol Stool Chart (Appendix 1) 5-7, that is not attributable to any other cause, including medicines and that occurs at the same time as a positive toxin essay.

**Equivocal**: different tests are performed to detect *C. difficile*, an equivocal result indicates that a toxigenic strain of *C. difficile* may be present, but toxin production has not been identified. In all cases an assessment must be undertaken by the GP and treatment prescribed if clinically indicated.

**Pseudomembranous colitis (PMC)**: inflammation of the colon usually caused by *C. difficile*, can cause severe illness resulting in toxic megacolon.

**Spore forming bacteria**: bacteria which forms a cell and are difficult to destroy.

**Toxic Megacolon**: an acute form of colonic distension that can be a complication of CDI.

4. EQUALITY IMPACT ASSESSMENT

As part of its development, this policy and its impact on equality have been reviewed using the Policy Equality Impact Assessment Screening tool. The purpose of the assessment is to minimise and if possible remove any disproportionate impact on employees on the grounds of race, sex, disability, age, sexual orientation or religious belief. No detriment was identified.

5. DUTIES

**Chief Executive**

The Chief Executive has overall responsibility for Infection Prevention and Control within the trust and to ensure that as far as is reasonably practicable, the health, safety and welfare of the employees and others who come into contact with our services.

**Trust Board**

The Trust Board has a responsibility for ensuring that it corporately meets its legal duties in relation to Infection Prevention and Control. This responsibility is delegated to the Quality and Governance Committee via the Infection Prevention and Control Group.
Director of Infection Prevention and Control (DIPC)

The Director of Nursing and Performance is the Executive Nurse of the Board and is responsible for the performance of clinical services and fulfils the role of DIPC. The DIPC is responsible to the Chief Executive and the Board for the achievement of the Trust’s goal for infection control and to ensure that a robust infrastructure is in place for Infection Prevention and Control within the organisation.

The DIPC is a member of and is responsible for the Infection Prevention and Control Service (IPCS) and reports directly to the Chief Executive Officer and the Board. The DIPC is an integral member of the Trust’s Governance and Patient Safety systems and the Trust Decontamination Lead.

Quality and Governance Committee

The primary function of the Quality and Governance Committee is to provide assurance to the Board of overall compliance with all statutory and regulatory obligations and will ensure the effective management of incidents, complaints and subsequent dissemination of lessons learnt. The Quality and Governance Committee is responsible for ratifying Infection Prevention and Control policies. All HCAI Serious Untoward Incidents (SUI) will be submitted to the Quality and Governance Committee.

Infection Prevention and Control Group

The Infection Prevention and Control Group are responsible for approving trust Infection Prevention and Control policies. The Group are also responsible reviewing the outcomes of Post Infection Reviews undertaken in cases of CDI. The group will review outcomes, lessons learned, change future practice and disseminate this information via the divisions.

The Infection Prevention and Control Service

The Infection Prevention and Control Service (IPCS) are responsible for assuring the Trust Board regarding activity in infection prevention and control within the trust. Written reports are submitted four times per financial year.

The IPCS are responsible for developing trust wide policies. The IPCS are responsible for ensuring this policy is reviewed and amended at the review date or prior to this following publication of updated guidance.

The IPCS will undertake a Root Cause Analysis (RCA) in a case of CDI where trust services have been involved in care provision.
Divisional Managers

Divisional managers are responsible for providing assurance that appropriate actions are taken for issues reported/escalated directly via the Infection Prevention and Control Group or Divisional Governance meetings.

Service Leads/Managers/Team Leaders

Service leads/managers/team leaders are responsible for ensuring their staff are aware of and comply with all aspects of this policy. They are also responsible for booking places on mandatory training and ensuring that staff attend Infection Prevention and Control training in line with trust training matrices and where informed on non attendance at mandatory training, ensure appropriate action taken in line with the trust Learning and Development policy.

Service leads/managers/team leaders are responsible for ensuring outcomes of RCA’s are implemented into their areas of responsibility, influencing best practice and ensuring change in practice where deemed necessary.

Employees

Employees are responsible for ensuring that they understand the risk of *C. difficile* infection associated with their clinical practice, and that they adopt safe practices and act to prevent inappropriate practice at all times.

All staff are responsible for ensuring that they prevent and control the spread of infection at all times through adherence to Infection Control Standard Precautions. Staff are responsible for ensuring they undertake relevant infection prevention and control training as set out in the Trusts’ training matrices.

All staff are required to comply with the requirements of a Post Infection Review where a case of CDI is deemed to be attributed to trust services. Learning from experience will form part of the review process for all involved.

