Livewell Southwest

Clostridium difficile policy

Version No 3.7
Review: July 2019

Notice to staff using a paper copy of this guidance

The policies and procedures page of LSW intranet holds the most recent version of this document and staff must ensure that they are using the most recent guidance.

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Document review history

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3		December 2008	Infection Control Committee	
3				Published Jan 09
3:1		October 2011	Infection Control Nurse	Reviewed, no changes.
3:2	Extended	November 2013	PRG Secretary	Extended, no changes.
3:3	Extended	May 2014	Infection Control Nurse	Extended, no changes.
3.4	Reviewed	May 2014	Acting Manager Infection Prevention & Control Team	Minor amends and new Appendix A.
3.5	Amended	March 2015	Acting Manager Infection Prevention & Control Team	New Appendix A.
3.6	Reviewed	June 2016	Infection Prevention and Control Manager	No changes to the attached policy, some appendixes were removed, as they were the same as the policy (the information had been repeated)
3.7	Amended	February 2017	Infection Prevention and Control Manager	Changes in the C diff reduction plan. Pharmacy have updated their responsibilities.

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Clostridium difficile Policy

Introduction

- Patients most likely to have C. difficile diarrhoea are those with hospital-acquired diarrhoea and who have had antibiotics in the previous 4 weeks.

- A major contributor to C. difficile infections is the use of broad-spectrum antibiotics, as they predispose patients to symptoms following exposure to C. difficile spores.

- Patients with diarrhoea should have a stool sample sent to Microbiology, specifically requesting examination for C. difficile toxin. Patients with a formed stool should not have specimens sent for C. difficile.

- The most effective means of preventing of preventing C. difficile infections is rational prescribing of antibiotics, patient isolation, implementation of standard infection prevention precautions and maintenance of a clean ward environment.

- Patients with diarrhoea should be nursed under standard isolation in a single room. It is essential for these patients to have their own toilet or commode.

- In order to physically remove spores, hand washing should be performed using soap and water.

- The Clostridium Difficile reduction and maintenance plan should be used in conjunction with this policy (Appendix A).

Hand washing and a clean ward environment are essential in reducing cross-infection with C. difficile spores.

1. Policy Objectives

This policy aims to:

1.1 Ensure that patients colonised or infected with C. difficile receive effective and appropriate care.

1.2 Minimise the risk of transmission of C. difficile through:

- Prevention of cross-infection

- Maintenance of a clean ward environment
- Rational prescribing of antibiotics

2. Background

2.1 Clostridium difficile is a bacterial infection of the gastrointestinal tract and is the commonest cause of antibiotic-associated diarrhoea. Although any antibiotic may be implicated, those most frequently associated with infection are clindamycin, cephalosporins, ampicillin and amoxicillin. Administration of antibiotics results in disruption of the normal microflora of the gut and overgrowth of C. difficile. Symptoms develop after the release of one or more toxins that cause mucosal damage and inflammation. The clinical presentation varies from asymptomatic colonisation through mild diarrhoea to severe disease, with high fever, severe abdominal pain, colonic dilatation and perforation (pseudomembranous colitis). Elderly patients may present with minimal diarrhoea, but with a persistent fever, abdominal pain and a non-specific clinical deterioration. Symptomatic disease is commonest in those over the age of 65, but is rare in children. Members of staff are very rarely affected.

2.2 Infection is usually acquired by ingestion of C. difficile spores which may be found in the ward environment or on equipment, particularly toilets and commodes. Infection may be transmitted to patients via the hands of healthcare workers. The diagnosis is usually by the detection of C. difficile Toxin A and Toxin B in faeces by enzyme immunoassay (EIA). Oral metronidazole for 10 days is usually effective in resolving clinical symptoms, although up to 20% of patients experience relapse and require re-treatment. Metronidazole can be given intravenously if the patient is unable to tolerate oral medication.

2.3 Preventing C. difficile infection is important since it causes significant illness and sometimes death. In elderly patients it has a mortality of 10-15% and prolongs hospital stay by an average of 20 days. Up to 20% of patients suffer a relapse of diarrhoea following successful treatment. This is usually due to germination of residual spores within the gut, but can be due to re-infection whilst still in hospital. The average cost of a case of C. difficile infection has been calculated at ~£5000.

