



...for Parents and Caregivers



**Immunisation  
Advisory  
Centre**

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# Measles

## Fact Sheet: Parents and Caregivers

### What is measles?

Measles is a potentially serious, highly infectious disease caused by a virus. It is also known by the name morbilli or rubeola. Measles is the most common vaccine-preventable cause of death among children throughout the world.

### What are the symptoms of measles?

The illness begins with fever, cough, runny nose, loss of appetite and conjunctivitis ("pink eye") which lasts for 3-5 days. Usually it is possible to see small white spots (Koplik spots) inside the mouth. This is followed by a rash, beginning at the hairline, gradually spreading down the body to the arms and legs and lasting 4-6 days. The period of time a patient is most unwell is during the first day or two after the appearance of the rash.

### How serious is measles?

Thirty percent of reported cases of measles experience one or more complications. These include diarrhoea (6%), ear infections (7%), and pneumonia (6%). Pneumonia accounts for 60% of measles deaths.

One in 1000 cases develop inflammation of the brain (encephalitis), 15% of these cases die and approximately one third are left with permanent brain damage.

One in 100,000 cases will, years later, develop subacute sclerosing panencephalitis (SSPE): a serious brain inflammation. This serious complication is always fatal.

Death occurs in approximately 1-2 per 1,000 reported cases of measles overall in western countries.

### How do you catch measles?

Measles is spread through the air by infectious droplets, taking an average of 10-12 days from exposure to the first symptom. It can also be spread by direct contact with secretions from the nose or throat of infected persons, and by items or surfaces contaminated by such secretions.

### How common is measles?

Before a measles vaccine was developed, about 90% of the whole population would have had measles by the age of 20. Universal vaccination was introduced in 1969 into New Zealand. New Zealand last had a large epidemic in 1991 with around 7000 cases and 7 deaths.

Measles continues to circulate at relatively low levels in New Zealand. However in recent years there have been several outbreaks of measles in various countries around the world including New Zealand. In countries which have consistently high immunisation coverage, measles has been eliminated from the population.

### Who is most at risk from measles?

- All children who have not received at least one dose of the MMR vaccine.
- Anyone with certain immune deficiencies are at special risk. (These children are often unable to be immunised and rely on protection from those around them.)
- Measles during pregnancy increases the risk of premature labour, miscarriage, and low birth weight infants.

### How do you prevent measles?

Immunisation given on time is the best way to prevent measles. Two doses of the MMR (measles, mumps, rubella) vaccine is 99% effective in preventing measles. MMR vaccine, if given within 72 hours of exposure to measles virus, may provide protection to the unimmunised and thus limit the spread of measles.

In the event of a measles outbreak unimmunised children (with no history of prior measles infection) who have contact with infected cases are advised NOT to attend school or early childhood services until notified.

### Which vaccines protect against measles?

The combined measles, mumps, rubella vaccine (MMR) is the only available vaccine to prevent measles in New Zealand.

### How effective is the vaccine against measles?

Approximately 90-95% of those given 1 dose of MMR are protected. Those who do not develop immunity after the first MMR dose, almost always do so after the second dose.

### Who should get the vaccine?

Two doses of MMR vaccine are usually given, one dose at 15 months of age and a second at 4 years of age. During a measles outbreak babies as young as 6 months can be immunised.

Some adults should also get MMR vaccine:

- Those born after 1969 (when the measles vaccine was introduced to New Zealand) who lack evidence of immunity to measles. (Adults born prior to 1969 are highly likely to have been exposed to measles.)
- Those travelling to a measles endemic area who do not have immunity.

## Who shouldn't have the vaccine?

Some people who have a significant weakness in their immune system – it is a live vaccine and people with some immune deficiencies can react badly to the vaccine.

Your vaccinator will ask about any immune system problems. Further medical advice may be required. The general contraindications that apply to all immunisations apply to MMR.

- Anyone who has experienced anaphylaxis to a previous dose of any measles containing vaccine or any of the vaccine components, should seek medical advice.
- Anyone who has received another live vaccine, including varicella and BCG within the previous month.
- Pregnant women (women of child bearing age should be advised to avoid pregnancy for 28 days following MMR vaccine).
- Babies under 12 months of age, except in a measles outbreak and on advice of a Medical Officer of Health.

## Who should seek more advice before having the vaccine?

- Anyone who has had a hypersensitivity reaction after a previous MMR vaccine or any of its components. (Egg allergy is not a contraindication)
- Anyone who has received human immunoglobulin or a whole blood transfusion within the last 3-12 months, needs to consult their doctor.
- HIV infected individuals who are immune compromised need to consult their doctor.
- Anyone who is unsure if they have an immune deficiency or taking medication to suppress their immune system.

## Do you need all the doses?

Yes, 5-10% of vaccinated individuals may not be protected after one dose, therefore it is recommended that 2 doses are given after the age of 12 months (at least one month apart).

## How safe is the vaccine?

The risk of MMR vaccine causing serious harm is extremely small – refer to table below for side effects. MMR vaccine is considerably safer than getting measles (or mumps and rubella).

## FAQs

- *Can the MMR vaccine cause measles?*  
No. It can cause a very mild, non-infectious rash approximately 5-12 days after vaccination.
- *Can the MMR vaccine cause autism?*  
Extensive research shows there is no evidence that the MMR vaccine causes autism, Crohn's disease or ADHD.
- *Does the MMR vaccine contain thiomersal (or mercury)?*  
No.

## Comparison of effects of the MMR vaccine and measles disease

Measles	Effects of disease	Side effects of the vaccine
A highly contagious viral illness causing fever, cough and rash.	<ul style="list-style-type: none"> <li>• Otitis media (ear infection): 7%</li> <li>• Pneumonia: 6%</li> <li>• Acute encephalitis (brain inflammation): 1 in 1000</li> <li>• SSPE (degenerative brain disease): 1 in 100,000</li> <li>• Maternal measles is associated with an increased risk of premature labour, miscarriage and low birth weight infants.</li> <li>• Overall death rate of 1-2 per 1000</li> </ul>	<ul style="list-style-type: none"> <li>• About 5 - 15% of children experience a fever of 39.5 °C or over and 5% experience a rash 6-12 days post immunisation.</li> <li>• Aseptic meningitis from the mumps component (1 per 100,000)</li> <li>• Encephalitis (1 per million)</li> <li>• Anaphylaxis (&lt;1 per million)</li> </ul>

More detailed information for each disease and vaccine is available on fact sheets specific for each disease. Vaccines are prescription medicines.

Talk to your doctor, nurse or midwife about the benefits and any risks.