



Public Health
England

Protecting and improving the nation's health

The Spotty Book

Notes on infectious diseases in Schools and Nurseries

Public Health England South West Health Protection Team

About Public Health England

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Public Health England
Wellington House
133-155 Waterloo Road
London SE1 8UG
Tel: 020 7654 8000
www.gov.uk/phe
Twitter: [@PHE_uk](https://twitter.com/PHE_uk)
Facebook: www.facebook.com/PublicHealthEngland

Prepared by: The South West Health Protection Team
For queries relating to this document, please contact: 0300 303 8162 opt 1

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Common Childhood Diseases

More information on managing specific infectious diseases can be found in chapter nine of the [Health protection in schools and childcare facilities](#) guidance.

Chickenpox and Shingles



What is it?

Chickenpox and shingles are caused by the same virus which causes an itchy rash starting with flat red spots that become raised and filled with fluid. Chickenpox is usually a mild childhood illness but there is a risk of complications in people who have a weakened immune system, including young babies and pregnant women.

What are the symptoms?

Chickenpox usually begins with the onset of a slight fever, feeling generally unwell for a couple of days before the spots appear.

The spots can appear everywhere, they usually begin on the scalp/face and back, but they can be seen inside the mouth and genitalia. It is rarely seen on the palms of the hands and soles of the feet. The rash is very itchy. The spots leave scarring if they are scratched and become infected.

The spots look flat and red; these later become raised and filled with fluid. Most children become free from chickenpox in less than two weeks.

Is it infectious?

Chickenpox is spread from person to person; the virus is shed from the nose or throat as droplets or by direct contact. The fluid inside the spot is infectious. Chickenpox is highly infectious during its early stages from one - two days before until five days after spots first appear.

What is the incubation period?

The incubation period of chickenpox is between 13 and 17 days after contact with the infected person. The following groups of people should seek advice from their GP if they are exposed to chickenpox and do not remember if they have been previously infected with the virus:

- Pregnant women
- Babies whose mothers developed chickenpox in the first 28 days of their life
- People who are immunosuppressed (e.g. people having large doses of oral steroids or receiving chemotherapy for cancer / leukaemia / HIV related illness).

Although chickenpox is a mild disease in normal healthy children, it can be serious in individuals whose immune systems are impaired in any way such as those on treatment for leukaemia or who have had a transplant. Many of these individuals may be immune to chickenpox or may have had the vaccine and so are protected but it is important to let their parents know if there is a case of chickenpox in school as they can then take action if necessary (this would usually mean an injection of protective antibody from the doctor).

What is the treatment?

The most common treatment for chickenpox is aimed at relieving the symptoms:

- A pharmacist can recommend effective itch-relieving products
- Ice lollies may help to reduce a fever
- Paracetamol can be given according to the age of the child. Aspirin must not be given to children under 16yrs old. Ibuprofen should not be given to children with chickenpox.
- Nails should be kept short to prevent damaging the skin from scratching
- Wear loose, cool clothes and keep the room temperature cool as this may help to reduce itching

Are there any complications?

The majority of people affected by chickenpox suffer no long-term effects however there is an increased risk that individuals could develop shingles later in life due to the virus remaining dormant in the body following chickenpox then reactivating later.

Bacterial infections can arise if the blistered areas become contaminated with bacteria.

If chicken pox is circulating in the school at the same time as infections like scarlet fever, contact the health protection team for further advice.

Very occasionally chickenpox infection causes pneumonia, which presents as a persistent high fever and a severe dry cough

Very rarely it can lead to a condition called encephalitis. This is an inflammation of the brain which can occur between seven days and ten days after the onset of the rash. Encephalitis is very rare, and would present with symptoms of drowsiness, headache, neck stiffness, dislike of bright lights and possibly convulsions.

What is the exclusion period for chickenpox?

Individuals should be kept away from school for at least five days from onset of rash (and not developing new lesions). It is not necessary for all the spots to have healed or crusted over before return to school as the risk of transmission to other children after five days is minimal.

Is it necessary for individuals with chickenpox to see their Doctor?

There is no requirement to routinely visit a general practitioner if the affected individual has uncomplicated chickenpox. Chickenpox is a self-limiting illness for most children

who will usually be completely better within two weeks. Taking the child to a busy doctor's surgery increases the risk of further spread of the virus and there is no specific treatment other than that available from a local pharmacy to relieve symptoms. It is worth recording that a child has had chickenpox on their immunisation record sheet.

What is shingles and how is it different from chickenpox?



Shingles, also known as zoster or herpes zoster, is a painful skin rash caused by the same virus responsible for chicken pox: the varicella zoster virus. An individual will only develop shingles if they have previously been in contact with the virus and had chickenpox. This is because the chickenpox virus remains in the body lying dormant in the roots of nerves and can reactivate many years later. It is not clear why the virus reawakens in some people but it may be that the virus reactivates as the immune system weakens with age or in conditions of stress. The majority of cases of shingles are in men and women ages 60 and older, but children can also become affected. A person with shingles is infectious to those who have not had chickenpox and should be excluded from school if the rash is weeping and cannot be covered or until the rash is dry and crusted over.

More information on chickenpox and shingles can be found in chapter nine of the [Health protection in schools and childcare facilities](#) guidance.

Conjunctivitis



What is it?

Conjunctivitis (also known as “pink eye”) is inflammation of the thin layer of tissue that covers the front of the eye (the conjunctiva). It is a very common self-limiting condition that can be caused by a bacterial or a viral infection (infective conjunctivitis).

Conjunctivitis can also be caused by allergic reaction to substances such as pollen and dust or when the eye is exposed to irritants including chlorinated water and shampoo.

What are the symptoms?

Symptoms of conjunctivitis are:

- Swelling and watering of the eyes
- Burning sensation
- Feeling of grit in the eye
- Itchy eyes (more common in allergic conjunctivitis).

The white of the eye may appear red or pink and there may be a discharge which causes the eyelids to stick together, making them difficult to open

Light might cause pain in the eye and increase the watery discharge

Is it infectious?

Yes, bacterial or viral conjunctivitis is usually spread from person to person by direct or indirect contact with the discharge from the eye.

Does an affected child or staff member need to be excluded from school?

Exclusion from school if an individual has conjunctivitis is not required unless they are feeling particularly unwell.

Parents should be encouraged to notify the school if their child has conjunctivitis to ensure that staff can take preventative action to reduce the risk of transmission to others. This includes;

- Ensuring that the affected child uses paper towels after handwashing (or has a dedicated hand towel which must be washed / changed daily)
- Ensuring the child does not share flannels while in school
- Discouraging close facial contact between infected and non-infected children.

Hand washing will help to minimise the spread of the infection. Wash hands before treating the eye and again afterwards.

If there are a number of cases of conjunctivitis at one school or nursery, staff should contact the health protection team to discuss further actions as it may be necessary to consider exclusion in these instances.

Generally adults who work in close contact with others or share equipment such as phones and computers should not return to work until the discharge has cleared up.

What is the incubation period?

This is variable depending on the cause, usually:

- One - three days for bacteria
- One -12 days for viruses (but this may be longer for certain eye infections in small babies).

When is it infectious?

Usually from the time symptoms appear until they have resolved. Some patients with viral infections may be infectious for up to 14 days after symptoms start

How can spread be prevented?

- Advise parents to inform schools and nurseries if their child has conjunctivitis.
- Encourage children not to rub their eyes.
- Conjunctivitis often doesn't require treatment as the symptoms usually clear up within a couple of weeks. If treatment is necessary, the type of treatment will depend on the cause. In severe cases antimicrobial eye drops may be prescribed.
- Allergic conjunctivitis can usually be treated with anti-allergy medications such as **antihistamines**. If possible, avoid the substance that triggered the allergy.
- Washing hands regularly, cleaning any contaminated items (such as toys or crayons) and avoiding sharing pillows or towels will help prevent it spreading.

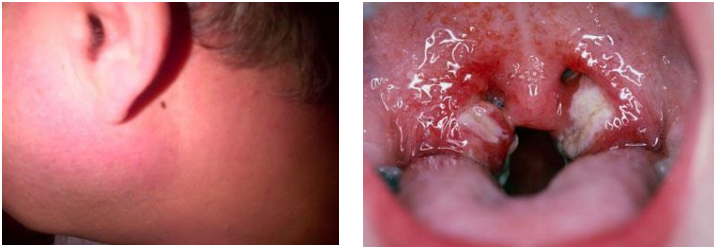
Newborn babies

- Advise parents to seek advice immediately if there is a possibility their baby has infective conjunctivitis (also called neonatal conjunctivitis).
If this is not possible, call **NHS 111** or the local out-of-hours service as the GP will need to examine the baby closely for sticky eyes or infective conjunctivitis.

Any newborn baby with infective conjunctivitis will need to be referred to an eye specialist urgently for treatment.

More information on conjunctivitis can be found in chapter nine of the **Health protection in schools and childcare facilities** guidance.

Glandular Fever



What is Glandular Fever?

Glandular fever is an illness caused by a virus.

It is a worldwide disease which can affect both sexes. It mostly affects young adults aged 15 - 26 years in the UK.

What is the incubation period?

Incubation is thought to be usually around four - eight weeks.

How long does the illness last?

The illness lasts two - three weeks but can be up to six weeks and is characterised by:

- Swollen glands
- Fever and sometimes a rash.
- Occasionally patients become jaundiced (turn yellow).

Young children tend to suffer mild symptoms which are often difficult to recognise.

How is it diagnosed?

By a blood test.

Is there any effective treatment?

There is no specific treatment and almost everyone will eventually make a good recovery.

How is Glandular Fever spread?

Spread is by saliva, usually through kissing or being in close contact with a carrier. Small children can be infected by chewing toys contaminated with the viruses. When the acute infection is over the virus can stay in the saliva for a year or more and about a fifth of those affected may have it for much longer than this.

Although it can occur in young children, this condition is much more common in adolescents. It usually takes the form of a sore throat with swollen glands in the neck. Full recovery may take some weeks, during which time the person may feel very washed out. This is not a very infectious disease except with close contact (known as “kissing disease”) and the child should only be kept away if feeling unwell.

How can spread be prevented?

Exclusion is not required if an individual feels well enough to attend school. Prevention is by using hygiene measures including hand washing and thorough cleaning of articles which may be contaminated with saliva.

More information on Glandular Fever can be found in chapter nine of the [Health protection in schools and childcare facilities](#) guidance.

Hand, Foot and Mouth Disease



What is Hand, Foot and Mouth Disease?

Hand, Foot and Mouth Disease is a common childhood viral illness that can affect adults. This is quite different from Foot and Mouth disease (which is a disease of animals).

What is the incubation period?

The incubation period is three – five days. The person will remain infectious during the acute illness and while the virus remains in the faeces. Infection generally leads to immunity.

It is communicable immediately before and during the acute stage of the illness, and perhaps longer as the virus may be present in the faeces for weeks.

What are the symptoms?

The onset of the disease generally presents as:

- Fever
- Malaise
- Sore mouth
- Development of a rash.
- Mouth lesions appear on the inside surfaces of the cheeks, gums and on the sides of the tongue.
- Raised pink spots that develop into blisters, which may persist for seven to ten days, can also occur as a rash, especially on the palms, fingers, soles and occasionally on the buttocks.

Is it infectious?

The disease is self-limiting and more common in summer and early autumn, mainly in children under ten years of age, but adult cases are not unusual. The disease frequently occurs in outbreaks in groups of children, in a nursery school for example.

