Childhood immunisations

Set your tamariki up for a healthy future.

Te Kāwanatanga o Aotearoa
New Zealand Government

Health New Zealand
Te Whatu Ora

Contents

4 Immunisation in Aotearoa New Zealand

7 Set your tamariki up for a healthy future

14 How vaccines work

18 Vaccine side effects and responses

20 Vaccines and the diseases they protect against:

- 20 Rotavirus
- 22 DTaP-IPV-HepB/Hib
- 25 Pneumococcal
- 26 Meningococcal B
- 28 Measles, mumps and rubella (MMR)
- 30 Chickenpox
- 31 Human papillomavirus (HPV)
- 32 Other immunisations

34 Immunisation registers, records and certificates

Immunisation in Aotearoa New Zealand

In Aotearoa New Zealand we have the National Immunisation Schedule. This sets out the free vaccines offered to pēpi (babies), tamariki (children), teenagers and adults at certain times in their life.

All immunisations on the National Immunisation Schedule are free for everyone under 18 years old. It does not matter what your visa or citizenship status is. This includes visitors to New Zealand.

How immunisations protect your tamariki

Immunisations help protect tamariki from infectious diseases and getting sick.

Children's immune systems help fight against diseases caused by viruses and bacteria.

Vaccines give their immune system instructions on how to defend itself better so their body will have the right tools for the job, meaning they're less likely to get sick.

Before we had vaccines

Before we had vaccines, the devastation caused by disease was part of everyday life. Diseases caused long-term health issues, disabilities, and many people died — including babies and children.

For example, between 1910 and 1950, there were 7 polio epidemics in New Zealand. Polio killed hundreds of children and left many more paralysed for life. Since we started using the polio vaccine in the 1960s, there have been fewer than 10 cases of the disease in New Zealand.

Immunisation is a global health and development success story, saving millions of lives every year. Vaccines reduce risks of getting a disease by working with your body's natural defences to build protection. When you get a vaccine, your immune system responds by making antibodies which protect you against infection in the future.

We now have vaccines to prevent more than 20 life-threatening diseases, helping people of all ages live longer, healthier lives. Immunisation currently prevents 3.5 – 5 million deaths every year from diseases like meningococcal disease, tetanus, whooping cough (pertussis), influenza and measles.

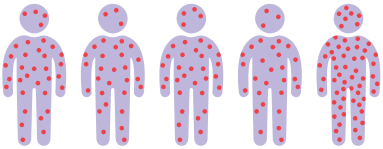
Common diseases around the world

Some vaccine-preventable diseases are still common globally, such as whooping cough, meningococcal disease and measles.

Every year, more than a million people around the world die from diseases that vaccines can prevent. Most of these diseases have become rare in New Zealand, but can still be brought here easily by travellers.

It is much harder for disease to spread when people are immunised. Having a high level of immunisations (95% of all people) makes it much harder for a disease to spread. This is very important to protect those who are unable to be immunised, such as newborn babies, and those who are immunocompromised.

Without immunisation



Almost everyone catches measles, and some get severe measles.

With immunisation

With one dose of the MMR vaccine, most people are immune, but a few can still catch measles. After two doses of the vaccine almost everyone is protected.

The benefits of immunisation

Immunisation protects your tamariki, whānau, and community.
After access to clean water, immunisation is the most effective health intervention in the world for saving lives.

Immunisation:

- stops tamariki and adults from getting really sick and having to go to hospital
- stops people dying from diseases that could be prevented
- reduces the risk of having long-term health issues and disabilities caused by disease
- keeps your community safe by stopping the spread of disease — sometimes called 'herd immunity'
- stops people from passing diseases to their whānau, particularly to those who may not have strong immune systems
- may mean having to take less time off school or work due to your whānau getting sick
- during pregnancy helps keep both you and your baby safe, and protects pēpi once they are born and before they can start their own vaccinations.

When you're pregnant it's a great time to check that you and your whānau are up to date with all immunisations, including measles. You can catch up on the vaccines not recommended during pregnancy once baby is born. It's safe to have these while breastfeeding.

Set your tamariki up for a healthy future

Diseases to protect your child against

The National Immunisation Schedule is designed to protect our tamariki when they are most vulnerable to these diseases and have the best chance of developing stronger immunity against these diseases.

The Schedule recommends tamariki be immunised for protection from 14 preventable diseases before they are 14 years old.

The Schedule is always reviewed and updated to ensure our pēpi and tamariki in New Zealand are protected against diseases they are most likely to face. Some vaccines may have been added or are now free and therefore different to what your older children may have received.

Pregnancy immunisations

Protecting your pēpi (baby) starts during pregnancy. It's strongly recommended in **EVERY** pregnancy that you're immunised against whooping cough and flu.

While the vaccines do not affect your pēpi, you will naturally pass on some of your immunity to them. This means when they're born, they will have some protection until they're old enough to be immunised themselves. **This is especially important for whooping cough.**

The Boostrix (Tdap) vaccine is funded from the second trimester (and recommended from 16 weeks of pregnancy) of every pregnancy to protect both mothers and newborn infants against whooping cough.