3. Identification of patients with C. difficile

3.1 Patients most likely to have C. difficile diarrhoea are those with hospital-acquired diarrhoea and who have had antibiotics in the previous 4 weeks. C. difficile diarrhoea is also associated with nasogastric feeding, immunosuppression and proton pump inhibitors (PPI). Clinical symptoms include watery diarrhoea, fever, nausea, loss of appetite and abdominal pain/tenderness. Patients with diarrhoea should have a stool sample sent promptly to Microbiology, specifically requesting examination for C. difficile toxin. If the first specimen is negative and the patient remains symptomatic it may be necessary to send another sample or consider further investigation. Patients with formed stool should not have specimens sent for C. difficile. Toxin results are usually available within 18 hours of the sample being sent. Urgent testing for C. difficile can be arranged via the on call Microbiologist.

3.2 The Infection Prevention and Control Team (IPCT) will undertake prospective, targeted surveillance of C. difficile and feedback the result the relevant stakeholders. The IPCT will also ensure that the LSW fulfils its obligations with regards to the national mandatory surveillance of C. difficile disease. All cases of C. difficile will be investigated by Root Cause Analysis, which will include a review of whether antibiotic use in individual cases was consistent with LSW guidelines. Deaths will be investigated and the C. difficile infection will be recorded as incidental, contributory or the main (attributable) cause of death. Outbreaks due to C. difficile will be reported as serious untoward incidents associated with infection by the IPCT to Public Health England.

3.3 Patients who have previously been C. difficile-positive will be identified by a Clinical Alert on their clinical notes and electronic record. The Infection Prevention and Control Team (IPCT) will be responsible for generating these Alerts for each new patient identified as carrying a C. difficile. Staff responsible for the admission of patients should check the Clinical Alerts on the patient's notes and electronic record for evidence of previous colonisation with a C. difficile. If these are present, the IPCT should be informed and a risk assessment for standard isolation precautions performed (i.e. if the patient has diarrhoea). Clinical Alerts on patient's notes or the electronic record should only be added or removed by the IPCT and will be considered on an individual patient basis.

4. Management of patients with C. difficile diarrhoea

4.1 Control measures (see below) and treatment should be implemented **as soon as diarrhoea develops.**

- Anti-motility agents should be discontinued in symptomatic patients, as should antibiotics and PPIs where possible.

- Infection control measures (enteric precautions) are given in Section 5

- Guidance on treatment of C. difficile diarrhoea is shown in Appendix A.

  Patient monitoring (including stool, nutritional status and fluid balance charts), early recognition of the deteriorating patient and early referral for expert attention and treatment is crucial in order to improve patient outcome. An urgent Gastroenterology opinion should be sought in patients with a white cell count >15 x 10^9/l, acutely deteriorating renal function and signs of severe colitis such as bloody diarrhoea and/or evidence of colonic dilatation (abdominal distension and/or dilated colon on abdominal X-ray).

5. Prevention of spread of infection between patients

5.1 C. difficile spreads by the **faecal-oral route** and can be carried on the hands of healthcare workers. Patients with C. difficile diarrhoea may excrete large numbers of the organism with considerable soiling of the skin and the

environment. Spores have been found in abundance in the environment of infected patients (for example on toilets, commodes, chairs and floors) and can act as a reservoir of infection for many weeks if proper cleaning is not carried out.

Hand washing and a clean ward environment are essential in reducing cross-infection.

The following procedures are intended to minimise transmission.

5.2 Hand Hygiene

- Prevention is based on rigorous hand hygiene before and after contact with patients and their potentially contaminated environments (please refer to Hand Hygiene Policy). Hand washing with soap and water is essential when in contact with the patient and the patient's environment.

- In addition, hands should be washed with soap and water at the start and end of clinical duties, when hands are visibly soiled or potentially contaminated and following the removal of gloves.

5.3. Isolation

- The patient should be isolated in a single room if diarrhoea is ongoing. It is essential for the patients to have their own toilet or commode. The reasons for isolation must be explained to the patient and their visitors. This is particularly important for children requiring isolation.

- Standard infection prevention precautions must be performed. In order to physically remove spores, hand washing should be performed using soap and water.

- If several cases of the same strain of C. difficile are present on a ward it may be necessary to cohort nurse patients in the same bay. Advice from a Consultant Microbiologist must be sought before patients are cohorted. An outbreak may be declared (see Outbreak Policy).

- Isolation precautions should only be discontinued on the advice of the IPCT. The patient can come out of isolation when the diarrhoea has stopped for 48 hours (clearance samples are not necessary). It is not necessary to screen asymptomatic patients or staff.

- If diarrhoea recurs, the patient should be isolated and a further specimen sent.