The virus is spread by direct contact with nasal and throat secretions or faeces of the infected person. The virus can also be transmitted by aerosol spread such as:

- Coughing and sneezing.
- Hands contaminated from secretions which, if not washed thoroughly may transmit infection.

What is the treatment?

There is no specific treatment for the infection.

The illness is mild and usually clears up by itself in seven to ten days. To help with the symptoms:

- Keep the child cool
- Encourage fluids to prevent dehydration (but avoid acidic drinks like fruit juice)
- Encourage soft foods like ice cream, yoghurt may or soup.
- Give Paracetamol at the dose recommended for the child's age on the box or by the pharmacist. Aspirin must not be given to children under 16 years old.

How can spread be prevented?

There is no requirement to exclude children with Hand, Foot and Mouth Disease if they are well enough to attend. A good standard of hand, personal and food hygiene should be maintained and care when handling articles contaminated with respiratory secretions or faeces, such as tissues, nappies etc. should be encouraged. Hands should be washed after contact with any of the above. These are measures which should be encouraged at all times to prevent this and many other infections.

There is a slight risk to pregnant women and they may wish to avoid close contact with a child during the course of their work activities. Pregnant women who develop any symptoms of rashes during pregnancy should seek advice from their general practitioner or midwife. This is a self-limiting illness and there are no effective treatments for this virus. Treating the symptoms will help and the illness will run its course. Should the person develop the rare additional symptoms of high fever, headache, stiff neck, or back pain or other complications then they need to see a doctor urgently.

More information on Hand, Foot and Mouth Disease can be found in chapter nine of the [Health protection in schools and childcare facilities](#) guidance.

Head Lice



What are head lice?

Head lice are parasitic insects that only live on human heads. There are three forms of head lice:

- **Nits** are head lice eggs. The oval, yellowy white eggs are hard to see and may be confused with dandruff. They attach themselves to the hair shaft and take about a week to hatch. The eggs remain after hatching and many nits are empty egg cases.
- **Nymphs** hatch from the nits. The baby lice look like the adults, but are smaller. They take about 7 days to mature to adults and feed on blood to survive.
- **Adults** are about the size of a sesame seed. They have six legs and are tan to greyish-white. The legs have hook-like claws to hold onto the hair with. Adults can live up to 30 days and feed on blood.

Who catches head lice?

Anyone can catch head lice but preschool children, primary school children and their families are most at risk.

How do you catch head lice?

- Head lice are transmitted through direct, prolonged head-to-head contact so tend to be more commonly seen in children because of play. Sport and transmission through close contacts at home are also common routes for spread.
- Transmission is possible through infected clothes, combs, brushes or towels, but extremely unlikely. The lifespan of a louse is very short once detached from the hair so fumigation is not necessary.
- Head lice cannot jump, hop or swim.
- Head lice are not associated with poor hygiene, are not selective and do not have a preference for clean or dirty hair.

Is it infectious?

The rate of transmission is low.

How serious are head lice?

Head lice are not a serious health problem. Head lice rarely cause anything more than an itchy scalp.

How can spread be prevented?

- Exclusion is not required for head lice.
- Letters and notifications to parents generally do not reduce the risk of transmission and may provoke anxiety so need to be considered with caution.
- Regular head checks by parents and good hair care may help identify head lice early.

What is the treatment?

A diagnosis of head lice can only be made if live lice are seen.

Wet combing method:

- Wash the hair in the normal way, with an ordinary shampoo
- Using lots of conditioner, and while the hair is very wet, comb through the hair from the roots to the ends with a fine-toothed detector comb. Make sure the teeth of the comb slot into the hair at the roots of every stroke
- Clear the comb of lice between each stroke
- Repeat this routine every 3 days for 2 weeks so that any lice emerging from eggs are removed before they mature and spread
- Household contacts of individuals with head lice should also be checked and treated if they are found to have head lice too.

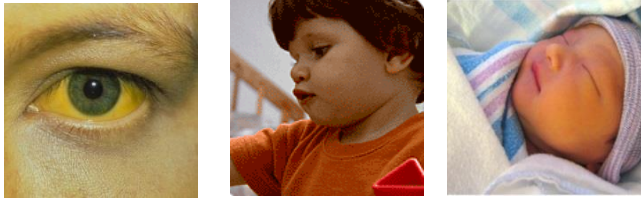
Using lotions:

- Only those with live lice should be treated.
- Dimeticone (a silicone oil), Malathion or Permethrin (insecticides) are recommended treatments which can be bought from the chemist or obtained on prescription.
- It is important that the instructions on the bottle are followed very carefully and that all the family and close contacts are checked and treated if necessary.
- Asthmatics, those with skin problems such as eczema, pregnant women, breast feeding mothers and children under 6 months should be treated under medical supervision.

Treatment should be started as soon as possible on the day of diagnosis but the child does not have to be sent home from school.

More information on Head Lice can be found in chapter nine of the [Health protection in schools and childcare facilities](#) guidance.

Hepatitis or Jaundice



What is hepatitis?

The word *hepatitis* simply means an inflammation of the liver and can be caused by numerous different things (including viruses, medications and excessive alcohol etc.). Only hepatitis caused by viruses are infectious but if unsure, contact the health protection team for further advice.

Hepatitis A

Hepatitis A (also called infectious hepatitis) is a common form of hepatitis in children. It's caused by the hepatitis A virus (HAV), found in the stool (faeces/poo) of infected people.

What are the symptoms?

- Loss of appetite
- Feeling 'off colour'
- Some children may become jaundiced, others do not
- Children are often asymptomatic

Hepatitis A can remain in the stool for three - ten months after the initial illness, especially in younger babies and children.

Is it infectious?

Yes. Hepatitis A is spread usually by the faecal-oral route from infected people, most commonly when food and hands are contaminated. As some children may not have symptoms at all, they may readily spread the infection to others unless good hygiene measures are routinely taken.

How can spread be prevented?

- Ensure good hand washing (particularly before handling food and after using the toilet)
- Clean 'high contact' and high risk areas such as toilet and kitchen areas, door handles, light switches etc. regularly
- Contact the health protection team for further advice

Individuals with Hepatitis A must be excluded from school while unwell and until seven days after the onset of jaundice (or onset of symptoms if no jaundice). Children under five years old or who are unable to maintain their own hygiene needs must also be

excluded and you should contact the health protection team for further advice regarding when the child would be able to return to school

Household contacts of individuals with Hepatitis A may occasionally require exclusion from school. Contact the health protection team for further advice.

Hepatitis B and C

Known as blood borne viruses, (Hepatitis B is also sexually transmitted), Hepatitis B and C are not common infections in children in the UK. From autumn 2017, Hepatitis B vaccination is part of the **UK routine childhood immunisation schedule** for children born after 1 August 2017. Children born before August 2017 and staff considered to be at particular risk may also require the Hepatitis B vaccination.

Children considered to be at increased risk include:

- Children born in high prevalence countries
- Children with parents or grandparents born in high prevalence countries
- Children who are part of communities with links to high prevalence countries or risk practices

How can spread be prevented?

Spread is by contact with infected blood and body fluids entering the bloodstream through broken skin or the mucous membranes. Hepatitis B may also be spread through sexual contact.

It is important to understand that an individual's diagnosis may not always be known so all blood and body fluid spills should be considered potentially infectious and spills should be cleared using personal protective equipment (e.g. gloves and aprons) and using spill kits (see section on **managing body fluid spills**). As long as simple generic infection control measures are in place at all times, the risk of any potential spread will be reduced

- Ensure thorough hand washing of all children and staff after using the toilet, assisting others with personal hygiene and before eating
- Ensure personal hygiene items such as toothbrushes, nail cutters, razor and nail scissors are not shared
- Ensure that any spillage of body fluid is dealt with using disposable gloves and that hands are washed after their removal
- Ensure the school has appropriate sanitary item disposal containers and contracts in place.

Individuals with acute (recent infection with) Hepatitis B may be too unwell to attend school but there is no reason to exclude anyone with Hepatitis B or C if they are well enough. Similarly there should be no restriction to their activities while at school but contact the health protection team if any further advice is required.

Reducing the risk of spread in school

Contaminated injecting paraphernalia are known to be a significant source of hepatitis C infection in the UK. Schools should be aware of their local demographics and the need to adopt drug awareness programs, explaining the dangers of drug use to children frankly and often. Education regarding safe sex for teens is also important to protect them from hepatitis infection (and other sexually transmitted infections) through sexual contact.

Hepatitis B vaccination is recommended for staff of childcare facilities or schools where they may be at risk of exposure e.g. biting, scratching.

More information on Hepatitis A, B and C can be found in chapter nine of the [Health protection in schools and childcare facilities](#) guidance.

Impetigo



Impetigo is a common and highly contagious skin infection that causes sores and blisters. It's not usually serious and often improves within a week of treatment. It is quite common in young children aged four years or under, but it can affect any age group. Outbreaks can occur in nurseries and schools. The infection is more common in the summer months.

What causes impetigo?

Impetigo is caused by bacteria infecting the outer layers of skin.

The bacteria can infect the skin in two main ways:

- Through a break in otherwise healthy skin, such as a **cut**, **insect bite** or other injury
- Through skin damaged as a complication of another underlying skin condition, such as **scabies** or **eczema**

Once someone is infected with the bacteria, the infection can be spread easily through close contact such as through direct physical contact, by sharing towels or flannels.

The infection can occur anywhere on the body but lesions are most often seen on the face, flexures and limbs not covered by clothing. At first small blisters develop which then burst to leave a small scabby patch of skin. These crusted lesions are often yellow in colour, can be itchy and spread in small clusters to surrounding skin.

Is it infectious?

Yes. Impetigo is highly infectious whilst the sores are discharging pus. It is spread by direct contact with the lesions and pus. Impetigo can affect people of any age, but it tends to affect children more often than adults.

How can spread be prevented?

Infection is most commonly spread by contaminated hands, but contaminated toys, clothing, equipment and other inanimate objects can also occur. The risk of spread can be reduced by ensuring;

- Good hand hygiene
- Avoiding touching lesions, discharge or wounds
- That items such as towels and facecloths are not shared

- That good cleaning standards are maintained and additional consideration is given to potentially contaminated items such as toys, play equipment and 'high contact' areas like light switches etc.
- Contacting the Health protection team for any further advice.

Affected individuals should be excluded from school until lesions are crusted over or 48 hours after antibiotic treatment has been started.

How impetigo is treated?

This is not an emergency but parents should be encouraged to should seek medical advice for their child. The doctor will probably prescribe a course of antibiotics which may be oral medication or a topical cream to apply to the affected areas depending on the severity of the infection. A swab may also be taken, particularly if the lesions do not respond to treatment. Impetigo usually gets better without treatment in around two to three weeks, but treatment is often recommended because it can reduce the length of the illness to around seven to ten days and can lower the risk of the infection being spread to others.

Potential complications

Impetigo is rarely serious, but in some cases the infection can spread to other areas of the body and cause problems such as **cellulitis** and **scarlet fever**.

In very rare cases, impetigo may lead to some **scarring**, particularly if the affected individual scratches at the blisters, crusts or sores.

More information on Impetigo can be found in chapter nine of the **Health protection in schools and childcare facilities** guidance.