FREE immunisations during pregnancy:

Tetanus, **diphtheria**, and **whooping cough** – 1 dose recommended from 16 weeks of each pregnancy.

Flu – 1 dose recommended at any stage of each pregnancy.

Covid – If you're not fully vaccinated, you can get a covid immunisation at any stage of your pregnancy. Those who have underlying health conditions may be recommended to receive an additional covid immunisation while pregnant. Your midwife or vaccinator will advise if this is recommended for you.

6 weeks

Your baby's first immunisations are due at 6 weeks old. This allows them to start developing protection as soon as possible as the immunity from your pregnancy immunisations begins to wear off. This is why it's important to start these vaccines on time.

Your pēpi gets 3 vaccinations:

- Rotavirus – an oral vaccine, given as liquid drops in the mouth (dose 1 of 2)
- Diphtheria, tetanus, whooping cough, polio, hep B, and Hib (dose 1 of 3)
- Pneumococcal (dose 1 of 3)

3 months

Your pēpi gets 3 vaccinations:

- Rotavirus – an oral vaccine, given as liquid drops in the mouth (dose 2 of 2)
- Diphtheria, tetanus, whooping cough, polio, hep B and Hib (dose 2 of 3)
- Meningococcal B (dose 1 of 3)

5 months

Your pēpi gets 3 vaccinations:

- Diphtheria, tetanus, whooping cough, polio, hep B and Hib (dose 3 of 3)
- Pneumococcal (dose 2 of 3)
- Meningococcal B (dose 2 of 3)

12 months

Your pēpi gets 3 vaccinations:

- Measles, mumps and rubella – (dose 1 of 2)
- Pneumococcal (dose 3 of 3)
- Meningococcal B (dose 3 of 3)

15 months

Your pēpi gets 3 vaccinations:

- Hib (booster dose)
- Measles, mumps and rubella (dose 2 of 2)
- Chickenpox (single dose)

4 years

Eligible for a booster vaccination that protects against 4 vaccine preventable diseases:

- Diphtheria, tetanus, whooping cough, and polio (booster dose)

9 - 13 years

Your tamariki & rangatahi (young people) get free vaccines:

At 11 years old your tamariki will be offered a tetanus, diphtheria, whooping cough immunisation (booster dose).

Between 9 and 13 years old they will be offered free HPV immunisation (2 doses, 5 months apart).

If rangatahi miss their immunisations and start their HPV vaccines after turning 15 years old they will need 3 doses. These are given over 6 months.

Some children will be recommended extra vaccines if they have certain long-term health conditions, or are having certain medical treatment. Talk to your doctor, nurse, or healthcare provider to find out if your child needs extra immunisations. There is more information about the extra immunisations recommended in New Zealand on page 32.

You can make your tamaiti (child) a personal immunisation schedule at info.health.nz/immunisation-schedule

If an immunisation has been missed

If a scheduled immunisation has been missed, tamariki can catch up on most immunisations (rotavirus, MenB and pneumococcal have restrictions on those who can catch up).

Although getting immunised on time is recommended for the best protection, it is easy to catch up. Catch-up immunisations are free for all tamariki under 18 years old. Lots of catch-up adult immunisations are also free for those who are eligible to receive healthcare in New Zealand.

For advice, talk to your doctor, nurse, pharmacist, or healthcare provider.

Do my tamariki need to have all the immunisations?

Having some vaccines but not others is sometimes possible but means children are at risk from any disease they're not yet immune to.

Most vaccines need more than one dose to ensure protection.

It's safe to get immunised, even if your tamariki have had the disease

If you think your tamariki have had one of the diseases, talk to your doctor or practice nurse, who will be able to tell you about tests that are available (for a cost) to check for existing antibodies against measles, mumps, rubella, and hepatitis B. If your child is already immune to one of the diseases in the MMR vaccine, they will still need to be protected against the others. There are no additional risks to vaccinating a person who has already had the disease.

Who should not be immunised?

There are very few children who should not be immunised. If your child has had a serious reaction to a vaccine, is being treated for cancer or certain other severe illness, or has had a recent blood transfusion they may need to delay some of their childhood vaccines. Your doctor or practice nurse will discuss with you the vaccines that are recommended for your child and when they should have these.

Tamariki with asthma, eczema, allergies or who have a runny nose and mild cold or fever can still be immunised.

If you choose not to have any or all immunisations for your child

If your tamariki do not have any or all immunisations on the Schedule they will be at much higher risk of harm from vaccine-preventable diseases.

When tamariki are not immunised, it puts the wider community at risk. High immunisation coverage is needed to protect those unable to be immunised – such as newborn babies, and those having some cancer treatments.

Tamariki who are not immunised may need to be temporarily excluded from early childhood centres, daycare, or school to minimise the spread of a preventable disease – for instance during a measles outbreak.

Immunisation is your choice – see below if you have any questions.

It's OK to ask questions

It's normal to take extra care when making decisions about your family's health.

If you have questions or would like to talk to someone about your child's immunisations, you can:

- talk to your doctor, nurse, or healthcare professional
- call the **Vaccination Helpline** on **0800 28 29 26** (interpreters are available)
- call **PlunketLine** any time on **0800 933 922**.