6. Admissions, discharges and transfers

6.1. Admission of patients with C. difficile

Patients with C. difficile diarrhoea must be placed in a single room as above. Patients who have previously had C. difficile diarrhoea and are now asymptomatic should undergo a risk assessment of the potential for cross-infection. This should be performed by the Ward Manager and IPCT. Where there is an increased risk of transmission, source isolation in a side room is required.

6.2. Discharge of patients colonised C. difficile

- Ward staff must ensure that all relevant staff are aware of the patient's status on discharge (e.g. General Practitioners, District Nurses, Residential/Nursing Home staff) and should recommend follow-up treatment as appropriate. This should be based on advice received from the IPCT or a Consultant Microbiologist.

- Reference to the patient's status should be made in the discharge notes/letter by the doctor in charge of the patient.

- If discharged to a nursing/residential home, the home's senior nursing staff should be made aware of the patient's status by the Ward Manager. If the patient is asymptomatic, this should not hamper patient discharge.

6.3. Transfer to another hospital or long-term care facility

- Transfer of the patient to other wards or hospitals should be discussed with the IPCT. If the patient is being transferred to a nursing home or other health care facility they should be diarrhoea-free for 48 hours before transfer. The receiving facility must be informed of the recent C. difficile infection.

- It is the responsibility of the Ward Manager to inform the receiving ward's nursing and ambulance staff of the patient's status and the medical staff to inform the receiving doctors or General Practitioner. This should be documented in the referral notes.

- Surfaces that come into direct contact with the patient during transfer, such as stretchers, should be cleaned with detergent and hot water after use. Ambulance staff are not required to take specific precautions over and above normal contact precautions and good hand hygiene.

6.4 Transfer within the hospital

- Transfer of patients with C. difficile should be avoided if at all possible and must be discussed with the IPCT. Such patients should be transferred to an isolation facility in the receiving ward.

- Infected/colonised patients may attend clinical service departments for necessary investigations or treatments.

- There should be clear communication between departments about the patient's status and transfer should only proceed when the receiving area are fully prepared.

- Measures to reduce the risk of transmission should be taken. The colonised patient should be last on any list and there should not be excessive waiting in the Department. Surfaces exposed to the patient or their potentially contaminated secretions should be wiped after use down with hot water and detergent.

- If patients require endoscopic examination, good communication between the Endoscopy Department, the IPCT and Gastroenterologist are essential to minimise the risk of cross-infection.

7. Antibiotic policies

7.1 A major contributor to the rise in C. difficile infections in acute NHS Trusts in the UK has been the widespread use of broad-spectrum antibiotics. These antibiotics predispose patients to symptoms following exposure to C. difficile spores. Appropriate and prudent use of antibiotics will greatly reduce the selection pressure for colonisation and infection with C. difficile. Those prescribing antibiotics should adhere to the LSW's Antibiotic Guidelines, the Plymouth Area Joint Formulary and the PHNT Medical Directorate guidelines. Contact Microbiology or Pharmacy for details.

8. Monitoring Compliance

8.1 All Infection Prevention & Control policies are reviewed three yearly and ratified through the Infection Control Committee and signed off by the Director of Professional Practice Quality & Safety. Due consideration is given to clinical expert opinion and relevant government documents, and includes duties, process for enabling all relevant permanent staff groups, as identified in the training needs analysis, to complete Infection Prevention & Control training and details the process for monitoring the effectiveness and compliance. This information is included in the Quarterly Reviews and Annual Report provided by the Director of Infection Prevention & Control through the Infection Control Committee and LSW Board.

9. References/bibliography

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All policies are required to be electronically signed by the Lead Director. Proof of the electronic signature is stored in the policies database.

The Lead Director approves this document and any attached appendices. For operational policies this will be the Locality Manager.

The Executive signature is subject to the understanding that the policy owner has followed the organisation process for policy Ratification.

Signed: Director of Infection Prevention & Control.

Date: 6th July 2016

Appendix A

Clostridium Difficile: Reduction and Maintenance Plan April 2016/2019 Infection Prevention and Control Team

Review date June 2019

The purpose of this document is to assure the organization that there are arrangements in place to manage effectively all cases of Clostridium Difficile and reduce the risk of cross transmission and thus prevent outbreaks.

The Clostridium Difficile reduction target requires Livewell Southwest (LSW) to have zero tolerance for C Difficile.

