



## Prevention of Infective Endocarditis

The American Heart Association (AHA) released new guidelines on April 19, 2007 for the prevention of infective endocarditis (IE) and they have been approved by the American Dental Association (ADA). Since 1955, the AHA has made recommendations for antibiotic prophylaxis for patients undergoing invasive dental procedures. The new guidelines focus heavily on the current science in the field and they contain significant changes in the description of patients at risk for IE and the dental procedures that put them at risk.

The new guidelines recommend that only individuals who are at the highest risk of an adverse outcome from IE receive antibiotic prophylaxis, and they include:

- \* Prosthetic cardiac valve
- \* Previous infective endocarditis (IE)
- \* Congenital heart disease (CHD) with findings as below
  - Unrepaired cyanotic CHD, including palliative shunts and conduits
  - Completely repaired CHD defect with prosthetic material or device for first 6 months after procedure
  - Repaired CHD with residual defects at the site or adjacent to site of prosthetic patch / device which inhibit endothelialization
- \* Cardiac transplantation recipients who develop cardiac valvulopathy

The experts who formulated these guidelines based these revisions on the best available evidence and on what is in the best interest for people with cardiac conditions. Many patients who previously were premedicated with antibiotics for dental procedures are no longer recommended for prophylaxis. As a result, far fewer people will receive IE prophylaxis.

The AHA writing committee recognizes that patients, physicians and dentists may have concerns about the change in the list of cardiovascular conditions recommended for prophylaxis. Relevant points that may reduce concerns include:

- \* The AHA committee believes that IE is much more likely to result from frequent exposure to transient bacteremia associated with daily activities (i.e., brushing, chewing food) than from bacteremia caused by a dental procedure.
- \* Prophylaxis may prevent an exceedingly small number of cases of IE (if any) in individuals who undergo a dental procedure.
- \* The risk of antibiotic-associated adverse events exceeds the benefit (if any) from prophylactic antibiotic therapy.
- \* Maintenance of optimal oral health and hygiene may reduce the incidence of bacteremia from daily activities and is more important than prophylactic antibiotics for a dental procedure in reducing the risk of IE.

Individuals who have one of the four listed cardiovascular conditions should be premedicated for all dental procedures that involve “manipulation of gingival tissue or periapical region (root end) of teeth or perforation of the oral mucosa.”

For those patients who meet the new criteria above, the prophylactic antibiotic should be administered in a single dose 30-60 minutes before the procedure. The recommended antibiotic regimens remain essentially unchanged from the earlier guidelines. Recommended antibiotics include amoxicillin 2 grams, or if allergic to penicillin products, cephalexin 2 grams, clindamycin 600 milligrams, azithromycin 500 mg, or clarithromycin 500mg. The guidelines also outline intramuscular (IM) and intravenous (IV) doses that can be used as necessary.

References and websites that provide additional information and detail are annotated below.

**Citation:**

Wilson W, Taubert KA, Gewitz M, Lockhart PB, Baddour LM, Levison M, et al. Prevention of infective endocarditis. Guidelines from the American Heart Association. A guideline from the American Heart Association Rheumatic Fever, Endocarditis, and Kawasaki Disease Committee, Council on Cardiology, Cardiovascular Disease in the Young, and the Council on Clinical Care and Council on Cardiovascular Surgery and Anesthesia, and the Quality of Outcomes Research Interdisciplinary Working Group.

This AHA article can be directly downloaded from:  
<http://circ.ahajournals.org/cgi/reprint/CIRCULATIONAHA.106.183095>

Access to this article is also available from the Infective Endocarditis link on the American Heart Association website at: <http://www.americanheart.org>

Additional information is also available from the American Dental Association at: [www.ada.org](http://www.ada.org)

An excellent patient information sheet on bacterial endocarditis is available from the AHA at:  
<http://www.americanheart.org/downloadable/heart/1177008835808ABH%20WhatBacteriaEndocarditis.pdf>

A bacterial endocarditis wallet card is available from the AHA at:  
<http://www.americanheart.org/downloadable/heart/1177093679717bacendo.pdf>

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