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Outbreak Management

Learning Outcomes

For staff to be able to

- Define an outbreak
- To recognise an outbreak
- Identify the actions to be taken when an outbreak occurs
- Implement specific actions to be taken during a Norovirus/Influenza outbreak and to manage these patients
- Recognise the actions to be taken when an outbreak is declared over

Definitions for Outbreaks

Two or more linked cases with the same infectious agent associated with the same clinical setting, or
A higher than expected number of cases in a given clinical area over a specified time period, or
A single case of a serious illness with major public health implications where action is necessary to investigate and prevent ongoing exposure to a hazardous agent.

Common organisms that may cause outbreaks

- Norovirus
- Influenza

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Outbreak of Norovirus/Rotavirus

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Definition of an Outbreak for Ward Closure:

Two or more possible Norovirus infection cases in a single ward, unit or department within 24 hours.

Case definition:

A patient who within a 24-hour period has had 2 or more episodes of non-bloody diarrhoea and/or 2 or more episodes of vomiting without having any other obvious cause for symptoms.

Is it loose stools?

BOWEL MOVEMENT RECORD

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Name: ..... CHI: ..... Date Commenced: ...../...../.....

Date	Time	Comments i.e. volume, blood, mucous S – small M – medium L – large	Type 1 Separate hard lumps like nuts (hard to pass) 	Type 2 Sausage shaped but lumpy 	Type 3 Like a sausage but with cracks on surface 	Type 4 Like a sausage or snake, smooth and soft 	Type 5 Soft blobs with clear-cut edges (passed easily) 	Type 6 Fluffy pieces with ragged edges, a mushy stool 	Type 7 Watery, no solid pieces (entirely liquid) 	Staff Initials

Adapted from the Bristol Stool Scale developed by KW Heaton and SJ Lewis at the University of Bristol, 1997

Review your patient

- Aperients
- Antibiotics
- Food
- Other medical conditions
- Symptoms and frequency
- Any foreign travel

Contact Infection Prevention & Control Team

On suspicion of outbreak of viral gastroenteritis

Actions by Nurses/Medical staff

- Transmission Based Precautions/SICPs
- Isolation
- Commence Loose Stools Care Plan
- Commence Bristol Stool Chart
- Symptom recording chart
- Specimen collection

Actions by Infection Control Nurse/Doctor

- Assess the situation.
- 100% single side rooms with en-suite ward*
- Advise on initial measures e.g. isolation, closing to admissions/transfers following discussion with medical staff.
- Advise on increased cleaning/use of disinfectants.
- If required contact Public Health/ other relevant agencies.
- Press statement may be prepared/released.
- Advise staff on appropriate documentation.

Appendix 2 - Norovirus Outbreak Daily Checklist

Date commenced: _____

Both the checklist and data record to be completed and updated by the ward staff.
Norovirus Outbreak Daily Checklist to ensure Norovirus Control Measures are in place.

Tick if done, X if not done, N/A for not applicable.

Hospital:	**Ward:**	**ICT informed date:**	**Date:**							
The ward is closed due to admissions and transfers – until **48** hours after last new case.										
The ward (and side-room) doors are closed and there is an approved notice on the ward door advising visitors of necessary actions.										
All Healthcare Workers (HCWs) on the ward are:	• Aware of the status of the ward and how Norovirus is transmitted. • Norovirus system free.									
All patients (and relatives) on the ward are aware of the Norovirus situation and have been given information leaflets on Norovirus and the need for hand hygiene, and safe handling of personal laundry.										
All patients with symptoms of Norovirus have been assessed today for symptom severity and assessed for signs of possible dehydration (Stool and Fluid Balance charts).										
Norovirus Outbreak Data Record (Appendix 3). The outbreak data collection record has been updated – including any new cases, the symptoms patients are experiencing today and laboratory data. (Stool samples have been requested from all symptomatic patients).										
Patient Placement Assessment: A patient placement assessment and any advised/suggested moves have been made today.										
Personal Protective Equipment (PPE) – gloves, apron, surgical (mask/visor – if risk of facial contamination with aerosols). There are sufficient supplies of PPE in the ward:	• Is used for single tasks **and once removed hand washing is performed using liquid soap and warm water**. • Is used before contact with the patient or the patient's immediate environment or before any dirty task.									
Hand hygiene is being carried out with liquid soap and warm water – this can be followed by alcohol based hand rub.										
Hand hygiene: Patients are encouraged and given assistance to perform hand hygiene before meals and after attending the toilet.										
Environment: The environment is visibly clean – including curtains – there is increased cleaning which includes decontamination of frequently touched surfaces with detergent and 1000ppm av cl. (cleaning records are up-to-date).										
Environment: There are no exposed foods in the ward area – even if unexposed all fruit should be washed before eating.										
Equipment: Where possible single patient use equipment is used and communal patient equipment avoided. All re-usable equipment is decontaminated after use. There are sufficient other sundries on the wards to enable the control measures to be implemented.										
Linen: Whilst the ward remains closed, categorise all discarded linen as "infected".										
Spillages: All faecal and vomit spillages are decontaminated by staff wearing PPE. The spillage is removed with paper towels, and then the area is decontaminated with an agent containing 1000 pp, av cl. All waste arising is discarded as healthcare waste. PPE is then removed and hands washed with liquid soap and warm water.										
Advice and Guidance: HCWs have access to and follow NHS Board guidance on:	• The decontamination of body fluid spills, equipment, soft furnishings. • What to do if uniforms become contaminated.									
Today the ICT has made an assessment of the outbreak and the continuing need for ward closure.										
• **In preparation for re-opening** – empty beds have been cleaned but left unmade.										
• **In preparation for re-opening** – the curtains in empty rooms have been taken down.										
• **In preparation for re-opening** – consider if pre-booking a terminal clean and pre-booking clean curtains being hung is possible.										
• **Before re-opening**: a terminal clean has been performed following ICT recommendation and following the hospital procedure.										

