

# Endocarditis

## Information for people at high risk of endocarditis

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# About endocarditis

## What is endocarditis?

Endocarditis is an infection of the lining of your heart and valves. This lining is called the endocardium. It can lead to serious problems, including damage to the valves.

It can also be life-threatening. Early diagnosis and treatment can lower the risk.

## What causes endocarditis?

It is normal for bacteria to be found in the mouth, bowel, bladder, and on the skin. Sometimes, bacteria can find their way into the blood and travel to the heart. The endocardium is normally smooth, and the bacteria cannot stick to the heart and valves.

Bacteria can stick to valves that are not smooth. This could be in people born with abnormal valves or who have damaged valves. Bacteria are also more likely to stick to valves or other heart structures that have been repaired or replaced.

## Who can get endocarditis?

Endocarditis is rare in people who do not have a heart condition or other risk factors. The main groups at risk are:

- People who are born with certain heart conditions, like abnormal heart valves or other heart defects.
- People who have had rheumatic heart disease.
- People who have had endocarditis before.
- People who have had surgery or a procedure to repair or replace a heart valve, or other structure.
- People with pacemakers or implanted defibrillators.
- People who inject intravenous drugs.
- People with weakened immune systems. This includes those on certain medications, getting chemotherapy, and older individuals.
- People with certain types of long-term intravenous catheters, like those used for dialysis or for giving medications.

## What can happen to people with endocarditis?

Endocarditis can cause illness and damage to the heart and other organs. Clumps of bacteria can form an infected growth called a vegetation. These vegetations can:

- Damage or destroy heart valves.
- Break off and travel to other areas of the body. They can travel to the brain, causing a stroke. They could also travel to the lungs or other organs, such as kidneys or spleen. This can lead to organ failure and other problems.
- Spread the infection throughout the body, which can cause a life-threatening medical emergency.

## Endocarditis treatment

Endocarditis treatment includes antibiotics that will help fight the infection.

- Antibiotics are needed for at least six weeks to kill the bacteria causing the infection. You may need to stay in the hospital so that you can receive antibiotics.
- In many cases, surgery will also be needed to remove the infected tissue and repair damaged heart structures.

## Endocarditis prevention

It is important for you to continue to take care of your heart. One of the most important ways to do this is by keeping your teeth and gums healthy!

You may need antibiotics before certain procedures to help decrease your risk of endocarditis. This includes certain types of dental work.

You are at the highest risk of endocarditis in the first three to six months after your valve or heart structure procedure. During this time, you should avoid professional dental cleanings. After three to six months, regular cleanings are recommended.

## What can you do to prevent endocarditis?

- Always tell your doctor, nurse practitioner, and dentist about your replaced or repaired heart valve or heart structures.

- Ask your doctor, nurse practitioner, dentist, or nurse if you need antibiotics before a procedure. Find out the type and amount of antibiotics you may need to take to prevent infection.
- Carry the device wallet card that was given to you.
- Take good care of your teeth and gums. Brush your teeth at least twice a day with a soft brush. See your dentist every six months for professional cleaning. See your dentist right away for a toothache or any signs of tooth or gum infection.
- If you have dentures, you should have checkups twice a year to make sure that your gums are healthy and your dentures fit properly.

It is a good idea to have a medical alert device if you have had a heart valve repair or replacement or if you were born with certain heart defects. This will help medical staff identify that you are at an increased risk.

**This does not guarantee that you will never develop endocarditis.**

## Signs and symptoms of endocarditis

Recognizing and treating endocarditis early is key. It is important to look for any possible signs or symptoms of endocarditis.

Call your family doctor or nurse practitioner right away if you have:

- fatigue or weakness
- shortness of breath
- fever or chills
- night sweats
- a cough that will not go away
- loss of appetite or unexplained weight loss
- aching joints and muscles
- swelling of the feet, legs, or belly
- red skin spots on the palms of the hands or soles of the feet
- small dark lines under the fingernails
- dark yellow or red urine
- a new heart murmur

If you cannot get an appointment right away, go to the nearest emergency department. You should also go to the emergency department or call 911 if you have:

- a headache and confusion
- sudden weakness in the face or limbs
- sudden shortness of breath

**If you have questions about any of this information, write them down and ask your nurse or doctor.**

If you have a general health question or concern and have nowhere to turn, call Telehealth Ontario at 1-866- 797-0000. They can provide experienced health advice 24 hours a day, seven days a week. It is confidential and there is no need to provide your health insurance.

# Taking care of your valve wallet card

Name:

Procedure date:

Cardiac implant position:

- ☐ aortic valve ☐ mitral valve ☐ tricuspid valve ☐ pulmonic valve ☐ atrial septum
- ☐ left atrial appendage

Type of cardiac implant:

- ☐ surgical tissue valve ☐ surgical mechanical valve ☐ surgical valve repair
- ☐ TAVI valve ☐ ASD closure device ☐ LAA closure device ☐ mitral clip

Endocarditis prophylaxis duration:

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The holder of this card may require prophylactic antibiotic therapy for the prevention of endocarditis.

**Dental procedures for which prophylaxis is recommended:** All dental procedures, such as professional teeth cleaning and other dental work that involves manipulation of gingival tissue or the peri-apical region of teeth or perforation of the oral mucosa.

**Dental procedures for which prophylaxis is NOT recommended:** Routine anesthetic injections through non-infected tissue; taking dental radiographs; placement of removable prosthodontic or orthodontic appliances; adjustment of orthodontic appliances; placement of orthodontic brackets; and shedding of deciduous teeth and bleeding from trauma to the lips or oral mucosa.

**Other diagnostic or therapeutic procedures for which antibiotic prophylaxis are NOT recommended:** Routine colonoscopy, gastroscopy, procedures of the urinary tract (unless active infection) or respiratory tract.

Please discuss the need for antibiotics with your doctor or dentist.

# Recommended antibiotic prophylactic regimens for dental procedures

## Regimens, medications, & doses

Regimen	Medications & doses
Standard oral regimen	<ul style="list-style-type: none"><li>• <b>Amoxicillin</b>: 2 grams</li></ul>
Oral regimen if allergic to penicillin or ampicillin	Select only one of the following: <ul style="list-style-type: none"><li>• <b>Cephalexin</b>*†: 2 grams</li><li>• <b>Azithromycin</b> or <b>Clarithromycin</b>: 500 milligrams</li><li>• <b>Doxycycline</b>: 100 milligrams</li></ul>
Regimen if unable to take oral medication	Select only one of the following: <ul style="list-style-type: none"><li>• <b>Ampicillin</b>: 2 grams IM or IV</li><li>• <b>Cefazolin</b> or <b>Ceftriaxone</b>: 1 gram IM or IV</li></ul>
Regimen if unable to take oral medication and allergic to penicillin or ampicillin:	Select only one of the following: <ul style="list-style-type: none"><li>• <b>Cefazolin</b> or <b>Ceftriaxone</b>†: 1 gram IM or IV</li></ul>

## Table notes

- IM – intramuscular
- IV – intravenous
- \* – Or other first or second-generation oral cephalosporin in equivalent dosing
- † – Cephalosporins should not be used in an individual with a history of anaphylaxis, angioedema, or urticaria with penicillin or ampicillin.
- Clindamycin is no longer recommended for antibiotic prophylaxis.

The recommended regimen is a single dose 30 to 60 minutes before the procedure.

Adapted from: Prevention of Infective Endocarditis: Guidelines from the American Heart Association (2021)

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