Diphtheria
Diphtheria is a serious bacterial disease that causes severe inflammation of the nose, throat and windpipe (trachea). Diphtheria is extremely rare in developed nations including Australia because of the widespread use of the diphtheria vaccine.

Diphtheria is a serious communicable bacterial disease that causes severe inflammation of the nose, throat and windpipe (trachea). It is caused by the bacterium Corynebacterium diphtheriae. The bacteria produce toxins that cause an abnormal membrane to grow in the throat, which can lead to suffocation.

Other dangerous complications include paralysis and heart failure if the toxins spread throughout the body. Around 10 per cent of people exposed to diphtheria die from the disease.

Diphtheria is extremely rare in most developed countries, including Australia, because of the widespread use of the diphtheria vaccine. However, it is important to continue vaccinating children against diphtheria because there is a risk that the infection can be brought in by people who have travelled to or come from developing nations.

**Symptoms of diphtheria**

Symptoms of diphtheria may include:

- runny nose
- severe sore throat
- fever
- generally feeling unwell (malaise)
- swollen lymph nodes in the throat
- a furry grey or black coating on the throat membranes, which is made up of bacteria and dead cells
- breathing problems
- swallowing problems.

**Diphtheria and skin infection**

Sometimes, diphtheria causes a skin infection. The wound is sore, inflamed and full of pus and may be surrounded by greyish skin patches. This condition is known as cutaneous diphtheria. It is quite rare in developed countries.

**Complications of diphtheria**

Without treatment, the extremely serious and potentially lethal complications of diphtheria can include:

- suffocation, as the abnormal throat membrane obstructs breathing
- heart damage, including inflammation (myocarditis) or congestive heart failure
- kidney damage
- nerve damage, with health problems depending on which nerves are affected.

**How diphtheria is spread**

Diphtheria is most commonly spread when someone ingests (swallows) or inhales the cough or sneeze droplets from an infected person. Symptoms occur between two and 10 days following infection.

Sometimes, a person has such a mild case of diphtheria that they don't realise they are sick. However, they are still contagious for about six weeks and may infect a lot of other people. An apparently healthy person who spreads an infectious disease is called a ‘carrier’.

**Diphtheria – high-risk groups**

Diphtheria is very rare in Australia. People at increased risk of diphtheria include:

- unimmunised or incompletely immunised people exposed to a person infected with diphtheria
- people who have immune system problems
- people living in unhygienic and crowded conditions
- travellers to particular areas known to harbour diphtheria such as South-East Asia, Russia and surrounding countries, Baltic countries and Eastern European countries.
Diagnosis of diphtheria

Tests used to diagnose diphtheria may include:

- medical history including immunisation status
- travel history
- physical examination
- swabs of the throat (or wound) for laboratory testing.

Treatment for diphtheria

If diphtheria is suspected, treatment begins before the test results are back from the laboratory. Treatment may include:

- hospitalisation
- isolation to prevent the spread of infection
- antibiotics, such as penicillin, to destroy the bacteria
- diphtheria antitoxin given
- other medicines to reduce the risk of adverse reactions to the vaccine, for example corticosteroids, adrenaline or antihistamines
- surgery to remove the grey membrane in the throat, if necessary
- treatment of complications, for example medications to treat myocarditis
- bed rest for about six weeks or longer, depending on the severity of the illness.

Prevention of diphtheria

The best prevention against diphtheria is immunisation.

People who are caring for someone with diphtheria should practise strict hygiene – for example, wash hands frequently, particularly before handling, preparing or eating food – and get a booster vaccination. All contacts should also receive a course of antibiotics.

Immunisation against diphtheria

In Victoria, the diphtheria vaccine is available in a combined vaccine that also contains protection against other serious and potentially fatal diseases.

The diphtheria vaccine contains a weakened form of the bacterial toxin, called a toxoid. It works by prompting the body to produce an 'antitoxin' – a specific antibody that neutralises diphtheria toxin. A number of doses are needed to offer good protection against diphtheria.

Different vaccines are available depending on the person's age group. A free combined vaccine that offers protection against diphtheria is available for all Victorian children when they are:

- two, four and six months of age – in the form of a diphtheria, tetanus, whooping cough, hepatitis B, polio and Haemophilus influenzae type b (Hib) vaccine
- eighteen months of age – a booster in the form of a diphtheria, tetanus, whooping cough vaccine
- four years of age – a booster in the form of a diphtheria, tetanus, whooping cough and polio vaccine
- adolescents in secondary school (or age equivalent) – adolescents receive a booster dose of diphtheria, tetanus and whooping cough vaccine. The dose can also be given by the doctor or at a council community immunisation session.

