

Guidance

# What infections are, how they are transmitted and those at higher risk of infection

Updated 13 February 2023

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This publication is available at <https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/what-infections-are-how-they-are-transmitted-and-those-at-higher-risk-of-infection>

# Infections in children and young people settings

Infections are common and for most people the risk of severe disease is low. Infections can be acquired at home or in the community and brought into settings or acquired and spread within the setting.

Infections are caused by micro-organisms such as bacteria, viruses, fungi, and parasites, otherwise known as germs. Germs are everywhere and most do not cause infection and can even be beneficial. However, some germs can cause infections<sup>(1)</sup> when they get into the wrong place, which can result in symptoms such as fever and sickness.

Further information about micro-organisms, and how to teach about them, is available from the [e-Bug website \(https://www.e-bug.eu/\)](https://www.e-bug.eu/).

## How infections spread

It is important to understand how germs are spread and actions that can be taken to break the chain of infection.

The mode of transmission is a term used to describe how germs are spread from person to person<sup>(2)</sup>. There are different ways that this can happen. The precautions that can be taken to reduce transmission depend on the mode of transmission.

### Airborne or droplet spread

Respiratory infections can spread easily between people. Sneezing, coughing, singing, and talking may spread respiratory droplets (aerosols) from an infected person to someone close by. Airborne infections can spread without necessarily having close contact with another person via small respiratory particles. Droplets from the mouth or nose may also contaminate hands, cups, toys, or other items and spread to those who may use or touch them, particularly if they then touch their nose or mouth. These can penetrate deep into the lungs (respiratory system). Examples of infections that are spread in this way are the common cold, coronavirus (COVID-19), influenza, and whooping cough.

Measures can be taken to prevent and control airborne spread infections. These include precautions such as [ventilation \(https://www.gov.uk/guidance/ventilation-to-reduce-the-spread-of-respiratory-infections-including-covid-19\)](https://www.gov.uk/guidance/ventilation-to-reduce-the-spread-of-respiratory-infections-including-covid-19), to prevent respiratory particles from spreading where there is no close contact between people; and droplet precautions, such as [respiratory hygiene \(https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/preventing-and-controlling-infections#respiratory-and-cough-hygiene\)](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/preventing-and-controlling-infections#respiratory-and-cough-hygiene), which can prevent droplets from transferring from the respiratory tract of one person directly to the eyes, nose and mouth of others.



Preventing the spread of respiratory infections requires everyone in the setting to adopt good respiratory hygiene behaviours. Further guidance on respiratory hygiene for staff, along with suggested activities to support students to embed these, are included in the [e-Bug respiratory hygiene resources \(http://www.e-bug.eu\)](http://www.e-bug.eu).

### [More information on specific respiratory infections](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-specific-infectious-diseases-a-to-z)

[is available.](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-specific-infectious-diseases-a-to-z)

## Direct contact spread

Some infections can be spread by direct contact with the infected area to another person's body, or via contact with a contaminated surface. This is the most common route of cross-infection from one person to another (transmission of infection).

Examples of infections of the skin, mouth and eye that are spread in this way are [scabies](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-specific-infectious-diseases-a-to-z#scabies), [headlice](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-specific-infectious-diseases-a-to-z#head-lice), [ringworm](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-specific-infectious-diseases-a-to-z#ringworm) and [impetigo](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-specific-infectious-diseases-a-to-z#impetigo).

Gastro-intestinal infections can spread from person to person when infected faeces or vomit are transferred to the mouth either directly or from contaminated food, water, or objects such as toys, door handles or toilet flush handles. Examples of infections spread in this way include [hepatitis A](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-specific-infectious-diseases-a-to-z#hepatitis-a), [Shiga Toxin-producing Escherichia Coli \(STEC\)](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-specific-infectious-diseases-a-to-z#e-colistecshiga-toxin-producing-ecoli), and [norovirus](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-specific-infectious-diseases-a-to-z#norovirus).

Blood borne viruses are viruses that some people carry in their blood and can be spread from one person to another by contact with infected blood or body fluids, for example, while attending to a bleeding person or injury with a used needle.

Examples of infections spread in this way are [hepatitis B](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-specific-infectious-diseases-a-to-z#hepatitis-b) and human immunodeficiency virus (HIV).

