

# Measles

## Introduction

Measles is a highly infectious viral illness that can be very unpleasant and can sometimes lead to serious complications. However, it's now uncommon because of the effectiveness of the MMR vaccination.

The initial symptoms of measles develop around 10 days after you are infected. These can include:

cold-like symptoms

red eyes and sensitivity to light

a high temperature (fever)

greyish white spots in the mouth and throat

After a few days, a red-brown spotty rash will appear. This usually starts behind the ears and then spreads around the head and neck before spreading to the rest of the body.

Read more about the symptoms of measles.

## When to see your DOCTOR

You should contact your DOCTOR as soon as possible if you suspect that you or your child may have measles.

It's best to phone before your visit as your DOCTOR surgery may need to make arrangements to reduce the risk of spreading the infection to others.

Your DOCTOR will usually be able to diagnose measles from the combination of symptoms, although a sample of your saliva may be tested to confirm the diagnosis.

## How measles is spread

The measles virus is contained in the millions of tiny droplets that come out of the nose and mouth when an infected person coughs or sneezes.

You can easily catch measles by breathing in these droplets or, if the droplets have settled on a surface, by touching the surface and then placing your hands

near your nose or mouth. The measles virus can survive on surfaces for a few hours.

When inside your body, the virus multiplies in the back of your throat and lungs before spreading throughout your body.

People with measles are infectious from when the first symptoms develop until about four days after the rash first appears. Therefore, school or work should be avoided for at least four days from when the rash first appeared to limit the spread of infection.

### Who is affected

Anyone can get measles if they haven't been vaccinated or they haven't had it before, although it's most common in children between one and four years old.

Once you have had measles, it is very rare to develop the infection again in the future because your body builds up immunity (resistance) to the virus.

### How to prevent measles

The most effective way of preventing measles is to have the measles, mumps and rubella (MMR) vaccine.

The first MMR vaccination is routinely given when your child is around 13 months old and a second is given before your child starts school.

Adults and 6-13 month old children can also have the MMR vaccine if they are at risk of catching measles. For example, vaccination may be recommended if there is an outbreak of measles in your local area, or if you have been in close contact with someone who has measles.

Read more about preventing measles.

### Treating measles

There's no specific treatment for measles, but your immune system should fight off the infection within 7-10 days.

There are several things you can do to help make your recovery more comfortable, including:

closing the curtains to help reduce light sensitivity

using damp cotton wool to clean the eyes

taking paracetamol or ibuprofen to relieve fever, aches and pains (aspirin should not be given to children under 16 years old)

drinking plenty of water to avoid dehydration

In severe cases of measles, especially if there are complications, you may need to be admitted to hospital for treatment.

Read more about treating measles.

### Complications of measles

Measles can lead to very serious complications that can sometimes be fatal. These include bacterial infection in the lungs (pneumonia) and the brain (encephalitis).

People most at risk of developing serious complications include babies younger than 12 months, children in poor health, teenagers and adults.

It's estimated that around one in every 5,000 people with measles will die as a result of a serious complication.

Read more about the complications of measles.

### Symptoms of measles

The initial symptoms of measles usually appear around 10 days after you become infected and disappear about 7-10 days later.

The initial symptoms can include:

cold-like symptoms – such as a runny nose, watery eyes, swollen eyelids and sneezing

red eyes and sensitivity to light

a high temperature (fever), which may peak at around 40°C (104°F)

tiredness, irritability and a general lack of energy

aches and pains

dry cough

tiny greyish-white spots (called Koplik's spots) in the mouth and throat

loss of appetite

The initial symptoms of measles are then followed by a red-brown spotty rash that develops a few days later.

### The measles rash

The measles rash appears two to four days after the initial symptoms and lasts about a week.

The spots usually start behind the ears, before spreading outwards to the head, neck and rest of the body over the next few days.

The spots are initially small but quickly get bigger and often join together. Similar-looking rashes may be mistaken for measles, but measles has a range of other symptoms too, not just a rash.

Use the childhood conditions slideshow to see what the measles rash looks like.

### When to seek medical advice

You should contact your DOCTOR as soon as possible if you suspect that you or your child have measles.

It's best to phone before your visit as your DOCTOR surgery may need to make arrangements to reduce the risk of spreading the infection to others.

Your DOCTOR will usually be able to diagnose measles from the combination of symptoms, although a sample of your saliva may be tested to confirm the diagnosis.

### Treating measles

There is no specific treatment for measles, but the condition usually improves without treatment within 7-10 days.

### Relieving symptoms

If the symptoms of measles are causing discomfort for you or your child, there are some things you can do to treat these while you wait for your immune system to fight off the virus.

### Controlling fever and relieving pain

If necessary, paracetamol or ibuprofen can be used to reduce a high temperature (fever) and treat any aches or pains. Liquid infant paracetamol can be used for young children. Aspirin should not be given to children under 16 years old.

