

What is bacterial endocarditis?

It is a serious infection of the lining of the heart, valves and/or major arteries.

What causes bacterial endocarditis?

It is caused by bacteria, which get into the blood stream and settle and multiply in the heart. The infection is not common. Not all bacteria cause infection. In most cases the body's immune system destroys bacteria before they do harm. However, some kinds of heart conditions and repairs result in the blood flowing less smoothly through the heart. This means that bacteria, in the blood, stick to rough patches which are more common in the hearts of children with congenital heart problems.

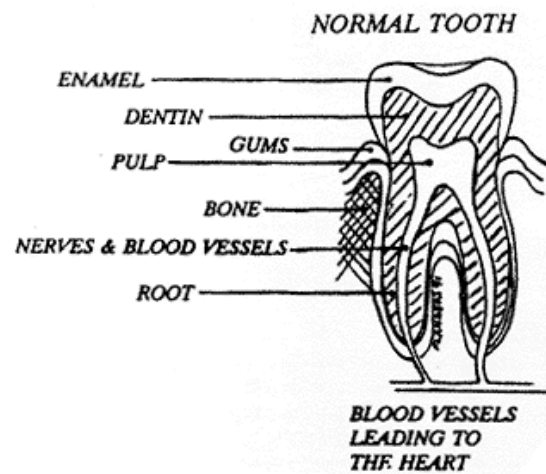
How do bacteria get into the blood stream?

Bacteria enter the blood stream in different ways. One way is during surgery. The most common way is through the teeth or gums that are decayed and infected. Bacteria can also get into the blood when teeth are removed or cleaned at the dentist.

A tooth has three layers:

- A hard enamel layer on the outside,
- Dentin, the main part of the tooth,
- Pulp at the centre of the tooth – including nerves and blood vessels.

Because all blood circulates through the heart, any bacteria that enters the blood vessels in the pulp will be carried to the heart. Bacteria can also enter when teeth are drilled or taken out and the pulp is open.

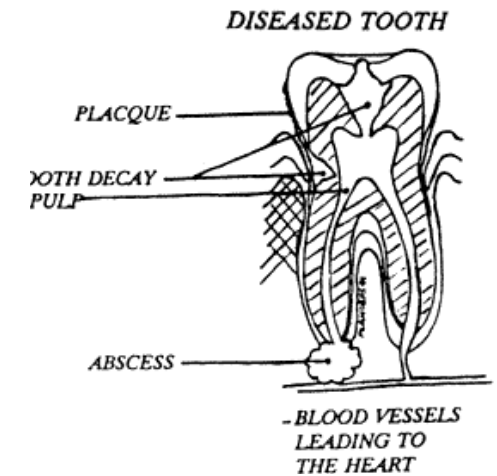


How Can I Prevent Bacterial Endocarditis?

Keep your child's teeth and gums healthy. Clean and floss regularly, and take your child to the dentist every 6 months. A pamphlet called "All Children Can Grow up Cavity-Free with Good Dental Care" is available in the Family Resource Library or online at <http://www.bcchildrens.ca/KidsTeensFam/FamilyResourceLibrary/OnlinePamphlets.htm>.

The cardiologist or surgeon may suggest that your child take antibiotics before some surgeries or dental treatments. The type and timing of the antibiotic doses are important. The idea is to have lots of antibiotic in the blood at the time of the procedure. The antibiotic helps destroy any bacteria in the blood stream before they reach the heart.

Always tell dentists and other health professionals about your child's risk of bacterial endocarditis. Please give them the information in this pamphlet regarding when to use antibiotics and the leaflet "Prevention of Bacterial Endocarditis – Recommended Regimens of Antibiotic Prophylaxis" (provided by the Cardiology Department).



INFORMATION FOR HEALTH CARE PROFESSIONALS REGARDING ANTIBIOTICS TO PREVENT ENDOCARDITIS

Note about antibiotics: Preventative antibiotics are only prescribed for procedures known to be high risk for endocarditis as unnecessary use of antibiotics helps bacteria become resistant.

Preventative antibiotics ARE recommended for:

- all valve replacements, both synthetic and tissue.
- previous bacterial endocarditis, even without heart disease.
- surgically constructed systemic-pulmonary shunts or conduits.

- most congenital cardiac malformations.
- all valve problems, even after repair.
- hypertrophic cardiomyopathy.
- mitral valve prolapse with valvular regurgitation.

Preventative antibiotics ARE NOT recommended for:

- isolated secundum atrial septal defect.
- surgical repair without residua beyond 6 months of secundum atrial defect, ventricular septal defect, or patent ductus arteriosus.
- previous coronary artery bypass graft surgery.
- mitral valve prolapse without valvular regurgitation. **
- physiologic, functional or innocent heart murmurs.
- previous Kawasaki disease without valvular dysfunction.
- previous rheumatic fever without valvular dysfunction.
- cardiac pacemakers and implanted defibrillators.

Preventative antibiotics ARE recommended for the following procedures:

- dental procedures known to cause gum or mouth bleeding, including professional cleaning;
- tonsillectomy and/or adenoidectomy;

- operations that involve intestines or airways;
- bronchoscopy with a rigid bronchoscope;
- sclerotherapy for esophageal varices;
- esophageal dilation;
- gallbladder surgery;
- cystoscopy;
- urethral dilation;
- urethral catheterization if urinary tract infection is present; **
- incision and drainage of infected tissue. **

Preventative antibiotics are NOT recommended for the following procedures:

- dental procedures, which are not likely to cause bleeding, such as simple adjustment of orthodontic appliances or fillings above the gum line;
- injection of local intraoral anesthetic (except intralingual infections);
- shedding of primary teeth;
- tympanostomy tube insertion;
- bronchoscopy with a flexible bronchoscope, with or without biopsy;
- cardiac catheterization;
- endoscopy with or without gastrointestinal biopsy.

*** Note: In patients who have prosthetic heart valves, a previous history of endocarditis, or surgically constructed systemic-pulmonary shunts or conduits, physicians may choose to administer prophylactic antibiotics even for low-risk procedures that involve the lower respiratory, genitourinary or gastrointestinal tracts.*

Developed by the health care professionals of the Department of Cardiology with assistance from the Department of Learning and Development

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4480 Oak Street
 Vancouver, B.C. V6H 3V4
 604-875-2345
www.bcchildrens.ca