University Hospitals of Derby and Burton
NHS Foundation Trust

TRUST POLICY AND PROCEDURE FOR THE MANAGEMENT AND CONTROL OF DIARRHOEA AND VOMITING (NOROVIRUS) INFECTIONS

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Version / Amendment History	Version	Date	Author	Reason
	1	September 2011	H. Forrest	Update guideline to policy
	1.1	October 2014	H. Forrest	Review and update of policy
	1.2	October 2017	H. Forrest	Review and update of policy
	1.3	February 2019	H. Forrest	Review and update to UHDB policy
Intended Recipients: All medical and clinical staff, Associate Directors, Service Managers, Divisional Nurse Directors, Clinical Governance Facilitators, Matrons.				
Training and Dissemination: Dissemination via the Trust Intranet. Periodic infection control training.				
To be read in conjunction with: Trust Policy for Standard Infection Control Precautions; Trust Policy and Procedure for Hand Hygiene; Trust Policy for Personal Protective Equipment; Trust policy for isolation. Trust policy for cleaning and disinfection. Trust Outbreak Management Policy				
In consultation with and Date: Infection Control Operational Group				

Infection Control Committee	
EIRA stage one Completed Yes Stage two Completed N/A	
Procedural Documentation Review Group Assurance and Date	
Approving Body and Date Approved	Infection Control Committee
Date of Issue	February 2019
Review Date and Frequency	December 2021 and every 3 years
Contact for Review	Lead Nurse Infection Prevention and Control
Executive Lead Signature	Chief Nurse, Director of Patient Experience, Infection Prevention and Control & Facilities Management
Approving Executive Signature	

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1 Introduction

Norovirus is the most common cause of outbreaks of gastro-enteritis in hospitals and can also cause outbreaks in other settings such as schools, nursing homes and cruise ships. They often cause outbreaks because the virus is easily spread from one person to another and it is able to survive in the environment for many days. Because there are many different strains of Norovirus and immunity is short-lived out breaks tend to affect more than 50% of people. Outbreaks can involve patients or staff members.

The disease was historically known as the “winter vomiting disease” due to its seasonality and typical symptoms. However in recent years this typical pattern has changed and outbreaks have occurred throughout the year. Variants to the virus emerge frequently and become the predominant circulating strain which in turn is later replaced by a new variant. Large numbers of contacts can therefore be affected as immunity to the illness is not long-lasting.

Norovirus infections are usually associated with relatively mild and short lived symptoms and affected individuals in the community rarely seek medical attention. However outbreaks involving patients and staff in hospitals can have a significant impact on hospital activities ranging from ward closures and delays in the admission and discharge of patients. It is therefore essential that cases are reported early to prevent spread and major outbreaks. These viruses are relatively resistant to alcohol gel so soap and water must be used when washing hands.

The incubation period for Norovirus associated gastro-enteritis is 12-48 hours. The illness is characterized by a sudden acute onset of:

- Vomiting (may be projectile)
- Watery diarrhoea and abdominal cramps
- Nausea

In addition headache, myalgia, fever and malaise are common. Some or all of the above symptoms may be present. Symptoms last between one and three days and recovery is usually rapid. Dehydration is the most common complication and patients may require replacement fluids.

Medical / clinical needs of an individual patient will take precedent over ward closure precautions, (e.g. patient requires transfer to high dependency care). This must be discussed with the speciality consultant prior to arranging transfer.

2. Purpose and Outcomes

This policy has been developed to provide a practical document to equip all staff members with the necessary information on the recognition and management of outbreaks of diarrhoea and vomiting such as Norovirus.

The principles contained within the policy reflect best practice and must be adopted by all staff in all areas of the Trust.

Adherence to the policy will help to minimise the risk of spread of Norovirus within the organisation.

3. Definitions Used

Diarrhoea	2 or more type 5 (if takes the shape of the pot) 6 or 7 stools in 24 hours.
Cohort	Patients with the same infections caused by the same micro-organisms are nursed together in a bay.
Incubation Period	The interval between exposure to an infection and the appearance of the first symptom.
Fomite	Objects or materials which are likely to carry infection, such as clothes, utensils, and furniture

4 Managing the Policy and Procedures for Norovirus

4.1 Mode of Transmission

Noroviruses are highly contagious with as few as 10 - 100 virus particles thought to be sufficient to cause infection. Noroviruses are transmitted primarily through the faecal –oral route either by person to person spread or via contaminated food or water. In addition Norovirus can be spread via aerosol dissemination of infected particles following vomiting.