Employees who prescribe antimicrobial agents as part of their role should prescribe in line with local formulary.

Employees must comply with trust policies. Failure to comply with or act in accordance with trust policies may result in disciplinary action.

6. CLOSTRIDIUM DIFFICILE INFECTION (CDI)

6.1 Background

*C. difficile* was first described in the 1930s, it was not identified until the late 1970s as the cause of diarrhoea and colitis following antibiotic therapy. It is known that antibiotics disturb the normal gut flora, particularly Co-Amoxiclav, Cephalosporins eg Cefaclor,
Cefalexin and quinolones eg Ciprofloxacin, Ofloxacin are the high risk antibiotics for CDI. Proton Pump Inhibitors (PPI’s), cytotoxic drugs, abdominal surgery or time spent in an environment where exposure is likely are thought to be risk factors for CDI.

All acute NHS trusts in England are required to report all cases of CDI in patients aged two years and over. Surveillance data for community attributed cases of C. difficile are reported against Wirral Clinical Commissioning Group’s Clostridium difficile objective.

6.2 Transmission

C. difficile bacteria can be found living in the large intestine of a small proportion (less than 5%) of the healthy adult population. It is also common in the intestine of babies and infants. Although some people can be healthy carriers of C. difficile, in most cases the disease develops after cross-infection from another person.

The mode of transmission of C. difficile may be through:
- direct contact with an infected person
- indirectly from a contaminated environment
- via the hands of health care workers

The ingestion of the organism or its spores (faecal oral route), may lead to gut colonisation, then CDI if the patient has disrupted gut flora through antibiotic treatment or other causes. C. difficile bacteria produce toxins A and B which cause mucosal damage and inflammation to the gut and watery, offensive diarrhoea.

Patients who have CDI and active diarrhoea excrete large numbers of spores in their liquid faeces which can contaminate their general environment, including surfaces, healthcare equipment and toilets where they can survive for long periods. These spores are very resistant to alcohols and most disinfectants.

Patients colonised with C. difficile but not experiencing diarrhoea are not a significant source of infection to others therefore patients who are no longer passing stools that can be defined as diarrhoea (i.e. score of less than 5 on the Bristol Stool chart) are no longer considered to be infectious. It is NOT necessary to obtain a specimen to demonstrate clearance.

6.3 Clinical presentation, management and treatment

Patients can present with a wide range of symptoms ranging from mild diarrhoea to severe colitis with dehydration, pseudomembranous colitis, megacolon and perforation. All cases of diarrhoea among people in the community aged two years and above should be investigated for CDI unless there are good clinical or epidemiological reasons not to (PHE, 2013). It is generally not advisable to test children under the age of two years in whom toxigenic strains of C. difficile and toxins A and B may be present in the absence of symptoms.
**Sampling:** only stools from symptomatic patients should be tested i.e. liquid/loose stools that take the shape of the container. Do not retest for *C. difficile* toxin (CDT) positive cases if patients are still symptomatic within a period of 28 days unless symptoms resolve and then recur and there is the need to confirm recurrent CDI.

Sampling will not be undertaken on formed stools, the sample must take the shape of the container to indicate that the patient has diarrhoea. It is the Clinician’s responsibility to request that the stool be sampled for *C. difficile*. If you receive notification from the Laboratory that the specimen has not been tested due to not meeting the criteria and the patient remains symptomatic, contact the Laboratory to discuss further.

More than one test per patient may be required if the first test if negative and there is a strong clinical suspicion of CDI, retest 24 hours later.

The precipitating antibiotic should be stopped wherever clinically appropriate; agents with less risk of inducing CDI can be substituted if an underlying infection still requires treatment.

There is increased evidence that acid-suppressing medications, in particular proton pump inhibitors (PPI’s) may be a risk factor for CDI, consideration should be given to reviewing and stopping the need for PPI’s in patients with or who are high risk of CDI.

**For antimicrobial treatment of CDI and the use of anti-peristaltic agents please refer to the most current version of the Wirral Antimicrobial Guidelines and Management of Common Infections in Primary Care.**

**Recurrence disease:** Recurrence disease occurs in about 20% of patients treated initially with either metronidazole or vancomycin. A variable proportion of recurrences are reinfections (20-50%) as opposed to relapses due to the same strain; relapses tend to occur in the first two weeks after treatment cessation.

After a first recurrence, the risk of another infection increases to 45-60%. If diarrhoea persists despite 20 days treatment but the patient is stable and the daily number of type 5–7 motions has decreased, the WCC is normal, and there is no abdominal pain or distension, the persistent diarrhoea may be due to post-infective irritable bowel syndrome.

