Heart conditions - endocarditis
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. 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
- 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

- 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.

References

- Endocarditis in children with heart defects, Cardiology Department, Royal Children’s Hospital Melbourne, Australia. More information here.

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Please note that we cannot answer personal medical queries. If you are looking for health or medical advice we recommend that you:

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More information

Heart

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

- Heart basics
Know your risks for heart disease
Heart attack warning signs and symptoms
Keep your heart healthy
Heart conditions
Tests and treatments
Recovery after a heart attack

Heart basics

Heart explained
The heart is about the size of a clenched fist and lies in the middle of your chest, behind and slightly to the left of your breastbone.

Circulatory system
The heart, blood and blood vessels work together to service the cells of the body.

Blood pressure
Healthy eating and lifestyle changes can help to manage high blood pressure.

Chest pain
If in doubt about the cause of your chest pain, call an ambulance.

Heart attack
Heart attack is an emergency. If you have warning signs of heart attack, get help fast. Call triple zero (000) and ask for an ambulance.

Heart attack - it's Ok to Call Triple Zero (000) (video)
Heart attack warning signs aren't what you think. Symptoms vary and they may not always be severe. Learn the warning signs because the sooner you recognise your heart attack and get treatment, the...

Heart disease and stroke
Although blocked blood vessels can cause both coronary heart disease and some types of stroke, stroke is not the same as heart disease.

Heart health - managing heart disease for life (video)
Over 700,000 Australians are living with coronary heart disease. Learn about what you should know about managing heart disease.

Know your risks for heart disease

Heart health check - learn the risk factors (video)
Heart disease affects both women and men. Cardiologist Cathie Coleman from St Vincent's Hospital explains the risk factors for heart disease and what actions you can take to lower your risks.

Heart disease - know your risk
Risk factors for heart disease include smoking, diabetes, obesity, family history and age.

Heart disease and stroke - your risk score
Absolute risk is a measure your doctor can calculate to understand the likelihood of you experiencing a heart attack or stroke in the next five years.

Diabetes - long-term effects
The risk of most diabetes-related complications can be reduced.

Smoking and heart disease
A smoker's excess risk of heart attack reduces rapidly after only one year of not smoking.

Heart disease and mental health
Did you know that your mental health can affect your heart health and your heart health can affect your mental health? Depression can also affect how well people with heart disease recover, and...

Cholesterol
Your body needs cholesterol, but it can make its own. You don't need cholesterol in your diet.

Blood pressure - keep your blood pressure down (video)
Heart Foundation of Australia warns of the risk of high blood pressure and tells you what you can do to keep your blood pressure down.

Heart disease - know and manage your risk factors (video)
Over 700,000 Australians are currently living with coronary heart disease. There are actions you can take to help prevent heart disease and to manage your life.

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Health check

This health assessment questionnaire will identify which zones of your lifestyle are contributing to your personal health risk and provide actions you can take to make positive change.

Obesity

Overweight and obesity are essentially preventable diseases.

Blood pressure (high) - hypertension

Hypertension, or high blood pressure, can increase your risk of heart attack, kidney failure and stroke.

Heart attack warning signs and symptoms

- Heart attack - know the warning signs (video)
  Learn about the warning signs and symptoms you may experience if you are having a heart attack or angina attack.
- Heart attack warning signs - personal story - Katie (video)
- Heart attack warning signs - personal story - Kate
- Heart attack warning signs - Professor Ian Meredith (video)
  With a heart attack every minute counts. The warning signs of a heart attack can be varied and may not always be sudden or severe. Find out more from cardiologist Professor Ian Meredith.
- Heart disease - Jo, 5 stents in her 40s and a triple bypass at age 57 (video)
  Jo tells of her experience with heart disease including having 5 stents in her 40s and a triple bypass at age 57.
- Heart disease - Marina, Pulmonary Emboli at age 23 (video)
- Heart disease - Marina, Pulmonary Emboli at age 23
- Heart attack warning signs - personal story - Danny (video)
  Heart attack warning signs aren't what you think. Symptoms vary and they may not always be severe. Hear Danny's story about his heart attack.
- Heart attack - it's Ok to Call Triple Zero (000) (video)
  Heart attack warning signs aren't what you think. Symptoms vary and they may not always be severe. Learn the warning signs because the sooner you recognise your heart attack and get treatment, the...
- Heart disease - Margaret, Heart Attack at age 35 (video)
- Heart disease - Margaret, Heart Attack at age 35
- Chest pain
  If in doubt about the cause of your chest pain, call an ambulance.