Transmission can also occur through hand transfer of the virus to the oral mucosa following contact with environmental surfaces, fomites and equipment which have been contaminated with either faeces or vomit. Norovirus can survive in the environment for lengthy periods.

4.2 Diagnosis

Diagnosis of norovirus infection is often made on clinical grounds from their characteristic features. However the infection can also be confirmed following testing of a stool sample.

When an outbreak is suspected, it is imperative to instigate infection control measures immediately **without** waiting for virological confirmation from stool testing.

4.3 Treatment

There is no effective treatment for Norovirus infection. It is a self limiting illness which will cease within a few days. It is important to ensure prompt fluid replacement to prevent dehydration and its complications.

4.4 Outbreak Management

4.4.1 What to do if you suspect you have an outbreak

If you have cases of unexplained diarrhoea and / or vomiting on your ward, either staff or patients, you may be at the start of an outbreak. It is the responsibility of the nurse in charge to contact the Infection Prevention and Control Team (IPCT) immediately for further advice.

Out of hours and during the weekend the nurse in charge must discuss this with the on-call Consultant Microbiologist and leave a message for the Infection Prevention and Control Nurse Team on their answer-phone so they can follow up the next working day.

The Infection Prevention and Control Team / Consultant Microbiologist will make a decision as to whether to close or partially close the ward to admissions to bring the situation under rapid control. Early discussion is key as every situation is different.

Do not move patients, including into isolation, without consultation with the IPCT / On-call Microbiologist

Examples of requirements for control are as follows:

- Cohort symptomatic patients and their contacts **Patients with a positive *Clostridium difficile* result must not be cohort nursed with patients with diarrhoea due to another cause**
- Close one or more bays.
- Close the whole ward.
- Send specimens on all affected cases.
- Stop all transfers to other wards, unless approved by speciality consultant for medical reasons.
- Monitor all unaffected patients for symptom development and affected patients for frequency of symptoms. Keep a symptom chart on each patient and update on each shift.

The nurse in charge must inform the Infection Prevention and Control Team (out of hours the on-call Microbiologist should be contacted) what action needs to be taken.

The IPCT will visit to assess the situation and set an action plan for the next 24 hours. On a Friday an action plan will be set for the weekend or Bank Holiday period. This action plan will be verbally discussed with the nurse in charge of the

ward and the patient flow team / bed manager. In addition a generic email will be sent out each day from the IPCT to all staff on the outbreak contact list to help ensure all relevant staff are kept fully informed with the latest information. Unexpected events that occur over the weekend or Bank Holiday should be discussed with the Consultant Microbiologist on call by the patient flow team / bed manager or the on call manager.

4.5 Documentation

Once an outbreak is suspected the IPCT will ask the ward staff to complete a daily record sheet for all symptomatic patients. Patients are most infectious during the early stages when diarrhoea / vomiting is profuse. Accurate documentation on all symptomatic patients is vital in order for the IPCT to make an accurate assessment of the infection and plan the correct course of action. The following information is necessary for all symptomatic patients:

i. Name (first and surnames) and hospital number
ii. Position in ward; state bed number and bay or single room
iii. Frequency; state the number of times the patient has an episode of either diarrhoea or vomiting.

It is the responsibility of the nurse in charge to ensure that accurate documentation is maintained on all symptomatic patients throughout the duration of the outbreak.

4.6 Stool Samples

Stool samples must be taken from every patient who has diarrhoea. If the sample is contaminated with urine it can still be sent. Faeces scraped off the sheet or incontinence pad can also be used if you are unable to obtain a sample from a bedpan. The sample should contain the runniest part of the sample. All samples which are liquid / takes the shape of the container will be tested for *Clostridium difficile.* At least a ¼ of a sample pot is required to be able to undertake the relevant investigations.

Stool testing for Norovirus is carried out if an outbreak is suspected. It is important that a representative number of patients provide samples and these are sent to the laboratory as soon as possible. The outbreak code, provided by the IPCT must be recorded on all microbiology request forms / ICM forms

Never wait for positive results before implementing infection control precautions and outbreak control measures. Viral gastroenteritis is most infectious in the early stages.