Activity	**Actions**	**Lead (s)**	**Timeframe**	**Current position**	**Evidence/assurance of completion**
Management of individual cases	Isolation of any patient with diarrhoea within 4 hours(unless unable to due to clinical need)	Infection Prevention and control Team (IPCT), Locality manager	Ongoing, daily review	In place	Outcome of infection prevention and control audits, RCA
	A meeting with the manager and medical lead of the unit will be held every case of C.Diff Locality manager will be informed as the responsible senior manager	IPCT	immediate	In place	Minute of meetings
	Review of case by IPCT or the nurse in charge of the ward if a weekend or Bank holiday) on the day of diagnosis and daily thereafter to include to include: Patient isolation Review of antibiotic therapy Appropriate treatment for C.Difficile Continued implementation of enhanced cleaning PPE Monitoring clinical status Escalation and referral as appropriate . Root cause Analysis (RCA) and review of all cases Health care Acquired (HCAI) Outbreak meeting and strain if more than 2 or more new HCAI on a ward within 28 days	IPCT, Locality manager, Ward manager, Ward Pharmacist	Earliest opportunity.	In place	IPCT, documentation, bi-Monthly reporting to the LSW board, prescription chart, RCA
	Hand hygiene	Matrons,	ongoing	The	Board reports, hand

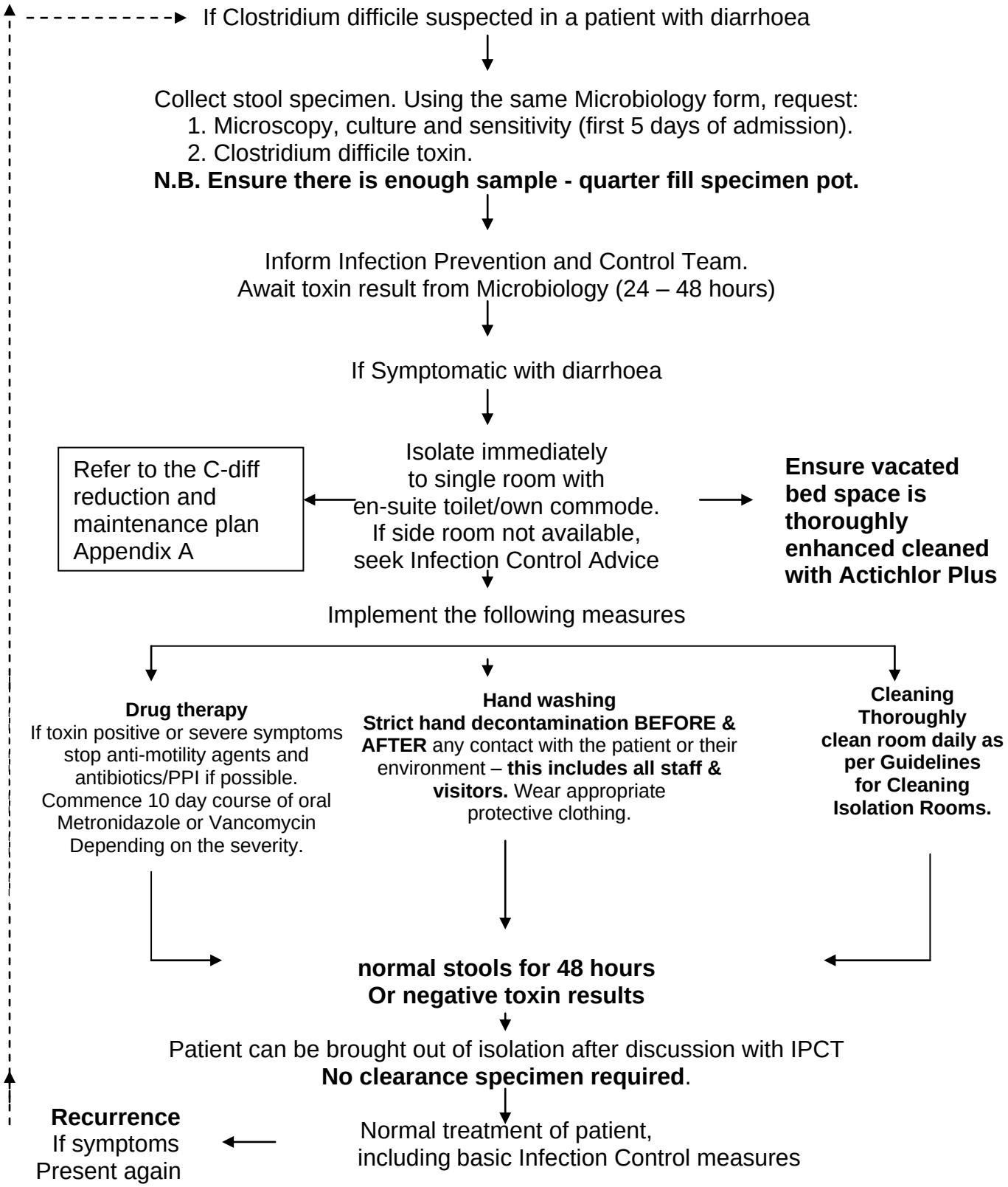
	compliance in all clinical areas to be above 95%	ward managers, ICLP		areas that are not compliant are receiving input from their matrons. Hand hygiene audits and results are presented to the board on a monthly basis	hygiene audits.
Diagnosis	All diarrhoeal stools (take the shape of the container or Bristol stool Chart 6-7) to be tested for C. Difficile	The laboratory	ongoing	In place	Surveillance, RCA
	Improved diagnostic tests for C. Difficile (as per the DoH)	The laboratory	ongoing	In place	Reported to the board, professional Practice Safety & Quality committee, Clinical Commissioning Group and the Chief Executive Officer
Surveillance	Active surveillance of incidence and severity of C. Difficile with feedback to clinical areas	IPCT	ongoing	When required	Bi- monthly reporting to the board
	RCA of all cases	IPCT Matrons	ongoing	When required	Monthly reporting to the board
	any deaths related	IPCT DIPC,	immedi	When	Serious incident