Keep your heart healthy

- Heart disease - know your risk
  Risk factors for heart disease include smoking, diabetes, obesity, family history and age.
- 10 tips for a healthier heart
  Have fun with friends... 10 tips for a healthier heart.
- Heart disease and stroke - your risk score
  Absolute risk is a measure your doctor can calculate to understand the likelihood of you experiencing a heart attack or stroke in the next five years.
- Cholesterol - healthy eating tips
  Replacing foods that contain saturated fats with foods that contain polyunsaturated and monounsaturated fats will help to lower your cholesterol.
- Heart disease and mental health
  Did you know that your mental health can affect your heart health and your heart health can affect your mental health? Depression can also affect how well people with heart disease recover, and...
- Heart disease - eating for a healthy heart (video)
  Learn the three steps you can take to improve your heart health today.

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• Heart health - managing heart disease for life (video)
Over 700,000 Australians are living with coronary heart disease. Learn about what you should know about managing heart disease.

• How to cut down on salt (slide)
Even if you are careful about the salt you consume, you may be surprised that some of the food you eat contains hidden salt that you're not even aware of. Learn how to cut down on salt.

• Reduce your risk of early death
You can dramatically reduce your risk of early death by making a few simple lifestyle changes.

• Walking for good health
Walking will improve your fitness and reduce your risk of heart disease.

Heart conditions

• Heart condition - know your diagnosis (video)
This video explains some common heart procedures and provides questions to ask your doctor to ensure you understand what has happened to your heart.

• Aortic stenosis
Aortic stenosis may be congenital (present from before birth), but is often diagnosed during teenage years.

• Chest pain
If in doubt about the cause of your chest pain, call an ambulance.

• Congestive heart failure (CHF)
Congestive heart failure is present when the heart cannot pump enough blood to satisfy the needs of the body.

• Heart abnormality birth defects
Some congenital heart defects are mild and cause no significant disturbance to the way the heart functions.

• Heart arrhythmias and palpitations
A heart that beats irregularly, too fast or too slow, is experiencing an arrhythmia.

• Heart attack
Heart attack is an emergency. If you have warning signs of heart attack, get help fast. Call triple zero (000) and ask for an ambulance.

• Heart attack warning signs - personal story - Katie (video)
Heart attack warning signs - personal story - Kate.

• Heart conditions - angina
Angina attacks can be prompted by exertion or physical exercise, when the hard-working heart muscle requires greater amounts of oxygen.

• Heart conditions - atrial fibrillation
Atrial fibrillation (AF) is a type of arrhythmia, which means that the heart beats fast and abnormally.

• Heart conditions - endocarditis
Endocarditis is an infection of the heart valves or the inner lining of the heart.

• Heart disease and stroke
Although blocked blood vessels can cause both coronary heart disease and some types of stroke, stroke is not the same as heart disease.

• Heart disease - Jo, 5 stents in her 40s and a triple bypass at age 57 (video)
Jo tells of her experience with heart disease including having 5 stents in her 40s and a triple bypass at age 57.

• Heart disease - Margaret, Heart Attack at age 35 (video)
Heart disease - Margaret, Heart Attack at age 35.