4.7 Cohort / Isolation

Symptomatic patients must not be moved from their bay if Norovirus is suspected until the IPCT has reviewed the situation. The IPCT will advise on placement of patients in the ward and whether patients require isolating or cohorting. (Refer to

the isolation policy for further information). If necessary the whole ward will be closed to admissions, transfers and discharges except to the patients own home.

Bay doors must be kept closed, unless a risk assessment dictates a patient safety risk. The Derby Door will be utilised on closed bays, where bay doors are not present, until such time that the whole ward is closed to admissions and transfers. Discuss with Infection Prevention and Control if siting the Derby Door will create a patient safety risk

The nurse in charge must ensure that an isolation door card for enteric precautions is placed on the door of the isolation room or affected bay to alert all staff and visitors that it is an isolation area. The IPCT will place a banner at the ward entrance alerting staff, patients and visitors of the situation and asking them to report to the nurse in charge before seeing a patient.

The affected bay or ward should be closed to all new admissions or transfers unless approved by the speciality consultant. If the clinical condition of a patient dictates that their treatment requires them to be admitted to a ward closed with diarrhoea and vomiting, the admitting medical team have a responsibility to inform the patient of the ward status and also document in the patients notes that their clinical condition outweighs their risk of entering a ward which is currently closed due to diarrhoea and vomiting.

Charts / Treatment Cards etc must be kept outside the room.

When a patient has had no diarrhoea or vomiting for 48 hours they are deemed no longer infectious. A ‘closed’ bay can be re-opened when there have been no new cases and all affected patients have been asymptomatic for 48 hours. When a whole ward has been closed, bays may be opened gradually towards the end of the outbreak. Bays can only be re-opened when there have been no new cases and all affected patients have been asymptomatic for 48 hours. All areas must be deep cleaned and curtains changed before opening. The decision to re-open a closed ward can only be made by the IPCT / Infection Control Doctor.

All linen from isolation areas should be treated as infected linen and managed as per the infected linen policy.

4.8 Hand Hygiene

The hands of healthcare staff can provide the vehicle for the transmission of this infection. It is therefore essential that all staff wash their hands when required using the correct hand washing technique to help reduce the risk of transmission,

Hands must be washed with soap and water before and after every patient contact and after contact with potentially infectious equipment, furnishings or other fomites. It is not recommended that alcohol hand sanitisers be used. (Refer to the Hand Hygiene Policy for further information)

Gloves do not obviate the need to wash hands.

Patients must be provided with the opportunity to wash their hands or use hand wipes after each toileting episode and also before each meal.

4.9 Personal Protective Clothing

All staff must put on a long sleeved, fluid repellent long sleeved gown, (push sleeves up for hand hygiene), yellow plastic apron and non-sterile gloves on entering an affected bay or side room. Long sleeved gowns should be removed and hands washed before leaving the room or bay. Disposable yellow apron and gloves must be changed between patients in the same bay and hands washed with soap and water. Any failure to comply with the wearing of protective clothing and hand washing during an outbreak should be notified to the Senior Sister, area Matron and the Infection Prevention and Control team. Outbreaks of D&V can be contained if all staff follows these instructions.

There is currently no requirement to justify the wearing of face masks for either patients or staff.

4.10 Movement of Affected Patients

Non-urgent visits to another department should be delayed if the patient is symptomatic as this could potentially expose more contacts to the infection. Alternatives should be considered such as portable X ray.

If the visit to another department is urgent it is the responsibility of the nurse in charge of the ward to ensure that the receiving department is informed about the status of the patient, so they can put the necessary IPC precautions into place and ensure the visit to the department is as brief as possible.

Asymptomatic patients in affected bays should ideally have visits to other departments delayed, in case they are incubating the infection.

Asymptomatic patients in unaffected bays can visit other departments, but the receiving department must be informed of the presence of any ward precautions, so they can put the necessary IPC precautions into place and ensure the visit to the department is as brief as possible.

If patients in an affected ward / bay require transfer from a community hospitals into the acute setting, the receiving area must be informed and the patient placed into isolation immediately on transfer.

