Understanding Childhood IMMUNISATION

IMMUNISE AUSTRALIA PROGRAM

An Australian, State and Territory Governments Initiative

IMMUNISATION

ISBN 0 642 82783 4

First published April 1995
Revised October 1995
Reprinted June 1996
Revised April 1997
Revised March 1998
Revised July 1998
Reprinted December 1998
Reprinted January 1999
Revised July 2000
Reprinted September 2002
Reprinted July 2003
Revised March 2004
Revised October 2005
Revised June 2010
Revised November 2012

All the information in this booklet is correct at the time of printing. This manual was published in conjunction with the National Immunisation Program, an initiative of the Australian Government Department of Health and Ageing, and in consultation with the National Immunisation Committee.

Department of Health and Ageing Publications
Approval number D0988

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Immunisation

is a simple, safe and effective way of protecting children against certain diseases. The risks of these diseases are far greater than the very small risks of immunisation.

This booklet will help you make a decision on your child's immunisation based on the best available information at this time.

If you have any questions about the information in this booklet, please discuss them with your local doctor or health clinic staff.

WHAT IS IMMUNISATION?

Immunisation protects children (and adults) against harmful infections before they come into contact with them in the community. Immunisation uses the body's natural defence mechanism - the immune response - to build resistance to specific infections. Immunisation helps children stay healthy by preventing serious infections.

This booklet focuses on the vaccines for young children funded under the National Immunisation Program. The routine childhood immunisations given through this Program currently provide protection against 13 diseases - diphtheria, tetanus, pertussis (whooping cough), poliomyelitis (polio), measles, mumps, rubella (German measles), *Haemophilus influenzae* type b (Hib), hepatitis B, meningococcal C, pneumococcal, varicella (chickenpox) and rotavirus. Most of these diseases can cause serious complications and sometimes death. Most vaccines used in the Program are given by injection but the rotavirus vaccine is given orally (by mouth).

Immunisation and vaccination

Technically, 'vaccination' is the term used for giving a vaccine - that is, actually getting the injection or ingesting an oral dose. 'Immunisation' is the term used for the process of both getting the vaccine and becoming immune to the disease as a result of the vaccine. Most people use the terms 'vaccination' and 'immunisation' interchangeably but their meanings are not exactly the same because immunity follows vaccination in most, but not all, cases. For the purposes of this book, we have always used the term 'immunisation' because this is the expression most commonly used in the community.

How does immunisation work?

All forms of immunisation work in the same way. When someone is injected with a vaccine, their body produces an immune response in the same way it would following exposure to a disease but without the person getting the disease. If the person comes in contact with the disease in the future, the body is able to make an immune response fast enough to prevent the person developing the disease or developing a severe case of the disease.

What is in vaccines?

Some vaccines contain a very small dose of a live, but weakened form of a virus. Some vaccines contain a very small dose of killed bacteria or small parts of bacteria, and other vaccines contain a small dose of a modified toxin produced by bacteria. Vaccines may also contain either a small amount of preservative or a small amount of an antibiotic to preserve the vaccine. Some vaccines may also contain a small amount of an aluminium salt which helps produce a better immune response.

How long do immunisations take to work?

In general, the normal immune response takes approximately two weeks to work. This means protection from an infection will not occur immediately after immunisation. Most immunisations need to be given several times to build long lasting protection. A child who has been given only one or two doses of diphtheria-tetanus-acellular pertussis vaccine (DTPa) is only partially protected against diphtheria, tetanus and pertussis (whooping cough), and may become sick if exposed to these diseases. However, some of the new vaccines, such as the meningococcal C vaccine, provide long lasting immunity after only one dose.

How long do immunisations last?

The protective effect of immunisations is not always life-long. Some, like tetanus vaccine, can last up to 30 years, after which time a booster dose may be given. Some immunisations, such as whooping cough vaccine, give protection for about five years after a full course.

Is everyone protected from disease by immunisation?

Even when all the doses of a vaccine have been given, not everyone is protected against the disease. Measles, mumps, rubella, tetanus, polio, hepatitis B and Hib vaccines protect more than 95% of children who have completed the course. One dose of meningococcal C vaccine at 12 months protects over 90% of children. Three doses of whooping cough vaccine protects about 85% of children who have been immunised, and will reduce the severity of the disease in the other 15%, if they do catch whooping cough. Booster doses are needed because immunity decreases over time.

Why do children get so many immunisations?

A number of immunisations are required in the first few years of a child's life to protect the child against the most serious childhood infectious diseases. The immune system in young children does not work as well as the immune system in older children and adults, because it is still immature. Therefore more doses of the vaccine are needed. In the first months of life, a baby is protected from most infectious diseases by antibodies from her or his mother which are transferred to the baby during pregnancy. When these antibodies wear off, the baby is at risk of serious infections and so the first immunisations are given before these antibodies have gone. Another reason why children get many immunisations is that new vaccines against serious infections continue to be developed. The number of injections is reduced by the use of combination vaccines, where several vaccines are combined into one injection.

What are the side effects of immunisation?

Common side effects of immunisation are redness and soreness at the site of injections and mild fever. While these symptoms may concern you and upset your child at the time, the benefit of immunisation is protection from the disease. More serious reactions to immunisation are very rare. You may consider using paracetamol to help ease the fever and soreness. Other side effects are very rare but if they do occur, a doctor should be consulted immediately. For more information, refer to Section 7 - Common side effects of immunisation and what to do about them (page 69). Side effects of specific vaccines are described in Section 2 - The vaccines and the diseases they prevent (page 13).

Why should I have my child immunised?

There are two reasons for immunising every child in Australia:

1. Immunisation is the safest and most effective way of giving protection against a disease. After immunisation, your child is far less likely to catch the disease if there are cases in the community. The benefit of protection against the disease far outweighs the very small risks of immunisation.

2. If enough people in the community are immunised, the infection can no longer be spread from person to person and the disease might die out altogether. This is how smallpox was eliminated from the world, and how polio has disappeared from many countries.

Are all immunisations free?

All vaccines that are routinely recommended for your child are funded by the Australian Government and are provided free of charge if your child is eligible for Medicare. The following vaccines are provided free for all children:

- Hepatitis B;
- Diphtheria, tetanus and whooping cough;
- *Haemophilus influenzae* type b;
- Polio;
- Pneumococcal;
- Rotavirus;
- Measles, mumps and rubella;
- Meningococcal C; and
- Chickenpox.

Some additional vaccines are provided free of charge for Aboriginal and Torres Strait Islander children in Northern Territory, Western Australia, South Australia and Queensland. See Section 3, page 46, for more details.

If your child is late in getting their doses of vaccine, please be aware that some vaccines have upper age limits. Speak to your immunisation provider for details.

There are some differences in the way the Government funded immunisation programs are administered in each State and Territory. You should consult your usual immunisation provider for eligibility requirements under these programs. Alternatively, you can contact your State or Territory health department (see contact numbers at the rear of this booklet).

There are other vaccines available that are not funded by the National Immunisation Program. These are usually recommended for special circumstances, such as international travel or for people engaged in certain occupations. If you choose to immunise your child with a vaccine that is not funded by the Program, you should speak to your local doctor or immunisation clinic for further information.

If you are unsure which vaccines are free, please check with your doctor, immunisation clinic, or telephone the Immunise Australia Information Line on **1800 671 811**.

THE VACCINES AND THE DISEASES THEY PREVENT

Vaccines are listed by the age at which they are first administered.

Hepatitis B

Hepatitis B is a serious disease that can be contracted throughout life. It is caused by a virus that affects the liver. Babies that get this disease may only have mild symptoms, or have no symptoms at all. However, getting the disease as a baby increases the risk of becoming a lifetime carrier of the virus. A carrier may then be able to pass it on to other people. As many as 25% of hepatitis B carriers may develop liver cancer or liver failure later in life.

The hepatitis B virus is present in infected body fluids including blood, saliva and semen. The risk of contracting hepatitis B from saliva is very low. Babies whose mothers have hepatitis B are at very high risk of being infected with the disease at birth. Other ways in which hepatitis B can be spread are by blood to blood contact, sharing of syringes, sexual contact, and contaminated instruments such as those used for body piercing. Immunisation has proven to be a safe and cost effective way of preventing this disease.