Appendix 3 - Norovirus Outbreak Data Record Ward

Possible Norovirus Infection: A person (patient or staff) who, within a 24 hour period has, 2 or more episodes of non-bloody diarrhoea*, and/**or**, 2 or more episodes of vomiting, without having any other obvious cause or symptoms.

Confirmed Norovirus Infection: A person (patient or staff) who, within a 24 hour period has, 2 or more episodes of non-bloody diarrhoea*, and/or , 2 or more episodes of vomiting, without having any other obvious cause for symptoms **AND** who has tested positive for Norovirus in RT-PCR.

Tick if symptoms present (Antibiotics is abbreviated as [Abx]) **Date(s) and Day**

Names/numbers of all symptomatic patients (diarrhoea and/or vomiting)	D=Diarrhoea V=Vomiting	Abx Y or N	Laxatives/ Enemas Y or N	Specimen date	Possible or Confirmed*	Other Info						

***Does the patient meet the definition of a Possible or Confirmed case?**

Date (agree a time of day to be done)									Comment
No. of patients symptomatic									
No. of patients <48 hrs symptomatic free									
No. of empty beds									
No. of new HCWs off duty with symptoms									

Specimen Collection

- Prompt Collection - loose Stools and/or Vomit
- Legible labelling
- Clear instructions for Test/ Investigation required
- Send Separate Samples for Microbiology and Virology
- Current Antibiotic Therapy
- Recent Travel

If the ward is closed this means

- Closed to all new admissions, transfers in and out.
- Patients may be discharged to their own home if well enough.
- Non essential investigations/therapies have been curtailed.
- Ward cleaning increased to twice daily.
- Restrict staff movement where possible .
- Staff have been informed that should any of them have symptoms, they should remain off duty until 48 hours after their last symptoms
- The ward will be assessed daily by the nurse-in-charge and IPCT.

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Management of Influenza Patients

Influenza is a respiratory illness characterised by fever, cough, headache, sore throat, aching muscles and joints. There is a wide spectrum of illness ranging from minor symptoms through to pneumonia and death. The most common complications of influenza are bronchitis and secondary bacterial pneumonia.

Routes of Transmission

- Droplet Transmission
- Contact
  - Direct
  - Indirect
- Airborne Route

Review your patient

- New onset of respiratory symptoms
- Exacerbation of underlying chronic conditions
- History of contacts with influenza

On suspicion of Influenza
Actions by Nurse/Medical Staff

- Transmission Based Precautions/SICPs
- Isolation
- Specimen collection
- Commence care plan

Specimen Collection

Patients > 2 years – Throat & nose swab or gargle

Ventilated patients – Endo Tracheal aspirate

Repeat testing to confirm clearance of influenza is not required.

PPE

PPE	Close patient contact (< 1 metre)	Aerosol Generating Procedures (AGPs)
Hand Hygiene	✓	✓
Gloves	✓	✓
Plastic Aprons	✓	✓
Surgical Mask	✓	x
FFP3 Respirator	x	✓
Eye Protection	Risk Assessment	✓

Visitors should be offered a surgical mask and plastic apron on entry to the room.

Advise that they remove PPE before leaving room and dispose in clinical waste.

Hand hygiene should be carried out following removal.

Aerosol Generating Procedures

- Intubation, extubation & related procedures
- Cardiopulmonary resuscitation
- Bronchoscopy
- Surgery & post mortem procedures in which high-speed devices are used.
- High Frequency Oscillatory Ventilation (HFOV).
- Induction of sputum.

Patient Movement

Influenza patients who are still infectious must not leave the area unless there is an urgent clinical need.

If required the procedure is

- Dept must be informed in advance
- The patient must wear a **surgical mask** until they return to the isolation room / cohort area.
- HCW's do not wear a mask for transfer

Review/Reopening by IPCT

Norovirus – 48hrs after last new case

Influenza – each ward reviewed on an individual basis by IPCT and ICD

Patients should be considered infectious until 48hrs after coryzal symptoms have resolved / previous health state

Re-opening the ward

- Nurse in charge ensures that Nursing staff are aware of their cleaning responsibilities and that there are enough staff on duty.
- Nurse in charge liaises with Domestic Supervisor regarding clean start time and gives any special instructions.
- Domestic & Nursing staff co-ordinate

STANDARD OPERATING PROCEDURE (SOP) - TERMINAL CLEAN OF WARD

Summary

- Outbreaks can be caused by various microorganisms.
- By applying SICPs at all times the majority of outbreaks could be prevented.
- Once it has occurred an outbreak can be controlled by good team work between all healthcare workers and infection control staff in liaison with management.
- It is important that Nursing and Domestic staff work together to ensure an effective clean when reopening the ward

Infection Prevention & Control

- There is an Infection Prevention and Control Team available for specialist Infection Control advice within NHSGGC
- Contact details of local Infection Prevention & Control Teams can be found via your local switchboard or website;

www.nhsggc.org.uk/infectioncontrol

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ANY QUESTIONS

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