

Rubella (German measles)

Rubella (German measles) is an infection caused by the rubella virus. Although it most commonly occurs in young children, it can affect anyone. The illness is usually mild. However, rubella in a pregnant woman can cause serious damage to the unborn child. Immunisation with the measles, mumps and rubella vaccine (MMR vaccine) has made rubella uncommon in the UK.

What is rubella?

Rubella is also known as German measles. It is usually a mild illness. However, if a pregnant woman has the rubella virus, it is likely to cause serious damage to the unborn child or cause a miscarriage. Rubella can lead to damage to the heart, brain, hearing and sight. The baby is likely to be born with a very serious condition called the congenital rubella syndrome.

Since rubella immunisation was introduced in 1970 there has been a dramatic fall in the number of babies born with the congenital rubella syndrome. Rubella is now a very uncommon infection in the UK as a result of the vaccination programme. However, rubella is still common in many developing countries.

What are the symptoms of rubella?

The majority of people have no symptoms when they are infected with the rubella virus (German measles). This is called a subclinical infection. If symptoms do develop, they include the following:

- Swollen glands, usually behind the ears and at the back of the neck. Sometimes glands in other parts of the body swell. The glands gradually go back to normal over a week or so.

- A spotty, pink-red rash develops any time up to seven days after the glands swell. The rubella rash usually starts behind the ears, then spreads to the face and neck and then spreads to the rest of the body. The rash lasts 3-5 days before fading.
- A mild raised temperature (fever), cold, cough and sore throat are common.
- Sore red eyes (conjunctivitis) may develop for a few days.
- Joint pains, like a mild arthritis, may develop for a week or so. This is less common in children but is quite common in adults with rubella.
- Other symptoms may include tiredness and headache.

Bleeding disorders and brain inflammation (encephalitis) are rare complications.

Note: rubella rarely causes complications in healthy people. The main concern of rubella is that it can cause complications in pregnancy.

How is rubella transmitted?

Rubella (German measles) is infectious. That means you catch it from another person who has the rubella virus. Rubella is passed on by direct contact and by coughing and sneezing the virus into the air. It takes 2-3 weeks to develop symptoms after being infected. You are infectious from one week before symptoms begin until four days after the rash appears. Therefore, affected children should stay away from school and not mix with others for four days after the rash starts. Infected adults should stay away from work for four days to try to reduce the chance of spreading the infection.

Rubella in pregnancy

If you are pregnant and have rubella (German measles) in the first few months of pregnancy, there is a high chance that the rubella virus will cause severe damage to your developing baby. The virus affects the developing organs and the baby may be born with serious disability – the congenital rubella syndrome.

Complications of congenital rubella syndrome (rubella birth defects) include cataracts, deafness, and heart, lung and brain abnormalities.

Having rubella infection in the first three months of pregnancy also increases your risk of having a miscarriage:

- If you are pregnant and come into contact with someone with rubella you should check your rubella status. Your midwife or doctor will normally have a record of this if you do not know. (A blood test is routinely taken early in pregnancy. This checks to see if you are immune and have antibodies in your blood against rubella.) Most women are immune due to previous immunisation and will not develop rubella. No further action is needed if you are known to be immune. You do not need a rubella booster.
- If you are not immune and come into contact with someone with rubella then blood tests may be advised. These can tell if you are developing rubella before symptoms begin. Further action depends on the results of these tests.
- See a doctor if you are pregnant and develop an illness that you think may be rubella. Rubella is uncommon now due to immunisation. Other viruses can cause rashes similar to rubella. Most viruses do not harm the unborn child. Blood tests can confirm or rule out rubella if it is suspected.

In the unlikely case that you are confirmed to have rubella, you will be referred to a doctor who specialises in pregnancy and childbirth (an obstetrician). The obstetrician will discuss with you the possibility of your baby having congenital rubella syndrome. The risk is greater if you are less than 20 weeks pregnant. If you are more than 20 weeks pregnant, then the risk of your unborn baby developing congenital rubella syndrome is very small. No treatment can prevent the development of congenital rubella syndrome.

