



Outbreak Guidance for Schools and Nurseries in Devon

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The Devon Health Protection Team would like to acknowledge all those who helped formulate this guidance.

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1. Introduction

This pack provides important information on outbreaks of infection for schools and nurseries. Outbreaks can be caused by many microbes (bacteria or viruses) and it is important in every suspected outbreak to seek expert advice from the start. We hope that this information will raise awareness of the importance of early reporting of two or more linked cases or **more cases than you would usually expect**. Its aims are to ensure that staff are aware of their responsibility to act promptly if an outbreak of infection is suspected either in themselves or in the children.

- Don't wait for several cases of, for example, sickness and diarrhoea to occur before you report it.
- Put controls into place as prompt action could prevent a major outbreak of infection.
- Ensure that information about what to do in a suspected outbreak of infection is cascaded to key staff.

The two most common illnesses that cause outbreaks in school are diarrhoea and vomiting (Norovirus) and flu-like illnesses.

Thank you for your co-operation.

Devon Health Protection Team (HPT)

For more information regarding infections in schools refer to the Spotty Book. If not available, a free copy can be obtained, telephone 01803 861833

What is Norovirus?

Norovirus is a virus which infects the gut. It causes a highly infectious gastroenteritis which typically lasts for a day or two but may occasionally last for up to a week. It is not a serious illness in healthy people but can be very disruptive in large institutions such as schools and nurseries. Symptoms can be a combination of any of the following:

- Nausea
- Vomiting
- Abdominal pain
- Diarrhoea

It is sometimes associated with a flu-like illness e.g. aching joints and limbs.

How is Norovirus spread?

Norovirus is spread from the vomit or faeces of an affected person sometimes vomiting occurs with no warning. The virus may be transmitted to others in the following ways:

Droplets

- Droplets are formed following vomiting which is often violent and projectile in nature.
- Diarrhoea is less of a risk for droplet spread if it is contained in the toilet.

Environment

- The environment becomes contaminated via the hands or from settling droplets of vomit. Droplets land on work surfaces, in the toilet area (including on handles, sinks etc) and are easily transferable via hands to mouth.

Food

- Eating food that has been contaminated by an infected person, either directly by vomit droplets or indirectly by contaminated hands, also poses a risk of infection.

One vomit contains in excess of 30,000,000 viral particles: ingestion of between 10 or 100 viral particles may be enough to cause infection. To reduce the risk of transmission, it is essential that vomit and diarrhoea is cleaned up immediately (Appendix 1).

Incubation period for Norovirus is up to 72 hours, but usually 24 - 48 hours.

What you should do – Staff (including parent helpers, meal time assistants)

- If you have any of the above symptoms, do not come to work.
- Remain off work for 48 hours after the last symptom (exclusion is a requirement for food handlers with symptoms).
- Discuss whether you should submit a stool specimen with your GP/HPU.
- Specimens should be submitted via your GP.
- If symptoms commence during your working day – go straight home. The risk of spread is reduced considerably if contamination of the environment is reduced (see Appendix 1 for advice on cleaning).
- Inform the head teacher or manager of nursery.
- Movement of supply teachers and specialist staff between schools/nurseries may need to be restricted.
- Staff should supervise hand washing of pupils if possible.

REMEMBER, being at work with symptoms poses a risk to children and your work colleagues.

What you should do – Pupils

- Children who become ill during the day should be sent home as soon as possible
- If the child cannot go home they should be kept away from other children if at all possible
- Parents should be informed verbally that the child should remain off school for 48 hours after the last symptom
- Parents should consult with their GP whether they should submit a stool specimen from the child

3. What is influenza?

- Influenza or 'flu' is an infection caused by a virus. It affects mainly the nose, throat and the lungs.
- There are 3 broad types of influenza virus: A, B and C. Most outbreaks of influenza are caused by type A or B viruses. These viruses are constantly changing so that different strains predominate from year to year.
- Many people who say (or are told) that they have 'flu' in fact have a bad cold. Usually what people call "gastric flu" is a gastrointestinal infection with another virus, although some people with flu do suffer from diarrhoea and vomiting.

Who catches influenza?