• Heart disease - Marina, Pulmonary Emboli at age 23 (video)
Heart disease - Marina, Pulmonary Emboli at age 23.

• Heart disorders (acquired) - children
Some children acquire a heart problem after an illness in childhood, and this is called an acquired heart defect.
• Heart health check - learn the risk factors (video)

Heart disease affects both women and men. Cardiologist Cathie Coleman from St Vincent's Hospital explains the risk factors for heart disease and what actions you can take to lower your risks.

• Heart murmur

Many children have innocent heart murmurs that don't require any treatment, but medical tests are often needed to check...

• Long QT syndrome

You should be investigated for long QT syndrome if you faint for no apparent reason, during or after exercise or emotional excitement...

• Metabolic syndrome

Metabolic syndrome is a collection of conditions that can increase your risk of diabetes, stroke and heart disease...

• Noonan syndrome

Noonan syndrome is a genetic condition that usually includes heart abnormalities and characteristic facial features...

• Pericarditis

Pericarditis symptoms may be similar to those of heart attack and include chest pain and abnormal heart rhythms...

• Rheumatic heart disease

Stopping episodes of recurrent ARF can prevent rheumatic heart disease (RHD)...

• Wolff-Parkinson-White syndrome

Wolff-Parkinson-White syndrome is characterised by attacks of rapid heart rate or tachycardia...

Tests and treatments

• Blood pressure (high) - hypertension

High blood pressure can increase your risk of heart attack, kidney failure and stroke...

• Cardiopulmonary resuscitation (CPR)

CPR is a life-saving skill that everyone should learn from an accredited organisation...

• Coronary angiogram

A coronary angiogram is the most accurate diagnostic test for a range of heart problems, including coronary heart disease...

• ECG test

A doctor may recommend an electrocardiogram for patients who may be at risk of heart disease because of family history, smoking, overweight, diabetes or other conditions...

• Heart bypass surgery

After heart bypass surgery, eat a wide variety of fresh fruit and vegetables, wholegrain cereals and cold-water fish...

• Heart disease - angioplasty and stent procedures (video)

People with coronary heart disease talk about the medical procedures that followed their heart attack and diagnosis...

• Implantable cardiac devices

A person with an artificial cardiac pacemaker can live a normal life and can still perform moderate to strenuous activities...

• Organ and tissue transplantation

Transplantation varies depending on the transplant organ or tissue so speak with your medical team about surgical procedures, recovery and medications...

Recovery after a heart attack

• Recovering from a heart attack

Make sure you follow your plan when you leave hospital, take your medication and keep your appointments with doctors...

• Living with a heart condition

Attending cardiac rehabilitation will help you to create a good foundation for living with your heart condition...

• Heart condition - know your diagnosis (video)

This video explains some common heart procedures and provides questions to ask your doctor to ensure you understand what has happened to your heart...

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Heart disease - know and manage your risk factors (video)

Over 700,000 Australians are currently living with coronary heart disease. There are actions you can take to help prevent heart disease and to manage your life after a heart attack...

Heart disease - Margaret, Heart Attack at age 35 (video)

Heart disease - Margaret, Heart Attack at age 35...

Related Information

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

- Flu (influenza)
  Influenza (the flu) is caused by a virus. The flu is more than just a bad cold and can occasionally lead to serious complications, including death. Specific antiviral medication is available. It is...

- Pericarditis
  Pericarditis symptoms may be similar to those of heart attack and include chest pain and abnormal heart rhythms...

- Heart disorders (acquired) - children
  Some children acquire a heart problem after an illness in childhood, and this is called an acquired heart defect...

- Wolff-Parkinson-White syndrome
  Wolff-Parkinson-White syndrome is characterised by attacks of rapid heart rate or tachycardia...

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- Mayo Clinic
- Medline, US National Institutes of Health
- NPS: Better choices, Better Health - Medicine Update
- NPS: Better choices, Better Health – Preventing Infections of the Heart

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