Infectious Diarrhoea and Vomiting (Gastroenteritis)



This may be due to a number of causes including:

Bacteria

Campylobacter
Salmonella
Shigella (bacillary dysentery)
E. coli 0157

Viruses

Rotavirus
Small round structured viruses (e.g. Norwalk or Winter Vomiting Disease)

Parasites

Cryptosporidium
Giardia

Is it Infectious?

Yes. Diarrhoea and vomiting can have many different causes (including medical conditions, side effects of medications, excessive alcohol etc.) but the cause should be assumed to be an infection until known otherwise. An infection in the gut causing diarrhoea and vomiting (**gastroenteritis**) can be easily passed to others. Anyone with gastroenteritis should be regarded as very infectious and must be kept away from school until the diarrhoea and vomiting has stopped and they have been passing normal stools for at least 48 hours. If the cause is identified as anything other than Norovirus, the school should contact the health protection team for further advice regarding any further action and exclusion.

What is Norovirus?

Norovirus is the most common cause of infectious diarrhoea and vomiting in the UK and is extremely infectious. Each year, it is estimated that between 600,000 and 1 million people in the UK catch norovirus. The illness is sometimes called the "winter vomiting bug" because it is more common in winter however it is possible to catch the virus at any time of the year.

There are at least 25 different strains of noroviruses known to affect humans. There is no specific treatment for norovirus so symptoms should be treated as needed. Norovirus symptoms usually do not last more than a couple of days but individuals can feel extremely unwell during this period.

If symptoms start at school:

- Isolate away from other students
- Ensure that a dedicated toilet is nearby and should only be used by symptomatic students / staff
- All lever/light switches, handles and other 'high contact' items must be cleaned regularly with detergent and water and then disinfected with a hypochlorite solution. Bathrooms should also be thoroughly cleaned as above.
- Send any symptomatic individuals home as soon as possible.
- Siblings who are asymptomatic can remain in school
- Contact the health protection team for further advice and guidance

What are the symptoms?

- Vomiting
- Diarrhoea and/or abdominal pain
- Fever
- Headache

The symptoms may occur singly or in combination. Dependant on the cause, the illness usually lasts only a short time and may require no specific treatment, however parents should be encouraged to seek medical advice should blood be present in the faeces/diarrhoea, if symptoms persist or if a child appears particularly unwell.

How can spread be prevented?

Spread occurs when the organism enters the gut by the mouth or when contaminated hands or objects are put in the mouth (including contaminated food or drink). Spread can also occur after an affected individual vomits.

- Strict attention to personal hygiene is important to reduce the spread of the disease. Good hand hygiene after going to the toilet, changing an affected nappy and before eating food is essential.
- Hands should be washed with running water and liquid soap then dried with paper towels. Hand sanitiser (e.g. alcohol gel) can be used in addition to hand washing but should not replace it in this situation.
- Designated bathroom facilities should be identified for exclusive use of any symptomatic individuals.
- Toilets should be cleaned after use with a 0.1 % (1000ppm) hypochlorite solution.
- Additional environmental cleaning should be implemented which includes 'high contact' areas such as door handles, flush handle, light switches and under the rim of the toilet seat. Consideration must be given to the age of the children affected (small children will hold onto a different parts of the toilet and doors than an adult)
- Pets or farm animals may be a source (see guidelines on [Farm and Country Visits](#)).
- Ensure hands are washed after handling animals, animal feed or bedding, taking off outdoor footwear, playing in the garden or in the playground.



What is an outbreak?

An outbreak is defined as two or more linked cases with similar symptoms over and above that which would normally be expected. The school should contact the health protection team as soon as they suspect an outbreak to discuss the situation, obtain an integrated care pathway and discuss any actions required.

A checklist for managing diarrhoea and vomiting outbreaks can be found in appendix three of the [Health protection in schools and other childcare facilities](#) guidance.

The health protection team will give advice on:

- Infection prevention and control
- Cleaning /disinfection
- Exclusion
- Obtaining samples of faeces / vomit from affected students and staff

An outbreak committee may be convened if necessary with representation from school staff to advise on the investigation and control of illness.

Boarding Schools

Boarding schools must ensure that symptomatic students are sent home or go to stay with their guardians. Staying in the boarding houses may infect other students and staff. The health protection team can provide further advice and guidance..

Further infection control precautions will be addressed at the time of an incident. It is important that the school:

- Isolate symptomatic students until they can be sent home (potentially in the medical centre or cohort in a separate dormitory from other students))
- Identify a dedicated bathroom to be used only by those who are symptomatic
- Wash any soiled laundry or clothes separately on a wash that is stated by the wash label
- Ensure appropriate personal protective equipment such as gloves and aprons are worn when any personal care is given or cleaning is undertaken.
- Ensure good hand hygiene is undertaken
- Considers access to handwashing facilities near the dining room as hands should be cleaned before a meal. If handwashing facilities are not available, an alternative may be wall mounted hand gels at every entrance. This may have to be attended by staff members when introduced, but as a 'duty of care' it is important for this to become a part of partaking of a meal. The health protection team can provide advice if required.

More information on Gastroenteritis can be found in chapter nine of the [Health protection in schools and childcare facilities](#) guidance.

Influenza



What is influenza?

Influenza (commonly known as flu) is a viral respiratory illness caused by infection with a virus (usually influenza A or B). Influenza is usually more severe than a simple cold (although the illness can be mild in some cases). More severe illness is associated with the elderly, very young and those with other chronic medical conditions like chest or heart disease and diabetes but can occur in people who are fit and well of any age group.

What are the symptoms of influenza?

The most common symptoms of influenza are an abrupt onset of:

- Fever
- Shivering
- Headache
- Sore throat
- Muscle ache
- Dry cough
- Lethargy

People can confuse uncomplicated mild influenza with a heavy cold. Unfortunately some people call even a simple cold 'a touch of flu' which is incorrect as they are caused by different viruses.

How serious is influenza?

- Most people recover completely from influenza in a matter of days or a week. For others (e.g. the elderly, those with other illnesses (such as chest or heart disease, or diabetes) and newborn babies), influenza can be a very serious illness or even fatal.
- 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.

What are the symptoms of the common cold and how do they differ from simple (uncomplicated) influenza?

Cold symptoms are limited to the nose and throat with runny nose, sneezing, watery eyes, throat irritation and headache. The symptoms usually occur gradually and only rarely cause a high fever or body aches. In those with chronic respiratory conditions e.g. people with asthma, a cold can make those conditions worse for a few days.

Symptom	Common Cold	Influenza with symptoms
Fever	Uncommon and then low (under 38°)	Common and often a high fever (over 38°)
Aching muscles – body	Rare	Common
General malaise and lack of energy	Rare	Common
Headache	Common	Common
Running nose	Almost always	Common but a minor feature
Sneezing	Almost always	Common but a minor feature
Watery eyes	Common	A minor feature
Throat irritation	Almost always	A minor feature
Coughing	Common	Common

What type of viruses cause influenza?

There are three main types of influenza virus known as A, B and C. Only influenza types A and B are important in human disease. Influenza B usually produces less severe illness than Influenza A.

Is it infectious?

Influenza is very infectious and spreads easily in crowded or enclosed spaces. The virus changes regularly so the strain will vary each year, resulting in the need for annual vaccination. On average, an infectious person will infect another one to two non-immune people.

What is the incubation period?

Usually about two to three days (but can be from one to seven days).

What is the treatment?

- Most people with influenza 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 may be given
- Affected individuals should be excluded from school while feeling ill (until at least 24 hours after the resolution of any fever) as this also reduces the chance of spreading the infection to others.
- Affected individuals should rest and drink lots of fluids to prevent dehydration.
- Paracetamol can be given to reduce the fever but aspirin must **not** be given to children.
- Parents should be advised to seek medical advice if an individual appears particularly unwell or has other medical conditions.

When is a person with influenza infectious to others?

- The infectious period varies slightly from person to person and depending on the current strain but in an adult, they can pass on the infection from the day before their symptoms appear and remain potentially infectious for three - four days.
- Children are similar but they can remain infectious for up to seven days after onset.

The risk to others is not constant throughout and may vary according to individual factors.

How can spread be prevented?

Influenza is spread in two main ways:

- By people breathing in the larger droplets coming from infectious people coughing or sneezing. If the infected person doesn't cover his or her mouth and nose, people within a range of three meters can be infected. Smaller droplets and 'aerosols' seem to be less liable to carry the virus. Because only the larger droplets are infectious it is generally only people close to an infectious person who are at risk.
- Influenza infection can also be spread by direct contact of the mucous membranes of the nose, mouth and throat with virus, for example from the hands of infectious people who have rubbed their noses.

Spread can be prevented by;

- Encouraging individuals who are eligible to have the influenza vaccine. In 2017, all children from two to eight years old (including those in reception to year group four) are eligible to receive the vaccine. This programme will include more year groups in the future so schools should liaise with their relevant school health team (or health protection team) if further information is required. Individuals falling into the risk categories listed below are also eligible for

influenza vaccinations and should be encouraged to receive it. Staff and children aged six months to 65 years with:

- Chronic lung disease
 - Chronic heart disease
 - Chronic kidney disease
 - Chronic liver disease
 - Chronic neurological disease (including learning disabilities)
 - Immuno-suppression (whether caused by disease or treatment)
 - Diabetes mellitus
 - Pregnant women
 - Staff aged 65 years and older
 - Obese people with a BMI > 40
- Individuals with symptoms should be excluded from school until they have recovered and for at least 24 hours after the resolution of any fever.
 - Good respiratory hygiene should be encouraged (covering noses and mouths with disposable tissues when coughing or sneezing and discarding it after use).
 - Good hand hygiene should also be encouraged (after using the toilet and before eating as per usual but also after coughing, sneezing or assisting others with respiratory hygiene).
 - Additional environmental cleaning should be implemented which includes 'high contact' areas such as door handles, flush handle, light switches

This should all be routine practice whether or not there is an outbreak.



What is an outbreak?

An outbreak is defined as two or more linked cases with similar symptoms **over and above** that which would normally be expected. The school should contact the health protection team as soon as they suspect an outbreak to discuss the situation, obtain an integrated care pathway and discuss any actions required.

The health protection team will give advice on:

- Infection prevention and control
- Cleaning and disinfection
- Exclusion
- Taking swabs (nose/throat) from affected individuals

An outbreak committee may be convened if necessary with representation from school staff to advise on the investigation and control of illness.

Measles



What is Measles?

Measles is a highly infectious viral illness that can be very unpleasant and can sometimes lead to serious complications. The success of the MMR vaccine means that cases of measles are uncommon in the UK. However, the number of cases has risen in recent years and there have been some high-profile outbreaks (e.g. between November 2012 and July 2013 a measles outbreak in the Swansea area led to over 1,200 reported cases).

Is the MMR Vaccine safe?

It is thought that the rise in the number of cases of measles is due to a reduced uptake of the MMR vaccine following speculation linking the vaccine to autism in 1998. Numerous studies were subsequently undertaken which found **no link between the MMR vaccine and autism**.

What are the symptoms?

The initial symptoms of measles usually appear around ten days after infection and disappear about seven -ten days later.

The initial symptoms can include:

- Cold-like symptoms (such as a runny nose, **watery eyes**, swollen eyelids and sneezing)
- Conjunctivitis or **red eyes** and sensitivity to light
- High temperature (fever), which may peak at around 40°C (104°F)
- Tiredness, irritability and a general lack of energy,
- Lack of appetite
- Aches and pains
- Dry harsh **cough**
- Small white spots (Koplick spots) may be seen inside the mouth. These can persist for several days.
- Diarrhoea and/or vomiting are common.
- A red blotchy rash normally develops about three -four days after the first symptoms. It usually starts on the head and neck, spreading down the body. The rash often turns a brownish colour and gradually fades over a few days.
- Children are initially usually quite unwell and miserable for three - five days until the fever settles and the rash fades.

