



UK Health
Security
Agency

Common Infectious Diseases in Children

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**Probably the most
dangerous
spreader of
infection?**



The child!



Definitions

- **Incubation Period:**

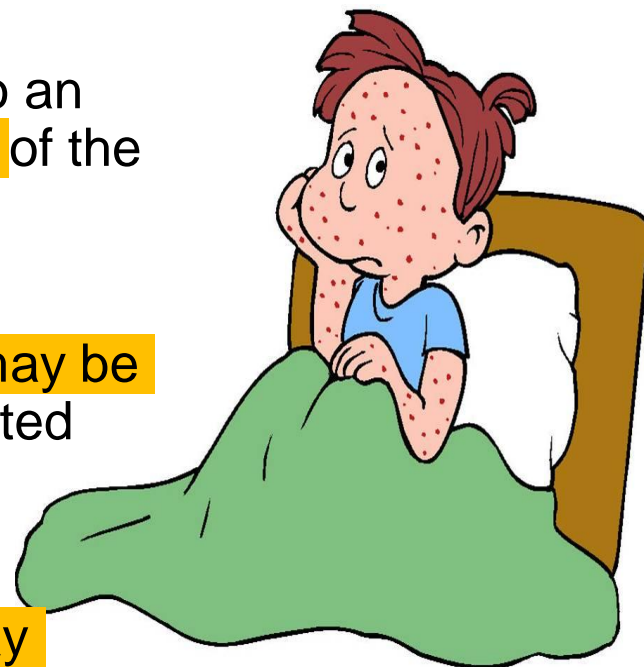
- The **time from the moment of exposure** to an infectious agent **until signs and symptoms** of the disease appear.

- **Infectious Period:**

- The **time during which an infectious agent may be transferred directly or indirectly** from an infected person to another person

- **Exclusion Period:**

- The **time which the case should remain away** from school, work or contact with vulnerable people because the case is infectious – the case in within their infectious period



Transmission of Diseases

- **Droplet contact** - usually the [respiratory system](#). Microorganisms suspended in warm, moist droplets enter body through nose/ mouth/ eye surface.
- **Direct physical** and indirect contact it is generally through a wound in the skin or through a [mucous membrane](#).
- **Vector borne transmission**, it is at the bite or sting of the [vector](#)
- **Faecal-oral transmission**.



Common childhood infections

- Chickenpox
- Threadworm
- Ringworm
- Hand, foot and mouth disease
- Conjunctivitis
- Impetigo
- Scarlet fever
- Viral gastroenteritis – norovirus, rotavirus
- Influenza



Other infections you may see

- Meningitis
- Measles
- Mumps
- Rubella (German measles)
- Fifth disease (slapped cheek disease, Parvovirus)
- Scabies
- Whooping Cough (Pertussis)



Measles – vaccine preventable

- Was rare since introduction of MMR
- Fever, conjunctivitis, cough then red, blotchy rash, may be spots in mouth (Koplik spots)
- Spread by coughing, sneezing etc
- **infectious** from 4 days before the onset of rash to 4 days afterwards
- Exclude until 4 days after onset of rash
- HIGHLY infectious – 15 minutes in same room
- Avoid contact with unimmunised, newborn or vulnerable people

NB Parents of immunosuppressed children should be informed of suspected cases in school



ITV REPORT 29 August 2019 at 5:01am

UK loses measles elimination status



Measles outbreak in West Yorkshire: Vaccination warning issued



Public Health England (PHE) has reported an increase in measles across the country and in other parts of Yorkshire and the Humber during 2017/18. [Click here to find out everything you need to know about the disease, including the symptoms to look out for.](#)

PHE is working with Bradford Council and the NHS to make sure anyone across the city who needs a vaccination to protect against the virus is aware.

Measles is a highly infectious viral illness, so anyone with symptoms is also being advised to stay at home and phone their GP or NHS 111 for advice, rather than visiting the surgery or A&E, to prevent the illness spreading further.

It is possible for anyone at any age to get measles and the illness can be more severe in teenagers and adults than in young children.

Dr Suzanne Cole, consultant in health protection with Public Health England Yorkshire and the Humber, said: "Measles can be a very serious illness and lead to severe complications, especially in people who are particularly vulnerable or have other health conditions."

"The free MMR vaccine is a safe and effective way of protecting against measles, as well as mumps and rubella. It's particularly important for parents to take up the offer of MMR vaccination for their children when offered at one-year-of-age and as

<https://www.yorkshirepost.co.uk/our-region/west-yorkshire-and-the-dales/measles-outbreak-in-west-yorkshire-vaccination-warning-issued-1-9122463>

MMR catch-up campaign targets a million children

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Thursday April 25 2013

The MMR vaccine should be given to all unvaccinated schoolchildren aged from 10 to 16 as part of a national catch-up campaign, the government has announced.

This MMR vaccination catch-up campaign aims to prevent further measles outbreaks, following recent outbreaks in Wales.

Speaking at the launch of the national MMR catch-up programme, Professor David Salisbury, director of immunisation at the Department of Health, said that the outbreaks in Wales had been "a wake-up call for parents", and warned that "what is happening in Swansea could happen anywhere in England".