Hepatitis B immunisation

Several doses of hepatitis B vaccine are required to provide full protection against the disease. For babies, the first dose of hepatitis B is given soon after birth, the second at 2 months of age, the third at 4 months of age and the final dose at 6 months of age. The last three doses of hepatitis B are combined with other vaccines, such as DTPa.

Some preterm babies do not respond as well as term babies do to hepatitis B vaccines. These babies may require an extra dose of hepatitis B vaccine to ensure that they have adequate protection against hepatitis B disease. Parents of preterm babies should discuss the need for an extra vaccination with their doctor.

For adolescents who have not received the hepatitis B vaccine as babies, two or three doses are required, depending on which vaccine your vaccine provider uses.

The vaccines used in Australia contain a modified part of the hepatitis B virus. They are produced in yeast cells and are free of association with animal or human blood or blood products. The birth dose of hepatitis B vaccine contains a small amount of aluminium salt.

Possible side effects of hepatitis B immunisation

Most side effects of hepatitis B vaccine are minor and disappear quickly. Soreness at the injection site may occur, as may mild fever, nausea, feeling unwell and joint pain. More serious side effects are extremely rare. Some case reports have linked hepatitis B vaccine to multiple sclerosis, but extensive research has failed to show such a link.

Diphtheria, tetanus and whooping cough (pertussis)

Diphtheria, tetanus and whooping cough are serious diseases that occur in children and adults. Combination vaccines that include DTPa (diphtheria-tetanus-acellular pertussis) give effective protection against these diseases.

Diphtheria

Diphtheria is caused by bacteria which are found in the mouth, throat and nose of an infected person. Diphtheria can cause a membrane to grow around the inside of the throat which can lead to difficulty in swallowing, breathlessness and suffocation. A powerful poison (toxin) is produced by the diphtheria bacteria and may spread throughout the body. The toxin may cause serious complications such as paralysis and heart failure. About 7% of people who contract diphtheria die from it.

Tetanus

Tetanus is an often fatal disease caused by a toxin made by bacteria present in soil and manure. You don't catch tetanus from other people. Rather, the bacteria enter the body through a wound which may be as small and insignificant as a pinprick. Tetanus attacks the nervous system, causing severe muscle spasms,

first felt in the neck and jaw muscles (lockjaw). The effects spread, causing breathing difficulties, painful convulsions and abnormal heart rhythms. Because of immunisation, tetanus is now rare in children in Australia but it still occurs in adults who have never been immunised against it or who have not had their booster.

Whooping cough

Whooping cough, which is also known as pertussis, is a highly contagious disease caused by bacteria and is spread by coughing or sneezing. Whooping cough affects the air passages and can cause difficulty in breathing. Severe coughing spasms occur and between these spasms, the child gasps for breath causing the characteristic 'whoop' sound. Not all children get the 'whoop' and vomiting often follows a coughing spasm. The cough may last for months. Whooping cough is most serious in babies under 12 months of age, often requiring admission to hospital. Complications include convulsions, pneumonia, coma, inflammation of the brain, permanent brain damage and long-term lung damage. Around 1 in every 200 children under 6 months of age who catches whooping cough will die.

DTPa immunisation

Immunisation with a DTPa-containing vaccine is the best way to prevent diphtheria, tetanus and whooping cough. DTPa containing vaccine is given at 2, 4, and 6 months of age with a booster dose at 4 years of age. DTPa is generally given to babies and young children in combination with other vaccines such as hep B, Hib, and/or polio. DTPa containing vaccines contain a small amount of diphtheria and tetanus toxins which are modified to make them harmless, small parts of the pertussis bacteria, aluminium hydroxide and a preservative (phenoxyethanol).

As the protective effect of the childhood vaccine can wear off, a booster dose of diphtheria-tetanus-acellular pertussis vaccine is also given to adolescents.

Possible side effects of DTPa immunisation

The recommended DTPa immunisation has few side effects, although some children may have a mild fever, redness, soreness and swelling in the area where the injection was given. Mostly these side effects will settle without treatment but using paracetamol may help to reduce fever and soreness at the injection site. The very real risk of severe complications from the whooping cough disease is much greater than the possible risk of an extremely rare severe reaction following a DTPa immunisation.

Poliomyelitis (polio)

Following the introduction of polio vaccines there has been a dramatic decrease in polio infection. Since 1978, no cases of polio have been reported in Australia. On 29 October 2000, the World Health Organization (WHO) certified the Western Pacific Region, including Australia, as polio-free. However, it is still important to have your child immunised against polio. Even though cases do not occur here, there is an ongoing risk of polio being imported from other countries and re-established here if our children and adults are not immunised. Only when polio has been eradicated worldwide will it be possible to stop immunising against polio.

Polio may cause mild symptoms or very severe illness. It is a gastrointestinal virus which causes fever, vomiting and muscle stiffness, and can affect the nerves and cause permanent crippling. Polio can paralyse the breathing and swallowing muscles, leading to death. Up to 5% of children hospitalised with polio die from it, and about half of those who survive suffer permanent paralysis.

Polio immunisation

In the past, oral poliovaccine (OPV) was used routinely in the immunisation schedule. Since 2005, OPV has been replaced by inactivated poliomyelitis vaccine (IPV) which is given by injection. Three doses are needed at 2, 4 and 6 months of age.

IPV is given as part of a combined vaccine with DTPa, hep B and Hib (for babies). IPV is combined with DTPa at age 4 years.

IPV contains small amounts of inactivated poliovirus. IPV containing vaccines also contain a small amount of aluminium salt and very small amounts of antibiotics and preservatives.

Possible side effects of polio immunisation

IPV or vaccines that contain IPV can cause muscle aches, soreness, swelling or redness at the injection site. Up to 1 in 10 children may experience a low grade fever and loss of appetite.

Haemophilus influenzae type b (Hib)

Before the introduction of Hib vaccines in the early 1990s Hib was the most frequent cause of infection of the membranes covering the brain (meningitis) and swelling in the throat which can block breathing (epiglottitis) in children under 5 years of age. Despite its name, it is not related in any way to influenza ('the flu'). Hib may also cause pneumonia, joint infection or infection of the tissue under the skin, usually on the face (cellulitis). Both meningitis and epiglottitis can develop quickly and if left untreated, can rapidly cause death.

Hib immunisation

Several doses of Hib vaccine are required to protect a child against Hib disease. Doses are given at 2, 4, 6 and 12 months of age. The early doses are given in a combination vaccine with DTPa, polio and hep B.

There are two types of single Hib vaccine available at 12 months of age.

They are Hib PRP-T and Hib PRP-OMP. The Hib vaccine contains a small amount of a part of the Hib bacteria attached to a protein which stimulates the immune system. Some preterm babies do not respond as well as term babies do to Hib vaccines. These babies may require

an extra dose of Hib vaccine to ensure that they have adequate protection against Hib disease.

Possible side effects of Hib vaccine

Hib vaccines are very safe. Mild swelling, redness and pain at the injection site have been reported in up to 5% of children who receive a Hib vaccine. Fever and irritability are uncommon.

Pneumococcal disease

Pneumococcal disease is a potentially life-threatening group of infections that occur most frequently in children under 2 years of age and in people aged 65 years or over. The potentially life-threatening forms of pneumococcal disease are infection around the brain (meningitis), blood poisoning (septicaemia) and infection of the lungs (pneumonia). In children, middle ear infection is the most common less serious form of pneumococcal disease.

The bacteria are spread in droplets shed from the mouth or nose through coughing, sneezing or contact with articles that have been contaminated with the infected droplets. Pneumococcal bacteria are commonly carried in the back of the throat and nose in healthy children and adults. Pneumococcal disease can occur at any time of the year, although infections seem to be more common during winter and spring.

The disease rates are highest in Indigenous children, particularly those in Central Australia. Some children with medical conditions such as impaired immunity or chronic disease are also at increased risk.

