

Antibiotic Prophylaxis Prior to Dental Treatment

For decades, the American Heart Association (AHA) recommended that patients with certain heart conditions take antibiotics shortly before dental treatment. This was done with the belief that antibiotics would prevent infective endocarditis (IE), previously referred to as bacterial endocarditis. The AHA's latest guidelines were published in its scientific journal, *Circulation*, in April 2007 and there is good news: **the AHA recommends that most of these patients no longer need short-term antibiotics as a preventive measure before their dental treatment.**

The American Dental Association participated in the development of the new guidelines and has approved those portions relevant to dentistry. The guidelines were also endorsed by the Infectious Diseases Society of America and by the Pediatric Infectious Diseases Society.

The guidelines are based on a growing body of scientific evidence that shows the risks of taking preventive antibiotics outweigh the benefits for most patients. The risks include adverse reactions to antibiotics that range from mild to potentially severe and, in very rare cases, death. Inappropriate use of antibiotics can also lead to the development of drug-resistant bacteria.

Scientists also found no compelling evidence that taking antibiotics prior to a dental procedure prevents IE in patients who are at risk of developing a heart infection. Their hearts are already often exposed to bacteria from the mouth, which can enter their bloodstream during basic daily activities such as brushing or flossing. The new guidelines are based on a comprehensive review of published studies that suggests IE is more likely to occur as a result of these everyday activities than from a dental procedure.

The guidelines say **patients who have taken prophylactic antibiotics routinely in the past but no longer need them** include people with:

- mitral valve prolapse
- rheumatic heart disease
- bicuspid valve disease
- calcified aortic stenosis
- congenital heart conditions such as ventricular septal defect, atrial septal defect and hypertrophic cardiomyopathy.

The new guidelines are aimed at patients who would have the greatest danger of a bad outcome if they developed a heart infection.

Preventive antibiotics prior to a dental procedure are advised for patients with:

1. artificial heart valves
2. a history of infective endocarditis
3. certain specific, serious congenital (present from birth) heart conditions, including
 - unrepaired or incompletely repaired cyanotic congenital heart disease, including those with palliative shunts and conduits
 - a 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
 - any repaired congenital heart defect with residual defect at the site or adjacent to the site of a prosthetic patch or a prosthetic device
4. a cardiac transplant that develops a problem in a heart valve.

The new recommendations apply to many dental procedures, including teeth cleaning and extractions. Patients with congenital heart disease can have complicated circumstances. They should check with their cardiologist if there is any question at all as to the category that best fits their needs.

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