Most children are better within seven - ten days. An irritating cough may persist for several days after other symptoms have gone.

Is it infectious?

Yes. Measles is extremely infectious.

What is the incubation?

The incubation period is about ten days (ranging between seven and 18 days).

How is measles diagnosed?

Diagnosis can be challenging as measles is rare in the UK so many GPs have not seen a case. The doctor may diagnose measles from the combination of symptoms, particularly the characteristic rash and Koplick spots. They should also discuss their findings with a member of the health protection team who will be able to advise on the prevalence of measles in that area at the time of symptoms. An oral fluid test is also usually requested to confirm the diagnosis.

What is the treatment for measles?

There is no specific medicine that kills the measles virus. Treatment aims to ease symptoms until the body's immune system clears the infection. For most cases, rest and simple measures to reduce a fever are all that are needed for a full recovery.

The following measures are often useful:

- Children should drink as much as possible to prevent dehydration.
- The child should be kept cool (but not cold). Ice-lollies are a useful way of giving extra fluid and keeping cool.
- Paracetamol or ibuprofen can be taken to ease fever and aches and pains (aspirin should not be given to children).
- Gently clean away any crustiness from the eyelids and lashes using cotton wool soaked in water.
- Close curtains or dim lights to help reduce any light sensitivity.
- Antibiotics do not kill the measles virus and so are not normally given. They may be prescribed if a complication develops, such as a secondary bacterial ear infection or secondary bacterial pneumonia.
- Cough remedies have little benefit on any cough but may soothe an irritated throat.

Are there any complications?

The main serious complications to look out for are:

- Drowsiness.
- Dehydration. This may be developing if the child drinks little, passes little urine, has a dry mouth and tongue or becomes drowsy.
- Breathing difficulties.
- Convulsion (fit).

The individual will need to go to their **nearest accident and emergency (A&E) department** if they develop any of these symptoms. The A&E department should be notified before or on arrival that the child has a rash and measles is suspected.

How can spread be prevented?

An individual with measles will be infectious from four days before onset of their rash until four days after so should be excluded as soon as measles is suspected until five days after the onset of rash.

Encourage parents to seek medical advice (ringing the healthcare provider before arrival to advise them that their child has a rash).

Contact the health protection team as soon as any measles cases are notified to the school. If there are any individuals in the school who may have been in contact with the individual and are pregnant, unimmunised or have weakened immune systems, advise them to contact their GP immediately and notify the health protection team as soon as possible.

Encourage all children over the age of one to have MMR vaccination and ensure all staff date are up to date. If staff are unsure of their vaccination status they can ask their Practice Nurse.

More information on measles can be found in chapter nine of the [Health protection in schools and childcare facilities](#) guidance.

Meningitis and Septicaemia



What are meningitis and septicaemia?

There are many different causes of meningitis but the two most common organisms are viruses and bacteria.

- **Viral meningitis** is usually a mild disease but it can make people very unwell. Many thousands of cases occur each year, mostly affecting babies and children. Although most people will make a full recovery some are left with serious and debilitating after-effects.
- **Bacterial meningitis** can be life-threatening and needs urgent medical attention. Most people who suffer from bacterial meningitis recover but many can be left with a variety of after-effects. Meningococcal disease is a serious bacterial infection which causes meningitis and septicaemia.

Meningitis means swelling of the lining around the brain and spinal cord. In some cases, bacterial meningitis can lead to septicaemia (blood poisoning). Meningitis and septicaemia are caused by many different organisms but the meningococcal bacteria is the most common serious kind. Meningococcal disease is very dangerous and can come on very quickly.

What are the signs and symptoms of meningitis?



Fever/vomiting



Severe headache



Stiff neck



Dislike of bright lights



Very sleepy/vacant/
difficult to wake



Confused/
delirious

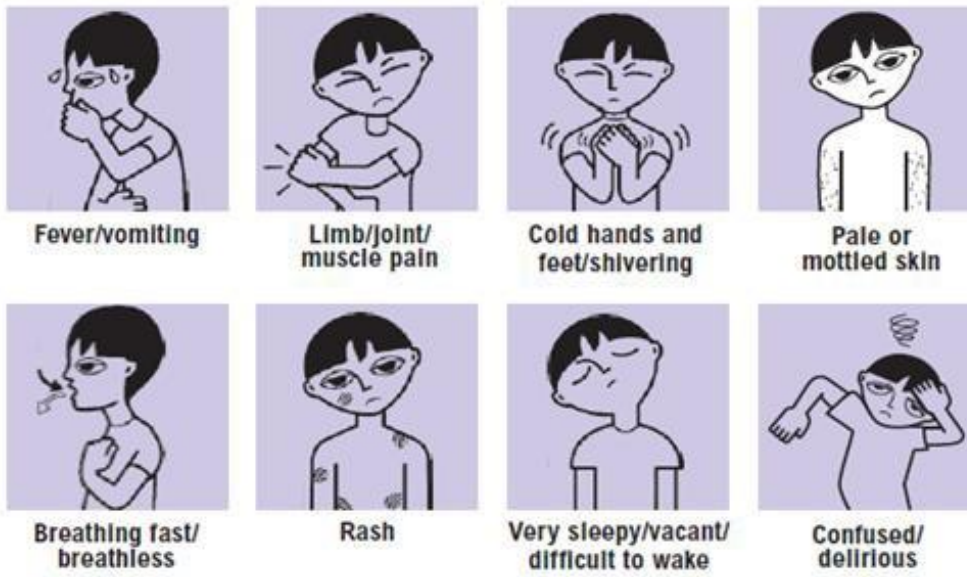


Rash



Seizures

What are the signs and symptoms of septicaemia?



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What is the treatment?

- Antibiotics are used to treat bacterial meningococcal disease
- The earlier the treatment, the better the prospect of recovery. Often GPs will give treatment even before the person is admitted to hospital.
- If meningitis or septicaemia is suspected, contact the doctor immediately. If the doctor is unavailable the affected individual should be taken to the nearest Accident and Emergency or Walk-In Department. Prompt action is vital.

How soon can an individual return to school after meningitis or septicaemia?

- Cases are followed up by the hospital consultant; and the decision will be made when they are fully recovered.
- There is no reason to exclude any siblings or other close contacts of the case from school.

Meningococcal Disease

What is the risk of spread?

Meningococcal disease is spread through respiratory droplets and direct contact with nose and throat secretions. Close prolonged contact is needed to pass the bacteria from one person to another.

- The risk of getting the disease is very low. Although meningococcal disease is infectious and can occasionally cause outbreaks, 97 out of every 100 cases have no known link to any other cases.
- The meningococcal bacteria is very common and at any time about one in ten individuals carry them harmlessly in their noses and throats.

- The bacteria are passed by close contact, so family members of a case and others who have close contacts (such as a boyfriend or girlfriend) in the previous seven days may be at slightly higher risk of being exposure to meningococcal and will be offered antibiotics.
- Close contact in residential accommodation such as student halls of residence or boarding schools can slightly increase the risk for the spread of infection.
- Preventive antibiotics in the school setting are usually are only recommended in the rare event of two cases occurring in the same school or playgroup within a short space of time.
- The bacteria cannot live longer than a few moments outside the human body, so they are not carried on items like clothes and bedding, toys or dishes, water supplies, swimming pools, or buildings.
- An individual being treated for meningococcal disease will usually no longer be infectious after 24 hours of appropriate antibiotic treatment.
- An individual with meningococcal disease will need immediate medical attention but once they have been treated, can return to school as soon as they are well enough.
- Exclusion is not necessary for any close contacts (unless they also have symptoms of meningococcal disease).

Is there an incubation period?

- Yes. **Symptoms** normally appear within two to seven days of picking up the bacteria.
- **Be aware - symptoms can develop within hours and immediate treatment is vital.**

Are there vaccines available to protect against meningococcal disease?

Effective vaccines are available to prevent some types of meningococcal disease as part of the UK **Routine childhood immunisation schedule**.

What does the rash look like?

Septicaemia occurs if the bacteria enter the bloodstream. A characteristic rash develops and may start as a cluster of pinprick blood spots under the skin, spreading to form bruises under the skin. The rash can appear anywhere on the body.

Do the glass test



Press the side of a clear glass to the skin. The spots/rash may fade at first but keep checking.

A rash that does not fade under pressure is a sign of meningococcal septicaemia. This is a MEDICAL EMERGENCY DIAL 999

- Do not wait for a rash. If someone is ill and getting worse, get medical help immediately
- On dark skin the spots/rash can be more difficult to see.

Bacterial meningitis (other than meningococcal disease)

There are several causes of bacterial meningitis other than meningococcal disease.

Haemophilus influenzae type b (Hib)

Hib bacteria can cause meningitis and septicaemia (blood poisoning). Before the vaccine was introduced in 1992, Hib was the leading cause of meningitis in children under 5 years of age, with around 800 cases and 25 deaths reported each year. Cases of Hib meningitis are now rare, with around 30 – 40 cases reported annually in the UK. Hib is part of the combined vaccine that also protects against diphtheria, tetanus, and pertussis (whooping cough) and polio. This combined vaccine is offered to children as part of the UK **Routine childhood immunisation schedule**.

Viral meningitis

Most people with viral meningitis will have mild flu-like symptoms, such as:

- Headaches
- Fever
- Generally not feeling very well

In more severe cases of viral meningitis, your symptoms may include:

- Neck stiffness
- Muscle or joint pain
- Nausea and vomiting
- Diarrhoea
- Sensitivity to light (photophobia)

Unlike bacterial meningitis, viral meningitis doesn't usually lead to septicaemia (blood poisoning).

Is there an incubation period?

- Yes. Symptoms normally appear within two to seven days of picking up the virus.
- **Be aware - symptoms can develop within hours.**

Action check list for all schools:

Single case of suspected Meningitis or septicaemia in a student or staff member	The school should contact the health protection team with details of the individual. The health protection team will contact microbiology and the medical team to obtain further information. The health protection team will then follow up with the school to discuss any further action required. If the diagnosis is likely to be meningococcal disease, the health protection team will: • Discuss composition of a letter of reassurance to parents / guardians to raise awareness of signs and symptoms • Discuss the rational for antibiotic prophylaxis for close household contacts and why school contacts are unlikely to receive prophylaxis
Two or more students or staff members with suspected meningitis or septicaemia	Further public health action may be required when two or more individuals who are linked at the school have confirmed or probable meningococcal disease within a short period of time (usually four weeks). The health protection team will: • Establish an outbreak team including school staff members, school nurse and public health professionals • Discuss the need for antibiotics within the school and to a defined close contact group within the establishment (e.g. dormitory contacts, classroom contacts, children who share common social activities and/or close friends). • Discuss composition of a letter of reassurance to parents / guardians to raise awareness of signs and symptoms. • Lead on any media messages or involvement. In the event of an two or more cases the health protection team will liaise with: • Microbiology • GPs • Local Director of Public Health and their team within the local authority

If staff or students have a general question about meningitis, septicaemia or require support, there are two charities available (9am – 5pm Monday – Friday).