	to C. Difficile must be reported to the SHA Any death will be subject to SIRI process	Directors, CEO	ately	require d	requiring investigation
4. Antibiotic controls	Antibiotic pharmacist to perform antimicrobial duties	Principle Clinical Pharmacist	ongoing	When require d	Antimicrobial Lead pharmacist records and reports
	Ward pharmacist to participate in antimicrobial controls, including audit and active interventions to improve compliance with the policy	Principle Clinical Pharmacist	ongoing	in place	Audits and action plans
	Audits evidence of compliance with LSW guidelines on antimicrobial prescribing	Principle Clinical Pharmacist	ongoing	in place	Antibiotic annual audits and action plans
	Action plans as a result of audit data	Locality managers	ongoing	in place	Patient record and Root Cause Analysis
	Follow up of non-compliance with LSW guidelines on anti-microbial prescribing	Medical director, Principle Clinical Pharmacist	ongoing	in place	Documented follow ups and reporting to the board
5. Environmenta l cleaning	Ward and other clinical areas to be cleaned as per cleaning policies	Ward Managers and Hotel Services	ongoing	in place	Cleaning schedules, Hotel service audits ,Matrons weekly checklist, Matrons charter
	Patient equipment, particularly items such as commodes, will be cleaned and signed off after every use	Matrons ward managers; all staff	ongoing	in place	Matron and IPCT audits
	Weekly ward manager environmental checklist	Ward managers matrons	ongoing	in place	Checklists
	Detergent/ bleach clean for all cases of C.Difficile	Ward manager and Hotel Services Manager	ongoing	in place	Hotel services records (copy to be placed in patient record)
	Isolation room/bay	Ward	ongoing	in	Hotel services records

	receive enhanced Bleach/detergent clean. Daily check by ward manager	manager and Hotel Services Manager		place	(copy to be placed in patient record)
6. Education	Education of all staff, patients and visitors, on the clinical features, transmission, epidemiology and control of C.Difficile.	IPCT, Clinical staff and Hotel Services Manager	ongoing	in place	Mandatory/Induction training Domestic Awareness Training (attendance records) Patient information leaflets.
	Rolling programme of training for hotel services staff on the clinical features, transmission, epidemiology and control of C.Difficile, to ensure proper cleaning of clinical areas	IPCT and Hotel services Manager.	ongoing	in place	Training attendance figures
7. Other controls	Review use of proton pump inhibitors in inpatients	Medical staff and Ward Pharmacist	ongoing	in place	Prescription reviewed if suspected of C.Difficile and stopped if it is safe to do so

Management of patients with Clostridium difficile

Ensure that patients with unexplained diarrhoea have appropriate investigations and, if possible, are isolated



Infection Prevention and Control Precautions for C. difficile Diarrhoea

Hand washing is the single most important measure to prevent cross-infection

Environment & protective clothing

- Care for patients in a **single room where possible**
- Patient must have a designated toilet or commode that is for their individual use only
- Wear **gloves and disposable apron** for contact with faeces
- Remove gloves and aprons before leaving patient's room/bed area
- Patient hand hygiene must be encouraged after they have used the toilet/commode