Speak to your pharmacist if you are not sure which medications are suitable for your child.

#### Drink plenty of fluids

If your child has a high temperature, make sure they drink plenty of fluid because they may be at risk of dehydration. Keeping hydrated will also help reduce discomfort caused by coughing.

#### Treating sore eyes

You can gently clean away any crustiness from your eyelids and lashes using cotton wool soaked in water.

Closing curtains or dimming lights can help reduce any light sensitivity.

#### Treating cold-like symptoms

If you have cold-like symptoms such as a runny nose or a cough, there are a number of things you can do to feel more comfortable.

For example, steam inhalation may offer some relief from a cough. This involves sitting with your head over a bowl of hot water. Place a towel over your head, close your eyes and breathe deeply, while trying not to get the hot steam in your eyes.

Steam inhalation is not advised for children because of the risk of scalding, but it might help your child if they sit in a hot, steamy bathroom. Alternatively, putting a wet towel on a warm radiator will release more water into the air.

Giving your child warm drinks, particularly ones containing lemon or honey, may also help to relax their airways, loosen mucus and soothe a cough. However, honey should not be given to babies under 12 months.

#### Limiting the spread of infection

While you have measles, it is important to reduce the risk of spreading the infection to other people.

If you or your child have the condition, you should avoid work or school for at least four days from when you first developed the measles rash.

You should also try to avoid contact with people who are more vulnerable to the infection, such as young children and pregnant women.

### Spotting signs of serious illness

If you or your child have been diagnosed with measles, you should keep an eye out for any signs of the serious complications that can develop while your body is trying to clear the infection.

Signs of a more serious problem can include:

shortness of breath

a sharp chest pain that feels worse with breathing

coughing up blood

drowsiness

confusion

convulsions (fits)

Read more about the complications of measles.

### Complications of measles

Complications can develop from measles, some of which can be extremely serious.

It's estimated that around one in every 5,000 people with measles will die as a result of a serious complication.

Complications of measles are more likely to develop in certain groups of people, including:

babies younger than one year old

children with a poor diet

children with a weakened immune system, such as those with AIDS or those having chemotherapy for leukaemia

teenagers and adults

Children who are older than one year and otherwise healthy have the lowest risk of developing serious complications.

## Common complications

More common complications of measles include:

diarrhoea

vomiting

middle ear infection (otitis media), which can cause earache

eye infection (conjunctivitis)

inflammation of the voice box (laryngitis)

pneumonia, bronchitis and croup (infections of the airways and lungs)

fits caused by a fever (febrile seizures)

## Uncommon complications

Less common complications of measles include:

liver infection (hepatitis)

misalignment of the eyes (squint), if the virus affects the nerves and muscles of the eye

infection of the membranes surrounding the brain and spinal cord (meningitis) and infection of the brain itself (encephalitis)

## Rare complications

In rare cases, measles can lead to the following conditions:

serious eye disorders, such as an infection of the optic nerve (the nerve that transmits information from the eye to the brain), known as optic neuritis, which can lead to blindness

heart and nervous system problems

a fatal brain complication known as subacute sclerosing panencephalitis (SSPE), which can sometimes occur several years after measles – however, this is very rare, occurring in only one in every 25,000 cases of measles

## Pregnancy complications

If you are not immune to measles and you become infected while you are pregnant, there is a risk of:

a miscarriage

stillbirth

your baby being born prematurely (before the 37th week of pregnancy)

your baby having a low birthweight

If you're pregnant and you think you've come into contact with someone with measles and you know you're not immune, you should see your DOCTOR as soon as possible. Your DOCTOR can advise you about treatment to reduce your risk of developing measles. Read more about preventing measles.

Preventing measles

The best way to avoid catching measles is to have the measles, mumps and rubella (MMR) vaccine.

The MMR vaccine

The MMR vaccine is part of the routine childhood vaccination programme. One dose is usually given to a child when they are 12-13 months old and a second dose is given before they start school, usually between three and five years old.

Contact your DOCTOR if you are uncertain about whether your child's vaccinations are up to date.

Adults and children who are 6-13 months old can also have the MMR vaccine if they are at risk of catching measles. For example, vaccination may be recommended if there is an outbreak of measles in your local area, you have been in close contact with someone who has measles, or you are planning on travelling to an area where the infection is widespread.

Children who have the vaccine before their first birthday should still have the two routine doses at around 13 months of age and before they start school.

If you are not sure whether you were vaccinated in the past, having the MMR vaccine again will not cause you any harm.

Children under six months

The MMR vaccine is not recommended for babies aged under six months. If the child's mother has had measles in the past, the child will usually have some antibodies to measles already in their system, passed on from their mum at the time of birth. These antibodies may give them some protection for the first few months after they are born.

If their mother has not had measles before getting pregnant, a child under six months old may be given an injection of human normal immunoglobulin (HNIG) if they have a weakened immune system. HNIG is not a vaccine. It is a special concentration of antibodies that can give short-term but immediate protection against measles.