Catch-up immunisations are also available free-of-charge for all children and young people under 20 years of age.

The immunisations you may need are decided by your health, age, lifestyle and occupation. Together, these factors are referred to as HALO. View the HALO infographic to find out more.

Adult booster immunisation against diphtheria

Immunity against diphtheria reduces with time and further booster shots may be needed. A course of diphtheria-containing vaccine is recommended for anyone who has never been vaccinated.

Three doses are given at monthly intervals and two further booster doses are given 10 years apart. A diphtheria, tetanus and whooping cough booster is recommended for adults from 50 years of age and requires a GP prescription to purchase the dose.

Before diphtheria immunisation

Before immunisation, make sure that you tell your doctor or nurse if you (or your child):

- are unwell on the day of immunisation (temperature over 38.5°C)
- have had a serious reaction to any vaccine in the past
- have had a severe allergy to anything
- are pregnant.

Side effects of the diphtheria vaccine

Immunisations containing protection against diphtheria, tetanus and whooping cough and other infectious diseases are effective and safe although all medications can have unwanted side effects.

Side effects from these combined vaccines are uncommon and usually mild, lasting one or two days, but may include:

- localised pain, redness and swelling at the injection site
- occasionally, an injection-site lump (nodule) that may last many weeks but treatment is not needed
• low-grade temperature (fever)
• children can be unsettled, irritable, tearful, generally unhappy, drowsy and tired.

If a combined immunisation also contains the vaccine against polio (the six-in-one and the four-in-one vaccine), muscle aches may also be experienced.

Managing fever after immunisation

Common adverse events following immunisation are usually mild and temporary (occurring in the first one to two days after vaccination). Specific treatment is not usually required.

There are a number of treatment options that can reduce the side effects of the vaccine including:

• Give extra fluids to drink.
• Do not overdress children or babies if they are hot.
• Although routine use of paracetamol after vaccination is not recommended, if fever is present, paracetamol can be given. Check the label for the correct dose or speak with your pharmacist, especially when giving paracetamol to children.

Managing injection site discomfort

Many vaccine injections may result in soreness, redness, itching, swelling or burning at the injection site for one to two days. Paracetamol might be required to ease the discomfort.

Sometimes, a small, hard lump (nodule) at the injection site may persist for some weeks or months. This should not be of concern and requires no treatment.

Concerns about immunisation side effects

If an adverse event following immunisation is unexpected, persistent or severe, or if you are worried about yourself or your child's condition after immunisation, see your doctor or immunisation nurse as soon as possible, or go directly to a hospital. It is also important to seek medical advice if you (or your child) are unwell, as this may be due to other illness rather than because of the immunisation.

Adverse events that occur following immunisation may be reported to the Victorian Surveillance of Adverse Events Following Vaccination in the Community (SAEFVIC) Line. SAEFVIC is the central reporting service in Victoria for any significant adverse events following immunisations. You can discuss with your immunisation provider how to report adverse events in other states or territories.

Rare immunisation side effects

There is a very small risk of a serious allergic reaction (anaphylaxis) to any vaccine. This is why you are advised to stay at the clinic or medical surgery for at least 15 minutes following immunisation in case further treatment is required.

If any other reactions are severe and persistent, or if you are worried, contact your doctor for further information.

Where to get help

• In an emergency, call triple zero (000)
• The emergency department of your nearest hospital
• Your doctor
• Your local council immunisation service
• Immunisation Section, Department of Health and Human Services Tel. 1300 882 008
• NURSE-ON-CALL Tel. 1300 60 60 24 – for expert health information and advice (24 hours, 7 days)
• Maternal and Child Health Line (24 hours, 7 days) Tel. 13 22 29
• Immunise Australia Information Line Tel. 1800 671 811
• SAEFVIC Tel. 1300 882 924 – the line is attended between 9 am and 4 pm and you can leave a message at all other times

References

• National Immunisation Program Schedule, Department of Health, Australian Government.
• Vaccine side-effects, 2012, Department of Health and Human Services, Victorian Government.
• Diphtheria, Mayo Clinic, USA.
• Adult/adolescent diphtheria, tetanus and pertussis, Department of Health and Human Services, Victorian Government.
• Diphtheria and tetanus immunisation information, Department of Health and Human Services, Victorian Government.

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- dial triple zero (000) in an emergency
- ring NURSE-ON-CALL Tel. 1300 60 60 24.

