

MMR vaccine is a live attenuated vaccine. Please familiarise yourself with the information in the *Measles, Mumps, and Rubella* chapters in the current *Immunisation Handbook*, including the contraindications and precautions for this vaccine.

Can we routinely give the MMR vaccine to infants under 12 months of age?

No. This can only be done if a recommendation is made by a Medical Officer of Health. If given, this is considered dose zero. The infant will still require two doses of MMR vaccine from 12 months of age.

Can we give the MMR vaccine to infants earlier than 15 months?

Yes. The MMR vaccine can be given from 12 months of age along with the 15-months varicella, pneumococcal and Hib vaccines at a parent's request. The second MMR can be given as soon as four weeks after the first dose.

If we give the first MMR vaccine early, can we give the 15-months varicella, pneumococcal and Hib vaccines early as well?

Yes. The 15-months Schedule varicella, pneumococcal and Hib vaccines are considered valid doses when given from 12 months of age.

Can we give the 4-years MMR vaccine early?

Yes. The second dose of measles vaccine can be given as soon as four weeks after the first dose.

If the 4-years MMR vaccine dose is given early, does the child need it again at age 4 years?

No. Only two doses of MMR vaccine are required if they are both given from 12 months of age. The second MMR vaccine is a revaccination for the 5–10% of individuals who fail to become protected against measles after the first dose. Nearly all individuals will be protected after the second dose.

If we give the 4-years MMR early, can we give the 4-years DTaP-IPV early as well?

No. It is important to wait until the child is 4 years of age to give the DTaP-IPV to ensure the child has some protection against pertussis through their primary school years.

Should older children who have missed one or both doses of the MMR vaccine still have the vaccine?

Yes. A total of two documented doses of MMR vaccine are recommended for all children and adults born after 1968. M-M-R[®] II and Priorix[®] are fully interchangeable. When two doses of MMR are required, they can be given a minimum of four weeks apart.

Do children who received a measles only or measles/rubella vaccine overseas need MMR vaccination?

Yes. Two doses of the MMR vaccine given from 12 months of age are recommended irrespective of previous measles or measles/rubella only vaccination.

Do children who have had measles still need to receive the MMR vaccine?

Yes. Two doses of MMR vaccine are recommended to protect the child from mumps and rubella.

Can a close contact of a woman who is pregnant or of a person who is immunocompromised receive the MMR vaccine?

Yes. MMR vaccine viruses are considered to be non-transmissible. It is also important to reduce the risk of the mother and those who are immunocompromised being exposed to measles disease.

How long should a woman wait to get pregnant after receiving the MMR vaccine?

As a precautionary measure, women should be advised to avoid becoming pregnant for 28 days after receiving MMR vaccine. However, if she becomes pregnant within 28 days of MMR vaccination, there are international data that can reassure the woman the vaccination is not expected to cause harm to the fetus.

What happens if a woman receives MMR vaccine and then finds out she was pregnant at the time or within 4 weeks of the vaccination?

No additional pregnancy monitoring or management is required. There are international data that can reassure the woman the vaccination is not expected to cause harm to the fetus. The advice not to give MMR vaccine to a woman who knows she is pregnant is based on a theoretical risk that the vaccine viruses could cause maternal or fetal disease.

Can a pregnant woman receive the MMR vaccine?

No. Live vaccines are not given to pregnant women. However, if an MMR vaccine is given in error there are international data that can reassure the woman the vaccination is not expected to cause harm to the fetus.

How soon after having a baby can a woman receive the MMR vaccine?

As soon as baby has been delivered.

Can a breastfeeding woman receive the MMR vaccine?

Yes. There is no risk to the mother or child from giving MMR to breastfeeding women.

What do we do when a woman's antenatal rubella serology result reports she is not immune to rubella?

A woman is considered to be immune to rubella if she has two documented doses of a rubella-containing vaccine given at least four weeks apart and after age 12 months, regardless of serology.

If she does not have two documented doses of rubella containing vaccine, administer catch-up doses of MMR vaccine after the baby has been delivered. When two doses of MMR are required, they can be given a minimum of four weeks apart.

Can adults have the MMR vaccine?

Adults born before 1969 in New Zealand or overseas

Adults in this age group are not recommended to receive MMR vaccination. Generally, they are considered to be immune to measles. No measles vaccine was available in New Zealand until 1969 and measles is so infectious that people born before this were highly likely to be exposed. For those born overseas, it is similar as most countries introduced a measles vaccine in the late 1960s, 1970s or later.

Adults born in 1969 or later

Yes. Two documented doses of MMR vaccine given at least four weeks apart and after age 12 months are recommended for individuals born in 1969 or later.

Should we order serology to check for measles immunity?

No. Evidence of immunity for adults born prior to 1969 is simply being born before 1969. Evidence of immunity for adults born in 1969 or later is two documented doses of MMR vaccine.

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Do adults aged 18 years or over need MMR revaccination if they have had chemotherapy or radiotherapy for cancer?

If the person was considered immune before chemotherapy, they are still considered immune to measles, mumps and rubella after completion of treatment and immune system recovery. Chemotherapy and radiotherapy for cancer does not remove immune system memory cells.

Adults born before 1969

Are considered immune to measles. Vaccinating these adults post-chemotherapy is not indicated.

Adults born 1969 or later

- » Who have two documented doses of MMR are considered immune. No more MMR vaccinations are required.
- » Who have one documented dose of MMR prior to chemotherapy should receive a second dose of MMR vaccine, OR
- » Who do not have any documented doses of MMR vaccine should receive two doses of MMR vaccine six months post-chemotherapy and when their lymphocyte count is $>1.0 \times 10^9/L$.

Only pre-HSCT (stem cell or bone marrow transplant) conditioning completely removes a person's immune system including memory cells. Re-vaccination with MMR vaccine usually occurs 2 years post-HSCT.

Can a person with an egg allergy receive the MMR vaccine?

Yes. Neither egg allergy nor anaphylaxis are contraindications for receipt of the MMR vaccine.

Can a person who is immunocompromised receive the MMR vaccine?

No. If your patient has a medical condition or is on a treatment that affects their immune system, refer to chapter 4 in the current *Immunisation Handbook* for more information on treatments and timing of vaccination.

Is there a single antigen measles vaccine available in NZ?

No. The measles vaccine is only available as one of the components of the MMR vaccine in NZ. There is no immunological or medical reason for offering a single measles vaccine and it is important to offer protection for rubella and mumps.

Are M-M-R II and Priorix interchangeable?

Yes. M-M-R II and Priorix are fully interchangeable. The doses must be given a minimum of four weeks apart.