Booking an immunisation

Contact your usual doctor, nurse, or healthcare provider to make a vaccination appointment. Plan at least 1 to 2 weeks ahead so you can get a time and date that works best for you and your whānau.

If you need help enrolling your tamariki with a doctor, your midwife, the hospital, or your Well Child Tamariki Ora nurse can assist you. Alternatively, you can access immunisations through another healthcare provider or contact the **Vaccination Helpline** on **0800 28 29 26**.

If you cannot find a doctor to enrol your child, call:

- **Vaccination Helpline** on **0800 28 29 26** (interpreters are available), or
- **PlunketLine** any time on **0800 933 922**.

They can help connect you with a local immunisation service.

Children and teenagers may be able to get some vaccinations at pharmacies including:

- flu
- measles, mumps, and rubella (MMR)
- HPV
- tetanus, diphtheria, whooping cough (Boostrix)
- meningococcal
- covid.

Public health teams visit participating schools to immunise students against HPV and tetanus, diphtheria, and whooping cough – usually in Year 7 or Year 8.

For more information on booking vaccination appointments, visit info.health.nz/booking-an-immunisation-appointment

When taking your tamariki to be immunised

- Visit info.health.nz/immunisations for more information on preparing for your appointment.
- You can bring whānau or a friend to support you at the appointment or help with older children.
- Take your child's **Well Child Tamariki Ora My Health Book** and make sure the vaccinator fills in the details, so you have a record of your child's immunisations. You can also check records at my.health.nz. You don't have to have your child's book to have the immunisations. They will still be recorded online for you.
- Ask the vaccinator if you have any questions. They will make time to answer these for you.
- Your vaccinator will ask some health check questions including if your child has had a previous allergic reaction.
- Allow 20 minutes for waiting in the clinic after your child has been immunised. Your baby may need a drink or food while you are waiting.

You can create a personalised immunisation schedule for your tamaiti (child) at

info.health.nz/immunisations

6 week immunisations

- **Rotavirus** (dose 1 of 2)
- **Diphtheria, tetanus, whooping cough, polio, hep B,** and **Hib** (dose 1 of 3)
- **Pneumococcal** (dose 1 of 3)

3 month immunisations

- **Rotavirus** (dose 2 of 2)
- **Diphtheria, tetanus, whooping cough, polio, hep B,** and **Hib** (dose 2 of 3)
- **Meningococcal B** (dose 1 of 3)

5 month immunisations

- **Diphtheria, tetanus, whooping cough, polio, hep B,** and **Hib** (dose 3 of 3)
- **Pneumococcal** (dose 2 of 3)
- **Meningococcal B** (dose 2 of 3)

12 month immunisations

- **Measles, mumps,** and **rubella** (dose 1 of 2)
- **Pneumococcal** (dose 3 of 3)
- **Meningococcal B** (dose 3 of 3)

15 month immunisations

- **Hib** (booster)
- **Measles, mumps,** and **rubella** (dose 2 of 2)
- **Chickenpox** (single dose)

4 year immunisations

- **Diphtheria, tetanus, whooping cough,** and **polio** (booster)

From age 9

- **HPV** (2 doses, 6 months apart)

From age 11

- **Tetanus, diphtheria, whooping cough** (booster)

How vaccines work

What is a vaccine?

A vaccine contains a dead or weakened form of a virus or bacteria that cannot cause the disease, but is enough to make the immune system produce antibodies to fight it.

When a person is vaccinated, their immune system makes cells and antibodies in response to the vaccine. This protects them from the real disease if they come into contact with it in the future.

Different types of vaccine

There are generally three types of vaccines:

Live vaccines

These contain just enough of the bacteria or virus to stimulate an immune response. The bacteria or virus have been weakened so that they can't cause disease.

Live vaccines include the:

- measles, mumps and rubella (MMR) vaccine
- rotavirus vaccine
- chickenpox vaccine
- tuberculosis (BCG) vaccine.

Live vaccines have been used in New Zealand for over 50 years, including measles-containing vaccines, since 1969.

Inactivated vaccines

These contain bacteria or viruses that have been killed or inactivated.

With inactivated vaccines, you usually need more doses to give full protection against disease.

Inactivated vaccines include:

- the polio vaccine
- some flu vaccines
- the hepatitis A vaccine

Subunit vaccines

These contain parts of bacteria or viruses that have been made harmless.

Subunit vaccines include the:

- diphtheria vaccine
- hepatitis B vaccine
- HPV vaccine
- Hib vaccine
- meningococcal vaccine
- pneumococcal vaccine.

How long does vaccine protection last?

Different vaccines provide protection for different lengths of time. Neither immunisation nor natural infection will always result in lifelong immunity to a disease.

A few vaccines, like MMR and hepatitis B, may provide immunity lasting decades. Some vaccines need booster doses to maintain their protection.

Benefits of getting a combined vaccine

Your tamariki will come into contact with many viruses and bacteria every day from the moment they are born, and their immune systems are constantly responding to these.

Combined vaccines such as measles, mumps and rubella (MMR) mean fewer visits to the doctor and fewer injections.

Combined vaccines do not overload the immune system. Modern vaccines have fewer antigens (the part of a virus or bacteria) than in previous decades, even though they protect against more diseases, because of improved manufacturing processes.