- Anyone can catch flu; the highest rates of infection are often in school age children.
- Most influenza infections occur during the winter months.
- The amount of illness occurring each year varies and depends largely on how many people are susceptible to that particular virus; this, in turn, depends on whether people have been infected with that, or a similar, virus in the past. If the new viruses differ greatly from previous ones, the population will not have much immunity. Some influenza viruses cause more severe illness than others. Hence in some winters people may have worse disease than in other years.

How do you catch influenza?

- Influenza is mostly caught by breathing in air, containing droplets of secretions of an ill person, which contain the virus. The virus is passed into the air when an infected person coughs or sneezes. The virus can also be transmitted directly by person to person contact and from contaminated surfaces.
- After being infected, people take about 24 – 48 hours to develop symptoms.
- Influenza is highly infectious and can spread very rapidly from person to person. Some strains of virus seem more infectious than others, or cause more severe illness.

What are the symptoms of influenza?

- Influenza is worse than an ordinary cold. It usually starts suddenly with a high fever of 38.9-40.0oC (102-104oF) which lasts 3-4 days.
- Headaches, chills and a dry cough are common as are general muscle aches and pains which can be severe. A stuffy nose, sneezing and a sore throat can also be present. The fever tends to decrease after the second day when nasal congestion and a sore throat become more noticeable.

- Some children may also feel sick (nausea), or have vomiting and diarrhoea.
- Tiredness can last 2-3 weeks.

How serious is influenza?

- Most people recover completely from influenza in a matter of days or a week. For others, for example the elderly, those with other illnesses (such as chest or heart disease, or diabetes) and newborn babies, influenza can be a serious illness.
- Serious illness from influenza is usually not due to the flu itself, but to secondary bacterial infections causing lung infections (bronchitis and pneumonia) or to a worsening of underlying chronic medical condition such as heart disease.

How can you reduce the risk of influenza transmission in schools?

- Keep children and staff away from school/nursery while ill.
- Cover your mouth and nose with a tissue when coughing or sneezing.
- Dispose of used/dirty tissues in a bin.
- Wash hands frequently with liquid soap and water and dry thoroughly on disposable paper towels.
- Avoid touching surfaces (such as door handles) and then the face.
- Ensure hands are washed prior to eating food.
- Ensure more frequent environmental cleaning of hard surfaces, door handles and frames and light switches.
- Provide liquid hand soap and paper towels to ensure good hand hygiene by children and staff.
- This should all be routine practice whether or not there is an outbreak.

How soon should a child/teacher be back at school after influenza?

- Influenza is most infectious from about a day before symptoms start until about 3 days later. A child should return once the fever settles and they are well enough.

How can you treat someone with influenza?

- Most people with the flu need no special treatment. Influenza is caused by a virus so antibiotics do not help unless there is a complication. Occasionally a special 'antiviral' medicine will be given (this will happen in a flu pandemic).
- It is best to stay at home while feeling ill with influenza as this also reduces the chance of spreading the infection to others.
- The patient should rest and drink lots of fluids to prevent dehydration. Paracetamol can be given to reduce the fever; aspirin must NOT be

given to children as it has been associated rarely with the development of a severe disorder called Reye's syndrome.

- Children with other medical conditions, who have flu, should be taken to their general practitioner.

4. In the event of a suspected outbreak at school:

- The head teacher or nursery manager should inform the HPT (01803 861833) and the Local Education Authority. The HPT will in turn notify the local authority Environmental Health Officer, the hospital microbiology department and local GPs.
- Wear protective clothing if dealing with spillages - gloves and plastic aprons that can be disposed of immediately following use, if cleaning up soiling e.g. vomit.
- Wash hands on removal of gloves and if hands become soiled (maintain scrupulous hand hygiene). Wash hands if in contact with an affected child and at other times after using the toilet, before eating or handling preparing food etc.
- Ensure environmental soiling is cleaned up **immediately** (see Appendix 1)
- Ensure warm water, liquid soap and paper towels are available in the toilet facilities.
- Stop all communal play i.e. sand, play dough, water and cooking until the outbreak is over.
- Arrange for toilets and facilities to be cleaned more often to reduce the risk of transmission of the infection via environmental contamination e.g. toilet seats, toilet flush and door handles in the event of diarrhoea /vomiting etc. Increase cleaning of hard surfaces such as door handles and frames and table tops in a flu-like outbreak.
- Staff or children who become ill during the day should be sent home as soon as possible and if possible kept away from other children.
- The head teacher/nursery manager will be advised by the HPT to send out a letter informing parents of their responsibilities (see appendix 2 an 3 for sample letters).