It is important to understand that pneumococcal disease is different from meningococcal disease. (Refer to p 37 for more detail on meningococcal disease). While both pneumococcal disease and meningococcal disease can cause infection around the brain and blood poisoning, the two diseases are caused by two different bacteria. Vaccination against meningococcal C disease will not protect your child from pneumococcal disease.

Pneumococcal immunisation

There are two types of pneumococcal vaccine available, conjugate vaccine (Prevenar13®) and polysaccharide vaccine (PneumoVax23®). The conjugate vaccine works well in babies and young children and covers the 13 types of pneumococcal bacteria that most commonly cause disease in children. The polysaccharide vaccine covers 23 different types of pneumococcal bacteria but it does not work well in young children. It is mainly used for vaccination of adults and is also given as a booster vaccination after a course of conjugate vaccine for older children in high risk groups who require additional doses of vaccine.

The type of vaccine that should be used and the number of doses required to provide adequate protection varies depending on the age of the child when the course of pneumococcal vaccination is commenced and whether your child belongs to a high risk group. For babies, the first dose of pneumococcal conjugate vaccine is recommended at 2 months of age, with subsequent doses at 4 and 6 months of age. Aboriginal and Torres Strait Islander children and children with medical risk factors may need further doses of vaccine.

Both vaccines are made of small parts of different strains of the bacteria, attached to a protein which stimulates the immune system. The polysaccharide vaccine contains a small amount of phenol and the conjugate vaccine contains aluminium phosphate.

The conjugate vaccine is given to all infants at 2, 4 and 6 months of age. It is recommended that the pneumococcal vaccine be given at the same time as other scheduled vaccines (see Can more than one immunisation be given at the same time? -Section 5, page 58).

Children in specific high risk groups are eligible for additional booster doses of pneumococcal vaccine. Aboriginal and Torres Strait Islander children living in Queensland, the Northern Territory, Western Australia and South Australia are eligible for an additional booster at 12-18 months of age. Children with certain medical risk factors are also considered to be at high risk and may need a booster, usually around age 4-5 years. You should discuss this with your immunisation provider if you think your child is in a specific high risk group.

Medical risk factors that predispose children to high incidence or high severity of pneumococcal infection are:

- congenital immune deficiency;
- poor functioning spleen due to conditions such as sickle cell anemia or surgical removal of the spleen;
- HIV infection, before and after development of AIDS;
- kidney failure, or relapsing or persistent nephrotic syndrome;
- Down's syndrome;
- heart disease associated with cyanosis or cardiac failure;
- cystic fibrosis;

- insulin-dependent diabetes mellitus;
- cerebrospinal fluid leak;
- intracranial shunts and cochlear implants;
- immunosuppressive therapy (such as cancer treatment or large doses of steroids);
- all premature infants with chronic lung disease; and
- all infants born at less than 28 weeks gestation.

Possible side effects of pneumococcal immunisation

There may be some swelling, redness and soreness at the injection site. A child may also have a low grade fever, be sleepy, restless or irritable. Uncommon side effects may include vomiting, decreased appetite or diarrhoea. Severe reactions are very rare. There is the extremely small chance that the vaccine, like any medication, could cause serious problems, such as severe allergic reaction. Your child cannot get pneumococcal disease from the vaccine.

Rotavirus

Rotavirus is the most common cause of severe gastroenteritis in infants and young children, causing around half of all hospitalised cases of gastroenteritis in children less than 5 years of age.

Children can be infected with rotavirus several times during their lives. The illness can range from mild, watery diarrhoea of limited duration to severe dehydrating diarrhoea with vomiting and fever, which can result in death. Confirmation of rotavirus infection can only be made by laboratory testing of faecal specimens.

The peak incidence of rotavirus disease causing severe diarrhoea and dehydration is between 6 and 24 months of age.

Rotavirus immunisation

Rotavirus vaccine is the best way to protect children against rotavirus disease. The vaccine will not prevent diarrhoea and vomiting caused by other infectious agents.

Rotavirus vaccine is given in 2 or 3 doses, depending on the vaccine brand used. The vaccine is given orally, at the same time as other vaccines at 2, 4 and 6* months of age.

There is an upper age limit for the administration of rotavirus vaccine.

It is very important to give each dose on time, as late ("catch-up") doses cannot be given. The safety of the vaccine has not been tested in older babies or children. It is important, therefore, to ensure that your child receives this vaccine as close to the recommended age as possible (2, 4 and 6* months).

The vaccine contains a small amount of weakened strain of live rotavirus.

It is recommended that you complete the vaccine course with the same brand of vaccine. If this is not possible, due to relocation or other reasons, please discuss your individual requirements with your immunisation provider.

Possible side effects of rotavirus immunisation

There is a slightly increased risk of diarrhoea and vomiting in the week after rotavirus vaccination.

Intussusception

New evidence has shown a slightly increased risk of a serious bowel condition called "intussusception" after rotavirus vaccination. The condition is rare but it is recommended that you discuss it with your immunisation provider.

*depending on vaccine brand used

Measles, mumps and rubella

Measles, mumps and rubella (German measles) are all serious viral diseases which still occur in Australia. A combined measles-mumps-rubella (MMR) vaccine is used to protect children against these diseases.

Measles

Measles is a serious, highly contagious viral illness which causes fever, rash, runny nose, cough and conjunctivitis. Complications following measles can be very dangerous, and pneumonia occurs in 6% of cases. Approximately 1 child in every 1,000 who contracts measles will develop inflammation of the brain (encephalitis). For every 10 children who contract measles encephalitis, one will die and up to four will have permanent brain damage. Before measles vaccine was introduced, about 20 people died each year from measles in Australia. A very serious but rare illness called subacute sclerosing panencephalitis (SSPE) can occur in children several years after a measles infection. SSPE is a disease which rapidly destroys the brain and always results in death. SSPE develops in about 1 in 100,000 cases of measles.

Mumps

Mumps is a viral disease which causes fever, headache and inflammation of the salivary glands. Occasionally it causes an infection of the membranes covering the brain (meningitis) but permanent side effects are rare. In 1 in 10,000 patients it can cause inflammation of the brain (encephalitis). Mumps can also cause permanent deafness. About 1 in 5 adolescent or adult males who contracts mumps develops painful inflammation and swelling of the testes. While the person with this condition usually recovers completely, on rare occasions it may cause infertility.

Rubella

Rubella, which is also known as German measles, is usually a mild disease of childhood but it can also affect teenagers and adults. The usual symptoms of rubella are a slight fever, swollen glands, joint pain and a rash which appears on the face and neck and lasts for 2 or 3 days. Recovery from rubella is almost always speedy and complete. The most dangerous form of rubella infection is congenital rubella, where infection during the first 20 weeks of pregnancy can result in devastating abnormalities in the newborn baby. Deafness, blindness, heart defects and mental retardation can occur.

Rubella is highly contagious. The best way to protect expectant mothers and their babies from rubella is to make sure that all women have been immunised before they become pregnant, and to immunise all children to stop the spread of infection.

Measles-mumps-rubella (MMR) immunisation

The combination measles-mumps-rubella (MMR) vaccine provides protection against all three diseases. Children should be immunised with MMR at the age of 12 months with a second dose at 4 years of age. MMR is also recommended for all children and adults born since 1966 who have not received two doses of MMR vaccine.

Women should be screened for rubella antibodies when planning a pregnancy, or early in the pregnancy irrespective of a previous positive rubella antibody result. If rubella antibody levels are low, these women should receive MMR vaccine either at least 28 days before becoming pregnant or shortly after delivery and before discharge from the maternity unit. Women should not receive the vaccine if they are pregnant or might become pregnant within 28 days.

The MMR vaccine contains a small amount of weakened strains of live measles, mumps and rubella viruses, and a small amount of an antibiotic (neomycin).

Possible side effects of MMR immunisation

Reactions to MMR immunisation are much less frequent than the complications of natural measles. The most common reaction is feeling unwell and having a low grade fever, possibly with a rash, occurring 7-10 days after immunisation and lasting about 2-3 days. Children who develop the rash during this time are not infectious to others. The fever can be reduced with appropriate doses of paracetamol (see page 74). Occasionally children will develop a mild swelling of the salivary glands about 3 weeks after the immunisation because of the mumps component of the vaccine.