MMR is highly effective for reducing risk of measles

Why is the UK seeing a rise in measles cases?

By Michelle Roberts
 Health editor, BBC News online

© 20 August 2019



Mumps – vaccine preventable



- Fever, swelling of salivary glands in neck - one or both sides
- Adult males can develop orchitis
- Mumps virus can cause meningitis and deafness
- Spread via droplet (sneezing, coughing) or direct contact with saliva
- Exclude for at least 5 days from onset of swelling



Whooping Cough (Pertussis) – vaccine preventable



- Highly contagious – affects all ages
- Infants most vulnerable
- Highly infectious usually during first 3 weeks of cough
- Spread by coughing, sneezing
- Symptoms – cough, may cause vomiting, cyanosis and characteristic ‘whoop’
- Exclude for at least 48 hrs from commencing antibiotics*



Rubella (German Measles) – vaccine preventable

- Fever, swollen neck glands, possible conjunctivitis, fine rash – appears 2-3 weeks after getting the disease
- infectious 1 week before symptoms start and for 4 days after the rash first appears.
- Spread by sneezing, coughing, contact with dirty handkerchiefs etc
- Exclude for 5 days from onset of rash
- Virus can be passed to an unborn child, can cause serious birth defects



Meningitis

Inflammation of brain membranes

Bacterial

- **Meningococcal** - spread by prolonged close contact, mouth kissing and close proximity coughing
- **Pneumococcal** - spread by droplet infection



Viral – many types

- **Enteroviruses**
- **Mumps virus**

Varicella



Meningococcal Meningitis

strains A,B,C,W,Y are vaccine preventable

Transmission:

- Person to person by coughs and sneezes.
- It is not very infectious and very close contact is needed with a case before there is a risk of catching the infection.

Incubation period: 4 days but can range between 2-10 days

Symptoms:

- Severe headache, Stiff neck, Fever, Vomiting, Drowsiness, Confusion, Unconsciousness, Photophobia, Non-fading rash.
- Not all these symptoms may be present or they may develop over time

Immediate action

- contact parents,
- immediate medical attention required GP/A&E/Ambulance



Meningococcal septicaemia

– ABCWY are vaccine preventable

- Rash that does not go away when pressed
- Very cold hands and feet
- Rapid breathing
- Increased drowsiness/ unconsciousness
- Increased fever



• Pains in limbs and abdomen

Meningococcal disease continued

- **Close contacts** of a case receive antibiotics to prevent them from spreading the disease. Household members within week preceding diagnosis. Kissing contacts also – intimate mouth kissing.
- **Action for schools:** If advised by a parent their child has been diagnosed with meningococcal disease then contact the Health Protection Team.
- Normally we have been notified by the clinician making the diagnosis but it is better to check with us if we are unaware then we can check with the hospital/GP
- **Letter to parents:** If HPT have been informed of a case of meningococcal disease the team will contact the child's school/nursery to arrange a letter/information for parents.



Influenza – vaccine preventable

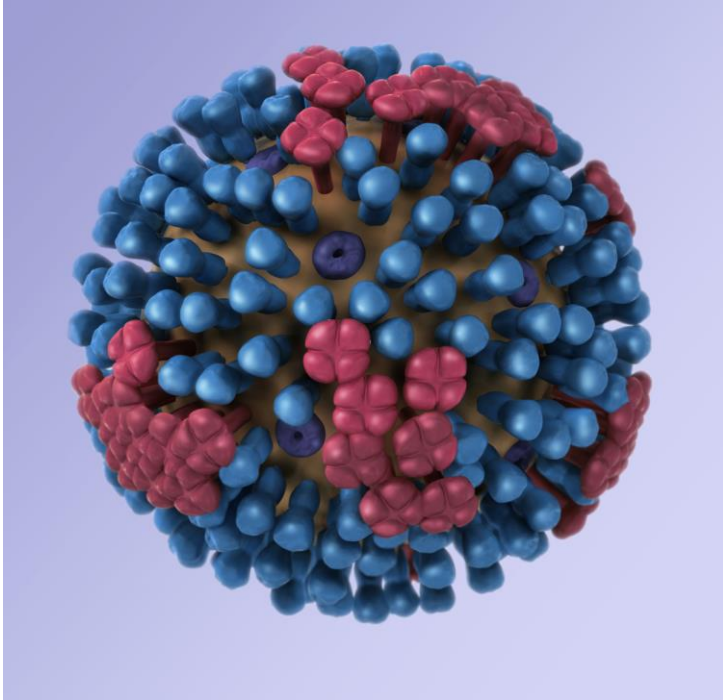


Photo courtesy of CDC/ Douglas Jordan

- Vaccine available annually *
- Highly infectious
- Spread by respiratory droplets
- May vary in presentation in children, such as without fever or with diarrhoea, etc.
- infectious 1 day before to 3 to 5 days after symptoms appear
- Exclusion until at least 5 days from onset of symptoms



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Implications for schools: If suspect outbreak inform Health Protection team for advice.