During an outbreak the HPT will contact the school regularly to collect information about new cases. Please ensure that the information is documented on the outbreak form (Appendix 3) and is easily located.

5. Some commonly asked questions about outbreaks in schools/nurseries

How do we know if it is viral or bacterial in nature?

Informing the HPT at the start of an outbreak will enable us to assess the likely nature of the outbreak. The following information is important: - symptoms, numbers affected, timescales, dates of onset of illness, duration of illness in affected individuals. (We do understand that this information may be difficult to collect and may be incomplete.)

Stool samples are important, particularly to rule out more serious causes of infection. If it is thought to be related to food handlers/food then the local environmental health officer at your council will take the lead.

Throat swabs in some situations may be required to confirm diagnosis in outbreaks in children that are respiratory in nature for example in a flu outbreak. This may be undertaken in school with the liaison of the head teacher, nursery manager, school nurse, the health protection unit and the local microbiology service.

What happens when a child vomits in the food hall?

If possible the child should be sent home as soon as possible. Any vomit should be cleaned up immediately and disposed of into a plastic bag and secured and disposed of safely. Under no circumstances should vomit go into the food preparation area as this could pose a threat of further transmission if the environment becomes contaminated. Any children in the immediate vicinity of the vomiting should be offered alternative food stuffs, as the likelihood is that their food will have been contaminated by aerosol droplets, and they should wash their hands.

Under what circumstances would the school/nursery need to be closed?

It would depend on a number of issues e.g. the numbers of children/staff with illness and whether the school can cope. The HPT does not have the power to close the school/nursery that decision would be made by the head teacher and the LEA.

Will every area of the school/nursery need to be cleaned even if it has not been contaminated?

A risk assessment will be made by the HPT and the head teacher or nursery manager. It is important that a record is kept of the location of where contamination i.e. vomiting occurred. If there are only a moderate number of cases and the areas have been cleaned appropriately (as per Appendix 1) then a thorough general clean will suffice in most cases once the outbreak is deemed to be over.

6. References

Hoffman P, Bradley C and Ayliffe G. (2004) *Disinfection in Healthcare*. Blackwell publishing. Oxford.

www.hpa.org.uk

Appendix 1

The cleaning, removal and disposal of body fluids

The current guidance on cleaning up spills and the recommendation from the HPT is detergent and water followed by a standard hypochlorite (0.1%) solution to disinfect (e.g. Milton diluted as detailed by the manufacturer). However there are differing opinions within the local authorities on the choice of products that are used for cleaning. Instructions from the manufacturer should be followed.

Note: All disinfectant solutions must contain 0.1% hypochlorite. (It is important that the product chosen can specifically deal with viruses)

Spillages of diarrhoea and vomit should always be attended to as quickly as possible.

- Step 1** Always assess the risk of carrying out the required task before you begin.
- Step 2** Isolate the affected area, for example, with warning cones, if at all possible.
- Step 3** Make sure that all the protective clothing and equipment you require is available (disposable latex gloves and plastic aprons).
- Step 4** Put on the protective clothing.
- Step 5** Contain the spill, if needs be, by placing disposable wipes/paper towels around it.
- Step 6** Remove the bulk of the contamination with paper towels. The area should be cleaned thoroughly with detergent and water, using disposable cloths, then wiped over using a standard hypochlorite solution **or** the recommended product agreed by your locality, which should also contain 0.1% hypochlorite. Ensure adequate ventilation when using hypochlorite solutions.

It is important that all visible soiling is physically removed prior to disinfection.

- Step 7** Put all disposable items into a plastic bag, tie and dispose. Consider double bagging if bags are flimsy.
- Step 8** All re-usable items must be thoroughly cleaned, disinfected and dried before being returned to the correct storage area. The cleaning of such equipment must be carried out in the cleaning equipment sink and never anywhere else.

- Step 9** Thoroughly wash your hands on removal of gloves with soap and water and dry well.
- Step 10** Remove safety cones when the area is dry.
- Step 11** Report any shortfalls in the protective clothing or equipment used for dealing with body fluids to the person responsible for maintaining stock levels.

The disinfectant solution should always be freshly prepared and then discarded when you have finished (in the cleaners sink). The solution may become deactivated after 24 hours.