More serious reactions are rare. About 1 in 30,500 children develops bruising or bleeding (thrombocytopenia) which gets better by itself. If inflammation of the brain (encephalitis) occurs at all following MMR immunisation, it is very rare - probably at a rate of 1 in a million doses or less. Subacute sclerosing panencephalitis (SSPE) is prevented by immunisation. The risks of serious complications after catching measles, mumps or rubella, are much greater than the very small risks of side effects resulting from the MMR immunisation. There is no scientific evidence that MMR vaccine causes autism (see Does MMR vaccine cause inflammatory bowel disease or autism? -Section 4, page 55).

If every child in a school of 500 children had not been immunised and an outbreak of measles occurred, most students would come down with measles. Pneumonia would occur in 30 children. There is a 25% chance that one child in the school would develop inflammation of the brain (encephalitis) as a result of measles. If every child in the school was immunised correctly with MMR vaccine, on average there would be one case of encephalitis every 2000 years caused by the immunisation.

Meningococcal C disease

Meningococcal disease is an uncommon life-threatening infection caused by bacteria that live at the back of the throat or in the nose in about 10% of people at any one time. Although most people who carry these bacteria remain well, they can spread the meningococcal bacteria to others. The onset of meningococcal disease is often sudden and can rapidly cause brain infection (meningitis) or blood poisoning (septicaemia) or a combination of both. The highest rate of meningococcal disease occurs in children under 5 years of age.

Meningococcal disease can occur at any time of the year but occurs more frequently during winter and spring. There are different strains of meningococcal disease, with strains B and C the most common in Australia. Even though it is less common than meningococcal B disease in some parts of Australia, meningococcal C disease accounts for more than half of all meningococcal deaths.

The bacteria are spread in droplets shed from the nose or throat through coughing, sneezing and spluttering. Although the bacteria are spread through droplets, many hours of close personal contact are usually required to transmit meningococcal bacteria. This is because the bacteria do not survive long outside of the body.

It is important to understand that meningococcal disease is different from pneumococcal disease. (Refer to p 25 for more detail on pneumococcal disease). While both pneumococcal disease and meningococcal disease can cause infection around the brain and blood poisoning, the two diseases are caused by two different bacteria. Vaccination against pneumococcal disease will not protect your child from meningococcal C disease.

Meningococcal C immunisation

The meningococcal C conjugate vaccine is effective in young children. The meningococcal C vaccine is offered as a single dose vaccine to all children when they turn 12 months of age. This vaccine can be given at the same time as the other vaccines that are due at 12 months of age.

The meningococcal C conjugate vaccine is very safe. It does not contain live bacteria and cannot cause meningococcal disease in your child. It contains a small amount of part of the bacteria attached to a protein which stimulates the immune system and an aluminum salt.

There are other strains of meningococcal infection (eg. caused by the A, B, W and Y strains) that are not covered by this vaccine. At this time, there has been no effective vaccine developed for meningococcal B disease in Australia. It is important to remain alert for symptoms of meningococcal disease. Urgent medical attention should be sought if symptoms occur.

Meningococcal disease - the symptoms

A person showing the early signs of meningococcal disease might not have all of these symptoms, and they might not all show at once:

- Sudden onset of fever;
- Severe headache;
- Drowsiness, confusion or coma;
- Neck stiffness, joint pains;
- Rash of red-purple spots or bruises;
- Dislike of bright lights; or
- Vomiting.

Additional signs to look for in babies are:

- Fretfulness;
- High-pitched moaning cry;
- Difficulty in waking baby;
- Refusal to eat; or
- Pale or blotchy skin.

Possible side effects of meningococcal C conjugate immunisation

There are some mild side effects that your child might experience. The most common are pain, redness and swelling at the site of injection, fever, irritability, decreased appetite (for a few hours) and headaches. These side effects usually only last for a short period of time. More serious side effects, such as seizures, are very rare.

Chickenpox

Chickenpox is a highly contagious disease caused by the varicella-zoster virus. Chickenpox usually begins with cold-like symptoms such as a runny nose, mild fever, cough and fatigue followed by a rash which usually appears on the trunk and face and spreads over the whole body. The rash begins as small red spots which rapidly turn into blisters. Chickenpox is spread through coughs and sneezes and through direct contact with the fluid in the blisters of the rash.

In healthy children, chickenpox is usually a mild disease which lasts about 5-10 days. The chickenpox rash can be very itchy and scratching can lead to bacterial infection of the spots. Children with other medical conditions are at risk of developing other life-threatening complications such as pneumonia or inflammation of the brain (encephalitis). If a woman develops chickenpox during pregnancy, there is a small chance (less than 2%) of damage to the unborn baby unless she is close to delivery. Onset of the chickenpox infection in the mother, in the period 5 days before to 2 days after delivery, results in severe infection in the newborn baby in up to one-third of cases. Adults tend to have more severe symptoms of the chickenpox disease than children and are much more likely to develop complications.

Chickenpox immunisation

A single dose of chickenpox vaccine is offered to all children at 18 months of age.

Children between the ages of 10 and 13 years who have not received chickenpox vaccine or who have not had the disease are also eligible to receive the vaccine as part of a long-term catch-up program. The particular age group within the age range of 10 to 13 years provided with the free vaccine varies between States and Territories.

The vaccine contains a small amount of weakened strain of live virus and a small amount of an antibiotic (neomycin).

Possible side effects of chickenpox immunisation

Side effects are uncommon and may include pain, redness or swelling at the injection site and fever. Serious side effects are very rare. The vaccine should not be given to children with severe immune deficiency diseases, including HIV/AIDS, or to any child taking high doses of immune suppressing medication. The vaccine should not be given to pregnant women, but it is safe to vaccinate children who are in contact with pregnant women.

Influenza

Influenza (flu) is viral illness that spreads easily between people through infected droplets in the air. Influenza causes tiredness, high fever, chills, headache, cough, sneezing and runny nose, poor appetite and muscle aches. Severe influenza infection may need to be treated in hospital, especially in children and older people. Flu complications include pneumonia and bronchitis.

Children with certain medical conditions or undergoing treatment have a higher risk of developing severe influenza or its complications than healthy children. Children 6 months of age and over with certain medical conditions or under going treatment should be immunised against influenza in autumn each year. These conditions and treatments include:

- heart disease;
- chronic respiratory conditions;
- chronic illnesses requiring regular medical follow up or hospitalisation in the previous year;
- diseases of the neuromuscular system;
- impaired immunity; and
- long term aspirin therapy in children aged 6 months to 10 years.

Influenza immunisation

The vaccine protects against three different strains of the influenza virus (two A strains and a B strain). Influenza vaccine needs to be given each year, because the viruses are always changing.

The vaccine is made of small parts of three strains of the influenza virus and, depending on the brand, may contain traces of egg protein, formaldehyde and antibiotics (neomycin, polymixin or gentamicin).

Children under 9 years of age require 2 doses, 1 month apart, of influenza vaccine in the first year they receive the vaccine. One dose of influenza vaccine is required for subsequent years and for children over 9 years of age.

Children with severe egg allergy should not receive the vaccine.

Possible side-effects of influenza immunisation

There may be some redness, soreness and swelling in the area where the injection was given. A child may also have fever, be sleepy and have general muscle soreness. This can be experienced within a few hours of vaccination and may last for up to 1-2 days. In children under 5 years of age, these side effects may be more pronounced. Symptoms may mimic influenza infection but influenza vaccines cannot cause influenza.

SPECIAL IMMUNISATION REQUIREMENTS FOR ABORIGINAL AND TORRES STRAIT ISLANDER CHILDREN

Aboriginal and Torres Strait Islander children living in Queensland, the Northern Territory, Western Australia and South Australia require extra protection against some diseases. These children should receive all the routine vaccines given to other children with the following additions:

- **Pneumococcal vaccination**

An additional booster dose of pneumococcal vaccine is required between 12 and 18 months. This is required because Aboriginal and Torres Strait Islander children living in these areas continue to be at risk of pneumococcal disease for a longer period than other children.

