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

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 the ward/diagnosed with a known gastro-intestinal pathogen or alert organism and further advice/guidance is required 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!

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Specimen Collection

- **Prompt Collection is essential**

- **Loose Stools AND Vomit can be sent for Virology Tes**

Microorganisms Responsible for Outbreaks

Microorganism		Symptoms
Norovirus	→	Diarrhoea and vomiting
C. difficile	→	Diarrhoea
Salmonella	→	Diarrhoea (sometimes vomiting)
E. Coli 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 infections 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**

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

Adhere to **Standard Precautions**

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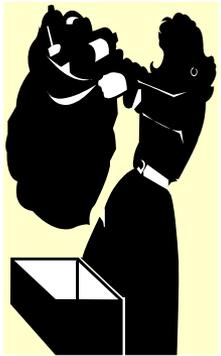
Followed by all HCWs in all situations.
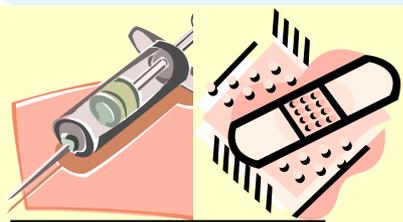
Hand hygiene

Linen

Personal Protective Equipment
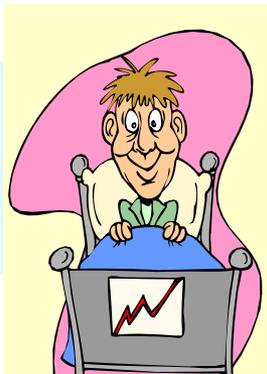
There are 10 elements
to Standard Precautions

Cough Etiquette

Clinical Waste

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

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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

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- 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

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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.

- 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

Cleaning Of An Isolation Room /Closed Area

Prior to entering a room/ area

- Report to the nurse in charge to ensure that it is convenient for cleaning to start and to receive any special instruction.

- Domestic staff cleaning isolation rooms/ closed areas must be kept to a minimum.

- Collect any equipment and materials required for cleaning inside the room/area as stated above.

- Wash hands with liquid soap and water.

- Put on a disposable plastic apron and disposable vinyl gloves
(check with the nurse in charge if any other protective clothing is required).

- Make up solution of chlorine based detergent (1000ppm).

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- **Procedure within isolation area**
  Once you have entered the room/ area you should not leave it
  until all cleaning procedures are complete.

- Check room/ area if there is any visible contamination with blood/ body fluids inform nursing staff to decontaminate the area before commencing cleaning.

- Gather large items of rubbish including locker bag and bin liners and place in a clinical waste bag (orange).

- Clinical waste bags should be sealed in accordance with the NHSGGC waste policy.

- Damp dust all horizontal surfaces with a chlorine based detergent (1000ppm) first.

(NHS GGC SOP Twice Daily Clean of Isolation Room www.nhsggc.org.uk/infectioncontrol)

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.

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

Re-opening the ward
Nursing staff

- 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

Re-opening the ward

<u>Domestic staff</u>

- First remove all screens, window curtains and shower curtains and bag as infected laundry, i.e. placed into an alginate (water soluble) bag and then into a clear plastic bag then into a laundry bag.

- Gather large items of rubbish including locker bag and bin liners and place in orange clinical waste bag.

- Wipe all horizontal surfaces first with chlorine based detergent (1000ppm). Cleaning should start at the top and finish on the lower surfaces (a bowl dedicated for the isolation room should be used). Curtain tracts should be damp dusted.

- Clean all wash hand basins, showers and toilets using chlorine based detergent (1000ppm) then dry using disposable colour coded cloth/ paper. Discard into orange clinical waste bag after use. Toilets may be pre-cleaned with a sanitiser.

- Dry mop/ suction clean the floors (hepafilter) working from furthest point towards the door. The floor should then be damp mopped using dedicated equipment and a chlorine based detergent (1000ppm). Mops used must be discarded as clinical waste or placed in a bag and sent for laundering.

Remove apron and gloves, discard as clinical waste.

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Following A Terminal Clean

- <u>WASH HANDS with liquid soap and water.</u> Check all cleaning procedures are complete.

- Remove all cleaning equipment, materials and rubbish from room/area.

- After a terminal clean the ward can be opened immediately once all the surfaces are clean and dry.

- Wearing fresh PPE, remove waste and equipment to either the DSR or sluice. Dispose of waste and clean equipment with the chlorine based detergent (1000ppm), dry thoroughly. PPE should then be removed and disposed of as clinical waste.

- <u>WASH HANDS using liquid soap and water.</u>

- Storage of equipment should be in accordance with local infection control advice.

- Replenish supplies (e.g. paper towels, soap) within the ward if required.

- Replace screens, shower curtains and window curtains (if appropriate).

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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