

Outbreak Management

Learning Outcomes

- Identify the triggers that may predispose to an outbreak
- Know the actions to be taken when an outbreak occurs
- Know specific actions to be taken during a Norovirus outbreak
- Have an appreciation of why outbreaks occur

Definitions for Outbreaks

Generic

Two or more linked cases of unexplained illness (or isolates), which indicates the possibility that they may be due to a known or unknown infectious agent.

Norovirus:

A patient who within a 24 hour period has 2 or more episodes of non bloody diarrhoea and/or two or more episodes of vomiting without having any other cause for symptoms. **Does not include loose stools induced by laxatives or enemas**

Outbreak/Criteria for ward closure (Norovirus):

Two or more possible Norovirus infection cases in a single ward or department.

What things could explain loose stools? Review your patient

Aperients



Antibiotics



Food

Other Medical Conditions



Is it a Loose Stool?

Bristol Stool Chart

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 its 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



Call your ICN or on-call Microbiologist if there is/are:

- Two or more cases, with 2 or more episodes of unexplained vomiting and/or diarrhoea within a 24 hr period in healthcare premises.
- A patient transferred to your ward/diagnosed with a known gastro-intestinal pathogen or alert organism and you require further advice/guidance which is not clarified in the Prevention and Control of Infection Manual. See Transmission Based Precautions.

It is important that the infection control team is informed on early suspicion that there may be an outbreak!

Specimen Collection

- Prompt Collection is essential
- Loose Stools AND Vomit can be sent for Virology Test
- Loose Stools must take the shape of the Container
- PPE
- Ensure Correct Sample Container/ Medium
- Legible Labelling including Name, D.O.B., Ward, Time Consultant, Specific Site and Description
- Clear Instructions for Test/ Investigation required
- Send Separate Samples for Microbiology and Virology
- Current Antibiotic Therapy
- Recent Travel



Microorganisms Responsible for Outbreaks

Microorganism

Symptoms

Norovirus	→	Diarrhoea and vomiting
<i>C. difficile</i>	→	Diarrhoea
Salmonella	→	Diarrhoea (sometimes vomiting)
<i>E. Coli</i> O157	→	Bloody diarrhoea
RSV	→	Cough, headache, malaise, diarrhoea (mainly children)
MRSA	→	Wound infections or blood stream infections
Group A streptococcus	→	Wound infections or blood stream infections

Why do outbreaks occur in healthcare premises?



- Vulnerable patients/residents
- Patients admitted with symptoms
- Staff attending work with symptoms
- Visitors attending with symptoms
- Spreads easily via hands, equipment or in the air

Chain Of Infection

- **What the Chain needs to Survive:**
 - an **infectious agent**
 - a **source or reservoir** for the infectious agent
 - a **way out** from the source for the infectious agent
 - a **mode of transmission** to get the organism from one host to another
 - a **way in** for the infectious agent
 - a **susceptible host**



**Prevention is the key to prevent outbreaks.
All healthcare workers (HCWs) must....**

Adhere to **Standard Precautions**

The minimum level of precautions to be
Followed by all HCWs in all situations.



Hand hygiene



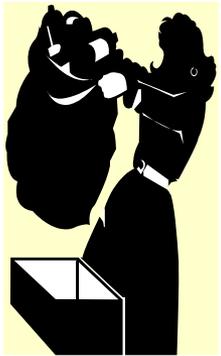
Linen



Personal Protective Equipment



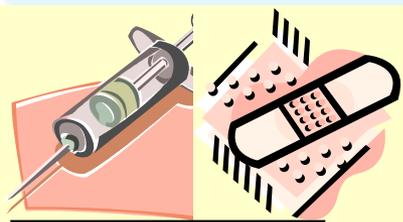
There are 10 elements to Standard Precautions



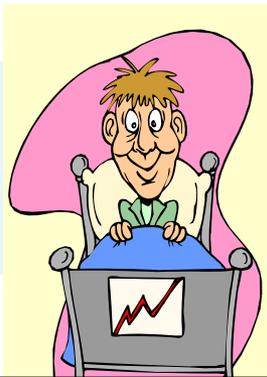
Clinical Waste



Cough Etiquette



Preventing exposure



Accommodation



Body fluid spills



Clean environment



Patient Care Equipment

If an outbreak occurs we all have roles and responsibilities.