- **Hepatitis A**

This vaccination is given because hepatitis A is more common among Aboriginal and Torres Strait Islander children living in Queensland, the Northern Territory, Western Australia and South Australia than it is among other children. Two doses of vaccine are given 6 months apart, after 12 months of age.

The age at which hepatitis A and pneumococcal vaccines are given varies among the four States and Territories.

Each of these vaccines is available free to your child if he or she is an Aboriginal or Torres Strait Islander child living in one of these areas. For further information, contact your usual immunisation provider or your State or Territory health department using the numbers included in the contacts section of this booklet.

4

COMMON QUESTIONS ON IMMUNITY AND IMMUNISATION

Are immunisations necessary in these days of good hospital care, good hygiene and clean water supplies?

Yes. Many diseases prevented by immunisation are spread directly from person to person so good food, water and hygiene do not stop infection. Despite excellent hospital care, significant illness and death still occur from diseases which can be prevented by immunisation. For example, since Hib vaccines were first available in Australia in 1993, cases of Hib disease in children under 5 years have declined dramatically, with no change in living standards. There were 502 Hib cases reported in 1992 prior to Hib immunisation with approximately 15 cases per year currently reported in Australia.

Can immunisations overload the immune system?

No. Children and adults come into contact with many antigens (substances that provoke a reaction from the immune system) each day, and the immune system responds to each of the antigens in various ways to protect the body. Without a vaccine, a child can only become immune to a disease by being exposed to infection, with the risk of severe illness. With vaccines, however, the illness, if it does occur, is usually insignificant. Immunisations provide protection (immunity) to diseases in the same way as the natural immunity that occurs when a person catches the disease. However, while the risks associated with the diseases are high, the risks associated with vaccination are low.

Isn't natural immunity better than vaccine-induced immunity?

Natural immunity and vaccine-induced immunity are both natural responses of the body's immune system. The body's immune response in both circumstances is the same. In some cases, vaccine-induced immunity may diminish with time; natural immunity, acquired by catching the disease is usually life-long. The problem is that the wild or natural disease has a high risk of serious illness and occasionally death. Children or adults can be re-immunised (required with

some vaccines but not all) if their immunity falls to a low level. It is important to remember that vaccines are many times safer than the diseases they prevent.

Does homeopathic 'immunisation' work?

No. Homeopathic 'immunisation' has not been proven to give protection against infectious diseases. Only conventional immunisation produces a measurable immune response and protection against disease. The Council of the Faculty of Homeopathy, London, issued a statement in 1993, which reads: "The Faculty of Homeopathy, London, strongly supports the conventional vaccination program and has stated that vaccination should be carried out in the normal way, using the conventional tested and proved vaccines, in the absence of medical contraindications."

Do some children get the disease despite being immunised?

Yes, it is possible, since no vaccine is 100% effective. A small proportion of those who are immunised will remain susceptible to the disease. However, in the cases in which illness does occur in immunised children, the illness is usually much less severe than in those who were not immunised. The protection levels provided

by vaccines differ. For example, if 100 children are vaccinated with MMR, 5-10 of the fully immunised children might still catch measles, mumps or rubella (although the disease will often be milder in immunised children). However, if you do not immunise 100 children with MMR vaccine, and the children are exposed to measles, most of them will catch the disease with a high risk of complications like lung infection (pneumonia) or inflammation of the brain (encephalitis).

Do breastfed babies get normal immunisations?

Breastfed children should be immunised with vaccines that are currently provided free under the National Immunisation Program. Breast milk contains small amounts of antibodies, but breastfed babies need vaccines because breast milk does not produce permanent protection.



Is cot death (Sudden Infant Death Syndrome or SIDS) caused by immunisation?

Despite extensive studies, there is no evidence that immunisation causes cot death (SIDS). Deaths do occasionally occur shortly after immunisation but the relationship is thought to simply be a chance association, since cot death tends to happen in babies of 2-6 months of age, whether they are immunised or not. In an American study which compared 400 babies who died from cot death with the same number of well babies of the same age, the babies who died were less likely to have been immunised in the previous 24 hours than those who did not suffer cot death. In other words, immunisation appears to protect against cot death. South Australian data show no association between cot death and immunisation.

Does immunisation cause asthma?

No. There is no evidence that immunisation can cause or worsen asthma. It is especially important that children with asthma be immunised, as catching a disease like whooping cough can make an asthma attack worse.

Do vaccines cause cancer, chronic fatigue syndrome, multiple sclerosis, allergies, or auto-immune disease?

No. After millions of vaccinations over many decades, there is no evidence to suggest that immunisations cause such diseases. In fact, hepatitis B immunisation greatly reduces the risk of cancer of the liver. Immunisation levels have increased over the past 20 years in most countries but there has been no evidence of an increase of these diseases during this time.

Does MMR vaccine cause inflammatory bowel disease or autism?

There is no validated scientific evidence to support the suggestion that MMR vaccine causes inflammatory bowel disease or autism. The onset of autism may appear to be associated with the MMR vaccine because the average age at which parents with a child with autism first report concerns about their child's development is around 18 months, that is, 6 months after MMR vaccine is given.

Can vaccines change their form and cause other diseases?

No. Vaccines definitely cannot change form and cause other diseases. They are only approved for use in Australia if they are safe and effective.

5

COMMON QUESTIONS ON GETTING IMMUNISED

Where can I get immunised?

Immunisations can be obtained from immunisation clinics, general practitioners, some hospitals, local councils and Aboriginal Community Controlled Health Services.

Are immunisations compulsory?

Immunisation is not compulsory but is highly recommended for all children. States and Territories require a record of a child's immunisations to be presented when the child attends day care or starts school. This is so the day care centre or school knows which children are not immunised. If there is an outbreak in the day care centre or school, the children who are not immunised may be required to stay home to prevent them catching and spreading the disease.

Do you have to start the schedule again if you miss any vaccine doses?

To get full protection, a child needs to have all the recommended vaccine doses, preferably on time. For most vaccines, if you have fallen behind it is easy to catch up. There is no need to repeat the doses already received and there is no need to get extra doses. The vaccine schedule can safely and effectively be continued as if there had been no delay. The usual intervals between the vaccine doses are maintained or may be reduced, if needed, depending on the age of the child.

Funded vaccines are usually for specified age groups, for example rotavirus can not be given beyond an upper age limit. A significant delay could mean that your child will not be eligible for free vaccine. To protect your child and avoid unnecessary costs it is best to immunise your child on time. Any catch up programs should be administered in consultation with your immunisation provider.

Can more than one immunisation be given at the same time?

Yes. The vaccines recommended for routine use in babies and children can safely be administered at a single visit. The introduction of combination vaccines has enabled children to be immunised against more diseases with fewer injections.

For example, Infanrix Hexa and a pneumococcal vaccine are given at 2, 4 and 6 months of age. The Infanrix Hexa vaccine provides protection against six diseases, which means your baby is protected against seven diseases by having two injections with one visit. This is completely safe and will not overload the immune system (see Can immunisations overload the immune system?, page 50). If you have any concerns, you should discuss them with your doctor or immunisation clinic.

What if my baby had a difficult birth or was premature?

Premature babies especially need the protection of immunisation because they are more prone to certain infections. In general, babies born prematurely receive the same immunisations as other babies. However, very low birth weight babies may have a lower response to hepatitis B and may need an extra dose of the vaccine. The baby may need to have their antibody response checked after immunisation, or an extra dose of the hepatitis B vaccine. Also, premature babies born at less than 28 weeks gestation require an extra dose of pneumococcal vaccine at 12 months of age. The immunisation requirements of a very low birth weight baby should be discussed with your paediatrician.

Should children with coughs and colds have immunisation delayed? How long after a severe illness (with a high fever) should immunisation be delayed?

Babies with minor coughs and colds without fever, or those receiving antibiotics in the recovery phase of an acute illness, can be immunised safely and effectively. Immunisation should only be postponed if a child is very unwell with a high fever (over 38.5°C). Immunisation should be arranged for when the baby is well again (a week or two later). If in any doubt, ask your doctor or health clinic staff before delaying immunisation.

