

# Rubella

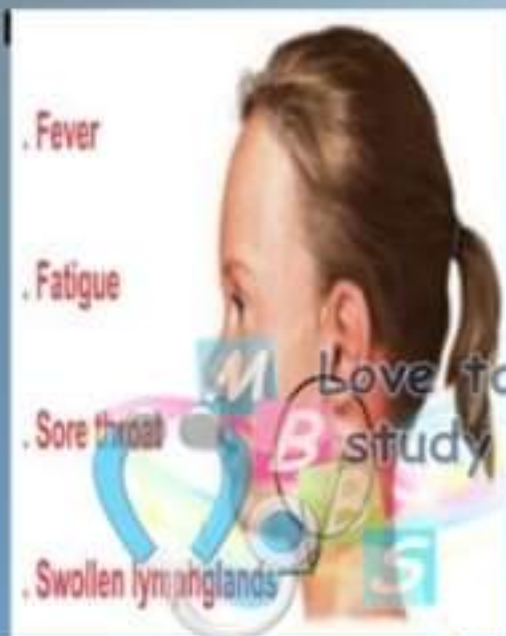


# Rubella

Rubella, also called German measles or three-day measles, is a contagious viral infection best known by its distinctive red rash. Aside from the rash, people with German measles usually have a fever and swollen lymph nodes.



Microscopic view of rubella virus



. Fever

. Fatigue

. Sore throat

. Swollen lymph glands

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## Key facts

- Rubella is a contagious, generally mild viral infection that occurs most often in children and young adults.
- Rubella infection in pregnant women may cause fetal death or congenital defects known as congenital rubella syndrome (CRS).
- Worldwide, over 100 000 babies are born with CRS every year.
- There is no specific treatment for rubella but the disease is preventable by vaccination.





# Chain Of Infectious

## Etiologic Agent

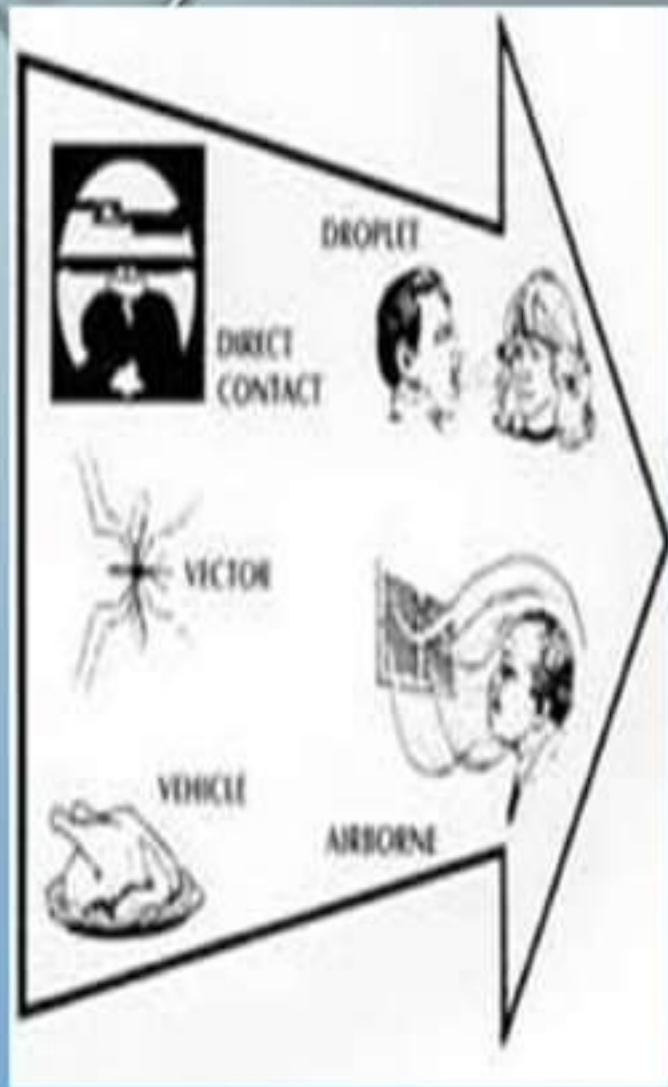
Rubella is caused by the RNA virus of the Togavirus family or the family togaviridae or the *Rubivirus*

## Reservoir

People, typically children in unvaccinated populations and typically adolescents and adults in well immunized

## Portal of Exit





# Mode of Transmission

§ Direct or droplet contact with an infected person's respiratory secretions, from 1 week prior to onset of rash to 1-2 weeks after disappearance of rash  
(spreads when an infected person coughs or sneezes)

§ Transplacental transmission to a fetus by a mother with an active infection (while pregnant, the fetus is usually born with the infection and can be born very easily)



## The portal of entry



The respiratory tract.

- The portal of entry is through the respiratory tract. Mucus membrane through the respiratory tract to blood and then spreads to distant sites. Lymphoid, skin and organs.
- Maternal viremia, placental infection and transplacental spread to the fetus





## Susceptibility and resistance to rubella

- ❑ Immunity after natural disease is usually lifelong. Immunity after vaccination is long term and usually lifelong, although reinfection of vaccine recipients has been observed, including asymptomatic reinfection.
- ❑ Passive maternal immunity is acquired transplacentally. Infants born to immune mothers are ordinarily protected for 6–9 months, depending on the amount of maternal antibodies transferred



# Control and

## Treatment

❑ Rubella is typically a mild disease and no specific treatment has been found. Rest and fluids are typically the treatment for the disease. Pain relievers like acetaminophen and aspirin can be used to reduce fevers and inflammation. People remain contagious for about 7 days after the onset of the rash, and they should be isolated from school, work, and non-immunized people (6). Treatment to CRS depends on the type of defect caused and should be treated according to treatment of specific defects (3).

❑ If a person with suspected rubella is pregnant, the diagnosis should be confirmed serologically, and the patient referred to a specialist obstetrician for advice, taking care not to expose other pregnant women to possible infection in the process





# P R E V E N T I O N

**Prevention:** Rubella is most commonly prevented by the rubella vaccine. The widespread use of the vaccine prevents outbreaks and the occurrence of birth defects due to CRS. The vaccine is typically given to children between 12 and 15 months as part of their Measles-Mumps-Rubella shot (MMR). A second dose of the vaccine is given at 4-6 years of age (5). The vaccine provides life-long protection against the disease (4). The vaccine is very safe and only occasionally has complaints of fever, lymphadenopathy, arthralgia, and pain at the injection site. People who have acquired the disease naturally are also immune to infection again. The best way to prevent rubella is by the maintenance of high immunization levels, intense surveillance of

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