Note: If the spillage has taken place on a carpet, thoroughly clean the affected area using disinfectant (but not hypochlorite). If possible use a steam cleaner if appropriate, or a carpet extraction machine.

Once the outbreak is over, a thorough environmental clean should be carried out.

It is important that all staff work together to enable the final clean to be performed in a safe, timely manner. Good communication between the HPT, school/nursery and cleaning agency etc. is essential.

Prior to cleaning ensure:

- Areas to be cleaned are emptied of as many children's personal belongings as possible e.g. lunch boxes are taken home, gym kits, coats etc.

It is the responsibility of the school/nursery to ensure soiling (i.e. vomit or diarrhoea) is cleaned up in a timely manner to reduce the risk of further transmission.

Process of Cleaning:

- Table tops where dust collects
- Door handles and edges
- Floors
- Toilet facilities, including edges of doors, door handles, light switches etc
- Toys and equipment

All areas are to be damp dusted with detergent and water and then a standard hypochlorite solution, or appropriate locally agreed product. This ensures that dust and possible virus particles are wiped away. If necessary and on discussion with the HPT, curtains are steam-cleaned insitu unless there are mitigating circumstances and they need to be taken down and washed. Carpets, if soiled, should be steam cleaned or at least shampooed. (Hypochlorite solution should not be used on carpet or soft furnishings as it may damage the fabric. Please check manufacturer's advice on the product for more information).

Appendix 2

Suggested letter for parents

Date

Dear Parent/Guardian

I am writing to let you know that a number of children and staff at school/nursery have had gastro-enteritis over the last few days.

I have been advised by the Health Protection Unit and Environmental Health departments that this is a mild illness probably caused by a virus, but that it is very infectious. The most usual symptom is vomiting. Some people may have diarrhoea and/or abdominal pain. Symptoms rarely last for more than 24 – 48 hours. The incubation period (time it takes for the illness to develop) is between 24 and 48 hours.

If your child is affected, please keep him or her off school/nursery. He or she should not return until 48 hours after the diarrhoea and vomiting have stopped.

The virus is easily spread from person to person. Good hygiene by everyone in the family reduces the risk. This means washing hands with soap and warm water after going to the toilet and before preparing or eating food.

It is important to clean up carefully when someone has been sick as vomit is very infectious. It is important to clear up spills of vomit or faeces immediately, by thorough washing of the contaminated environment with soap and hot water. For hard surfaces, (floor, work tops etc, an additional disinfection with a dilute solution of Milton or household bleach (according to manufacturer's instructions) will reduce the contamination. DO NOT MIX these substances with soap and water. Be sure that each family member uses separate towels and flannels which are changed and washed frequently. **Hand washing after visiting the toilet, cleaning up spillages and before handling food is the most important element of reducing the risk of infection.**

We are ensuring the school/nursery is thoroughly cleaned to reduce any further risk.

If you need any further advice you can phone NHS Direct on 0845 4647 or Health Protection on 01803 861833.

Yours faithfully

Head Teacher/Nursery Manager

Appendix 3

Suggested letter for parents

Date

Dear Parent/Guardian

I am writing to let you know that a number of children and staff at school has had [many/several] students off sick with a flu-like illness (cough, headache, fever and body aches). Some students have been sick (vomiting) or have had diarrhoea.

If your child is unwell with symptoms of flu please make sure they stay off school until they are fully recovered. If your child has vomited or had diarrhoea, they must stay away from school until two days after the symptoms have stopped.

You can lower the risk of passing on viruses like this by washing your hands, before preparing food or eating - and remember to wash them thoroughly after going to the toilet. If you have symptoms of the flu, use a tissue when you cough or sneeze, and dispose of it by throwing it in the bin or flushing it down the toilet.

If you need any further advice you can phone NHS Direct on 0845 4647 or Health Protection on 01803 861833.

Yours faithfully

Head Teacher/Nursery Manager

Appendix 4

Useful Contact Numbers

Devon Health Protection Team 01803 861833

These are the Environmental Health Telephone numbers for Devon.

Local Environmental Health Officers can be contacted as follows:

East Devon 01395 516551

South Hams 01803 861234

Exeter 01392 277888

Teignbridge 01626 361101

Mid Devon 01884 255255

Torbay 01803 208010

North Devon 01271 388870

Torridge 01237 428809

Plymouth 01752 668000

West Devon 01822 813600