Some parents and caregivers ask if the combined vaccines can be separated. In New Zealand, most vaccines on the National Immunisation Schedule are not available individually. However, single Hib, single polio and single hepatitis B vaccines are available for the few children for whom the whooping cough (pertussis) vaccine is not recommended.

When more than one vaccine is given in one visit, those vaccines have been tested to ensure that they are safe and effective to be given at the same time.

Vaccine safety

Before any vaccine is approved for use, it goes through a thorough testing process to ensure its safety and effectiveness.

Once approved by Medsafe, New Zealand's medicines regulator, the safety of the vaccine continues to be monitored. As part of this process, the Centre for Adverse Reactions Monitoring (CARM) at Otago University records responses reported after vaccination so they can keep track of any reactions that may occur.

How vaccine safety is monitored in New Zealand

Any suspected responses to a vaccine can be reported to the Centre for Adverse Reactions Monitoring (CARM). This is usually done by your vaccinator, but you can also submit a report. You do not need to know for sure that the vaccine caused the response. If you are worried about your child's health after an immunisation, contact your doctor or vaccinator.

A report can be submitted to CARM online at otago.ac.nz/carm or by calling **(03) 479 7247**. The information provided to CARM by vaccinators, doctors, nurses and parents will assist in identifying those children who should receive follow-up immunisations in a controlled environment, such as a hospital.

Vaccine side effects and responses

Common responses

Like most medicines, vaccines can sometimes cause responses. These are usually mild, and not everyone will get them.

Mild responses are normal and show that your child's immune system is responding to the vaccine.

If your tamariki are going to have any responses, they normally happen in the first few days after getting vaccinated. The vaccine itself is gone from your body within a few hours or days as it gets processed by the immune system.

The most common responses to an immunisation include:

- a slight fever,
- pain or swelling where the needle went in,
- redness.

Allergic reactions

Serious allergic reactions are extremely rare. Only about 1 in 1 million people will experience this.

Your vaccinator is well-trained and knows what to look for and can treat an allergic reaction quickly if it happens.

Serious allergic reactions normally happen soon after the vaccine has been given. This is why you need to wait at the vaccination facility for up to 20 minutes after immunisation.

What responses may look like

At the appointment, your vaccinator will let you know what responses to look out for. This will help you know what to expect and how to manage these.

For example, some tamariki may develop a fever or a mild rash (not contagious). This is an expected response after some vaccines, and usually does not last long. It does not mean your child is sick, but it's a good idea to let your vaccinator or practice nurse know this has happened.

Specific vaccine responses have been listed within the relevant vaccine section below.

How to treat common responses in children

Some ways you can make your child more comfortable after their vaccination include:

- If their arm or leg is sore from the injection, put a wet cloth or ice pack (wrapped in a dry cloth) on it. Do not rub the injection site.
- If they have a fever, keep them hydrated. Provide them with lots of water to drink. If breastfeeding, give your child lots of feeds.
- If your child gets too hot, reduce the amount of clothing they are wearing.
- Give your child lots of cuddles.
- Give paracetamol or ibuprofen as advised by your doctor, nurse, or healthcare provider.

If you have concerns about responses after a vaccine

Your vaccinator will provide information on what to expect after your child's immunisation, how to manage these responses, and where and when to seek help. If you have a concern about a response after an immunisation:

- talk to your doctor, nurse, or trusted healthcare provider
- call **Healthline** on **0800 611 116** any time

Vaccines and the diseases they protect against

The following section tells you more about the vaccines on the National Immunisation Schedule:

- **Rotavirus** vaccine
- **Diphtheria, tetanus, whooping cough, polio, hep B** and **Hib (DTaP-IPV-HepB/Hib)** vaccine
- **Pneumococcal** vaccine
- **Meningococcal B** vaccine
- **Measles, mumps** and **rubella (MMR)** vaccine
- **Chickenpox (varicella)** vaccine
- **HPV** vaccine.

Rotavirus vaccine

The vaccine we use in New Zealand is Rotarix. The vaccine is given as liquid drops into your baby's mouth which they swallow.

The rotavirus vaccine is offered to babies when they are 6 weeks and 3 months old. Your pēpi (baby) needs 2 doses to be fully protected.

The first dose **must** be given before your baby turns 15 weeks old, and the second dose before they're 25 weeks old.

What the rotavirus vaccine protects against

Rotavirus is a highly infectious virus that causes diarrhoea, vomiting and fever. It most often affects babies and young children. Some tamariki get so sick they need to go to hospital.

How effective is the rotavirus vaccine?

Immunisation against rotavirus will protect around 8 out of 10 babies from severe rotavirus infection.

Without immunisation, almost all children will catch rotavirus before they are 5 years old. Immunisation prevents most rotavirus infections and almost all severe rotavirus infections.

The rotavirus immunisation does not protect against other causes of vomiting and diarrhoea.

Common responses

The most common response to the rotavirus vaccine is a slight fever.

Other common responses to the rotavirus vaccine include:

- not feeding as usual
- crying, being upset, and being hard to settle
- mild diarrhoea – within 7 days
- vomiting – within 7 days
- tummy pain.

