



## MEASLES, MUMPS AND RUBELLA

In Australia, children are routinely vaccinated against several diseases which used to be common in the past: measles, mumps and rubella (MMR) are among them. Mumps and measles are human diseases with no animal reservoirs, and they are caused by an RNA virus. These diseases can be avoided by following the MMR vaccination schedule from childhood or by catch-up vaccinations in adulthood.

### MORE ABOUT MEASLES, MUMPS AND RUBELLA

**Measles:** is a highly infectious viral disease that still causes large outbreaks around the world in both developed and developing countries. It is spread through respiratory secretions, including aerosols (in which the virus can survive for up to 2 hours). The incubation period varies from 10-14 days, followed by an early phase of the illness which produces fever and malaise over 2 to 4 days.

An individual is infectious from the beginning of this early phase until around four days after a rash appears. The rash starts on the face, then becomes widespread and is usually accompanied by a cough, cold symptoms and conjunctivitis. Complications such as ear infections and diarrhoea occur in 8-9 per cent of measles patients, but one in 1,000 cases will result in acute encephalitis with a 10-15% death rate.

Pneumonia due to measles infection is a serious complication in the young, killing 60% of those affected. The measles, mumps and rubella (MMR) vaccination schedule should be adhered to as a way of preventing this disease.

**Mumps:** caused by a virus and is known for the swollen salivary glands of the face, jaw and neck, however around one-third of cases show no symptoms. After infection, which is acquired through contact with saliva or respiratory secretions, the illness incubates within the body for 12-25 days. It then produces symptoms including headaches, malaise, fever, muscle aches and loss of appetite.

The infectious period commences 2 days before symptoms appear until 4 days after (but can be longer). While mumps will mostly resolve without incident, complications such as encephalitis occur in approximately 1-2 in 10,000 cases. Other serious outcomes from mumps depend on the areas of the body involved: deafness, orchitis (inflammation of the testes), oophoritis (inflammation of the ovaries), hepatitis and pancreatitis.

**Rubella:** Commonly known as German measles, it is a usually mild viral illness that is spread through droplet or aerosol transmission. The virus incubates over a 2-3 week period and can be transmitted to non-immune individuals from 1 week before the appearance of a rash to 4 days after. Approximately half of all infections do not produce symptoms, but if they are apparent, they can include red rash, swelling of glands around the neck and possibly joint aches and pains.

### WHY FALLING PREGNANT WITHOUT RUBELLA VACCINATIONS IS RISKY

Rubella is well known as a risk to the unborn foetus if the mother contracts the virus, particularly during the first trimester. Infants infected in the uterus may be born with Congenital Rubella Syndrome, suffering issues such as deafness, heart abnormalities, cataracts and retarded growth, amongst others.

### LOCATIONS WHERE MMR IS FOUND

Measles, mumps and rubella are found in countries all over the world.

### MMR INFECTION RISK TO TRAVELLERS

The risk of contracting measles, mumps and rubella is highest in those countries with low immunisation rates.

## ABOUT MEASLES, MUMPS AND RUBELLA VACCINATION

Australian children are vaccinated against measles, mumps and rubella as part of the standard [childhood immunisation](#) schedule. The vaccines used in Australia are the following:

- Live attenuated viral vaccine: MMR
- Live attenuated viral vaccine: MMRV - combined with Varicella (Chickenpox)

Read more about [measles](#), [mumps](#) and [rubella](#) in the online Australian Immunisation Handbook.

## MMR VACCINE SCHEDULE AUSTRALIA

Australian children are vaccinated against MMR as part of the standard [childhood immunisation](#) schedule.

**Childhood schedule:** MMR at 12 months of age, then MMRV at 18 months of age completes the course. (MMRV vaccine is licensed for administration in children aged 14 years and under). Under special circumstances, such as travel to regions experiencing measles outbreaks or following exposure to the measles virus, the MMR vaccine is recommended for infants from 6 months of age. We advise that this information should be discussed with a medical practitioner.

For **Adults** with no immunity - 2 doses of MMR vaccine at least 4 weeks apart. Adults born since 1966 may have only received one dose of MMR vaccine - 1 further dose is needed.

**MMR vaccine contraindications:** Should not be administered to individuals who have previously experienced a serious reaction to this vaccine, who are known to be hypersensitive to any of the vaccine components or who are unable to receive a live vaccine.

## LEVEL OF PROTECTION

Over 95 per cent effective after 2 doses of MMR-containing vaccine.

## POSSIBLE MMR VACCINE SIDE EFFECTS

Generally, the measles, mumps, rubella vaccination side effects are mild but may include: redness, pain or swelling at the injection site, fever, feeling unwell, rash (non-infectious), swelling of salivary glands, stiff neck, joint pains.

As with all vaccines, there is a small risk of allergic reactions.

## MEASLES VACCINATION RATES AROUND THE WORLD

Measles is a highly contagious and serious viral disease that is almost totally preventable by vaccination. Routine vaccinations and mass immunisation campaigns have averted an estimated 31.7 million deaths globally in the past 20 years. Unfortunately, according to an article in the [Lancet](#) quoting a WHO and US Centers for Disease Control and Prevention progress report on the global elimination of measles, vaccination rates not only paused but reversed in 2020.

The estimated first doses of a measles vaccine went from 86% in 2019 to 84% in 2020, and there was a decline in second doses in 2019, which means 22 million children did not receive their first dose of a measles-containing vaccine in 2020.

The 10 areas with the largest populations of unvaccinated children were medium or low income countries with reduced access to health care, such as Afghanistan, India, Pakistan, Indonesia, Nigeria, Ethiopia, the Democratic Republic of the Congo, the Philippines, Angola, and Brazil.

## FAQS

### **DOES MMR VACCINE CAUSE BIRTH DEFECTS?**

The live attenuated measles vaccine is contraindicated in pregnant women largely due to a hypothetical risk of adverse events. It is strongly advised that women planning pregnancy confer with their medical practitioner to insure all routine vaccinations are up to date, and to plan for those recommended during pregnancy (influenza, pertussis-containing vaccine).

### **HOW LONG AFTER MMR VACCINE CAN I GET PREGNANT?**

**MMR vaccine contraindications:** Women should wait at least a month after their measles mumps and rubella vaccination before becoming pregnant. Measles, mumps, rubella vaccine is contraindicated during pregnancy.

### **CAN YOU GET THE MMR VACCINE SEPARATELY?**

In Australia, the vaccines contain all three antigens: Measles, mumps and rubella (MMR). A separate formulation which also contains the varicella (chicken pox) vaccine is available.

### **HOW LONG AFTER MMR VACCINE ARE YOU IMMUNE?**

You should be fully protected two to three weeks after your measles, mumps and rubella vaccination. Even after a few days, there are usually detectable antibodies. If you're travelling overseas, especially to an MMR hot spot, ensure you're up-to-date with all your vaccinations, including measles, mumps and rubella. This means it's best to schedule your MMR vaccinations at least a fortnight (but preferably 6-8 weeks) before you leave Australia.

**More information on Measles, Mumps and Rubella is available during your pre-travel consultation with Travelvax. Call 1300 360 164 for the location of the clinic nearest to you.**