- Meningitis Now: 0808 80 10 388, helpline@meningitisnow.org or <https://www.meningitisnow.org/>
- Meningitis Research Foundation: 080 8800 3344 or <https://www.meningitis.org/>

More information on Meningitis and Septicaemia can be found in chapter nine of the [Health protection in schools and childcare facilities](#) guidance.

Molluscum Contagiosum



What is Molluscum Contagiosum?

Molluscum contagiosum is an infectious skin disease transmitted from person-to-person. It is caused by the molluscum contagiosum virus, a member of the poxvirus family. Infection leads to the formation of small flat circular skin lesions, which may be flesh coloured, white, translucent or yellow. The lesions may appear anywhere on the body except the palms and soles and will not normally cause discomfort. In general, school age children and teenagers tend to experience lesions on the face, trunk, hands and feet whilst adults tend to have lesions on the lower trunk, genitalia and inner thighs.

How can spread be prevented?

- Avoid direct contact with a lesion (in adults this is often sexual contact)
- Ensure the individual has their own towels and clothing.
- Ensure contaminated items such as clothing and toys are cleaned appropriately.

How is it diagnosed?

A doctor will make the diagnosis after seeing a typical lesion. If there is doubt the lesion may be excised or sampled and examined at a laboratory. Laboratory confirmation of Molluscum contagiosum virus infection by Public Health England is made by electron microscopy.

Prevention and treatment

Infection with molluscum contagiosum virus can be prevented by avoiding direct contact with lesions or objects that may have come into contact with the lesions.

- Infected patients should be careful not to share towels with others in a household
- Keep the lesion(s) covered when taking part in P.E. or other communal sporting activities
- Scratching should be avoided as this will;
 - Enlarge the site of infection and consequently the number of lesions suffered by the patient
 - Increase the likelihood of spread of the virus to others
 - Increase the likelihood of secondary, bacterial infection of the lesion
 - Increase the likelihood of scarring.

How long will the lesions last?

In patients with a normal immune system, the lesions will resolve over time without any treatment (usually six months but possibly up to two years). The lesions will usually leave no

scarring unless they have been excessively scratched and/or bacterially infected. Some doctors may recommend piercing the spots and application of iodine. It is also possible to cauterise lesions.

Should children stay away from School?

There is no need to stay away from school, it is a self-limiting condition.

Mumps



Mumps is an infection caused by a type of virus called a paramyxovirus. It is very contagious and spread in saliva, the same way as a cold or flu. This means it can be caught from an infected person coughing, sneezing, etc. It can also be caught from touching infected objects - for example, door handles.

Mumps infection is less common since the introduction of the measles, mumps and rubella (MMR) vaccine in the UK. Mumps infection is now most common in children who have not received the vaccine.

It is very unusual for children under one year to have mumps.

What are the usual symptoms of mumps?

- Swelling and pain of one or both parotid glands are the usual main symptoms. The parotid glands are the main salivary glands. They are just below the ears and cannot normally be seen or felt when well. The salivary glands make saliva which drains into the mouth.
- The mouth may feel dry.
- Chewing and swallowing may be sore.
- Fever (high temperature); headache, feeling tired and being off food may develop for a few days. These symptoms may occur before parotid gland swelling occurs.
- Mild abdominal (tummy) pain may occur.
- Some individuals may have no symptoms at all,

The swelling of the parotid glands usually lasts for 4-8 days. Mumps is normally a mild illness, but complications sometimes occur so vaccination is included as part of the UK **Routine childhood immunisation schedule**.

The immune system makes antibodies during the infection. These clear the virus and then provide lifelong immunity. It is therefore very rare to have more than one episode of mumps.

How is mumps diagnosed?

A doctor will usually diagnose mumps based on symptoms and the type of glands that are swollen. A saliva swab may also be taken and sent to the laboratory to confirm the diagnosis.

What is the treatment for mumps?

There is no medicine that kills the mumps virus. Most people start to feel better after about one week with no long-term problems.

Treatment aims to ease symptoms until the body's immune system clears the virus.

- Paracetamol or ibuprofen can ease fever and pain. Aspirin should not be given to children
- Give children lots to drink, particularly if they have a fever. Fruit juice may stimulate the parotid gland to make more saliva, causing more pain so water is best if this occurs.

Are there any complications of mumps?

Complications in young children are rare. Teenagers and adults are more likely to develop complications, which may include one (or more), of the following:

- Approximately 25% of males with mumps over the age of 12 years will develop a painful swollen testis and occasionally both are affected. In very rare cases this may cause infertility.
- Hearing loss can sometimes occur in people with mumps. This is usually only transient and improves with time. Very rarely, mumps can cause permanent deafness.

How can spread be prevented?

Mumps is highly infectious and can be spread by droplets from the nose, throat and by saliva.

- Encourage staff and children to practice good hygiene at all times
- Individuals should be encouraged to have good respiratory hygiene (covering nose and mouth with a disposable tissue when coughing or sneezing, discarding it immediately afterwards and washing hands straight away).
- Regular hand washing should be encouraged (especially after coughing, sneezing, helping affected individuals with their respiratory hygiene, contact with potentially contaminated objects etc.).
- Exclude individuals with suspected mumps from school until five days after their glands have swollen.
- Advise parents to seek medical review.

Mumps immunisation

An effective vaccine to prevent mumps (the MMR vaccination) is available as part of the UK **Routine childhood immunisation schedule**. Vaccination is encouraged even if an individual has a history of suspected mumps as many other viruses cause similar symptoms so mis-diagnosis is a possibility. Mumps can be prevented in 95% of cases by having the routine MMR vaccination in childhood or later in life.

More information on mumps can be found in chapter nine of the **Health protection in schools and childcare facilities** guidance.

Parvovirus or Fifth Disease (slapped cheek)



What is slapped cheek syndrome?

This is a viral disease due to Parvovirus B19 (fifth disease syndrome) and is spread by respiratory droplets.

What are the symptoms?

Symptoms initially appear as:

- 'Flu-like' illness and then the
- Bright red 'slapped cheeks' rash appears followed by a reddish rash on the body. This rash may last for up to 3 weeks.
- A few children, but most adults, have mild joint pains.
- Headache
- Mild fever
- Sore throat
- Parvovirus is usually a mild illness.

Some individuals may have no symptoms at all

The illness is commonest in the four -ten year old age group and outbreaks are common in primary schools in the later winter through to early summer.

Who is usually affected with Parvovirus?

Slapped cheek syndrome usually affects children. Studies have shown that 60% of adults in the UK have antibodies to parvovirus B19 and following infection, immunity is thought to last for life.

What is the incubation period?

The incubation period is six -11 days.

How can spread be prevented?

Spread is by the respiratory route and a person is infectious three to five days before the rash occurs.

Exclusion is not required as an individual is no longer infectious once the rash appears. It is difficult to avoid contact with people who have parvovirus B19 as they often have no symptoms during the infectious phase.

Request that parents notify the school of the diagnosis so that pregnant contacts can be informed.

Pregnancy and parvovirus

Advise any members of staff who may be pregnant that they will need to see their GP or midwife as soon as possible following exposure (even if they are well). There is no routine screening test for Slapped Cheek in pregnancy so their GP may do a blood test to check for antibodies to the virus from a current or previous infection.

More information on parvovirus can be found in chapter nine of the **Health protection in schools and childcare facilities** guidance.

Panton-Valentine Leukocidin (PVL)



What is PVL?

Staphylococcus aureus (*S. aureus*) is a bacterium that is a normal part of the skin flora (bacterium and fungi that live on healthy skin), particularly the moist surfaces of the body such as inside the nostrils, the armpits and in the groin area. There are different strains of *staphylococcus aureus*, some of which are more likely to cause infections than others. Strains that secrete a toxin called Panton-Valentine Leukocidin (PVL) are more likely to cause infections, particularly of the skin.

The number of cases of PVL producing *S. aureus* has been rising over the past few years but still remains relatively low. Almost all of the cases identified so far have been in normally fit healthy people, including children attending nurseries, schools and further education.

What are the symptoms?

Infections caused by PVL strains of *S. aureus* normally cause cellulitis (inflammation of layers under the skin) and pus-producing skin infections (e.g. abscesses, boils and carbuncles). They can on very rare occasions, lead to more severe invasive infections such as septic arthritis, blood poisoning or a severe form of pneumonia.

Why do people get PVL *S. aureus* infections?

Not all people with PVL *S. aureus* will suffer an infection. When these occur they are usually associated with the presence of other risk factors such as overcrowding, skin abrasions resulting from close contact sports such as wrestling or rugby or using contaminated articles such as sharing towels, razors, poor hand hygiene and damaged skin from other conditions such as eczema.

Hi, I'm Panton-Valentine Leukocidin
Do you fancy taking me to the
theatre?



Should I be taking
extra precautions?

How can spread be prevented?

An individual with PVL *S. aureus* may require antibiotic treatment and household contacts will also usually need decolonisation (wash treatments to prevent any further spread in the household). The risk to other students, staff and the general public of becoming infected with PVL *S. aureus* is small.

- Exclusion is not required for Individuals provided they feel well, are able to maintain good hand hygiene and the infected skin is covered with a clean dry dressing which will stay dry and in place until the end of the school day.
- Individuals should not be at school if they have a boil that requires drainage or a newly discharging boil or abscess where the leakage cannot easily be contained.
- Individuals should not take part in contact sports or use communal gym equipment until their skin lesion has totally healed.
- Those with eczema or a more generalised skin condition should remain off school until treatment has been completed and/or discussed with local Health Protection Team.

Spread can be prevented through;

- Covering any open or weeping wounds
- Standard personal hygiene (regular showering/bathing)
- Regular changing of linen and underwear
- Avoiding sharing personal items (e.g. toothbrushes, face cloths, towels)
- In shared facilities (for instance, in gyms or halls of residence) it is good practice to use:
 - hand wash with liquid soap and use disposable towels
 - always place a towel on the bench/equipment before using
 - ensure the facilities are cleaned frequently and that there is good ventilation to the locker room and showers.

Contact the health protection team if any further advice is required or if there appears to be more than one case in the school.

Respiratory Syncytial Virus



Respiratory syncytial virus (RSV) is also referred to as Bronchiolitis. RSV is a very common virus and almost all children will have been infected by the time they are two years old. In older children and adults RSV may cause a cough or cold, but in young children it can cause bronchiolitis.

What are the symptoms?

Most children with bronchiolitis have mild symptoms and recover within two weeks but occasionally complications such as breathing difficulties can occur. The early symptoms of bronchiolitis tend to appear within a few days of becoming infected and are usually similar to those of a common cold, such as:

- Blocked or runny nose
- Cough
- Slightly high temperature (fever)

The symptoms usually get worse during the next few days before gradually improving. During this time the child may develop some of the following symptoms:

- A rasping and persistent dry cough
- Rapid or noisy breathing (wheezing)
- Brief pauses in their breathing
- Feeding less and having fewer wet nappies
- Vomiting after feeding
- Being irritable

Although most cases of RSV are not serious, these symptoms can be very worrying and parents should be advised to seek medical attention if they have any concerns.

Who is most at risk?

Bronchiolitis is very common in infants and is usually mild. However, there are several things that can increase chances of developing the condition. These include:

- Being born prematurely (before week 37 of pregnancy)
- Being under two months of age
- Having congenital heart disease (a birth defect that affects the heart)
- Having chronic lung disease of prematurity (when injury to the lungs causes long-term respiratory problems in premature babies)
- Being breastfed for less than two months or not at all
- Being exposed to smoke, for example if parents smoke

- Having brothers or sisters who attend school or nursery, as they are more likely to come into contact with a virus and pass it on

Is it infectious?