Should children be given a particular vaccine such as chicken pox, measles, rubella or whooping cough, if they have already had that disease?

It is safe to immunise a child against these diseases even if they may have had them. Immunisation of someone who is already immune to measles boosts immunity and carries no risk. Also, it is important to be immunised against all the diseases the vaccine covers, even if the child has previously caught one of the diseases. Of particular importance is the fact that children under 2 years of age do not get adequate natural immunity following Hib infection. These children should still be immunised.

Should children be immunised while their mother is pregnant?

There is no problem with giving routine immunisations to a child whose mother is pregnant. In fact, immunising the child will protect the mother from being exposed to diseases like rubella.

What if my child has allergies or has asthma? What precautions are required for atopic or egg sensitive children?

Children with asthma, eczema, hay fever and allergies, should be immunised unless they have a genuine severe allergy to egg (eg. generalised hives, swelling of the mouth or throat, difficulty breathing, wheeze, low blood pressure and shock). On the National Immunisation Program there are two vaccinations that contain egg protein, the MMR and influenza vaccines. However, only the influenza vaccine should be avoided by individuals with anaphylactic sensitivity to eggs. The MMR vaccine has proven to contain negligible traces of egg protein and is safe to administer to babies with this egg sensitivity. Other vaccines containing egg are vaccines given for special circumstances including yellow fever and Q fever. These are not usually given to children with severe egg allergies. If in any doubt, ask your doctor.

What if my child has had a fit or has epilepsy?

These children should still be immunised if their condition is stable. Some children have convulsions (fits) when they have a high temperature. These children should be given paracetamol before and for 48 hours after immunisation to reduce the chance of fever. It is important to follow directions on the bottle of paracetamol (see page 74 for more detail). Remember, the fever following MMR vaccine occurs 7-10 days after the immunisation. A family history of fits or epilepsy is not a reason to avoid immunisation.

What if my child has a chronic disease?

In general, children with chronic diseases should be immunised as a matter of priority because they are often more at risk of complications from the diseases. Care is needed, however, in situations where the child's illness, or its treatment, may result in lower immunity.

What if someone else in the family has had a reaction to an immunisation?

Immunisations should not be missed if another family member has had any reaction to a vaccine as such reactions are not hereditary.

What if my child is due to have an operation?

Immunisations should not be postponed if a child is due to have an operation.

Are there any reasons for delaying immunisation?

There are very few medical reasons for delaying immunisation. If a child is sick with a high temperature (over 38.5°C) then immunisation should be postponed until the child is recovering. A child who has a runny nose, but is not ill, can be immunised, as can a child who is on antibiotics and obviously recovering from an illness. Children who have had a serious allergic reaction, with breathing difficulty, to a previous dose of vaccine should not be given the same vaccine again, but this needs to be discussed with your doctor. In some instances, children with cancer, an immune deficiency disorder or who are on medications which may interfere with their ability to fight infection should, not be immunised with vaccines that contain live viruses such as MMR and chickenpox vaccines. Immunisation for these children should be discussed with your doctor. Children who have had a blood transfusion or immunoglobulin should not have their MMR or chickenpox vaccine until up to 6 months after the transfusion. If you are in doubt about whether

your child is fit for immunisation, discuss the circumstances with your doctor or nurse before postponing immunisation.

Where should immunisations be recorded?

Every time a child is immunised, that information should be recorded in the Personal Health Record given to parents in the hospital or birth centre after a baby is born. It is important to keep these records as a reminder of when immunisations are due and to assist in checking which children in the family are immunised if there is an outbreak of disease. You may also need to show these records when your child starts school. The Personal Health Record and clinic records are completed by the doctor, nurse or health worker giving the immunisation.

How else can I keep track of my child's immunisations?

The Australian Childhood Immunisation Register (ACIR or Immunisation Register) records information about immunisations given to Australian children.

Children under 7 years of age enrolled in Medicare are automatically included on the Immunisation Register. If your child is not enrolled in Medicare they can be added when your doctor or immunisation provider sends the details of their immunisation to the Immunisation Register.

A statement of your child's immunisation history will be sent to you when your child turns 18 months and 5 years of age. This provides a simple way of keeping track of your child's immunisation history. The statement may also be used to prove your child's immunisation status for certain family assistance payments.

Statements are sent to the most recent address recorded on the Immunisation Register, so it is important that you notify Medicare and your immunisation provider if you change address.

You can request a statement at any time by visiting the Immunisation Register website (www.medicareaustralia.gov.au) or by calling the register on 1800 653 809 (free call).

Your doctor or immunisation provider can also get information about your child's vaccinations. This may be useful if your child has not been to that doctor or immunisation provider before, as the information will inform them which vaccinations are due.

FALSE REASONS FOR MISSING IMMUNISATION

Your child should still be immunised, even if he or she:

- has a family history of any reactions following immunisation;
- has a family history of convulsions;
- has had whooping cough, measles, rubella or mumps infection;
- is premature (immunisation should not be postponed);
- has a stable neurological condition such as cerebral palsy or Down syndrome;
- has been in contact with an infectious disease;
- has asthma, eczema, hay fever or 'snuffles';
- is on treatment with antibiotics;
- is on treatment with locally-acting (inhaled or low-dose topical) steroids;
- has a pregnant mother;
- is being breast-fed;

- was jaundiced after birth;
- is over the age recommended in the standard vaccination schedule;
- has had recent or imminent surgery;
- is of low weight but otherwise healthy;
- has been treated with replacement corticosteroids.

If you want more information on this, please consult your local doctor or health clinic staff.

7

COMMON SIDE EFFECTS OF IMMUNISATION & WHAT TO DO ABOUT THEM

Many children experience minor side effects following immunisation. Most of these only last a short time and the child recovers without any problems. A child needs comforting if side effects occur and you can reduce the side effects by following a few simple guidelines. Listed below are common side effects of each immunisation and what you can do about them.

DTPa (diphtheria-tetanus-pertussis vaccine)

COMMON REACTIONS

The following may occur soon after immunisation and may last up to 2 days:

- Low grade fever;
- Being unsettled and generally unhappy;
- Soreness, swelling and redness in the area where the injection was given; or
- Drowsiness or tiredness.

WHAT TO DO

- Give extra fluids to drink;
- Do not overdress the baby if hot; and
- Give paracetamol to lower fever if needed (see page 74).

IPV (inactivated polio vaccine)

POSSIBLE REACTIONS

The following reactions may occur after immunisation:

- Muscle aches;
- Soreness, swelling and redness in the area where the injection was given; or
- Low grade fever.

WHAT TO DO

- Give extra fluids to drink;
- Do not overdress the baby if hot; and
- Give paracetamol to lower fever if needed (see page 74).

Hib (*Haemophilus influenzae* type b) vaccine

POSSIBLE REACTIONS

The following reactions are uncommon and if they occur, it will be soon after the immunisation:

- Low grade fever; or
- Soreness, redness and swelling in the area where the injection was given.

WHAT TO DO

- Give extra fluids to drink;
- Do not overdress the baby if hot; and
- Give paracetamol to lower fever if needed (see page 74).

Hepatitis B vaccine

POSSIBLE REACTIONS

The following reactions are uncommon and if they occur, it will be soon after the immunisation:

- Low grade fever; or
- Soreness, redness and swelling in the area where the injection was given.

WHAT TO DO

- Give extra fluids to drink;
- Do not overdress the baby if hot; and
- Give paracetamol to lower fever if needed (see page 74).

Pneumococcal vaccine

COMMON REACTIONS

The following reactions may occur after immunisation:

- Soreness, swelling and redness in the area where the injection was given; or
- Low grade fever.

WHAT TO DO

- Give extra fluids to drink;
- Do not overdress the baby if hot; and
- Give paracetamol to lower fever if needed (see page 74).

MMR (measles-mumps-rubella vaccine)

COMMON REACTIONS

Discomfort at the injection site may occur. The following may occur 7-10 days after immunisation and last less than 2-3 days:

- Low grade fever;
- Faint rash (not infectious);
- Cough and/or puffy eyes; or
- Drowsiness and tiredness.