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More information

Immunisation

The following content is displayed as Tabs. Once you have activated a link navigate to the end of the list to view its associated content. The activated link is defined as Active Tab.

- Immunisation basics
- Timing and schedules
- Immunisation throughout life
- Common concerns about immunisation
Immunisation basics

- **Why immunisation is important**
  
  Immunisation saves lives. It protects you, your family and your community. And it also helps protect future generations by eradicating diseases.

- **Immunisation – deciding which vaccines you need**
  
  Everyone's immunisation needs are different and are influenced by your health, lifestyle, age and occupation.

- **Pre-immunisation checklist**
  
  This immunisation checklist will help you prepare so you know what to expect and what information you will need to give your GP or clinic staff before your immunisation.

- **Dr Margaret's Story (video)**
  
  Access to vaccines has changed lives and protects our children from crippling diseases such as polio.

- **Fight flu this winter**
  
  Fight flu this winter. Protect yourself – get vaccinated.

- **Immune system explained**
  
  The immune system remembers every germ it has ever overcome.

- **Immunisation – common questions**
  
  We answer some common questions about immunisation, including how immunisation works, why it's important and where you can be immunised.

- **Immunisations - vaccinations in Victoria, Australia (video)**
  
  Vaccinations are encouraged for all individuals living in the state of Victoria, Australia. The immunisation program in Victoria may be different than other countries, and individuals who have moved.

- **Infections – bacterial and viral**
  
  Many bacterial infections can be treated with antibiotics, but they are useless against viral infections.

- **No Jab No Play**
  
  No Jab No Play – from 1 January 2016, all parents/guardians seeking to enrol their child at an early childhood service in Victoria must provide evidence that the child is fully immunised for their age.

- **Ros' Story (video)**
  
  Talk to a qualified medical expert like your doctor to find out more about immunisation.

Timing and schedules

- **Childhood immunisation**
  
  Being immunised from an early age helps protect your child against serious childhood infections.

- **Immunisation in secondary schools**
  
  Some immunisations are recommended for all Australian teenagers.

- **Immunisation history statements for children**
  
  By law, parents or guardians must provide an Immunisation History Statement when enrolling children in any childcare service, kindergarten or primary school in Victoria.

- **No Jab No Play**
  
  No Jab No Play – from 1 January 2016, all parents/guardians seeking to enrol their child at an early childhood service in Victoria must provide evidence that the child is fully immunised for their age.

- **10 tips for secondary students on how to deal with immunisation**
  
  10 tips for secondary students on how to deal with immunisation.

- **Fight flu this winter**
  
  Fight flu this winter. Protect yourself – get vaccinated.

- **How to find your vaccination records**

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If you've recently arrived in Australia or missed out on an immunisation for any reason, you may need catch-up doses...

- Immunisation – common questions
  We answer some common questions about immunisation, including how immunisation works, why it's important and where you can be immunised.

- Immunisations – catch-ups and boosters
  If you've recently arrived in Australia or missed out on an immunisation for any reason, you may need catch-up doses.

- Immunisations for older people
  Immunisations are important for you as you get older, because your immune system can become less effective at protecting you from some diseases.

- My Health, Learning and Development book
  My Health and Development Record is designed for parents to keep and record their child's milestones, health, growth, development and immunisations.

- Pre-immunisation checklist
  This immunisation checklist will help you prepare so you know what to expect and what information you will need to give your GP or clinic staff before your immunisation.

- Recent arrivals, asylum seekers and family support services
  Provides an overview of family support programs and health services available to refugees and asylum seekers living in Victoria.

- Who provides immunisations in Victoria
  Immunisations in Victoria are provided by local councils, GPs and specially qualified nurses in medical clinics and community health services, some Maternal and Child Health nurses, travel clinics and...

Immunisation throughout life

- 10 tips for secondary students on how to deal with immunisation
  10 tips for secondary students on how to deal with immunisation.

- Childhood immunisation
  Being immunised from an early age helps protect your child against serious childhood infections.

- Fight flu this winter
  Fight flu this winter. Protect yourself – get vaccinated.

- Flu (influenza) – immunisation
  Influenza immunisation is recommended for people in known high risk groups.

- How to find your vaccination records
  If you've recently arrived in Australia or missed out on an immunisation for any reason, you may need catch-up doses.

- Immunisation and pregnancy
  Immunisation can protect a woman and her unborn baby against many infectious diseases.

- Immunisation – common questions
  We answer some common questions about immunisation, including how immunisation works, why it's important and where you can be immunised.

