**Tetanus**

**Summary**
- Tetanus is a serious bacterial disease that causes muscle spasms and breathing problems.
- Tetanus is uncommon in Australia because of the widespread use of the tetanus vaccine.
- All wounds other than clean, minor cuts are considered ‘tetanus prone’.
- If you get a wound and you haven’t been immunised for tetanus in the last five years, visit your doctor as soon as possible.
- The best prevention against tetanus is immunisation.

Tetanus is a serious bacterial disease that causes muscle spasms and breathing problems. The bacterium that causes tetanus is called Clostridium tetani. The bacteria produce toxins that affect the nervous system. Around one in 10 people infected with the bacterium that causes tetanus will die.

Tetanus is uncommon in Australia because of the widespread use of the tetanus vaccine. Anyone who hasn't been immunised against tetanus is at risk.

**Symptoms of tetanus**
The signs and symptoms of tetanus may include:
- muscle spasms that begin in the jaw and neck
- inability to open the mouth (lockjaw)
- swallowing problems
- breathing difficulties
- painful convulsions (fits)
- abnormal heart rhythms.

**Complications of tetanus**
The extremely serious and potentially lethal complications of tetanus can include:
- suffocation
- respiratory failure
- pneumonia
- hypertension (high blood pressure)
- hypotension (low blood pressure)
- heart attack.

**Causes of tetanus**
Tetanus bacteria live in soil, dust and manure, particularly horse manure. Infection occurs when the bacteria enter the body through a break in the skin.

Symptoms occur between three days and three weeks after infection. Most cases occur within 14 days. Generally, if symptoms appear very quickly, the infection is severe. Tetanus is not transmitted from person to person.

**High-risk groups**
Anyone who has not been immunised against tetanus is at risk, in particular:
people who work with soil or horses, or in dusty environments
intravenous drug users
Australians travelling overseas to parts of Asia, South America or Africa
people who have high-risk wounds that are more likely to be infected with tetanus bacteria.

**High-risk wounds**

Some wounds are more likely to encourage the growth of tetanus bacteria. Examples of these wounds are:

- compound fractures (the broken bone pierces the skin)
- burns
- animal bites
- any type of penetrating wound, such as from a rusty nail or rose thorns
- wounds contaminated with soil, horse manure or foreign objects such as wood fragments.

**Diagnosis of tetanus**

The diagnosis is usually made by physical examination and taking the medical history, including information about immunisation. It is difficult to confirm a diagnosis through laboratory tests.

**Treatment for tetanus**

Tetanus is a life-threatening disease and sometimes, death will occur even with prompt medical attention.

Treatment for tetanus may include:

- antitoxin (called tetanus immunoglobulin) – to neutralise any tetanus toxin that is circulating and not yet attached to nerve tissue
- hospitalisation
- anti-convulsive medications
- antibiotics
- life support – for example, the person may be placed on an artificial respirator if they have severe breathing problems
- vaccination – having tetanus does not make you immune, so it is important to be immunised.

The best way to reduce the risk of tetanus is by immunisation. You should also avoid skin injuries, for example, by wearing gloves while gardening.

Seek medical advice for dirty wounds or wounds where the skin has been penetrated such as with a rose thorn. The doctor may advise you to have a tetanus booster shot, depending on how long it is since your last tetanus dose.

If you have not had any previous immunisations against tetanus, a full course of three doses should be given. The doctor might also administer tetanus immunoglobulin depending on your tetanus vaccination history and if you are significantly immunocompromised.

**Immunisation against tetanus**

In Victoria, the tetanus vaccine is available in a number of combined immunisations that also contain vaccines against other serious and potentially fatal diseases. The type of combined vaccine used will depend on your age.

For the treatment of a tetanus-prone wound, the doctor or nurse will administer a dose of diphtheria and tetanus vaccine (two in one vaccine).

Protection against tetanus is available under the **National Immunisation Program Schedule**. In Victoria, immunisation against tetanus is free of charge for:

- children at 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 (six-in-one vaccine)
- children at 18 months of age – in the form of diphtheria, tetanus, whooping cough vaccine (three-in-one vaccine)
• children at four years of age – in the form of a diphtheria, tetanus, whooping cough and polio vaccine (four-in-one vaccine)
• adolescents in secondary school (or age equivalent) – adolescents receive a booster dose of reduced antigen diphtheria, tetanus and whooping cough vaccine (three-in-one reduced antigen vaccine). The dose can also be given by a doctor or at a council community immunisation session
• any person under 20 years of age – catch-up immunisations are available for anyone who has not been fully vaccinated
• Aboriginal and Torres Strait Islander people, refugees and asylum seekers ten years and over – catch-up immunisations are available for people who have not been fully vaccinated.

Before tetanus 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.

Adult immunisation
Immunity against tetanus decreases with time and further booster shots may be needed. A course of tetanus-containing vaccine is recommended for anyone who has never been vaccinated. Immunisation may not be free of charge.

Three doses are given at monthly intervals and two further booster doses are given 10 years apart. A tetanus booster is recommended from 50 years. See your doctor or ask your local government immunisation service provider for more information.

Pregnancy and tetanus immunisation
Combination vaccines containing diphtheria, tetanus and whooping cough protection are recommended during the third trimester of every pregnancy or as soon as possible after delivery of the baby. Women who are breastfeeding can also receive this combination vaccine. Speak with your doctor for more information.

Side effects of the tetanus vaccine
Immunisations containing vaccines against diphtheria, tetanus and other infectious diseases (including the six-in-one, four-in-one, three-in-one and two-in-one vaccines) are effective and safe although all medications can have unwanted side effects.

Side effects from these combined vaccines are uncommon and usually mild, but may include:
• localised pain, redness and swelling at the injection site
• occasionally, an injection-site lump (node) 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.

Extremely rare side effects include:
• brachial neuritis (severe pain, shoulder and upper arm)
• severe allergic reaction.

Managing fever after immunisation
Common side effects 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. Put a cold wet cloth on the injection site.

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 a side effect 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.

Side effects 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.

Immunisation and HALO

The immunisations you may need are decided by your health, age, lifestyle and occupation. Together, these factors are referred to as HALO.

Talk to your doctor or immunisation provider if you think you or someone in your care has health, age, lifestyle or occupation factors that could mean immunisation is necessary. You can check your immunisation HALO using the Immunisation for Life infographic (pdf) downloadable poster.

Where to get help

- In an emergency, always call triple zero (000)
- Emergency department of your nearest hospital
- Your doctor
- Local government immunisation service
- Maternal and Child Health Line (24 hours) Tel. 13 22 29
- NURSE-ON-CALL Tel. 1300 60 60 24 – for expert health information and advice (24 hours, 7 days)
- Immunisation Section, Department of Health and Human Services, Victorian Government Tel. 1300 882 008
- Immunise Australia Information Line Tel. 1800 671 811
- Pharmacist
- 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

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