Chickenpox

Vaccine available but only for contacts of certain risk groups

- Highly infectious varicella virus
- Droplet spread
- Infectious 2 days before rash to 5 days after blisters appear
- Exclude for 5-6 days from onset of rash – usual timescale
- Pregnancy – seek antenatal advice



Shingles

Vaccine available only for people over 76yrs

- **Transmission:** Not as infectious as chicken pox, by person to person contact with vesicular fluid or respiratory secretions.
- Shingles is caused by the reactivation in a person of latent varicella virus. This means someone who has already had chicken pox in the past and it has reactivated.
- Mainly occurs in middle to older age.
- **Infectious Period:** only infectious if lesions are exposed.
- **Exclusion Period:** No exclusion period if the area is not exposed. If lesions are weeping and cannot be covered then may need excluding.
- **Symptoms:** Pain in the trunk where a vesicular painful rash appears. Rash can persist for several days or weeks.



Scarlet Fever (Scarlatina)



- Group A Streptococcal bacteria
- Sore throat, red rash on chest, flushed cheeks, fever
- 'Strawberry' tongue
- Spread by secretions (mucus or saliva) from nose and throat
- If treated, exclude at least 24 hrs then return to school if well,
- If not treated, infectious and exclusion for 2-3 weeks



Impetigo



- Skin infection also caused by GAS
- Commonly affects face
- Redness, weeping spots, then crusts
- Leave open to air
- Infectious whilst discharging pus
- Spread by direct contact, sharing towels etc
- Carried in nose of 20-30% population
- **Exclude** until spots healed/crusted over or after 48 hours antibiotics



Fifth disease (slapped cheek disease) Parvovirus B19.

- Red rash on cheeks, lace like rash on body & limbs, lasting up to 3 weeks
- Infectious before onset of rash (3-5 days)
- Mostly spread by sneezing, coughing
- No need for exclusion
- Pregnant women, immunocompromised,



seek advice



Hand, foot and mouth disease



- Coxsackie virus
- Usually affects children under 10 years
- Sore throat, fever, blisters in mouth and throat, sometimes on hands and feet
- Spread by close contact with blisters or nasal discharge, also by contact with faeces
- No exclusion unless unwell.
- No treatment required.



Conjunctivitis

- Inflammation of the white of the eye
- Bacterial or viral cause
- Spread by direct contact with discharge – sneezing, on hands, towels and wash cloths
- Ointments/drops for bacterial infection (never share!)
- No exclusion if being treated



Ringworm

- Not a worm but a fungus
- Occurs on scalp, body, groin, hand, foot or nail
- Spread by contact with infected person or animal
- Use separate face cloths, towels, combs etc
- No exclusion
- Treatment from GP



Threadworm



- Tiny white worms that live in bowel
- Itching round back passage
- Spread by poor hand hygiene
- Eggs can get into carpets, bed linen etc
- Can recur even if treated
- Hand hygiene VERY important
- No exclusion



Viral Gastroenteritis

- **Transmission:** Person to person by the faecal oral route, environmental contamination especially toilets, contaminated food and water.
- **Incubation period:** 24 to 48 hours
- **Infectious period:** Infectivity lasts for 48 hours after resolution of symptoms the infective dose is extremely low.
- **Exclusion period:** 48 hours after symptoms have resolved.
- **Symptoms:** Vomiting, diarrhoea, fever
- **Implications for schools - key is controlling spread of infection:**
 - Enforcing exclusion v working parents
 - Promoting handwashing
 - Environmental Cleaning practices/dealing with



Promote Good Practice

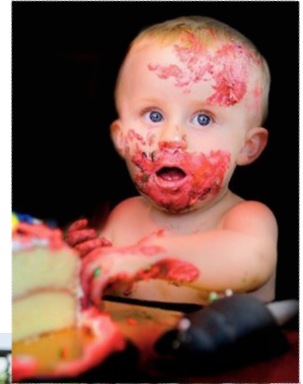
- Encourage uptake of vaccine if available
- Provide suitable hand washing facilities – ensure regular use!
- Ensure disposable gloves and aprons available
- Establish daily cleaning routine
- Establish rota for cleaning toys, sand, water play areas etc



Raising Children's Awareness

Teach the importance of regular handwashing and supervise children, especially;

- After going to the toilet
- Before eating
- Before cleaning teeth
- After wiping noses and disposing of tissues
- After covering mouths when sneezing or coughing

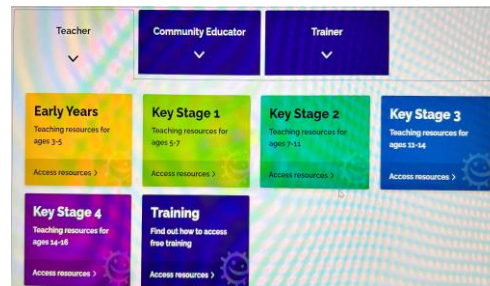


Further Information

[Health protection in education and childcare settings - GOV.UK \(www.gov.uk\)](https://www.gov.uk)

[UK Health Security Agency - GOV.UK \(www.gov.uk\)](https://www.gov.uk)

www.e-bug.eu



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