On leaving the room/bed area all staff must wash their hands with soap and water

Cleaning, linen, curtains

- Damp dust bed area and clean room twice daily, or more frequently if required, with Actichlor plus
- Commodes must be cleaned after each use with detergent and bleach
- Toilets must be cleaned twice daily or more frequently if required
- For spillages and on discharge – clean room/bed area thoroughly with Actichlor plus. The curtains must be changed after discharge
- Treat linen as infected and dispose of as 'contaminated' in soluble bags and then place in linen bags. Please refer to Linen Services Policy

All Waste: Treat all waste, including household, as clinical waste

Dedicated patient equipment must be used and should be wiped with sporicidal wipes after use.

Death: No special precautions are required when handling the deceased

Visitors

In general, other than observing good hand hygiene practice, visitors do **not** need to follow the same precautions unless they are assisting with the nursing care of a patient:

- Report to nurse in charge **before** visiting patient
- Wash hands with soap and water before and after patient contact
- No requirement for visitors to wear personal protective equipment

Visitors to other departments

The patient may visit other departments. Please inform department in advance. If possible the patient should be 'last on the list', and visits should be kept as short as

possible. Equipment or couches must be cleaned after use with detergent/bleach solutions.

Discontinuation of precautions
These precautions can be discontinued on the advice of the IPCT when the patient has normal stools for 48 hours. If precautions are discontinued then the room must be cleaned as above and curtains changed

Clearance samples are NOT necessary

Treatment of C. difficile diarrhoea

***C. difficile* associated disease**
Primary episode and first two relapses
Withdraw inciting event/antibiotic if possible
Isolate patient
Refer to Gastroenterology

Non-severe disease

Oral metronidazole 400mg tds for 10 days
IV metronidazole 500mg tds for 10 days if nil by mouth

Expect a clinical response within 48 hours but diarrhoea on average persist for 5-6 days

Severe disease

Any of:
White cell count >15x10^9/l
Acutely deteriorating renal function
Other organ failure
Signs of severe colitis
Albumin >25g/l
Age over 65 years
Immunocompromised or other comorbidity
Refer to Gestroenterology
Oral vancomycin 125mg qds PO for 10 days
Consult with the on call Microbiologist if the patient is nil by mouth

Clinical improvement

Complete 10 days of treatment the risk of relapse is up to 20% and in the event of the first or second relapse repeat this algorithm. See below for further relapses
There is no evidence that earlier conversion to oral vancomycin in non-severe disease leads to a more rapid cure.

No clinical improvement
Diarrhoea persisting after 10 days of oral metronidazole

Oral vancomycin 125mg qds PO for 10 days

CONSULT with on call Microbiologist, as oral vancomycin is a restricted antibiotic

Clinical deterioration

Especially if any of:
White cell count >20x10^9/l
Acutely deteriorating renal function
Signs of severe colitis
See **severe disease** above
If deteriorating on oral vancomycin consult with the on call Microbiologist and Gastroenterologist

Daily review
If the patient deteriorates moving to severe disease consider switching to oral vancomycin

Severe CDAD must be managed with input from Microbiology, Gastroenterology, Surgery and Critical Care. In the event of a deteriorating situation especially where the patient is unable to tolerate oral antibiotics or signs of an acute abdomen urgent assistance is required to consider the suitability for alternative drug delivery routes and surgical intervention

C. difficile associated disease
Two or more relapses

If **severe disease** as noted above follow the advice above

Withdraw inciting event/antibiotic if possible and stop PPI if safe to do so
refer to Gastroenterology for further investigation and treatment advice
If non-severe oral vancomycin 125mg qds PO 14 days consult with on call Microbiologist as oral vancomycin is a restricted antibiotic

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Expect resolution of diarrhoea with 1-2 weeks

If diarrhoea fails to resolve or there are further relapses discuss further therapeutic options with the on call Microbiologist/Gastroenterologist

Antibiotics and the risk of C. difficile infections

High Risk	Moderate Risk	Low Risk
Cephalosporins	Ampicillin	Aminoglycosides
Clindamycin	Amoxicillin	Anti-pseudomonal penicillins (e.g. Tazocin)
	Co-trimoxazole	Rifampicin
	Macrolides	Tetracyclines
	Co-amoxiclav	Glycopeptides
	Quinolones	