### Pregnant women

If you're planning to get pregnant and you have not had measles in the past, talk to your DOCTOR about having the MMR vaccine.

The MMR vaccine is not recommended during pregnancy, so you may be offered a HNIG injection instead if there is a risk you have been exposed to the measles virus while you are pregnant.

### Limiting the spread of infection

While you have measles, it is important to reduce the risk of spreading the infection to other people.

If you or your child have the condition, you should avoid work or school for at least four days from when you first developed the measles rash.

You should also try to avoid contact with people who are more vulnerable to the infection, such as young children and pregnant women.

### **MMR vaccine**

MMR is a safe and effective combined vaccine that protects against three separate illnesses - measles, mumps and rubella (German measles) - in a single injection. The full course of MMR vaccination requires two doses.

Measles, mumps and rubella are very common, highly infectious, conditions that can have serious, potentially fatal, complications, including meningitis, swelling of the brain (encephalitis) and deafness.

They can also lead to complications in pregnancy that affect the unborn baby and can lead to miscarriage.

Since the MMR vaccine was introduced in 1988, it's rare for children in the UK to develop these serious conditions. However, outbreaks happen and cases of measles in particular have been rising in recent years, so it's important to make sure your children and yourself are up-to-date with MMR vaccination.

### MMR vaccine for babies and pre-schoolers

MMR vaccine is given as a single injection to babies as part of their routine vaccination schedule, usually within a month of their first birthday.

They will then have a second injection of the vaccine before starting school, usually between the ages of three and five.

The MMR vaccine can sometimes be given to babies from six months of age if they may have been exposed to the measles virus, or during a measles outbreak.

Babies under six months can't have the MMR vaccine because they don't respond to it well. However, they usually have some antibodies to measles already in their system, passed on from their mum at the time of birth, which may give them some protection for the first few months.

The MMR vaccine is given as a single injection into the muscle of the thigh or upper arm.

Read more about which children and adults should have the MMR vaccine.

All schoolchildren aged 10-16 who are unvaccinated should have the MMR jab to protect them against the current measles outbreak. Read about the MMR catch-up campaign.

### MMR for older children

Children of any age up to 18 who missed, or only partially completed, their earlier MMR vaccination, can have a 'catch-up' vaccination.

If you know, or suspect, your child hasn't been fully immunised, arrange with your DOCTOR for them to have a catch-up MMR vaccination,

### MMR for women planning pregnancy

If you are a woman thinking about getting pregnant you may need MMR vaccination if you have low levels of rubella antibodies or you haven't had a rubella or MMR vaccination before.

Ask your DOCTOR to check if you're not sure whether you've had rubella or MMR before. They can arrange MMR vaccination to protect you against rubella.

Be aware that the MMR vaccination is not suitable for women who are already pregnant or who become pregnant soon after (within one month of) vaccination.

#### MMR for non-immune adults

The MMR vaccine can also be given to certain other adults who may need it including people born between 1970 and 1979 who may have only been vaccinated against measles also need the MMR vaccine, as well as those born between 1980 and 1990 who may not be protected against mumps.

Check with your DOCTOR if you're not sure whether you've had MMR. If in doubt, go ahead and have the MMR vaccination, it won't harm you to have a second vaccination.

#### How the MMR vaccine works

The MMR vaccine contains weakened versions of live measles, mumps and rubella viruses.

The vaccine works by triggering the immune system to produce antibodies against measles, mumps and rubella.

If you or your child then comes into contact with one of the diseases, the immune system will recognise it and immediately produce the antibodies needed to fight it.

It's not possible for people who have recently had the vaccine to infect other people.

#### Does the MMR vaccine cause autism?

There has been some controversy about whether the MMR vaccine might cause autism, following a study published in 1998 by Dr Andrew Wakefield. In his paper published in *The Lancet*, Dr Wakefield claimed a link between the MMR vaccine and autism or bowel disease.

However, Andrew Wakefield's work has since been completely discredited and he has been struck off as a doctor in the UK. Subsequent studies during the last eight years have found no link between the MMR vaccine and autism or bowel disease.

Single measles, mumps and rubella vaccines

The delay in having six separate injections would also put more children at risk of developing the conditions, as well as increasing the amount of work and inconvenience for parents and those administering the vaccines.

Side effects of MMR vaccine

As there are three separate vaccines within a single injection, different side effects can occur at different times. The side effects of the MMR vaccine are usually mild. It's important to remember that they're milder than the potential complications of measles, mumps and rubella.

Side effects include:

developing a mild form of measles that lasts for two to three days

developing a mild form of mumps that lasts for a day or two

In rare cases, a small rash of bruise-like spots may appear a number of weeks after the injection. See your DOCTOR if you notice this kind of rash, or if you have any concerns about your child's symptoms following the MMR.