See pages 18 and 19 for more information on responses and how to treat them.

Serious responses

An extremely rare side effect of the vaccine is called intussusception. This causes a blockage of the intestine. Contact your doctor or healthcare professional immediately if your baby experiences any of these symptoms after immunisation:

- severe stomach pain
- persistent vomiting
- blood in stools (poos)
- a swollen belly
- high fever (38°C and over).

DTaP-IPV-HepB/Hib vaccine

The vaccine we use in New Zealand is Infanrix-hexa. The vaccine is given by injection in the leg.

Tamariki need 3 doses of this vaccine. It's given to children when they are 6 weeks, 3 months, and 5 months old.

Further boosters to prevent some of these diseases are also on the schedule, and include:

- a Hib booster at 15 months old
- a diphtheria, tetanus, whooping cough and polio booster at 4 years old
- a tetanus, diphtheria, whooping cough booster at 11 years old.

What the DTap-IPV-HepB/Hib vaccine protects against

Diphtheria is a serious disease that can easily spread from person to person (especially within families) through coughing and sneezing. It causes a skin infection but can also affect the throat, causing breathing difficulties.

Diphtheria was a common cause of death in children until the 1940s, but this disease is now very rare in New Zealand because of immunisation.

Tetanus is a rare but serious disease is caused by bacteria found in soil and manure (horse or cow poo). You can get the disease if dirt carrying this bacteria gets into a wound – for example, if your tamariki get a cut while playing in the garden or playing outside.

Tetanus toxins caused by the bacteria act like a poison in your body. Symptoms of tetanus disease include painful muscle spasms, and difficulty breathing, chewing or swallowing. About 1 in 10 people who get tetanus still die from the disease.

Tetanus cannot be spread from person to person. Since we began immunising against tetanus in New Zealand it has become a very rare disease. Almost all cases of tetanus have happened in unvaccinated people. The vaccine is nearly 100% effective at preventing tetanus.

Whooping cough (pertussis) is a bacteria that causes breathing difficulties and severe coughing fits. The cough can go on for weeks or months which is why it's sometimes called the '100 day cough'.

Having severe whooping cough can lead to pneumonia, seizures, and other neurological (brain) issues. More than half of babies under 12 months old who catch it need to go to hospital, and up to 1 in 50 of these babies dies.

It's very contagious. It can easily spread between family members by coughing and sneezing. It can also spread quickly around early education centres and schools.

Whooping cough is still common in New Zealand, and when outbreaks occur, it can affect thousands of people.

Polio is a highly contagious disease caused by a virus. Symptoms include headache, diarrhoea, tiredness, and pain in the limbs, back and neck.

In serious cases, it can cause paralysis (muscle weakness) and death. About 1 in 20 hospitalised patients die and up to 1 in 50 patients who survive are permanently paralysed.

In Aotearoa, immunisation against polio started in 1961. Before polio vaccines were available, nearly every person became infected, with babies and young children most affected.

There is no cure for polio – it can only be prevented by immunisation.

Until polio is completely eliminated overseas, there is still a risk of polio being imported into New Zealand or it may be caught while overseas in a country with ongoing polio cases.

Hepatitis B (Hep B) can be spread when blood or other body fluids, such as semen, enter the body of someone who is not infected. Some babies can contract hepatitis B from their mother and may be offered a hepatitis B vaccine at birth.

It's a viral infection that can cause serious problems, including liver disease and liver cancer. Hep B cannot be cured but can be prevented with vaccination.

Hep B was a common disease in New Zealand until a vaccine was introduced in the 1980s.

Haemophilus influenzae type b (Hib) is a bacteria that causes life-threatening illnesses in young children. It's spread through the air by breathing, coughing and sneezing.

It can lead to:

- **meningitis** – an infection of the membranes that cover the brain and spinal cord
- **epiglottitis** – an infection and swelling in the throat that makes it difficult to breathe.

Although doctors can treat Hib with antibiotics, **some children still die. Others risk pneumonia, skin infections, spinal cord or permanent brain damage.**

Hib meningitis and epiglottitis have almost disappeared since the vaccine programme was introduced in the 1990s. Before the vaccine, 1 in every 350 children had the disease before they were 5 years old.

Vaccine effectiveness

Research has shown that the DTaP-IPV-HepB/Hib immunisation is very effective in protecting babies against the 6 diseases listed above.

80–95% of children who are fully immunised on time are protected against the diseases. It's important that your child has booster vaccines at 4 and 11 years old to make sure they remain protected.

A small number of tamariki who are immunised may still become ill. If they do, they usually get a milder illness than children who have not been immunised.

Common responses

See pages 18 and 19 for the most common responses to vaccination and how to treat these.

Other common responses to the DTap-IPV-HepB/Hib vaccine include:

- mild fever
- unsettled (tiredness and crying) up to 48 hours after having the injection
- loss of appetite
- swelling or soreness where the injection was given.

Pneumococcal vaccine

The vaccine we use for children is Prevenar 13. This covers the 13 most common types of pneumococcal bacteria that cause disease in babies and young children. The vaccine is given by injection in the arm or leg.

