



Guidelines for Endocarditis Prevention

Those living with Congenital Heart Disease may be concerned developing Endocarditis or if they have been told they no longer require antibiotic prophylaxis.

Below is an excerpt from the Canadian Paediatric Society Position Statement explaining the reasons for the 2007 change to the Guidelines (reaffirmed Feb 28, 2018):

Prevention of infective endocarditis: Updated guidelines

Primary reasons for Revision of the AHA guidelines

The new guidelines were not based on the results of a single study but rather on the collective body of evidence published in numerous studies over the past two decades. The Committee sought to construct the present guidelines such that they would be in the best interest of patients and providers, would be reasonable and prudent, and would represent the conclusions of published studies and the collective wisdom of many experts on IE and relevant national and international societies. Four primary reasons were cited to form the rationale for revising the guidelines:

- IE is much more likely to result from frequent exposure to random bacteremias associated with daily activities than from bacteremia caused by a dental, gastrointestinal (GI) tract or genitourinary (GU) tract procedure.
- Prophylaxis prevents an exceedingly small number of cases of IE, if any, in individuals who undergo a dental, GI tract or GU tract procedure.
- The risk of antibiotic-associated adverse events exceeds the benefit, if any, from prophylactic antibiotic therapy except in very high-risk situations.
- Maintenance of optimal oral health and hygiene may reduce the incidence of bacteremia from daily activities and thus the risk of IE, and is more important than the use of prophylactic antibiotics for dental procedures.

Target groups for prophylaxis

The new guidelines suggest that prophylaxis should be targeted at conditions that are associated with the highest probability of adverse outcomes from IE. For example, it has been determined that the risk of mortality from IE due to viridans streptococcal infection of prosthetic valves is at least 20% [3]-[5], while the mortality in the case of native valves is 5% or less [6]-[8]. In this regard, prophylaxis is reasonable for patients with the following conditions (Table 1):

- Prosthetic cardiac valve or prosthetic material used for valve repair
- Previous IE
- Congenital heart disease (CHD)
 - Unrepaired cyanotic CHD, including palliative shunts and conduits
 - Completely repaired congenital heart defect with prosthetic material or device, whether placed by surgery or by catheter intervention, during the first six months after the procedure
 - Repaired CHD with residual defects at the site or adjacent to the site of a prosthetic patch or prosthetic device (which inhibit endothelialization)
- Cardiac transplant recipients who develop cardiac valvulopathy

TABLE 1
Indications for prophylaxis against infective endocarditis in patients undergoing dental procedures

Prophylaxis indicated

Prosthetic cardiac valves
Previous infective endocarditis
Unrepaired cyanotic congenital heart disease, including palliative shunts and conduits
Completely repaired congenital heart defect with prosthetic material or device, during the first six months after the procedure
Repaired congenital heart disease with residual defects at the site or adjacent to the site of a prosthetic patch or prosthetic device (which inhibit endothelialization)
Cardiac transplant recipients with cardiac valvulopathy
Rheumatic heart disease if prosthetic valves or prosthetic material used in valve repair

Prophylaxis not indicated

Atrial septic defects
Ventricular septal defects
Patent ductus arteriosus
Mitral valve prolapse
Previous Kawasaki disease
Hypertrophic cardiomyopathy
Previous coronary artery bypass graft surgery
Cardiac pacemakers (intravascular and epicardial) and implanted defibrillators
Bicuspid aortic valves
Coarctation of the aorta
Calcified aortic stenosis
Pulmonic stenosis

It should be noted that with the exception of the conditions listed above, antibiotic prophylaxis is no longer recommended for any other form of CHD. With respect to prosthetic material, prophylaxis is reasonable for six months because endothelialization of prosthetic material usually occurs within six months after valve placement.

Dental procedures for which endocarditis prophylaxis is reasonable for patients in the high-risk target group.

In addition to identifying the underlying cardiac conditions that warrant prophylaxis, the Committee addressed the dental procedures for which prophylaxis is warranted if such procedures are performed in high-risk patients. The duration of bacteremia following several activities of daily living, such as chewing food and tooth brushing, far exceed that due to a single tooth extraction, for example [11][12]. For illustrative purposes, these durations have been estimated to be 5730 min over a one-month period for the activities of daily living [11], compared with 6 min to 30 min for a single tooth extraction [12]. The procedures for which prophylaxis is reasonable are as follows:

- All dental procedures that involve the manipulation of gingival tissue, the periapical region of teeth or the perforation of the oral mucosa.

The following procedures and events do not require prophylaxis:

- Routine anesthetic injections through noninfected tissue, taking dental radiographs, placement of removable prosthodontic or orthodontic appliances, adjustment of orthodontic appliances, placement of orthodontic brackets, shedding of deciduous teeth, and bleeding from trauma to the lips or oral mucosa.

To review other procedures that may require antibiotic prophylaxis or to read the full article, please visit Canadian Paediatric Society Position Statement at <https://www.cps.ca/en/documents/position/infective-endocarditis-guidelines>

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