Note: it is **very** rare for a pregnant woman to catch rubella in the UK. [See separate leaflet called Rubella and Pregnancy for more detailed information.](#)

How can you test for immunity to rubella?

Even if you have had a rubella (German measles) immunisation, or have had rubella infection, there is still a small chance that your body has not made enough antibodies against the rubella virus to protect you. The only way to check whether the immunisation has worked is to have a blood test. This checks for rubella antibodies. [Antibodies](#) are proteins your body produces to fight infections. The rubella blood test checks for two types of antibodies:

- IgG antibody: this will be present if you have had a rubella vaccine in the past, or if you have had a rubella infection in the past. This means you are immune to rubella and should not be able to catch it.
- IgM antibody: this will be present if you have been recently infected with the rubella virus.

Because the congenital rubella syndrome is so important to avoid, if you are thinking about becoming pregnant for the first time, you should have a blood test to check that you are protected. If your blood test shows you have IgG antibodies for rubella, you will be immune.

This blood test is offered to all women in the UK who are pregnant and it may also be offered to younger women in routine health checks. However, if you have not had it, you should ask your practice nurse or GP for the blood test. In particular, women who have come to the UK from overseas and have not been immunised are at greatest risk of having a baby with congenital rubella syndrome.

What is the treatment for rubella?

There is no treatment that will kill the rubella (German measles) virus. Most people with rubella are not very ill, do not need any treatment and soon make a full recovery. 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 bout of rubella.

- Paracetamol will ease a high temperature (fever) or aches and pains. Ibuprofen is an alternative.
- You should give children lots to drink if they have a fever.
- See a doctor if any worrying or unusual symptoms develop.

Rubella immunisation

Immunisation is now offered to all children in the UK as part of the measles, mumps and rubella (MMR) vaccine. Two doses of the vaccine are needed to provide satisfactory protection against rubella (German measles). These are normally given before the age of 5 years.

In the UK, the first dose is usually given between 12 and 13 months. A second dose is usually given at age 3 years and 4 months. Both doses are given at the same time as other vaccinations as part of the [childhood immunisation schedule](#).

Older children and teenagers are sometimes offered the vaccine when there is an outbreak if they missed the injection when they were younger. However, those who have had the full course of two doses when young do not need a rubella booster.

Immunisation gives very good protection and so rubella is now uncommon in the UK. The number of babies born with congenital rubella syndrome has greatly reduced since routine immunisation was introduced.

It is extremely important that **all** children be immunised against the rubella virus to prevent any complications of rubella occurring. [See separate leaflet called MMR Immunisation for more details](#).

If you are a woman and are planning to get pregnant, if you are unsure if you are immune then see your practice nurse or GP. A blood test will confirm if you are immune. If you are not immune then you can be immunised before you become pregnant.

What is the difference between German measles and measles?

German measles (rubella) is caused by a different virus to the virus which causes measles, so **they are completely different conditions**. They do have some similar symptoms, such as a rash, temperature and cold-like features. Both are now uncommon in the UK as the combined vaccine, measles, mumps and rubella (MMR) vaccine, protects against both. If you catch measles in pregnancy, it may cause some problems but these are different problems to those caused by German measles. Measles in pregnancy may make you more likely to have a miscarriage or early (premature) delivery, whereas German measles causes your baby to have birth defects. [See separate leaflet called Measles for more information.](#)

Further reading

- [Muscat M, Zimmerman L, Bacci S, et al](#); Toward rubella elimination in Europe: An epidemiological assessment. *Vaccine*. 2011 Dec 14.
- [Rubella \(German measles\): guidance, data and analysis](#); GOV.UK. April 2013, last updated November 2022.
- [Rubella](#); NICE CKS, July 2015 (UK access only)
- [Rubella fact sheet](#); World Health Organization (WHO)

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Authored by:	Peer Reviewed by: Dr John Cox, MRCP	
Originally Published: 19/11/2023	Next review date: 28/12/2017	Document ID: doc_4534

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