
Heart conditions - endocarditis

Summary

- Endocarditis is an infection of the heart valves or the inner membrane of the heart.
 - People who have certain pre-existing heart disease are at increased risk of developing endocarditis.
 - Some dental and surgical procedures increase the risk of endocarditis because bacteria may be introduced into the bloodstream.
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Endocarditis is an infection of the endocardium or the heart valves. The endocardium is the membrane that lines the inner surfaces of the heart. Endocarditis may occur in people who have certain pre-existing heart diseases.

Without medical treatment, the infection may severely harm or even destroy the heart valves. Some dental and surgical procedures increase the risk of endocarditis because bacteria may be introduced into the bloodstream. Endocarditis is also known as infective endocarditis or bacterial endocarditis.

Symptoms of endocarditis

The symptoms of acute bacterial endocarditis (ABE) occur within a few weeks of infection. The symptoms of subacute bacterial endocarditis (SBE) may take weeks or months to develop. Some of the general symptoms of endocarditis can include:

- Fever and chills
- Lethargy
- Loss of appetite
- Generalised aching throughout the body
- Abnormal heart rhythms such as a slow heart rate or tachycardia (rapid heart rate)
- Heart murmur
- Increased breathing
- Persistent cough.

Disease pattern of endocarditis

Usually, an infection somewhere else in the body causes bacteria to circulate in the blood (bacteraemia). The bacteria that cause most cases of endocarditis belong to the *Staphylococcus* family, such as *Staphylococcus aureus* and 'golden staph', a drug-resistant form of *Staphylococcus aureus*.

The bacteria infect the already damaged or diseased areas of the heart. Prosthetic devices (such as artificial heart valves) may be susceptible to infection because the immune system does not recognise these devices as part of the body and may not protect them as aggressively. The infection causes inflammation and blood clots, while the body's natural healing process causes scarring. A scarred endocardium or heart valve is susceptible to future infections.

Complications of endocarditis

Endocarditis can cause complications including:

- Reduced function of a heart valve
 - Spread of infection to other areas of the heart
 - Spread of infection to other areas of the body such as the brain
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- Blocked blood vessels – a blood clot may break free from the endocardium, lodge inside a blood vessel, reduce the blood flow to associated tissues or organs and lead to further complications.

Risk factors for endocarditis

Endocarditis rarely occurs in people with a healthy heart, but some people do have an increased risk of the condition. Risk factors that are linked to endocarditis include:

- Congenital heart defects
- Prior surgery to correct heart defects
- Surgical devices such as a pacemaker, artificial heart valve or shunt
- Rheumatic heart disease
- Prior endocarditis
- Intravenous drug use with no medical history of heart disease.

Some congenital heart defects, such as ventricular septal defect, can be successfully repaired with surgery so that there is no longer an increased risk of endocarditis. If you have a heart condition, it is important that you ask your doctor whether or not you are at risk of endocarditis.

Procedures that may cause endocarditis

Short-term bacteraemia may be caused by certain dental and surgical procedures including:

- Professional tooth cleaning
- Any dental procedure that is likely to cause bleeding (such as tooth extraction)
- Intravenous lines used during or after surgery
- Investigation of the lungs with a telescopic device called a 'rigid bronchoscope'
- Surgery to remove the tonsils (tonsillectomy)
- Surgery to remove the adenoids (adenoidectomy)
- Urinary tract surgery
- Gastrointestinal surgery
- Gall bladder surgery
- Prostate surgery
- Heart surgery.

It is important to tell your dentist or surgeon if you are at risk of endocarditis. You may be prescribed antibiotics to take before the procedure is performed. This will reduce the risk of bacteraemia.

In case of medical emergency, you may like to carry a medical card disclosing your increased risk of endocarditis in your wallet or purse.

Diagnosis of endocarditis

Tests used to diagnose endocarditis include:

- Physical examination
- Medical history
- Urine tests
- Blood tests
- Diagnostic imaging such as ultrasound.

Treatment for endocarditis

Treatment options include:

- A four to eight-week course of antibiotics
- Surgery to repair severe damage to heart tissue

- Surgery to repair or replace severely damaged heart valves or destroyed cardiac devices such as prosthetic heart valves
- Blood-thinning medication – medications such as aspirin or warfarin may be given to treat blood clots.

Where to get help

- Your doctor
- Cardiologist
- Heartkids Victoria Tel. (03) 9329 0446
- Heart Foundation Tel. 1300 36 27 87

Things to remember

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- Some dental and surgical procedures increase the risk of endocarditis because bacteria may be introduced into the bloodstream.

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