- Immunisation – deciding which vaccines you need
  Everyone's immunisation needs are different and are influence by your health, lifestyle, age and occupation.

- Immunisation – DTP, polio, Hep B and Hb
  A number of combined immunisations against diphtheria, tetanus and other infectious diseases are available to provide protection at various life stages.

- Immunisation history statements for children
  By law, parents or guardians must provide an Immunisation History Statement when enrolling children in any childcare service, kindergarten or primary school in Victoria.

- Immunisations – catch-ups and boosters
  If you've recently arrived in Australia or missed out on an immunisation for any reason, you may need catch-up doses.

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Immunisations for work

Some jobs have a higher risk of exposure to infectious diseases, so if your job is one of these, it’s a good idea to check your immunisation status.

Melissa's story (video)

Melissa shares her story of how her baby caught chickenpox at 5 weeks old.

No Jab No Play

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Pre-immunisation checklist

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Why immunisation is important

Immunisation saves lives. It protects you, your family and your community. And it also helps protect future generations by eradicating diseases.

Common concerns about immunisation

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Immunisation – side effects

Find out more about possible side effects of immunisation.

Immunisations for older people

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Travel and immunisation

Diphtheria

Diphtheria is a serious bacterial disease that causes severe inflammation of the nose, throat and windpipe.

Flu (influenza) – immunisation

Influenza immunisation is recommended for people in known high risk groups.

Haemophilus influenzae type b (Hib) immunisation

The National Immunisation Program provides children with free immunisation against Haemophilus influenzae type b (Hib) and meningococcal group C disease.

Hepatitis B – immunisation

Immunisation against hepatitis B reduces the risk of infection in babies.

Human papillomavirus (HPV) – immunisation

The human papillomavirus (HPV) vaccine helps prevent infection with HPV that causes cervical cancer.

Immunisation – deciding which vaccines you need

Everyone's immunisation needs are different and are influence by your health, lifestyle, age and occupation.

Immunisation – DTP, polio, hep B and Hib

A number of combined immunisations against diphtheria, tetanus and other infectious diseases are available to provide protection at various life stages.

Measles, mumps, rubella, varicella (chickenpox) – immunisation
Immunisation is the best protection against measles, mumps, rubella and varicella (chickenpox).

- Meningococcal disease – immunisation
  Meningococcal group vaccines provide good protection against meningococcal group diseases.

- Pneumococcal disease – immunisation
  Immunisation can substantially reduce the risk of pneumococcal disease, especially in young children.

A-Z of immunisations and vaccines

- Pre-immunisation checklist
  This immunisation checklist will help you prepare so you know what to expect and what information you will need to give your GP or clinic staff before your immunisation.

- Chickenpox – immunisation
  Immunisation against chickenpox can protect your child from getting chickenpox and from the possible serious complications of chickenpox.

- Diphtheria
  Diphtheria is a serious bacterial disease that causes severe inflammation of the nose, throat and windpipe.

- Flu (influenza) – immunisation
  Influenza immunisation is recommended for people in known high risk groups.

- Haemophilus influenzae type b (Hib)
  Haemophilus influenzae type b (Hib) is a bacterium that causes a life-threatening infection that can lead to serious illness, especially in children.

- Haemophilus influenzae type b (Hib) immunisation
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- Polio – immunisation
  You need several doses of the vaccine before you are fully protected against polio.

- Rotavirus – immunisation
  Children need several doses of the vaccine to reduce the risk of rotavirus.

- Tetanus
  Tetanus is a life-threatening disease and immunisation is the best way to reduce your risk.

- Typhoid and paratyphoid
  Almost every Australian case of typhoid or paratyphoid fever is caught overseas.
Why immunisation is important

Immunisation saves lives. It protects you, your family and your community. And it also helps protect future generations by eradicating diseases...

Related Information

- Flu (influenza) – immunisation
  
  Influenza immunisation is recommended for people in known high risk groups...

- Bird flu (avian influenza)
  
  The symptoms of bird flu in humans are similar to those of regular influenza...

- Flu (influenza)
  
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No Jab No Play

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Immunisation

Find out more about diseases and immunisation, including why immunisation is important, latest immunisation schedules and immunisation for travel...

Home

Related information on other websites

- Communicable Disease Prevention and Control Unit, Department of Health Victoria.
- Immunise Australia Program, Australian Government Department of Health and Ageing.
- Victorian Government - Infectious diseases, in your language.

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What vaccines you need depends on your Health, Age, Lifestyle and Occupation

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