NB. The patient's clinical condition and need for urgent diagnostic investigations or treatment must always take precedent. The Infection Prevention and Control team will advise as required.

4.11 What to do if a visit to another department is essential for clinical care

Symptomatic and asymptomatic patients must not be transferred to other wards. However if the patient needs to be transferred to another ward for clinical reasons, this must be discussed with the IPCT / Infection Control Doctor on an individual basis, and they must be isolated for at least 48 hours following their transfer or until symptom free for 48 hours.

Affected patients can only be discharged to nursing or residential homes or peripheral hospitals if the receiving areas are fully aware of the ward precautions, agree to the discharge and the patients can be nursed in a single room for at least 48 hours following their transfer or until symptom free for 48 hours. It is the responsibility of the nurse in charge to contact the nursing or residential home to discuss their discharge arrangements.

Affected patients may be discharged to their own homes once they are deemed fit for discharge.

4.12 Environmental Cleaning

Whilst a bay or ward is closed during an outbreak, the area must be cleaned daily using Actichlor Plus tablets, used at a dilution of one 1.7g tablet to 1litre of water (1,000ppm available chlorine)*. Frequently used areas, such as toilet areas, should be cleaned at least twice daily and more frequently should the need arise. The Infection Prevention and Control team will liaise with Facilities Management / Helpdesk to organise the relevant cleaning.

Bays and wards can be re-opened 48 hours after the last symptomatic episode. This decision will be made by the IPCT / Infection Control Doctor. Before opening, all areas on the ward must receive a deep clean and the curtains changed. This involves cleaning all surfaces using Actichlor Plus tablets, at a dilution of one 1.7g tablet to 1litre of water (1,000ppm available chlorine), followed by hydrogen peroxide disinfection, paying particular attention to frequently touched objects such as door handles, taps and toilets.

Healthcare staff should wear the appropriate PPE when undertaking the deep clean and must have received training in the use of chlorine based agents.

Nursing staff are responsible for ensuring that all equipment is cleaned with Actichlor Plus, at a dilution of one 1.7g tablet to 1 litre of water (1,000ppm available chlorine), in-between each patient and also as part of the deep cleaning process before the ward re-opens.

Areas will continue to be cleaned with Actichlor Plus for a minimum of one week after re-opening.

* Alternative cleaning / disinfection products may be recommended by Infection Prevention and Control

4.13 Visitors

Friends and family must be informed that the ward or bay is currently closed because of diarrhoea and vomiting. They should be asked to postpone their visit or, if essential for personal reasons to make their visit as short as possible and be stopped from bringing in food. Visitors should also be asked to wash their hands with soap and water before leaving the ward and to refrain from sitting on the bed whilst visiting.

In some rare circumstances the ward may be completely closed to visitors.

Visitors must be advised not to visit if they are suffering from diarrhoea and vomiting and for 48 hours after the symptoms have ceased.

Visitors with extenuating circumstances, such as the terminally ill or vulnerable adults, should be allowed to visit at the discretion of the nurse in charge

4.14 Staff

4.14.1 Symptomatic staff

Any member of staff who becomes symptomatic whilst on duty must be sent home as soon as possible. Any person who becomes symptomatic at home must inform the nurse in charge. Staff must not return to work until they have been symptom free for 48 hours.

Staff can contact the Occupational Health department for specific advice e.g. for advice about returning to work.

4.14.2 Responsibilities of the ward staff

- Ensure all members of staff on duty are aware which bays or side rooms are affected and what precautions are required. Whenever possible, allocate staff to either infected or non-infected areas.
- To record every episode of diarrhoea and vomiting on a daily record sheet.
- To take a stool sample from every symptomatic patient.
- To promptly update the IPCT if changes in the situation occur.
- To inform all visitors to the ward that there is diarrhoea and vomiting on the ward and advise them what precautions are required.
- Ensure all healthcare staff wear protective clothing when entering an affected bay or side room.
- Ensure the correct hand hygiene measures are carried out by patients and their visitors.
- Ensure there are adequate stocks of gloves, aprons, linen, disposable bedpans and vomit bowls.

- Any member of staff affected must be sent home immediately.
- Ensure the data collection sheet is completed daily on all symptomatic patients.

