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# Measles, Mumps and Rubella



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## Measles

### Causative Agent

Measles is caused by a virus called measles virus.

### Mode of Transmission

As one of the most communicable infectious diseases, measles is transmitted airborne by droplet spread or by direct contact with nasal or throat secretions of infected individuals. One can get infected by another from 4 days before to 4 days after rash appears. Incubation usually lasts from 7 to 18 days, even 21 days.



### Clinical Features

First presented with fever, cough, running nose, red eyes and white spots inside the mouth, one will have red blotchy skin rash 3 to 7 days after onset, which spreads from the face to the rest of the body. Skin rash usually persists for 4 to 7 days, or even up to 3 weeks, causing brownish spots and sometimes fine skin peeling. In severe cases, the respiratory system, digestive tract and brain can also get infected and lead to serious or even fatal outcomes.

Measles infection during pregnancy can cause adverse outcomes, including pregnancy loss, preterm birth, and low birth weight, but there is no evidence to suggest an increased risk of birth defects by measles. If mothers have measles shortly before pregnancy, the babies are at a higher risk of developing a very rare and deadly brain disease called “subacute sclerosing panencephalitis” later in life.

### Treatment

If infected, avoid contact with non-immune individuals, especially pregnant women with a weakened immune system and infants below one year of age. In the absence of specific treatment for measles, medications may be prescribed for symptom relief, such as antibiotics for bacterial complications.

## Mumps

### Causative Agent

Mumps is caused by the mumps virus. Sometimes it can affect salivary glands and nerve tissues.

### Mode of Transmission

Mumps is spread by droplets and direct contact with the saliva of the infected. Mumps can be transmitted from the infected to non-immune individuals from 2 days before overt swelling of salivary glands to 5 days after swelling. The incubation period lasts 12 to 25 days, usually 18 days.

### Clinical Features

All ages are susceptible to mumps, and it is more common in children over one year of age. Mumps is characterised by painful swelling of the salivary glands, usually at the cheeks. Other possible complications include deafness, or infection of the brain, pancreas, testicles or ovaries.



### Treatment

No specific treatment is now available. Medications may be prescribed to reduce discomfort.

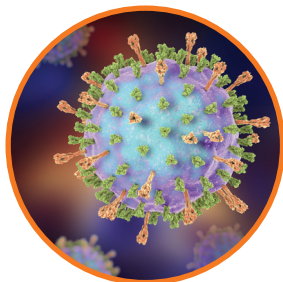
# Rubella

## Causative Agent

Also known as “German Measles”, rubella is caused by rubella virus.

## Mode of Transmission

The transmission route of rubella is via contact with nasal and throat secretions of the infected individuals through droplet spread or direct contact. Highly contagious, rubella can pass to others from one week before to one week after onset of rash. Incubation lasts 12 to 23 days, usually 14 days.



## Clinical Features

Patients usually show symptoms of diffuse rash, fever, headache, malaise, lymph node enlargement, upper respiratory symptoms and conjunctivitis. The rash usually lasts about 3 days, but it may be absent in some patients. Joint pain or arthritis is more common in adult females. Rubella can also cause anomalies in developing fetuses. Characterised by deafness, cataract, heart malformations, mental retardation, etc., congenital rubella syndrome may be diagnosed in infants born to women who got infected during the first 3 months of pregnancy.

## Treatment

No specific treatment is now available. Medications may be prescribed to reduce discomfort.

# Prevention

## Maintain Good Personal Hygiene

- Perform hand hygiene frequently
- Cover the mouth and nose with tissue paper while sneezing or coughing. Dispose of soiled tissues into a lidded rubbish bin, then wash your hands thoroughly
- If you develop fever, rash or respiratory symptoms, wear a surgical mask, refrain from work or school, avoid crowded places and seek medical attention promptly
- To protect non-immune individuals, stay home in the 4 days after the rash first appears if infected
- Regularly clean and disinfect the frequently touched surfaces with 1:99 diluted household bleach. Disinfect metallic surfaces with 70% alcohol
- Use absorbent disposable towels to remove obvious contaminants, such as respiratory secretions. Then disinfect the surface and nearby areas with 1:49 diluted household bleach. Leave for 15 to 30 minutes, then rinse and dry the surfaces. For metallic surface, use 70% alcohol
- Maintain good indoor ventilation
- Children under one year of age, or non-immune pregnant women should not travel to areas with outbreaks or high incidences

## Measles, Mumps and Rubella (MMR) Vaccine

MMR vaccine is covered in the Hong Kong Childhood Immunisation Programme. Women who are at childbearing age and are not yet immunised should receive MMR before pregnancy for foetus protection. It takes about 2 weeks after vaccination for the immunity to develop. People of normal health can enjoy long-term, even lifelong protection after vaccination. One dose of MMR vaccine is 93% effective, two doses 97%. Please consult your doctor about MMR vaccination if you are not sure about your immunisation status.

## When to Receive Vaccination

All children should receive two doses of MMR, i.e. the first dose at one year of age and the second one at 18 months. MMR can be given together with other live vaccines or 4 weeks after receiving live vaccines.

## Individuals with the Following Conditions Should Not Receive MMR Vaccine or Get Vaccinated at a Later Time

- A history of serious allergic reaction to a previous MMR vaccination
- A known history of severe allergy to gelatin or certain antibiotics
- With cancer, on long-term corticosteroids or immunodeficiency
- Pregnancy\*
- Have received blood transfusion, other blood products or immunoglobulin within the past 11 months
- Have received other live vaccines in the past 4 weeks

\*Women should avoid pregnancy for 3 months after vaccination with proper contraception.

## Common Side Effects

- Soreness, redness or swelling at the injection site
- Fever
- Rash



## Rare Side Effects

- Transient swelling of salivary glands
- Swelling of lymph glands (in the head or neck)
- Testicular infection
- Encephalitis
- Meningitis

## Frequently Asked Questions

### 1. How long does it take for immunity to develop after vaccination?

It takes about 14 days after the first dose of vaccination. Vaccine efficacy is 80 to 95%.

### 2. Can pregnant women receive MMR vaccine?

Pregnant women should NOT receive the MMR vaccine.

### 3. Can women planning for pregnancy receive MMR vaccine?

Women should not get pregnant in the 3 months after vaccination.

### 4. How many doses of MMR vaccine are needed?

Adults should receive two doses of MMR vaccine. The doses should be given 28 days apart.

### 5. What are the common side effects of MMR vaccine?

Common side effects include fever, and soreness, redness or swelling at the injection site.

### 6. Can individuals with food or drug allergy receive MMR vaccine?

Those who are allergic to proteins in MMR vaccines should NOT get vaccinated as they may trigger allergic reactions.