It protects against pneumococcal disease, which can cause a range of mild to life-threatening infections including meningitis. The vaccine is given at 6 weeks, 5 months, and 12 months.

What the pneumococcal vaccine protects against

Pneumococcal disease is caused by bacteria that live in your throat. These bacteria do not normally cause problems, but if they spread to other parts of the body they can make you very sick. Pneumococcal disease is easily spread by coughing, sneezing, and close contact.

Pneumococcal bacteria can cause minor infections, like:

- sinusitis (infection of the sinuses)
- ear infections.

It can also lead to **life-threatening** conditions, like:

- pneumonia
- meningitis (an infection of the membranes that cover the brain and spinal cord)
- septicaemia (blood poisoning)
- kidney failure.

How effective is the pneumococcal vaccine?

The rate of pneumococcal disease in children under the age of 2 years has halved since immunisation was introduced. Studies show that more than 9 out of 10 children are protected after 3 doses of the vaccine.

Common responses

See pages 18 and 19 for the most common responses to vaccination and how to treat these.

Other common responses to the pneumococcal vaccine include:

- loss of appetite
- sleeping more or less than usual.

Meningococcal B vaccine

Bexsero is the vaccine we use in New Zealand to protect against meningococcal B. The vaccine is given by injection into the arm or leg.

The meningococcal B (MenB) vaccine has been free since March 2023 for babies at 3 months, 5 months, and 12 months old. Your pēpi will be offered the MenB vaccine as part of their scheduled immunisations.

There's also an option to have your pēpi immunised slightly earlier at 2 months, 4 months, and 12 months old. This will mean extra appointments. If you'd like to, you can discuss this with your nurse, vaccinator or healthcare provider during your baby's 6-week immunisation appointment.

What the meningococcal B vaccine protects against

Meningococcal disease is an infection caused by bacteria and is commonly carried in the back of the nose and throat. It can lead to very serious illnesses:

- **meningitis** – an infection of the membranes that cover the brain and spinal cord
- **septicaemia** – blood poisoning.

There are different types of meningococcal bacteria, including A, B, C, W, and Y.

In New Zealand, most meningococcal disease is caused by group B bacteria.

The disease is spread in similar ways to the common cold by coughing and sneezing, or by contact with saliva.

Meningococcal disease can develop rapidly and be life-threatening.

Meningococcal disease can develop rapidly and be life-threatening. It can develop and become deadly in just a few hours.

People who survive meningococcal disease often have serious long-term effects, including amputation of limbs, hearing loss, seizures, brain injury, and permanent skin scarring.

The meningococcal vaccines protect against the bacteria that cause meningococcal disease. These are FREE for people aged 13-25 years in close-living situations.

How effective is the meningococcal B vaccine?

Vaccination against meningococcal disease is around 80% effective over the short term, depending on the vaccine. Protection from meningococcal vaccines tends to last around 3 to 5 years, although booster doses may be given at a later time.

Common responses

See pages 18 and 19 for the most common responses to vaccination and how to treat these.

Other common responses to meningococcal B immunisation include:

- headache
- crying, being upset and being hard to settle
- feeling sick (nausea)
- aches and pains
- dizziness
- fever (particularly for those under 2 years old)

Advice for children under 2 years old

The meningococcal B vaccine can cause high fevers – particularly for tamariki under 2 years.

Before the vaccination

If possible, give your tamaiti (child) paracetamol just before the vaccination appointment time.

Your vaccinator will talk to you at pēpi's 6 week immunisations about preparing for their MenB vaccine at 3 months. They will ensure you have a supply of paracetamol to give before baby's immunisation and that you understand how much to give. If you don't have paracetamol at home they can supply you with a prescription or a small supply.

After the vaccination

After the first dose of paracetamol, a further 2 doses of paracetamol are recommended. A 6 hour gap should be left between doses.

This will help reduce the chance of your baby developing a fever after their vaccine.

Your vaccinator will give you a leaflet with instructions on the amount of paracetamol to give and at what times.

It's important to give the exact amount recommended by the vaccinator and at the appropriate times.

If you have any questions or concerns when you're home, call your doctor or nurse, or **Healthline** on **0800 611 116**.

Measles, mumps and rubella (MMR) vaccine

The vaccine we use in New Zealand is Priorix. The vaccine is given by injection in the arm or leg.

The MMR vaccine is offered to tamariki on the schedule at 12 months and 15 months. They need 2 MMR injections for best protection.

If you're unable to confirm if they've already had 2 doses, they should get vaccinated anyway. There's no risk in having extra doses.

Pregnancy

If you haven't received two doses of MMR vaccine before getting pregnant, you can have these as soon as baby is born. It's safe to have these immunisations when breastfeeding.

Dose zero

If there is a measles outbreak or if you're travelling to a country with an active measles outbreak, pēpi under 12 months old may be advised to have an additional free dose of the MMR vaccine (dose zero). Talk to your doctor, nurse, or healthcare provider about this. There may be a charge for vaccines being administered due to travel.

It's very important your child still has their scheduled 2 doses at 12 and 15 months old.

What the MMR vaccine protects against

Measles is one of the most dangerous and contagious diseases. It's so infectious that, if you're not vaccinated and come into contact with someone who has measles, you're extremely likely to catch it and pass it on to others.