Yes, the virus is spread through the respiratory route by tiny droplets of liquid from the coughs or sneezes of someone who is infected. If the infected person doesn't cover his or her mouth and nose, people nearby can be infected. RSV can also be spread by direct contact of the mucous membranes of the nose, mouth and throat with virus, for example from the hands of infectious people who have rubbed their noses. RSV can survive on a surface for up to 24 hours so toys and other 'high contact' areas such as desks and chairs can also lead to infection

An infected child can remain infectious for up to three weeks, even after the symptoms have gone.

How can spread be prevented?

RSV is very common and easily spread but the following measures can reduce the risk:

- Encourage good respiratory hygiene (covering noses and mouths with disposable tissues when coughing or sneezing and discarding it after use)
- Good hand hygiene should also be encouraged (after using the toilet and before eating as per usual but also after coughing, sneezing or assisting others with respiratory hygiene)
- Additional environmental cleaning should be implemented which includes 'high contact' areas such as door handles, flush handle, light switches
- Wash and dry eating utensils after use
- Wash or wipe toys and surfaces regularly
- Keep newborn babies away from people with colds or flu, particularly during the first two months of life or if they were born prematurely (before week 37 of pregnancy)
- Exclude any symptomatic individuals until they have recovered
- Encourage parents to seek medical review if their child is under 12 weeks old or has an underlying health problem, such as a congenital (present from birth) heart or lung condition. While it is unusual for children to need hospital treatment for RSV, the symptoms can get worse very quickly.



Call 999 for an ambulance if:

- The individual has severe breathing difficulties or exhaustion from trying to breathe
- The individual has a rapid breathing rate
- The individual is unarousable (unable to wake) or if roused, they do not stay awake
- The individual's breathing stops for a long period (more than 10 seconds at a time), or there are regular shorter pauses in breathing of 5-10 seconds

- The individual's skin begins to turn very pale or blue, or the inside of their lips and tongue are a blue colour (known as **cyanosis**).

Contact the health protection team if any further advice is required.

Ringworm



What is it?

Despite its name ringworm does not have anything to do with worms. It is a fungal infection of the skin, hair or nails and is also known as *tinea*. Ringworm often looks like a round, red or silvery patch of skin that may be scaly and itchy. It is caused by various types of fungi and infections are named after the parts of the body that are affected (namely, face, groin, foot, hand, scalp, beard and nail).

What are the symptoms?

The ring spreads outwards as it progresses. There may be one patch or several patches of ringworm and in more serious cases the skin may become raised and blistered.

Who is affected?

Ringworm is common. It's estimated that 10-20% of people will have a fungal skin infection at some point during their lifetime. People of all ages can be affected by ringworm, but children are particularly susceptible to it. Scalp ringworm (*tinea capitis*) is most common in children who have not reached **puberty**, particularly African-Caribbean children and those who live in urban areas. Body ringworm can affect anyone of any age, although groin infections are more common in young men.

Scalp ringworm

Scalp ringworm in children is becoming more common in the UK, particularly in urban areas. Until recently this was usually spread from infected animals but now spread between humans within families and in schools is more common. The symptoms of scalp ringworm include:

- Small patches of scaly skin on the scalp, which may be sore
- Brittle hair leading to patchy hair loss
- An itchy scalp

In more severe cases, symptoms can also include:

- Small, pus-filled sores on the scalp
- Crusting on the scalp which may spread to the face, neck and trunk

Body ringworm

The symptoms of body ringworm include:

- A ring-like rash with a prominent red margin and a central scaly area

In more severe cases:

- The rings may multiply, grow in size and merge together
- The rings may feel slightly raised to the touch and the skin under the rash may be itchy
- Blisters and pus-filled sores may form around the rings

Foot ringworm (athlete's foot)

The symptoms of foot ringworm (athlete's foot) include:

- An itchy, dry, red and flaky rash, usually in the spaces between the toes

In more severe cases:

- Cracked skin in the affected area
- Blisters, which may ooze or crust

Is it Infectious?

Yes, ringworm is highly contagious and can easily spread among people.

How can spread be prevented?

Spread is by direct skin to skin contact with an infected person or animal (and with athlete's foot, by indirect contact with contaminated surfaces).

The risk of spread can be reduced by

- Washing and drying feet well in cases of athlete's foot
- Ensuring anyone with ringworm of the feet wears sock and trainers and that feet are covered for physical education
- Avoiding direct skin contact with the rash
- Ensuring objects such as towels, hairbrushes and bedding are not shared.
- Avoid contact with any animals such as dogs and cats with ringworm.
- Exclusion is not required for individuals with athlete's foot. Individuals with skin and scalp ringworm can return to school once they have started treatment with anti-fungal agents.
- Advise parents to seek medical review, especially if their child has scalp ringworm as this type of ringworm is treated with antifungal tablets only available on prescription.

Individuals affected by ringworm can be advised of the following;

- In the case of a groin or foot infection, change underwear or socks daily as fungi can persist in flakes of skin
- Wash areas of skin affected by ringworm daily and dry thoroughly, paying particular attention to skin folds and the areas between the toes
- In the case of scalp infection, do not share combs, hairbrushes or hats
- Wash clothes, towels and bed linen frequently
- Wear loose-fitting clothes, preferably made of cotton or other natural materials

What is the treatment?

Ringworm is easily treated using:

- Antifungal creams
- Tablets
- Shampoo

Contact the health protection team for guidance if more than two children have the same symptoms

More information on ringworm can be found in chapter nine of the [Health protection in schools and childcare facilities](#) guidance.

Rotavirus

What is Rotavirus?

Rotavirus infection is the most common cause of gastroenteritis (inflammation of the intestines) in children under five years of age worldwide. The inclusion of the rotavirus vaccine into the **Routine childhood immunisation schedule** for babies in 2013 has led to a decline in cases amongst infants in the UK.

What are the symptoms?

Symptoms include watery diarrhoea, usually with vomiting, fever and stomach cramps. Symptoms usually last from three to eight days. Adults may become infected but repeat infections are generally less severe than infections during childhood.

Who is at risk?

Infants and young children are most at risk of rotavirus disease as they can become severely dehydrated and may require hospitalisation.

Is it infectious?

Yes, rotavirus is highly infectious.

How can spread be prevented?

Rotavirus is highly contagious and is mainly transmitted by the faecal-oral route, although respiratory transmission may also occur.

- Staff and children should be encouraged to practice good hygiene at all times.
- Symptomatic individuals should be excluded from school until 48 hours after the symptoms have subsided.
- Send the child home as soon as symptoms develop and advise parents to seek medical advice.
- Staff should always use appropriate personal protective equipment when handling blood or body substances (see section on **managing spills of body fluids**).
- Parents should be encouraged to ensure their child's immunisations are up to date as rotavirus vaccination is available as part of the UK **Routine childhood immunisation schedule**.

More information on rotavirus can be found in chapter nine of the **Health protection in schools and childcare facilities** guidance.

Rubella (German measles)



What is rubella?

Rubella, also called German measles or 3-day measles, is a disease caused by the rubella virus. Rubella is generally a mild illness that does not result in long-term problems although it can cause congenital rubella syndrome if acquired during pregnancy (leading to damage to the baby including deafness, cataracts and brain damage).

Rubella vaccine is part of the UK **Routine childhood immunisation schedule**. The MMR vaccine protects 90% of immunised people from getting this disease. Rubella is now a very rare disease in school aged children and most commonly affects men in their 20s.

What causes rubella?

The rubella virus is most often spread through droplets of fluid from the **mucous membranes** of an infected person. These droplets can be spread by:

- Coughing, sneezing, talking
- Sharing food and drinks.
- Touching a surface contaminated with the droplets and then touching eyes, nose, or mouth before washing hands.
- Less commonly, the virus can be acquired through contact with infected blood if it gets on broken skin or on hands which are not then washed immediately.

What are the symptoms?

Symptoms of rubella include:

- Mild fever
- Swollen glands (especially behind the ear and at the back of the head),
- Skin rash that starts on the face and spreads to the neck, chest and the rest of the body.
- Older children and teenagers may have fever, eye pain, sore throat, and body aches. They may or may not develop a rash.
- Up to 50% of individuals with rubella may not develop any symptoms.

Is it infectious?

Yes, rubella is most contagious a few days before the rash develops until five to seven days after it appears. It can take between 14 and 21 days for an individual to develop symptoms after they have been infected with the virus.

How is it treated?

There is no specific treatment for rubella but symptoms can be managed as necessary. Paracetamol type analgesia can be given to children and adults for fever. Do not give aspirin to anyone younger than 16yrs because of the possible link to kidney problems

Can spread be prevented?

Spread is by the respiratory route so good respiratory hygiene should be practiced as standard in the school.

- Good respiratory hygiene should be encouraged (covering noses and mouths with disposable tissues when coughing or sneezing and discarding it after use).
- Good hand hygiene should also be encouraged (after using the toilet and before eating as per usual but also after coughing, sneezing or assisting others with respiratory hygiene).
- Individuals with rubella should be excluded from school as soon as symptoms develop until six days after the onset of the rash.
- Encourage all parents to ensure their children are up to date with their immunisations and that they have had two MMR vaccinations in line with the UK [Routine childhood immunisation schedule](#). Staff who are unsure about their vaccination history can speak to their Practice Nurse.

Pregnancy and rubella

Advise any members of staff who may be pregnant that they will need to see their GP or midwife as soon as possible following exposure (even if they are well). Generally, rubella causes only mild illness with no long-term problems. However, if an individual is pregnant and become infected with the rubella virus, this can have serious effects on their baby's development.

More information on rubella can be found in chapter nine of the [Health protection in schools and childcare facilities](#) guidance.

Scabies



Scabies is a skin infection caused by a mite. It can be uncomfortable but is not a serious disease.

What are the symptoms?

The appearance of the rash varies but tiny pimples and nodules are characteristic. Secondary infection can occur if the rash has been scratched. The scabies mites are attracted to folded skin such as the webs of the fingers. Burrows may also be seen on the wrists, palms, elbows, genitalia and buttocks. Itching is the main symptoms, particularly when warm or at night.

How is it transmitted?

It is transmitted by skin to skin contact in a warm environment e.g. by children holding hands. The scabies mite does not survive for long outside the human body and cannot be picked up just from clothes.

How can spread be prevented?

Scabies is infectious so infected individuals should be excluded until after their first treatment has been completed. Affected individuals do need to seek medical review to as treatment is required. Lotions can be purchased from a chemist or obtained on prescription from the doctor.

- The whole family should be treated at the same time even if only one person has obvious scabies.
- If more than one child in a class has scabies and it appears that transmission may be taking place at school, then the health protection team should be notified as classmates may also require treatment.

More information on scabies can be found in chapter nine of the [Health protection in schools and childcare facilities](#) guidance.

Scarlet fever



What is Scarlet Fever?

Scarlet fever is a bacterial illness that causes a distinctive pink-red rash. Scarlet fever is also known as scarlatina, although this often refers to a milder form of the disease. It can follow a **sore throat** or a skin infection (**impetigo**) caused by particular strains of streptococcus bacteria.

What are the symptoms?

Symptoms of scarlet fever generally take two to five days to appear after infection.