**For antimicrobial treatment of recurrent disease please refer to the most current version of the Wirral Antimicrobial Guidelines and Management of Common Infections in Primary Care.**

**6.4 Deaths**

If a patient with *C. difficile* infection dies, the death certificate should reflect if the infection was part of the sequence of events leading directly to death or was the underlying cause of death and should be mentioned in Part 1 of the death certificate. If CDI 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 of the death certificate.

Doctors have a legal duty to mention CDI on a death certificate if it was part of the sequence of events directly leading to death or contributed in some way.

In community cases where death certification identifies *C. difficile* this will be investigated by the IPCS. The incident will be reported on the Strategic Executive Information System (StEIS) as a SUI by WCT if WCT services have provided care to the patient. If no care has been provided by WCT, Wirral Clinical Commissioning Group will report the case onto StEIS. An RCA will be undertaken by the IPCS, outcomes and lessons learned from the RCA will be reported to the Quality & Governance Committee then disseminated to the IPCG, Wirral Clinical Commissioning Group and Wirral Borough Council.

### 6.5 Prevention

Effective hand hygiene with liquid soap, water and paper towels are vital in breaking the chain of infection and therefore preventing the spread of the infection. Alcohol hand gels are not effective against *C. difficile* therefore should not be used as a hand decontaminant when caring for patients with diarrhoeal illness. All healthcare workers should wash their hands with soap and water before and after contact with patients, after contact with the patient’s immediate environment and body fluids.

All healthcare workers must use disposable gloves and aprons for any physical contact with patients with CDI, with the patient’s immediate environment or body fluid.

Prudent antibiotic prescribing, in line with local prescribing policy is essential to reduce the use of broad-spectrum antibiotics so that the natural protection of an individual is not weakened.

WCT staff should educate patients and carers where *C. difficile* is suspected or confirmed, a patient information leaflet should be provided and can be accessed from WCT website. For patients residing in a Wirral Care Home please refer to Appendix 2.

**Staff:** who have diarrhoea should not work unless they have been symptom free for 48 hours or the diarrhoea has been shown to be non-infectious and not a risk to others. Staff with continuous severe diarrhoea should be investigated and followed up.

It is recommended that all clinical staff adopt the SIGHT mnemonic when treating a patient who develops diarrhoea:

| S | Suspect that a case may be infective when there is no clear alternative cause for diarrhoea |
| I | Implement appropriate infection control precautions |
### Gloves and apron must be used for all contact with patients and their environment

### Hand washing with soap and water should be carried out before and after each contact with the patient and the patient's environment

### Test the stool for *C. difficile* by sending a specimen immediately

#### 7. TRAINING/SUPPORT

Infection prevention and control training is a mandatory requirement for both clinical and non-clinical staff as detailed in the trusts core mandatory training Matrices.

All core mandatory training is recorded centrally by the Quality and Governance service. Quarterly monitoring reports are prepared for the Learning and Development Group to monitor completion and attendance rates. Full details of the processes in place for managing and monitoring attendance including persistent non-attendance are set out in the Policy for Learning and Development GP46.

The Infection Prevention and Control Service can be contacted for further advice or support.

#### 8. PROCESS FOR MONITORING EFFECTIVE IMPLEMENTATION

Refer to Appendix 3.

#### 9. OTHER RELEVANT PROCEDURAL DOCUMENTS

This policy should be read in conjunction with relevant organisational documents.

#### 10. REFERENCES

Department of Health (2007) A simple guide to *C. difficile*


Department of Health and Health Protection Agency (2013) Prevention and Control of Infection in care homes – an information resource

Public Health England (2013) Updated guidance on the management and treatment of *Clostridium difficile* infection

British Medical Association (2006) – Bristol Stool Chart
Appendix 1

### The Bristol Stool Form Scale

This chart lists the range of stool types most commonly passed. Ideally you should be aiming for a type 4 stool.

**Type 1**
- Separate hard lumps, like nuts

**Type 2**
- Sausage-like but lumpy

**Type 3**
- Like a sausage but with cracks in the surface

**Type 4**
- Like a sausage or snake, smooth and soft

**Type 5**
- Soft blobs with clear-cut edges

**Type 6**
- Fluffy pieces with ragged edges, a mushy stool

**Type 7**
- Watery, no solid pieces
Appendix 2

Advice to staff in care homes

*Clostridium difficile* (*C. difficile*) is a bacterium that produces spores which can survive for a long time in the environment. It spreads very easily from person to person unless adequate infection control precautions are carried out.