Measles spreads through coughing and sneezing. It can cause a rash, ear infection, diarrhoea, and seizures. It can damage your immune system, leaving you more vulnerable to diseases for months to years after the infection.

In 1 in every 1,000 cases it causes inflammation of the brain (encephalitis). Some people who develop encephalitis die, while 1 in 3 are left with permanent brain damage.

Measles can also lead to pneumonia, which is the main cause of death from measles.

If you get measles while you're pregnant it can make you very sick and can harm your baby.

Measles is now the third most common vaccine-preventable cause of death among children throughout the world.

During New Zealand's measles outbreak in 2019, 40% of children who caught measles were admitted to hospital.

Mumps is an infectious illness caused by a virus. It leads to painful swelling in the salivary glands around the face.

In rare cases, there can be serious complications such as:

- **meningitis** – an infection of the membranes that cover the brain and spinal cord
- hearing loss
- **encephalitis** – inflammation of the brain
- infertility due to inflammation of the testicles.

Mumps can cause swelling of the testicles or ovaries if infected after puberty. Effects on fertility are extremely rare in males and unconfirmed in females.

For children, **rubella** is usually a mild viral illness that causes a spotty rash. If you catch it when you are pregnant, however, it can cause serious birth defects in your baby (such as deafness, heart defects, and brain damage). This means it's really important to get your MMR vaccine before you get pregnant.

How effective is the MMR vaccine?

Studies show that the MMR immunisation will protect around 99% of people from measles if they have had both doses of the immunisation.

A small number of people who are immunised may still become ill. If that happens, they usually get a milder illness than people who have not been immunised.

Common responses

See pages 18 and 19 for the most common responses to vaccination and how to treat these. Other common responses to the MMR vaccine include:

- non-contagious mild rash (between 6 and 12 days after immunisation)
- high fever (over 39°C – between 6 and 12 days after immunisation)
- swollen glands in the cheeks, neck, or under the jaw
- temporary joint pain (2 to 4 weeks after immunisation).

A very rare side effect is bruise-like spots that usually appear 15 days to 6 weeks after immunisation. This usually goes away within 6 months. You should see a doctor if this happens.

Chickenpox vaccine

The vaccine we use for children in New Zealand is Varivax. The vaccine is usually given in the arm. Tamariki are offered 1 chickenpox vaccine when they're 15 months old.

Whānau can discuss with their vaccinator about paying for a second dose of the vaccine for extra protection. If your tamaiti (child) has had chickenpox, talk to your healthcare provider to ask if it is recommended for them to still receive their chickenpox vaccine. There is no harm in receiving the vaccine if they have already had the illness.

The vaccine will protect around 4 out of 5 tamariki from getting chickenpox. Up to 1 in 5 may still get infected, but symptoms are generally less severe. Chickenpox vaccine catch-ups are free until your tamaiti turns 12 years old.

What the chickenpox vaccine protects you from

Chickenpox (varicella) is a common highly infectious childhood illness which causes an itchy, blistering rash. Symptoms also include fever, aches and pains, and feeling tired.

Infections are normally mild, but chickenpox can make some people very sick. It's usually more severe in rangatahi (young people) and adults and for people with a weakened immune system.

Without vaccination, nearly all children will get chickenpox by the age of 10.

Chickenpox during pregnancy can harm unborn babies and cause stillbirth. If you're planning a pregnancy and are not able to find out if you've had chickenpox, or if you haven't been vaccinated, it's strongly recommended you get a chickenpox vaccine before becoming pregnant or once baby is born. There may be a cost for this.

If you get chickenpox and give it to your newborn baby, your baby can become extremely sick.

Common responses

See pages 18 and 19 for the most common responses to vaccination and how to treat these. Other common responses to the chickenpox vaccine include:

- headache
- feeling unwell, tired or weak
- a mild rash (between 5 and 26 days after immunisation). It is very rare that this rash is contagious.

Human papillomavirus (HPV) vaccine

The vaccine we use in New Zealand is Gardasil 9. The vaccine is usually given by injection in the arm.

The HPV vaccine is free for those under the age of 18 and for those 18-26 years if they are eligible for New Zealand healthcare.

Lots of tamariki are offered the HPV vaccine at school, usually in Year 7 or 8. This is the best time for immunisation, as a pre-teen's immune system is really effective at making antibodies in response to the vaccine, and protection is long-lasting.

Tamariki aged 9 to 14 years old need 2 doses. The second dose is given at least 6 months after the first dose.

Rangatahi who miss their immunisations and start their HPV vaccines after turning 15 years old will need 3 doses. These are given over 5 months.

What the HPV vaccine protects you from

The vaccine protects against human papillomavirus, a group of very common viruses that infect about 4 out of 5 people at some time in their lives. It's passed on through intimate skin-on-skin contact.

Most of the time you would not know that you have an HPV infection, and they often go away on their own, but sometimes they hang around and can lead to a range of cancers later in life.

Cervical cancer is the most common cancer caused by HPV. The virus can also cause head and neck cancer, and cancer in other parts of the body. About a third of all HPV cancers affect men. HPV can also cause genital warts.