The illness often starts with

- **Sore throat**
- **Headache**
- High temperature (fever)
- **Swollen neck glands**
- Loss of appetite
- Nausea or vomiting
- Red lines in the folds of the body, such as the armpit, which may last a couple of days after the rash has gone
- A white coating on the tongue, which peels a few days later leaving the tongue red and swollen (this is known as strawberry tongue)
- A general feeling of being unwell
- Rash developing 12 to 48 hours later
 - Red blotches are the first sign of the rash. These turn into a fine pink-red rash that feels like sandpaper to touch and looks like sunburn.
 - This usually starts in one place, but soon spreads to other parts of the body. It commonly affects the ears, neck, chest, elbows, and inner thighs and groin, and may be itchy. The rash does not normally spread to the face however, the cheeks become flushed and the area just around the mouth stays quite pale. The rash will turn white a glass is pressed against it.
 - The rash usually fades after about a week, but the outer layers of skin, usually on the hands and feet, may peel for several weeks afterwards.

In milder cases (scarlatina), the rash may be the only symptom.

Are there any complications?

Most cases of scarlet fever cause no complications especially if the condition is properly treated. In the early stages there is a small risk of:

- Ear infection
- Throat abscess (painful collection of pus)
- Sinusitis (inflammation of the sinuses)
- Pneumonia (inflammation of the lungs)
- Meningitis (inflammation of the membranes surrounding the brain and spinal cord)

Is it Infectious?

Yes, scarlet fever is extremely contagious.

What is the incubation period?

Symptoms of scarlet fever usually develop two to five days after infection, although individuals will be contagious before showing signs of the illness.

What is the treatment?

Scarlet fever used to be a very serious disease but treatment with antibiotics means that most cases today are mild. With proper treatment, serious complications from scarlet fever are very unlikely however, there is a small risk of the infection spreading to other parts of the body such as the ear, sinuses and lungs. Most individuals with scarlet fever feel better after about a week even without treatment but as antibiotics reduce the length of time that an individual is contagious, speeds up recovery and reduces the risk of complications from scarlet fever, then treatment is still recommended.

The symptoms of scarlet fever may be relieved by:

- Drinking plenty of cool fluids or eating soft foods (if the individual has a sore throat)
- Taking paracetamol to bring down a high temperature
- Using calamine lotion or antihistamine tablets to relieve itching

How can spread be prevented?

Spread is by the respiratory route so good respiratory hygiene should be practiced as standard in the school.

- Good respiratory hygiene should be encouraged (covering noses and mouths with disposable tissues when coughing or sneezing and discarding it after use).
- Good hand hygiene should also be encouraged (after using the toilet and before eating as per usual but also after coughing, sneezing or assisting others with respiratory hygiene).
- Encourage parents to seek medical review and antibiotic treatment
- Individuals with scarlet fever should be excluded from school until they have been on a course of antibiotics for at least 24 hours. Individuals who do not take antibiotic treatment will be infectious for two to three weeks.

- Avoid sharing contaminated eating utensils, cups and glasses, clothes, baths, bed linen or towels.
- Avoid touching any open or weeping wounds (streptococcal skin infections such as impetigo are caused by the same bacteria as scarlet fever).
- Ensure the health protection team are notified if there is an outbreak or if chicken pox is circulating in the school at the same time.

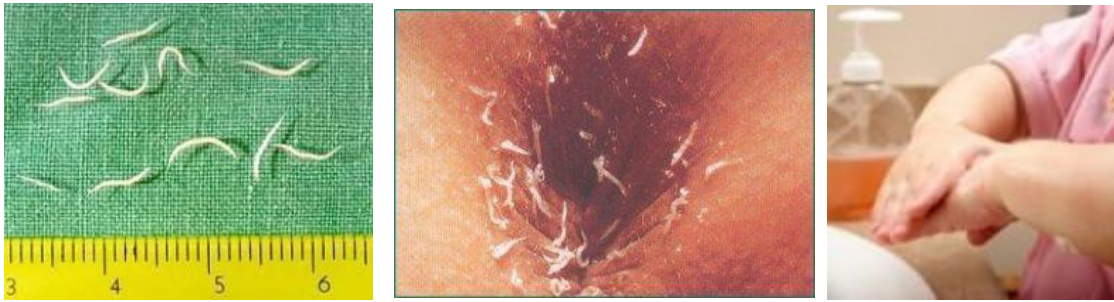
Can individuals catch scarlet fever more than once?

It is possible to catch scarlet fever more than once, although this is rare.

More information on scarlet fever can be found in chapter nine of the [Health protection in schools and childcare facilities](#) guidance.

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Threadworms



What are Threadworms?

Threadworms, also known as pinworms, are tiny parasitic worms that hatch eggs in and infect the large intestine of humans. Threadworms are the most common type of worm infection in the UK and they are particularly common in young children under the age of 10.

What are the symptoms?

- Intense **itching** around the bottom (or the vagina in girls) particularly at night when the female worms are laying eggs
- Disturbed sleep as a result of the itching which can lead to irritability and loss of concentration

In some cases threadworms may be visible on bed clothes or sheets at night. They may also be noticeable in stools. The worms look like threads of white cotton about one centimetre long.

Severe or persistent threadworm infections can cause:

- Loss of appetite
- Weight loss
- Skin infection around the rectum if bacteria enter any scratches caused by itching (wearing cotton gloves while sleeping may help prevent this)
- Difficulty getting to sleep or staying asleep
- **Bedwetting**

What is the treatment for threadworms?

- Everyone in the household (even if they do not have any symptoms) will require treatment as the risk of the infection spreading is high.
- Treatment will involve a single dose of a medication called mebendazole to kill the worms.
- Another dose can be taken after two weeks if necessary.
- During treatment and for a few weeks afterwards, it is also important to follow strict hygiene measures to avoid spreading the threadworm eggs. This involves:
 - Regularly vacuuming your house
 - Thoroughly cleaning the bathroom and kitchen.
 - If an individual is pregnant, breastfeeding or very young then hygiene measures are usually recommended without medication.

Is it infectious?

Yes, threadworms lay their eggs around an infected person's bottom, usually at night. Along with the eggs, the worm also secretes mucus that causes itching.

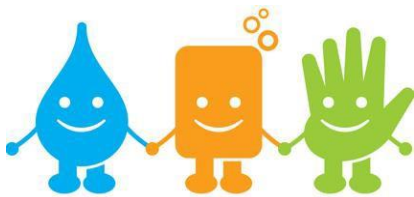
If the eggs get stuck on the person's fingertips when they scratch, they can be transferred to their mouth or onto surfaces and clothes. Other people who touch an infected surface can then transfer the eggs to their mouth.

What is the incubation period?

Threadworm eggs can survive for up to three weeks before hatching. If the eggs hatch around the anus, the newly born worms can re-enter the bowel. Eggs that have been swallowed will hatch inside the intestine. After two weeks the worms reach adult size and begin to reproduce, starting the cycle again.

How can spread be prevented?

Re-infection is common and infectious eggs are also spread to others directly on fingers or indirectly on bedding, clothing and environmental dust. It is not always possible to prevent a threadworm infection, but the risk can be significantly reduced by always maintaining good hygiene.



- Treatment can be obtained from pharmacies but if affected individuals are pregnant, breastfeeding or children are under two years old then they will need to see their GP.
- Exclusion is not required for threadworm but parents should be encouraged to inform the school of a diagnosis.
- Good hand hygiene is essential, particularly after going to the toilet and before mealtimes.
- Staff should wear personal protective equipment such as gloves when changing nappies or taking the child to the toilet. Hands should be washed after gloves are removed.
- Toys and other 'high contact' areas such as desks and door handles should be cleaned regularly.
- Fingernails should be kept short
- Affected individuals should be encouraged to wear pajamas or pants to bed
- Encouraging affected individuals not to scratch the affected area around their bottom or vagina as this will help prevent re-infection and reduce the risk of the infection spreading to other people
- Kitchen and bathroom surfaces should be kept clean.

More information on threadworm can be found in chapter nine of the [Health protection in schools and childcare facilities](#) guidance.

Tuberculosis



What is Tuberculosis (TB)?

Tuberculosis (TB) is caused by a Mycobacterium. It is a bacterial infection spread through inhaling tiny droplets from the coughs or sneezes of an infected person. TB can affect any part of the body, including the lymph nodes, bones, brain and nervous system. It is only infectious if it is found in the lungs (pulmonary TB), mouth or larynx.

What are the symptoms of TB?

The symptoms of TB depend on where the infection occurs. TB usually develops slowly and symptoms might not begin until months or even years after an individual was initially exposed to the bacteria. In some cases the bacteria lie dormant in the body but don't cause any symptoms; this is known as latent TB and is not infectious to others. If an individual has symptoms of TB, this is known as active TB but is only infectious if it is in the lungs, mouth or larynx.

Cough



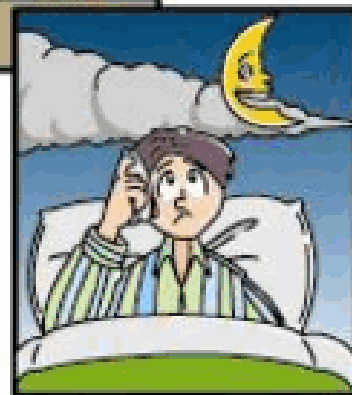
Afternoon Fever



Weight loss



Blood stained sputum



Night sweats

People with TB might have all or some of the following symptoms;

- Cough for more than three weeks
- Loss of appetite
- Unintentional weight loss
- Fever (particularly at night)
- Breathlessness
- Chest pain

TB in a part of the body other than the lungs may produce a lump or swelling which can be painful.

Is it Infectious?

Some (but not all) people who develop TB of the lungs, mouth or larynx are infectious to others. Spread is by the respiratory route so only happens when an individual is in close proximity to someone with infectious TB for a long time and inhales sufficient quantities of the bacteria (usually if the infectious individual has been coughing). The incubation period is long (four to twelve weeks).

- In many healthy people the immune system (the body's natural defense against infection and illness) kills the bacteria and no symptoms develop.
- Sometimes the immune system cannot kill the bacteria but manages to prevent it from spreading in the body. The individual will have no symptoms but the bacteria will lie dormant in the body and sometimes may activate months or even years later. While the bacteria is dormant, the individual is not infectious to others. This is known as latent TB.
- If the immune system fails to kill or contain the infection, it can spread to the lungs or other parts of the body and symptoms will develop slowly over a few weeks or months. This is known as active TB and may become infectious to others if the active TB is in the lungs, mouth or larynx and is not treated.

Without treatment, latent TB could develop into an active TB infection at a later date, particularly if the immune system weakens.

- Children are rarely infectious (usually diagnosed when an adult, relative or close friend is found to have TB)
- Even if an individual has infectious TB, exclusion from school is not usually necessary once treatment has been taken for 2 weeks. Staff and students with non-pulmonary TB do not require exclusion and can return to school as soon as they are well enough.
- Adults with TB may be infectious so children in close contact may need medical assessment and this should be discussed with the health protection team.

What is the treatment?

Treatment for tuberculosis (TB) depends on which type an individual has and will involve a course of different antibiotics over several months. The individual will be monitored by a TB treatment team who will ensure they are on the appropriate antibiotic regime. It is extremely important that individuals with TB take their antibiotics everyday as prescribed.

Can a contact of someone with TB attend school?