A person with *C. difficile* diarrhoea excretes large numbers of spores in their liquid faeces. These spores can contaminate the general environment and can survive for months and be a source of hand-to-mouth infection for others. Transmission can be either through touching people (direct person-to-person contact), via healthcare staff (often on the hands of staff), or via the home’s surroundings.

**Symptoms of *C. difficile***:
- watery diarrhoea
- offensive smelling stool/green appearance (stools do not always smell offensive so do not wait for this to happen)
- fever
- nausea
- abdominal pain/tenderness
- loss of appetite

If you suspect that a resident has *C. difficile*, discuss with their GP and obtain a stool specimen if three or more instances of stool type 6 or 7 (refer to Bristol Stool Chart, Appendix 1) in a 24-hour period and request specimen is tested for *Clostridium difficile*.

**Management of resident**:
- isolate resident in their own room ideally with en-suite facilities
- commodes should be dedicated for the sole use of the affected resident whilst symptomatic
- if it is difficult to isolate the resident due to their mental health needs, extreme care will need to be taken to make sure any spillages are cleaned immediately. It may be necessary to allocate staff to help care for residents in isolation or who need one-to-one care
- administer treatment as directed by GP
- continue to isolate until the resident has been free of symptoms and loose stools for 48 hours and has passed a stool that is normal for them
- monitor the resident’s condition carefully as this infection can cause rapid dehydration and rapid deterioration
- record all bowel actions on a bowel chart, as per the Bristol Stool Chart
- if your resident deteriorates or does not seem to be getting better contact their GP
- GP Out of Hours/SPA home to inform them of diarrhoea, history of etc.
- if the resident requires admission to hospital, please call the hospital before the resident arrives so they can arrange immediate isolation and notify the ambulance crew before they arrive
Infection Control Guidance:

- remember that alcohol gel does not work against *C. difficile* - handwashing with liquid soap, water and disposable paper towels is vital to prevent the spread of infection
- GPs and other visiting health care professionals must be reminded to wash their hands
- visitors will need to wash their hands with soap and water on arrival and on leaving the resident’s room
- visitors should only go into their sick relative/friend’s room and should not go into other areas of the home whilst the resident has symptoms
- as is usual best practice, ensure all residents are encouraged to wash hands with soap and water at appropriate times
- personal protective equipment (PPE) such as gloves and aprons should be stored appropriately, ideally where safe to do so, outside the resident’s room
- wear single use disposable gloves and aprons whilst caring for the affected resident, cleaning up diarrhoea, during environmental cleaning of affected areas and when handling contaminated linen
- clinical waste bags should be placed inside the resident’s room for disposal of PPE and other contaminated items
- clean the environment and any resident equipment twice a day with detergent, followed by a chlorine based disinfectant (1000 ppm) on areas that will tolerate it
- pay special attention to toilets and commodes
- clean anything that is touched by hand – i.e. door handles, light switches, call bells etc.
- where feasible to do so, equipment should remain in the resident’s room for the duration of the illness
- when the resident has recovered and isolation has ceased, the resident’s room must be deep-cleaned. This means cleaning all curtains and soft furnishings, washing walls, cleaning all surfaces and steam cleaning the carpet. All surfaces and equipment (where chlorine will not cause damage) must be cleaned with detergent followed by a chlorine based disinfectant before being used elsewhere in the home. Chlorine cannot be used on soft furnishings, fabrics and carpets

*C. difficile* recurs in around a third of cases and often requires further treatment - one recurrence may be followed by further recurrences and sometimes long-term treatments are used. Recurrence may be due to new strains of *C. difficile* rather than inadequate treatment of previous infection. Always inform visiting healthcare professionals that your resident has been treated for *C. difficile* as this may affect future treatment i.e. antibiotic prescribing.

All cases of community attributed *C. difficile* infection (CDI) are followed up by the Community Infection Prevention and Control Service his means that the resident’s care will be reviewed, to try and identify why the resident developed *C. difficile*. Following a confirmed case of CDI, the Infection Prevention and Control Service will forward you a copy of the self-audit tool for completion.
## Appendix 3
### Process for Monitoring effective implementation

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<th>Process for monitoring (e.g. audit)</th>
<th>Responsible individual / group / committee</th>
<th>Frequency of monitoring</th>
<th>Evidence</th>
<th>Responsible individual for development of action plan</th>
<th>Responsible committee for monitoring of action plan and Implementation</th>
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<td>Minutes / action plans of Learning &amp; Development Group</td>
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<td>Audit</td>
<td>Medicines Governance Pharmacist</td>
<td>Minimum of twice per year</td>
<td>Minutes / action plans of Medicines Management Group &amp; IPCG</td>
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