For more information on cervical screening, including the new HPV screening test, visit timetoscreen.nz/cervical-screening

The vaccine is very effective

The vaccine is very effective in preventing infection from the 9 types of HPV.

As HPV is common, the best way to protect your tamariki against HPV is to get them immunised.

Common responses

See pages 18 and 19 for the most common responses to vaccination and how to treat these.

Other common responses to the HPV vaccine include:

- a headache
- feeling tired

Young people can often feel anxious about injections and as a result dizziness or fainting may occur. This can be helped by not skipping meals before the vaccine, drinking lots of water or lying down to have the immunisation. Those who are very anxious may prefer to have their immunisation at their local medical centre or pharmacy when whānau can attend for support.

Other immunisations

The following immunisations are not funded as part of the National Immunisation Schedule, however your child may still be eligible for a free vaccine in some circumstances. If your child is not eligible, you can still sometimes purchase these vaccines.

Talk to your family doctor, nurse or vaccinator for more information, or visit info.health.nz/vaccines-aotearoa

Tuberculosis (TB) vaccine

Babies at higher risk of tuberculosis (TB) may be offered the TB vaccination at birth if they are at particular risk of TB, for example, children living in a house with someone with TB or with a family member who has lived in affected countries. The TB immunisation does not stop children being infected with TB but it does help stop serious infection. Protection lasts for up to 15 years. Speak to your medical centre or Well Child Tamariki Ora nurse to see if they recommend this immunisation for your child.

Meningococcal ACWY vaccine

One dose of the meningococcal ACWY vaccine protects against A, C, W and Y strains of meningococcal disease. It's free for people in their first year living in boarding school hostels or halls of residence who are aged between 13 and 25 years.

Because the vaccines don't provide long-term protection, or protect against all strains, it's important to be aware of the signs and symptoms of meningococcal disease and seek medical advice immediately if you're concerned. Information on the symptoms of meningococcal disease can be found at info.health.nz/meningococcal-disease

Flu immunisation

The flu immunisation protects against influenza, a common virus that infects the nose, throat and lungs. Some people become so ill from flu that they need hospital care, and every year many people in New Zealand die from a flu infection. The immunisation is free for people with certain health conditions who are over 6 months old.

Around 70% of people who are immunised will be protected against flu.

Yearly immunisation is needed to stay protected because protection lessens over time and the influenza strains change each year. There is a slight risk of small children developing a fever after immunisation, and many people have redness or some pain where the injection goes in.

You can protect your new baby from flu and needing to go to hospital by getting immunised at any stage of your pregnancy, as your immunity passes through the placenta and protects them while they are still very young. The flu vaccine cannot give you flu.

Immunisation registers, records and certificates

The Aotearoa Immunisation Register

The Aotearoa Immunisation Register (AIR) records information about the immunisations your tamariki get. The AIR is used by vaccinators and authorised healthcare providers (for example, doctors) to view immunisation history and can help to manage public health risks against vaccine preventable diseases.

The AIR helps you and your healthcare providers keep an accurate record of your child's immunisations to make sure they receive the correct immunisations throughout their life. For more information about the AIR and the full AIR privacy statement visit tewhatuora.govt.nz/air-privacy

You can view your immunisation records (from 2005 onward) and link your child's profile, so you can view their records, at my.health.nz

Immunisation records and the Immunisation Certificate

Your doctor, nurse or vaccinator will keep a record of the immunisations your child has been given on their electronic records which will, in most cases, update automatically to the AIR.

The immunisations may also be written into your child's Well Child Tamariki Ora My Health book. They will sign your child's immunisation certificate after their 15 month old immunisations and then again after the 4 year old immunisations.

This is so you can be confident that your child has had all of their immunisations and is fully protected.

How are the immunisation records used?

If there is a threat or outbreak of a disease in your area, the local Medical Officer of Health will review the risk to all children, including those not vaccinated. Your child may be offered immunisation if they are not fully protected and, in some situations, may be asked to stay at home until the disease threat has gone, to help stop it spreading.

Overseas immunisations

If your child or anyone in your family has had some or all of their childhood immunisations overseas, it is important to check that they are fully protected for the diseases they may get in New Zealand. You should ask your medical centre to check your overseas immunisation records and arrange for you to catch up on any immunisations you may be missing. These will be free for all family members aged under 18 years, regardless of their visa status. Many immunisations are also free for adults aged over 18 years who are eligible for NZ healthcare.

If you don't have a doctor or medical centre, you can call the **Vaccination Helpline** on **0800 28 29 26** for support. *Interpreters are available.*

More information

For more information about immunisation and the diseases they protect against visit **info.health.nz/immunisations**

For general information about immunisations or to check if you are up to date with your immunisations, talk to your doctor, nurse, healthcare professional (for example, midwife or pharmacist), your vaccinator, or call the **Vaccination Helpline** on **0800 28 29 26**. *Interpreters are available.*

If you have a concern about a response after an immunisation

- talk to your doctor, nurse, vaccinator or healthcare provider
- call **Healthline** on **0800 611 116** any time, or call your after hours medical centre
- in an emergency, call **111** for an ambulance and make sure you tell them what vaccine(s) your child was given.