4.14.3 Visiting staff e.g. Occupational Therapists, Physiotherapists and Social Workers

Visits should be delayed if the patient is symptomatic if the visit is not urgent. If the visit essential, long sleeved gown, gloves and aprons must be worn and the visit be as brief as possible. Hands must be washed with soap and water once PPE has been removed.

Visits to the affected ward should be made at the end of the shift. Staff must not sit on the bed but use the chairs provided for visitors. Notes, x-rays and other equipment should not be placed on the bed.

4.14.4 Bank & Agency staff

Wherever possible bank or agency staff should only work on the affected ward or non affected ward but not on both.

If this is not possible bank and agency staff can work on a ward affected by diarrhoea and vomiting **BUT** cannot move straight to another ward without first showering and changing their uniforms. Where possible, staff should work on unaffected wards first then the affected ward.

4.14.5 Non-essential Visitors

Visits from newspaper vendors, hairdressers, mobile libraries and similar non-essential visitors should not be allowed to any restricted areas until the deep clean and curtain change is successfully completed.

5. MONITORING COMPLIANCE AND EFFECTIVENESS

Monitoring Requirement :	• Closure of wards due to suspected Norovirus are reported to the CCG as a serious incident • The IPCT will monitor compliance with the management of patients with diarrhoea and vomiting during daily ward reviews • Any non-compliance issues will be reported to the business unit Matron or the site manager as appropriate.
Monitoring Method:	• Data regarding the number of wards, patients and staff involved and any areas of non-compliance will reported to the Infection Control Operational Group and the Infection Control Committee
Report Prepared by:	Lead Nurse Infection Prevention and Control
Monitoring Report presented to:	Infection Control Operational Group / Infection Control Committee Commissioning CCG
Frequency of Report	Monthly / As required

6. REFERENCES

Health Protection Agency (2007) Health Protection Agency Network for the Detection and Characterisation of Noroviruses. Newsletter 1. 1st July 2007

Report of the Public Health Laboratory Service Viral Gastro Enteritis Working Group. Management of hospital outbreaks of gastro-enteritis due to small round structured viruses. *Journal of Hospital Infection* (2000) 45: 1-10.

Diarrhoea & Vomiting Action Card for Ward Teams Appendix One

- Contact the Infection Prevention and Control Team (IPCT) when there are unexplained episodes of diarrhoea and / or vomiting and instigate Norovirus precautions immediately.
- Do not isolate or move patients around the ward until a review has been undertaken by the IPCT.
- Collect faecal specimens and label with outbreak code provided by the IPCT (RDH and LRCH only). NB stool samples do not need to be 'clean'.
- Complete a daily record sheet for all symptomatic patients.
- **All** staff must put on a long sleeved, fluid repellent long sleeved gown, yellow plastic apron and non-sterile gloves on entering an affected bay or side room. Long sleeved gowns should be removed and hands washed before leaving the room or bay. Disposable yellow apron and gloves must be changed between patients in the same bay and hands washed with soap and water. **Alcohol hand sanitisers are not to be used.**
- All linen should be treated as infected
- All waste must be discarded as infectious waste
- Discard all food from patients' locker tops. All patients' food should be placed in sealed containers, inside the locker. Ensure the patient is aware why this is happening.
- Ensure environmental and equipment cleaning is undertaken using Actichlor Plus, at a dilution of one 1.7g tablet to 1 litre of water (1,000ppm available chlorine)
- Any staff member that becomes ill should leave the ward immediately and go home.
- Staff should not return to work until they are free from symptoms for 48 hours.
- Bank and agency staff should not work on an affected ward and then go straight to an unaffected ward.
- Patients can be discharged to their own home if medically fit and able to look after themselves.
- Patients must not be discharged to another institution such as a nursing or residential home unless the home is aware of the situation, is happy to accept the patient and can put the relevant Infection Control precautions in place.
- Patients must not be transferred to another ward without agreement from the speciality consultant
- Hand washing with soap and water must be performed when entering and leaving the ward and between patients
- Provide information to patients and visitors

APPENDIX TWO

Diarrhoea & Vomiting Action Card for Patient Flow / Bed Management Teams

- Inform the Infection Prevention and Control Team (IPCT) if you are aware of 2 or more cases of diarrhoea on a ward.