Healthcare workers

Infection
Control
Nurse

Outbreak
Control
Team

On suspicion of Outbreak of Norovirus

Actions by Nurses/Medical staff

- Standard precautions /Transmission based precautions
- Isolation (Initially)
- Stool charts/care plan
- Record each patients symptoms/ type/ date/time/asses other reasons for symptoms
- Send stool sample (sufficient for micro and virology)
- Send vomit sample for virology
- Inform nurse in charge, medical staff and bed manager if isolation room required – **do not cohort** patients unless advised by ICT
- Inform ICN/ICD
- Medical staff to assess patients to eliminate other causes e.g. new medication/treatment/ condition etc.

Actions by Infection Control Nurse/Doctor

- Refer to Outbreak/Norovirus policy.
- Assess the situation.
- Assess patient histories and specimen results.
- Discuss with nursing and medical staff
- Advise on initial measures e.g. isolation, closing to admissions 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

If the ward is closed this means

- No admissions in, unless discussed with ICT.
- Ward Closure sign on entrances to ward
- No transfers out (to other wards, hospitals or care homes) unless discussed with ICT.
- Patients may be discharged home if relatives are aware of the risk.
- No visits to Physio/OT etc.unless discussed with ICT
- Restrict staff movement between wards/consider bank staff/redeployment measures etc.
- Exclude non essential staff.
- Essential departmental visits only.
- Do not transfer staff to other wards.
- Stop cross-cover by medical staff (if possible).
- Restrict patient visiting if at all possible. Remind visitors not to visit if they themselves have symptoms.



The Outbreak Team

- Will investigate the background
- Will give advice
- Will be in regular contact with the ward
- Will liaise with medical staff/domestic staff/Senior Management
- May hold an Outbreak Control Meeting

General Advice in a gastro-intestinal outbreak

- Staff to decontaminate hands with soap and water following contact with patients or the environment and on leaving the ward.
- Twice daily cleaning of environment and frequently touched surfaces including lockers, cot sides etc. with chlorine based detergent.
- Decontaminate all commodes with 1,000 ppm chlorine based disinfectant
- Treat all linen as infected while ward is closed.



General Advice in a gastro-intestinal outbreak

- PPE to be worn as per policy
- HCWs with symptoms to remain off duty until 48 hours after symptoms cease.
- Nurse Bank staff do not work in any other area for 48 hours
- Remove/cover exposed food e.g. fruit (Norovirus outbreaks)
- The ward remains closed until 48 hours after the last identified case and following risk assessment.
- Ward has a terminal clean with 1000ppm chlorine based disinfectant and all screens/curtains changed

Communication and Documentation

- Record patient symptoms in nursing notes and outbreak record form (gastroenteritis). The Infection control team will require daily updates.
- Keep stool charts up to date as per Bristol Stool Chart
- Provide a Norovirus information leaflet to patients/visitors and record in patient notes
- Provide laundry leaflet if required
- Inform the infection control team of new cases

Remember to document infection control advice given and precautions put in place

Re-opening the ward

Procedure for a Terminal Clean – Roles and Responsibilities

- Nurse in charge ensures that Nursing staff are aware of their cleaning responsibilities and that there is enough staff
- Nurse in charge liaises with Domestic Supervisor regarding clean start time – i.e after drug round, patient washes. And gives any special instructions.
- Fresh solution of chlorine based detergent is made up (1000ppm)
- Staff don PPE and commence clean.

(SOP Terminal Clean Of A Ward www.nhsggc.org.uk/infectioncontrol)

Re-opening the ward

Nursing staff should clean

- All Nursing and Medical equipment. All computing equipment and all commodes.
- All empty beds should be cleaned, all 6 sides of the patient's mattress and the part of the bed where the mattress lies and bed rails.
- Lockers and bed tables
- Patient call systems
- Bed rails and sides of any occupied beds
- Make up any empty beds.
- Visitors should be asked kindly, not to attend whilst clean is ongoing

Summary

- Outbreaks can be caused by various microorganisms.
- By applying Standard Precautions at all times the majority of outbreaks could be prevented.
- Once it has occurred an outbreak can be controlled by good team work between nursing, medical 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 a Prevention and Control of Infection Team available for specialist Infection Control advice within NHSGGC

Accessible to all members of staff within NHSGGC

- Contact details of local Infection Control Teams (ICT) can be found via your local switchboard or website;

www.nhsggc.org.uk/infectioncontrol



Contents include:

Hand Hygiene

Standard Precautions

Outbreak Management

Specific organisms & diseases

Standard operating procedures

Care plans & Patient info leaflets

ANY QUESTIONS



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