Measures can be taken to prevent and control infections that spread via direct contact with a person or indirectly from the person's immediate environment (including equipment). This includes precautions such as [cleaning](#)



<https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/preventing-and-controlling-infections#cleaning>) and [safe management of the environment \(https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/preventing-and-controlling-infections#safe-management-of-the-environment\)](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/preventing-and-controlling-infections#safe-management-of-the-environment).

[More information on specific infections](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-specific-infectious-diseases-a-to-z)

<https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-specific-infectious-diseases-a-to-z>) is available.

## Groups at higher risk from infection

For most people, the risk from common infections is low and few will become seriously unwell. There are some groups of people who are either at higher risk of contracting an infection, or at risk of more severe illness or other consequences because of contracting the infection.

A small number of people have impaired immune defence mechanisms in their bodies either because of a medical condition or due to treatment they are receiving (known as immunosuppressed). People who are immunosuppressed may have a reduced ability to fight infections and other diseases.

Most people in this group will be under the care of a hospital specialist and will have received advice on the risks to them and when to seek medical advice. People in this group should continue to attend their education or childcare setting unless advised otherwise by their clinician.

Usually, the setting will be aware and it is important this information is shared with the school nurse or other setting-specific healthcare professional.

If a child who may be at higher risk due to their immunosuppressed status is thought to have been exposed to an infection in the setting, the parents and carers should be informed immediately so that they can seek further medical advice from their GP or specialist, as appropriate.

Other people in the setting who may be at risk due to their immunosuppressed status and may have been exposed to an infectious disease, should also be informed immediately so they can seek further medical advice from their GP or specialist, as appropriate.

Women who are pregnant should ensure they are up to date with the recommended vaccinations, including COVID-19 immunisation (see [Supporting immunisation programmes \(https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/supporting-immunisation-programmes\)](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/supporting-immunisation-programmes)).

Pregnant women should consult their midwife or GP immediately if they meet people with measles, mumps, rubella, slapped cheek syndrome and chickenpox as contact with these illnesses can affect the pregnancy and/or development of the unborn baby. They should also avoid contact with animal litter trays due to the risk of toxoplasmosis. Consider that you may not be aware of which people are pregnant, so ensure information is available to all.



For more information on protecting pregnant staff in the workplace, refer to the [Health and Safety Executive's guidance on mothers](https://www.hse.gov.uk/mothers/) (<https://www.hse.gov.uk/mothers/>).

## Management of an infectious individual

The term 'exclusion' is used in this guidance to define the amount of time an individual should be advised to not attend a setting to reduce transmission while they are infectious. This is different from 'exclusion' as used in an educational sense.

Prompt exclusion of people who are unwell with an infectious disease is essential to preventing the spread of infection in settings. A [quick reference table](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/children-and-young-people-settings-tools-and-resources#exclusion-table) (<https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/children-and-young-people-settings-tools-and-resources#exclusion-table>) is available.

People with mild respiratory symptoms such as a runny nose, sore throat, or slight cough who are otherwise well and do not have a high temperature can continue to attend their education or childcare setting.

All settings should have a local policy for the appropriate exclusion or isolation of people while they are likely to be infectious for [specific diseases](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-specific-infectious-diseases-a-to-z) (<https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-specific-infectious-diseases-a-to-z>), as outlined in [Managing outbreaks and incidents](https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-outbreaks-and-incident) (<https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities/managing-outbreaks-and-incident>). They should also have a procedure for contacting parents and/or carers when children become unwell in the setting. In residential settings, exclusion may not be possible, and individuals may require a separate placement within the setting. If separate placement is not possible within residential settings, the setting should contact their health protection team (HPT) for further advice.

Exclusion on public health grounds may cause some people to feel isolated or anxious. In these situations, consider signposting them to mental health and wellbeing support services:

- [NHS Every Mind Matters website](https://www.nhs.uk/every-mind-matters/) (<https://www.nhs.uk/every-mind-matters/>)
- [Children's mental health – NHS Every Mind Matters](https://www.nhs.uk/every-mind-matters/supporting-others/childrens-mental-health/) (<https://www.nhs.uk/every-mind-matters/supporting-others/childrens-mental-health/>)

## References

1. Wilson J (2001) Infection Control in Clinical Practice (2nd Edition) Bailliere Tindall: Edinburgh
2. Hawker, J, Begg, N, Reintjes, R, Ekdahl, K, Edeghere, O, van Steenberg, J. (2019). Communicable Disease Control and Health Protection Handbook. Wiley

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