- Do not remove patients from affected bays or wards without consultation with the speciality consultant. **NB - Medical / clinical needs of an individual patient will take precedent over ward closure precautions, (e.g. patient requires transfer to high dependency care for respiratory support).**

- Patients can be discharged to their own home if medically fit and able to manage the Norovirus symptoms.

- Patients can only be discharged to nursing / residential homes or peripheral hospitals from an affected area if the receiving area is aware and able to institute appropriate infection control measures.

- Ensure you have a daily update of all affected bays / wards in the hospital

- Inform the Lead Nurse / Director of Ops of any problems associated with ward or bay closures.

- Attend outbreak control meetings as required

- If any staff members, including patient flow and bed management team members, become unwell whilst at work must go home and not return until 48 hours symptom free. Staff unwell at home must not attend work until 48 hours symptom free.

APPENDIX THREE

Diarrhoea & Vomiting Action Card for Matrons / Clinical Leads

- Ensure ward areas aware of the Norovirus policy.
- Ensure the Infection Prevention and Control Team (IPCT) are informed promptly of any suspected Norovirus cases.
- Ensure IPCT advice is followed by all ward staff and visitors, including medical and nursing staff, therapy staff, domestics, hostesses and visiting clinicians.
- Ensure enhanced cleaning commences and continues using Actichlor Plus, at a dilution of one 1.7g tablet to 1 litre of water (1,000ppm available chlorine)
- Restrict movement of bank / agency staff to designated affected and unaffected areas during the outbreak. If this is not possible bank and agency staff cannot move straight to another ward without first showering and changing their uniforms. Where possible, staff should work on unaffected wards first then the affected ward.
- Restrict visiting to the ward according to hospital policy / advice by IPCT.
- Ensure AHP's / medical staff visiting ward visit affected areas last on their rounds unless a patient requires urgent clinical review.
- If any staff members become unwell whilst at work they must go home and not return until 48 hours symptom free. Staff unwell at home must not attend work until 48 hours symptom free.
- Ensure staff members do not consume food or drink in ward areas. Breaks should be taken in designated rest areas.

APPENDIX FOUR

Diarrhoea & Vomiting Action Card for Facilities Management

- Ensure all staff working in affected areas, cleaning staff, estates staff etc, are aware of the suspected Norovirus and the relevant infection control precautions.

- Ensure enhanced cleaning commenced using Actichlor Plus, at a dilution of one 1.7g tablet to 1 litre of water (1,000ppm available chlorine) and continues until advised by the Infection Prevention and Control team (IPCT)

- Ensure microfibre system is not used in an affected area.

- Ensure a full deep clean and curtain change takes place, as directed by the IPCT prior to the ward re-opening.

- Domestic staff working in affected areas must not take cleaning equipment to unaffected areas.

- All waste generated in affected areas, from the cleaning process is treated as infectious waste.

- Ensure staff members do not consume food or drink in ward areas. Breaks should be taken in designated rest areas.

- Hands must be washed with soap and water – alcohol hand sanitisers are not to be used in affected areas.

- If any staff members become unwell whilst at work they must go home and not return until 48 hours symptom free. Staff unwell at home must not attend work until 48 hours symptom free

- Wherever possible limit staff to affected area. If this is not possible affected areas should be visited last

WARD OUTBREAK REPORT FORM

WARD:		Tel:	Number of Beds:			Ward Contact:								Stool Specimen
No	**HN/NHS number**	**Forename**	**Surname**	**Location in Ward**	**Date of Admission**	**Symptoms**	**Date**							
1						**D**								
						V								
2						**D**								
						V								
3						**D**								
						V								
4						**D**								
						V								
5						**D**								
						V								
6						**D**								
						V								

Guidance for completion:

- Symptoms column should have the following notations or combinations thereof: AB = On antibiotics, AP = On aperients, NG/PEG/PEJ = On alternative methods of feeding, EC = Existing contributory condition
- Daily entries are required for each affected patient using the following codes:
    - Episodes of diarrhoea: Entered on “D” row in the appropriate date box followed by a number corresponding to the type of stool from the Bristol form stool chart followed by the number of episodes in a 24 hour period. For example: D7x3. It is essential that the type of stool comes before the number of episodes.
    - Episodes of vomiting: entered on the “V” row. Number of episodes in a 24 hour period should be entered in the appropriate date box.