Swelling of the facial glands may occur about 3 weeks after immunisation.

WHAT TO DO

- Give extra fluids to drink;
- Do not overdress the baby if hot; and
- Give paracetamol to lower fever if needed (see page 74).

Meningococcal C conjugate vaccine

COMMON REACTIONS

The following reactions may occur after immunisation:

- Soreness, swelling and redness in the area where the injection was given.

The following reactions are uncommon and if they occur, it will be soon after immunisation and may last up to 48 hours:

- Loss of appetite;
- Headache and/or muscle pains;
- Low grade fever; or
- Being unsettled and generally unhappy.

WHAT TO DO

- Give extra fluids to drink;
- Do not overdress the baby if hot; and
- Give paracetamol to lower fever if needed (page 74).

Varicella (chickenpox vaccine)

COMMON REACTIONS

The following reactions may occur after immunisation:

- Soreness, swelling and redness in the area where the injection was given; or
- Low grade fever.

The following may occur 5 to 26 days after immunisation:

- Rash usually at the injection site which occasionally covers other body parts.

WHAT TO DO

- Give extra fluids to drink;
- Do not overdress the baby if hot; and
- Give paracetamol to lower fever if needed (page 74).

Rotavirus

COMMON REACTIONS

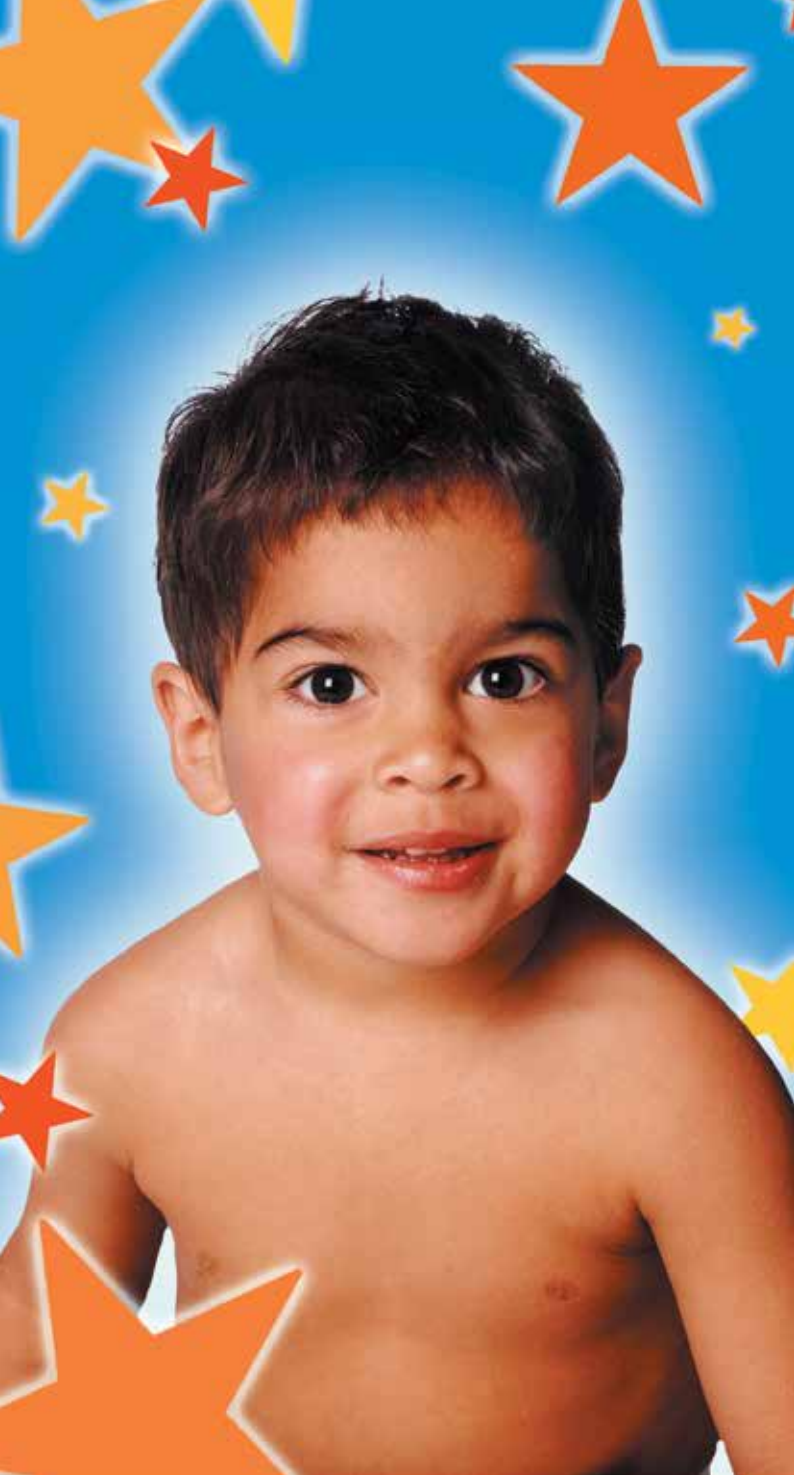
The following may occur up to 7 days after immunisation:

- Slightly increased risk of diarrohoea and vomiting.

WHAT TO DO

- Give extra fluids to drink.

Speak to your doctor or health clinic staff if you are worried about such reactions.



PARACETAMOL DOSES FOR CHILDREN TO REDUCE SIDE EFFECTS

The routine use of paracetamol at the time of immunisation is no longer recommended, due to the use of better vaccines with fewer side effects. However, speak with your doctor, pharmacist or nurse regarding the use of paracetamol if you are concerned about side effects like fever and being unsettled. In certain circumstances it may be advisable to give Paracetamol; if a fever occurs you can give Paracetamol as directed. When MMR is given a fever may occur about 7-10 days later, and paracetamol may be given to lower the fever. Children who have had a fit or have epilepsy should be given paracetamol before and for 48 hours after immunisation to reduce the chance of fever. Make sure you follow the directions on the bottle of paracetamol. Doses of paracetamol are usually not given closer than 4 hours apart and the maximum number of doses should not exceed 6 in 24 hours. Paracetamol for children comes in different strengths and you should check the strength on the label.

Please note, the prolonged use of paracetamol without medical supervision could be harmful.

WHAT TO TELL THE DOCTOR OR NURSE WHEN TAKING YOUR CHILD FOR AN IMMUNISATION

Before you have your child immunised, tell the doctor or nurse if your child:

- is unwell today;
- has had a severe reaction following any vaccine;
- has any severe allergies to anything;
- has had a live vaccine within the last month (such as MMR, chickenpox, tuberculosis*, or yellow fever*);
- has had an injection of immunoglobulin, or a whole blood transfusion in the last 6 months;
- has a disease which lowers immunity (eg. leukaemia, cancer, HIV/AIDS) or is having treatment which lowers immunity (eg. steroid medicines such as cortisone and prednisone, radiotherapy and chemotherapy);

- lives with someone who has a disease which lowers immunity, or lives with someone who is having treatment which lowers immunity;
- is living with someone who is not immunised; or
- is an Aboriginal or Torres Strait Islander person.

* Note: these vaccines are not part of the National Immunisation Program and are usually given for special circumstances, such as international travel or people engaged in certain occupations.

Your doctor or health clinic staff should know about these conditions because your child may need to be immunised differently. You should also take your child's Personal Health Record with you when having your child immunised.

IMMUNISATION AND YOUR ELIGIBILITY FOR SOME GOVERNMENT BENEFITS

To help increase Australia's immunisation rates a number of Government family assistance payments are only available for children who meet the immunisation requirements, that is, they are up to date with immunisation or have an exemption.

Child Care Benefit

The Child Care Benefit helps families with the cost of child care provided by approved services and registered carers. Your family needs to meet income and residency tests to receive the benefit. Children born on or after 1 January 1996, who are under 7 years of age, also need to be fully immunised (as recorded on the Immunisation Register) or have an exemption.