When someone is diagnosed with TB their treatment team will assess whether other people are at risk of infection and require screening. Close contacts (usually people living in the same household as the individual with TB) may be screened. Occasionally wider social and workplace contacts may also require screening. The TB team will work with the health protection team to assess screening requirements and arrange appointments as required. If contacts of someone with TB are well and do not have any symptoms of TB then there is no reason why they cannot still attend school while waiting for their screening appointment.

How can spread be prevented?

If an individual is diagnosed with TB of the lungs, mouth or larynx they may be contagious up to about two to three weeks after starting their course of treatment. Individuals do not usually need to be isolated during this time, but it is important to take some basic precautions reduce the risk of spread to others. These precautions are:

- Exclusion from work, school or college until the TB treatment team advises it is safe to return (usually after two weeks of treatment)
- Ensure good respiratory hygiene is performed (use a disposable tissue to cover the mouth when coughing, sneezing or laughing, dispose of the tissue afterwards and wash hands immediately)
- Open windows when possible to ensure a good supply of fresh air
- Ensure the affected individual has their own bedroom until they are no longer infectious
- Advise parents to take their child for medical assessment if they have any signs or symptoms of TB (such as a cough lasting for more than three weeks, unintended weight loss and/or profuse night sweats)
- Contact the health protection team for more advice and to ascertain whether or not screening of school contacts may be required.

More information on tuberculosis can be found in chapter nine of the [Health protection in schools and childcare facilities](#) guidance.

Warts and Verrucas



Warts are small lumps caused by a viral infection and often develop on the skin of the hands and feet. Warts vary in appearance and may develop singly or in clusters. Some are more likely to affect particular areas of the body. Verrucas are warts that usually develop on the soles of the feet. Warts are non-cancerous, but can resemble certain cancers. Most people will have warts at some point in their life. They tend to affect children and teenagers more than adults.

What causes warts?

Warts are caused by an infection with the **human papilloma virus (HPV)**.

The virus causes an excess amount of keratin, a hard protein, to develop in the top skin layer (epidermis). The extra keratin produces the rough, hard texture of a wart.

What are the symptoms?

Warts are not usually painful, but some types, such as verrucas, may hurt. They can occasionally itch or bleed. There are several different types of warts, all varying in size and shape.

Are they infectious?

Warts aren't considered very contagious, but they can be caught by close skin-to-skin contact. The infection can also be transmitted indirectly from contaminated objects or surfaces, such as the area surrounding a swimming pool. Individuals are more likely to get infected if their skin is wet or damaged. After becoming infected, it can take weeks or even months for a wart or verruca to appear.

What is the treatment?

- Warts usually clear up without treatment (although this can take years)
- The length of time it takes for a wart to disappear will vary from person to person and they tend to last longer in older children and adults.
- In adults and people with a weakened immune system, warts are less likely to clear up on their own or respond well to treatment.

There are a number of treatments available for warts. However, no single treatment is 100% effective, and the wart may return. The aim of treatment is to remove the wart without it returning and without leaving any scarring.

How can spread be prevented?

It is difficult to prevent warts and verrucas spreading completely but the following measures can help to stop spread:

- Avoid touching other warts and verrucas (but ensure hands are washed if individuals touch their own).
- Ensure individuals have their own towels, flannels shoes and socks.
- Encourage individuals to wear clean socks every day.
- Discourage walking barefoot in school (or any public place)
- Ensure warts and verrucas are covered with a waterproof plaster or sock when swimming.
- Exclusion is not required if an individual has warts.
- Encourage medical review if an individual has a wart that bleeds, changes in appearance, spread or causes then significant pain, distress or embarrassment.

Whooping Cough (Pertussis)



Whooping cough (pertussis) is a highly contagious bacterial infection of the lungs and airways. The condition usually begins with a persistent dry and irritating **cough** that progresses to intense bouts of coughing. The gasping for breath after one of these coughing bouts causes a distinctive "whooping" noise which is how the condition gets its name.

Other symptoms include:

- A runny nose
- Raised temperature
- Vomiting after coughing

The coughing can last for around three months (another name for whooping cough is the "hundred day cough").

What causes whooping cough?

Whooping cough is caused by a bacterium called *Bordetella pertussis* which infects the lining of the airways, mainly the windpipe (trachea) and the two airways that branch off from it to the lungs (the bronchi).

This leads to:

- A build-up of thick mucus which causes the intense bouts of coughing as the body tries to expel it
- Swollen airways which makes breathing more difficult and causing the "whoop" sound as an affected individual gasps for breath after coughing

People with whooping cough are infectious from six days after exposure to the bacteria to 21 days after the "whooping" cough begins (without treatment). The bacteria are passed from person to person by infected droplets which are spread by coughing and sneezing. Pertussis activity tends to peak every three to four years in the UK.

Who is at risk?

The disease is usually more serious (even fatal) in children of pre-school age. Vaccination is recommended as part of the UK **Routine childhood immunisation schedule**. Pregnant women are also advised to receive the vaccine when they are between 16 and 32 weeks pregnant to maximise the likelihood that their baby will be protected from birth. Most cases occur in adults but symptoms tend to be less serious, although the persistent cough can be frustrating and unpleasant.

Treating whooping cough

If whooping cough is diagnosed during the first 21 days of infection, a course of **antibiotics** may be prescribed. This is to prevent the infection being passed on to others. It is important to take steps to avoid spreading the infection to others, particularly babies under six months of age. Antibiotics will not usually be prescribed if whooping cough is diagnosed in the later stages of infection (21 days after the onset of symptoms) as the individual will no longer be infectious to others and antibiotics will not improve symptoms at this stage.

The GP will advise on how to manage the infection at home using some simple self-care measures such as rest and drinking plenty of fluids. Babies under a year old are likely to be admitted to hospital as they are most at risk of severe complications such as serious breathing difficulties.

How can spread be prevented?

- Advise parents to seek medical review for their child as soon as possible if whooping cough is suspected.
- Good respiratory hygiene should be encouraged (covering noses and mouths with disposable tissues when coughing or sneezing and discarding it after use).
- Good hand hygiene should also be encouraged (after using the toilet and before eating as per usual but also after coughing, sneezing or assisting others with respiratory hygiene).
- Exclude any individuals with whooping cough until they have had 48 hours of appropriate antibiotic treatment and feel well enough to return or after 21 days from onset of illness if no antibiotic treatment has been taken.
- Encourage parents to have their child immunised against whooping cough.

More information on whooping cough can be found in chapter nine of the **Health protection in schools and childcare facilities** guidance.

Appendix 3

Notifiable infectious diseases

The following list contains all the infectious diseases that health care providers have to report to the health protection team under the Health Protection (Notification) Regulations 2010:

- Acute encephalitis
- Acute infectious hepatitis
- Acute meningitis
- Acute poliomyelitis
- Anthrax
- Botulism
- Brucellosis
- Cholera
- Diphtheria
- Enteric fever (typhoid or paratyphoid fever)
- Food poisoning
- Haemolytic uraemic syndrome (HUS)
- Infectious bloody diarrhoea
- Invasive group A streptococcal disease
- Legionnaires' disease
- Leprosy
- Malaria
- Measles
- Meningococcal septicaemia
- Mumps
- Plague
- Rabies
- Rubella
- Severe Acute Respiratory Syndrome (SARS)
- Scarlet fever
- Smallpox
- Tetanus
- Tuberculosis
- Typhus
- Viral haemorrhagic fever (VHF)
- Whooping cough
- Yellow fever

Other diseases that may present significant risk to human health must also be reported.

Appendix 4

Exclusion Table

The table below is correct at time of printing. The current exclusion table can be found in the [Health protection for school, nurseries and other childcare facilities](#) guidance.

Infection	Exclusion period	Comments
Athlete's foot	None	Athlete's foot is not a serious condition. Treatment is recommended.
Chickenpox	Five days from onset of rash	Blister on the rash must be dry and crusted over
Cold sores (herpes simplex)	None	Avoid kissing and contact with the sores. Cold sores are generally mild and heal without treatment
Conjunctivitis	None	If an outbreak or cluster occurs, consult your local health protection team
Diarrhoea and vomiting	Whilst symptomatic until 48 hours after resolution of symptoms	See diarrhoea and vomiting section of guidance. Seek further advice from your local health protection team if unsure
Diphtheria*	Exclusion is essential. Always consult with your local health protection team	Preventable by vaccination. Family contacts must be excluded until cleared to return by your local health protection team
Flu (Influenza)	Until recovered	Report outbreaks to your local health protection team
Glandular Fever	None	
Hand foot and mouth	None	Contact your local health protection team if a large number of children are affected. Exclusion may be considered in some circumstances
Head lice	None	Treatment only recommended when live lice are seen
Hepatitis A*	Exclude until seven days after onset of jaundice (or seven days after symptom onset if no jaundice)	In an outbreak of hepatitis A, your local health protection team will advise on control measures
Hepatitis B*, C*, HIV	None	Hepatitis B, C and HIV are blood borne viruses that are not infectious through casual contact. Contact your local health protection team for more advice.
Impetigo	Until lesions are crusted/healed of 48 hours after starting antibiotic treatment	Antibiotic treatment speeds healing and reduces the infectious period
Measles*	Four days from onset of rash and recovered	Preventable by vaccination (2 doses of MMR). Promote MMR for all pupils and staff. Pregnant staff contacts should seek prompt advice from their GP or midwife
Meningococcal meningitis/septicaemia*	Until recovered	Meningitis ACWY and B are preventable by vaccination. Your local health protection team will be

		able to advise
Meningitis* due to other bacteria	Until recovered	Hib and pneumococcal meningitis are preventable by vaccination. Your local health protection team will be able to advise
Meningitis viral*	None	Milder illness than bacterial meningitis. Siblings and other close contacts of a case need not be excluded
MRSA	None	Good hygiene, in particular handwashing and environmental cleaning are important to minimise spread. Contact your local health protection team for more information
Mumps*	Five days after the onset of swelling	Preventable by vaccination with 2 doses of MMR. Promote MMR for all pupils and staff
Ringworm	Not usually required	Treatment is needed
Rubella (German measles)	Four days from onset of rash	Preventable by vaccination with 2 doses of MMR. Promote MMR for all pupils and staff. Pregnant staff contacts should seek prompt advice from their GP or midwife
Scarlet fever	Exclude until 24 hours of appropriate antibiotic treatment completed	A person is infectious for 2-3 weeks if antibiotics are not administered. In the event of two or more suspected cases, please contact your local health protection team for more advice
Scabies	Can return after first treatment	Household and close contacts require treatment at the same time
Slapped cheek/Fifth disease/Parvovirus B19	None (once rash has developed)	Pregnant contacts of case should consult with their GP or midwife
Threadworms	None	Treatment recommended for child and household
Tonsillitis	None	There are many causes but most cases are due to viruses and do not need an antibiotic treatment
Tuberculosis (TB)	Always consult your local health protection team BEFORE disseminating information to staff, parents or carers	Only pulmonary (lung) TB is infectious to others. Needs close, prolonged contact to spread
Warts and verrucae	None	Verrucae should be covered in swimming pools, gyms and changing rooms
Whooping cough (pertussis)*	Two days from starting antibiotic treatment or 21 days from onset of symptoms if no antibiotics	Preventable by vaccination. After treatment, non-infectious coughing may continue for many weeks. Your local health protection team will organise any contact tracing.

***denotes a notifiable disease. It is the statutory requirement that doctors report a notifiable disease to the proper officer of the local authority (usually a consultant in communicable disease control).**

Health Protection Agency (2010) Guidance on Infection Control in Schools and other childcare settings. HPA: London