Strengthening Immunisation For Children

To be eligible to receive the Family Tax Benefit Part A your family needs to meet income and

residency tests, and your child/ren need to be fully immunised during the financial years that a child turns 1, 2 and 5. The 3 age checkpoints makes sure that important early vaccinations are received at the medically recommended times to ensure your child/ren is fully immunised before they start school.

To meet the immunisation requirements your child/ren will need to be fully immunised, be on a recognised immunisation catch up schedule or have an approved exemption.

These requirements replace the Maternity Immunisation Allowance, which was provided when a child was immunised between 18 months and 24 months of age and between 4 and 5 years of age.

You do not have to pay for any vaccines in order to be eligible for family assistance payments. You need only show that your child is fully immunised with vaccines that are currently provided free under the National Immunisation Program schedule.

For information regarding Child Care Benefit and Strengthening Immunisation for Children, visit the Family Assistance Office located in Medicare offices, Centrelink Customer Services Centres, phone **13 61 50** or visit the Department of Families, Housing, Community Services and Indigenous Affairs website at **www.families.fahcsia.gov.au**.

What are the exemptions?

Your child may have an exemption from the immunisation requirements if:

- a recognised immunisation provider (e.g. your doctor) signs a letter or form saying that:
    - they have told you about the benefits and risks of immunising your child and you choose not to immunise your child (your provider should complete a Health Insurance Commission Immu-12 form),
    - immunising your child with a particular vaccine is medically contraindicated (your provider should use the Health Insurance Commission Immu-11 form),
    - the child has a natural immunity to the disease,
    - the vaccine is not available; or
    - you or your partner are a member of the Church of Christ, Scientist and you have a letter from an official of the Church advising that you are a practising member of the Church.

Immunisation exemption forms are available from Medicare offices or online at **www.medicareaustralia.gov.au**.

Notes

Notes

COMPARISON OF EFFECTS OF VACCINES & DISEASES

COMPARISON OF EFFECTS OF VACCINES & DISEASES

DISEASE	EFFECTS OF DISEASE	SIDE EFFECTS OF VACCINATION
Chickenpox - caused by highly contagious virus; causes low grade fever and vesicular rash. Reactivation of virus later in life causes herpes zoster (shingles).	1 in 100,000 patients develop encephalitis (brain inflammation). About 3 in 100,000 patients die. Infection during pregnancy can result in congenital malformations in the baby. Onset of chickenpox infection in the mother in the period 5 days before to 2 days after delivery results in severe infection in the newborn baby in up to one-third of cases.	About 1 in 5 has a local reaction or fever. A mild varicella-like rash may develop in 3-5 per 100 recipients.
Diphtheria - contagious bacteria spread by droplets; causes severe throat and breathing difficulties.	About 1 in 15 patients dies. The bacteria release a toxin, which can produce nerve paralysis and heart failure.	About 1 in 10 has local inflammation or fever. Serious adverse events are very rare.

Hepatitis B - contagious virus spread mainly by blood, sexual contact or from mother to newborn baby; causes acute hepatitis or chronic carriage.	About 1 in 4 chronic carriers will develop cirrhosis or liver cancer.	About 1 in 15 has pain and 1 in 100 fever. Anaphylaxis (a sudden and severe allergic reaction which results in a serious fall in blood pressure) occurs in about 1 in 600,000.
Hib - contagious bacteria spread by droplets; causes meningitis, epiglottitis (respiratory obstruction), septicaemia, osteomyelitis (infection of the bones).	About 1 in 20 meningitis patients dies and 1 in 4 survivors have permanent brain or nerve damage. About 1 in 100 epiglottitis patients dies.	About 1 in 20 has discomfort or local inflammation. About 1 in 50 have a fever.
Influenza - contagious virus spread by respiratory droplets, causes tiredness, high fever, chills, headache, cough, sneezing, running nose, poor appetite and muscle aches.	Influenza (in medically at-risk children) - 10-20 in every 100 could become sick with high fever, muscle aches and tiredness, 1 in 200 could be hospitalised.	1 in 10 may have a fever.
Measles - highly infectious virus spread by droplets; causes fever, cough and rash.	1 in 15 children with measles develops pneumonia and 1 in 1,000 develops encephalitis (brain inflammation). For every 10 children who develop encephalitis, 1 dies and up to 4 have permanent brain damage. About 1 in 100,000 develops SSPE (brain degeneration), which is always fatal.	About 1 in 10 has discomfort, local inflammation or fever. About 1 in 20 develops a rash, which is noninfectious. 1 in 1 million recipients may develop encephalitis (inflammation of the brain).

Meningococcal infections - bacteria spread by respiratory droplets; causes sepsis (infection of the blood stream) and meningitis (infection of the tissues surrounding the brain).	About 1 in 10 patients dies. Of those that survive, 1 in 30 has severe skin scarring or loss of limbs, and 1 in 30 has severe brain damage.	About 1 in 10 has local inflammation, fever, irritability, temporary loss of appetite or headaches.
Mumps - contagious virus spread by saliva; causes swollen neck glands, fever.	1 in 200 children develops encephalitis (brain inflammation). 1 in 5 males past puberty develops inflammation of the testicles. Occasionally mumps causes infertility or deafness.	1 in 100 recipients may develop swelling of the salivary glands. 1 in 3 million recipients develops mild encephalitis (inflammation of the brain).
Pneumococcal infections - bacteria spread by droplets; causes fever, pneumonia, septicaemia and meningitis.	About 1 in 10 meningitis patients dies.	Polysaccharide vaccine: 1 in 2 has pain or local reaction. Conjugate vaccine: About 1 in 10 has local reaction or fever.
Polio - contagious virus spread by faeces and saliva; causes fever, headache, vomiting and may progress to paralysis.	About 1 in 20 hospitalised patients dies and 1 in 2 patients who survive are permanently paralysed.	About 1 in 3 experience local redness; 1 in 7 has pain; 1 in 10 has fever, decreased appetite and may cry excessively.
Rotavirus - contagious virus spread by faeces and saliva; causes severe gastroenteritis and fever.	About 8 in 100 are taken to an emergency department, 4 in 100 are hospitalised.	Up to 3 in 100 develop diarrhoea or vomiting.

Rubella - contagious virus spread by droplets; causes rash, fever and swollen glands and may cause severe malformations to babies of infected pregnant women.	About 5 in 10 patients develop a rash and painful swollen glands; 5 in 10 adolescents and adults have painful joints; 1 in 3,000 develops thrombocytopenia (bruising or bleeding); 1 in 6,000 develops inflammation of the brain; 9 in 10 babies infected during the first 10 weeks after conception will have a major congenital abnormality (such as deafness, blindness, brain damage or heart defects).	About 1 in 10 has discomfort, local inflammation or fever; about 1 in 20 has swollen glands, stiff neck, or joint pains; about 1 in 20 has a rash, which is noninfectious. Thrombocytopenia (bruising or bleeding) occurs after a first dose of MMR at a rate of 1 in 30,500.
Tetanus - caused by toxin of bacteria from soil; causes painful muscle spasms, convulsions and lockjaw.	About 3 in 100 patients dies. The risk is greatest for the very young or old.	About 1 in 10 has local inflammation or fever. Serious adverse events are very rare.
Whooping cough - contagious bacteria spread by droplets; causes uncontrolled coughing and vomiting lasting up to 3 months.	About 1 in 200 whooping cough patients under the age of 6 months dies from pneumonia or brain damage.	About 1 in 10 has local inflammation or fever. Serious adverse events are very rare.

Further Enquiries

Australian Capital Territory

ACT Immunisation Inquiry Line
(02) 6205 2300

New South Wales

Contact the local Public Health Units
(look under "Health" in the White pages)

Northern Territory

(08) 8922 8044

Queensland

Contact the local Public Health Units
(look under "Health" in the White Pages)
or **13 HEALTH (13 43 25 84)**
24 hour health hotline

South Australia

South Australia Immunisation
Coordination Unit
(08) 8226 7177

SA (24-hour) Parent Help-line
(Child and Youth Health)
1300 364 100

Tasmania

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All information in this publication is correct as at November 2012

D0988 November 2012