Geist Oral & Facial Surgery

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- *Implants*
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New Antibiotic Prophylaxis Protocol For Patients At Risk

Developed by a committee from the AHA in **April 2007**[1], and adopted by the ADA, it was concluded that antibiotic treatments prior to most dental procedures were **unnecessary and ineffectual regarding Infective Endocarditis (IE).**

- Antibiotic Prophylaxis may prevent an extremely small number of cases of IE in patients who have a dental procedure. Moreover, this is under the assumption that the antibiotics would be 100% effective, which they are not.
- The risk of adverse effects from the antibiotics, such as creating drug resistant bacteria or patients having a bad reaction to the antibiotics, outweigh the possible benefits.
- IE is far more likely to occur from the bacteria released during daily hygiene events, such as brushing and flossing, than during any given dental procedure. In fact, over the course of a year the release of bacteria during daily activities may be as high as 5.6 million times greater[†] than during a single tooth extraction, the dental procedure reported to cause the greatest release of bacteria.
- **The AHA guidelines emphasize that maintaining optimal oral health and practicing daily oral hygiene are more important in reducing the risk of IE than taking preventive antibiotics before a dental visit.**

• *WHO SHOULD STILL RECEIVE ANTIBIOTIC PROPHYLAXIS?*

Infective endocarditis prophylaxis for dental procedures should be recommended only for patients with underlying cardiac conditions associated with the highest risk of adverse outcome from infective endocarditis.

People with the following conditions <u>should still receive</u> preventive antibiotics prior to Dental Procedures that involve <u>manipulation of gingival tissue,</u> or the <u>periapical region of teeth,</u> or <u>perforation of the oral mucosa</u>[††]. The new recommendations apply to many dental procedures, including teeth cleaning and extractions.

Conditions:

- Artificial Cardiac Valves
- Previous Infective Endocarditis
- Congenital Heart Disease (CHD) with the following conditions[††*]:
  - 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[††**].
  - Any repaired congenital heart disease with residual defects at the site or adjacent to the site of a prosthetic patch or a prosthetic device (which inhibit endothelialization).
- A cardiac transplantation recipient who develops a cardiac valvulopathy.
- **Revised information for patients with <u>Total Joint Replacement</u> on reverse (2/2009).**

(dosage information on reverse) ▸

• *WHAT ABOUT PATIENTS WHO REGULARLY TOOK ANTIBIOTICS BECAUSE OF HEART CONDITIONS?*

If you have the following conditions and have taken prophylactic antibiotics routinely in the past; you no longer need them:

- 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.

Moreover, prophylaxis is not recommended based solely on an increased lifetime risk of acquisition of infective endocarditis.

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

- ***SPECIFIC SITUATIONS AND CIRCUMSTANCES:***

→ Patients currently on antibiotics: If a patient is currently taking an antibiotic normally used for endocarditis prophylaxis, it is prudent to select a drug from a different class rather than to increase the dose of the current antibiotic.

→ Complicated circumstances can occur in patients with congenital heart disease. If there is any concern as to which category best fits their needs they need to check with their cardiologist.

→ Patients with previous coronary artery bypass surgery, cardiac pacemakers (intravascular and epicardial), and implanted defibrillators should still not receive endocarditis prophylaxis.

→ When antibiotics are suggested before a dental or medical procedure careful questions should be asked of the health care provider recommending the antibiotics.

- ***DRUG REGIMENS FOR A DENTAL PROCEDURE:***

Situation	Agent	Regimen: Single Dose 30–60 min. before procedure.	
		Adults	Children
Oral	Amoxicillin	2 g	50 mg/kg
Unable to take oral medication	Ampicillin – or – Cefazolin / Ceftriaxone	2 g IM or IV* 1 g IM or IV	50 mg/kg IM or IV 50 mg/kg IM or IV
Allergic to penicillins or ampicillin Oral	Cephalexin# – or – Clindamycin – or – Azithromycin / Clarithromycin	2g 600 mg 500 mg	50 m/kg 20 mg/kg 15 mg/kg
Allergic to penicillins or ampicillin and unable to take oral medication	Cefazolin / Ceftriaxone**# – or – Clindamycin	1 g IM or IV 600 mg IM or IV	50 mg/kg IM or IV 20 mg/kg IM or IV

- ***ANTIBIOTIC PROPHYLAXIS FOR DENTAL PATIENTS WITH TOTAL JOINT REPLACEMENT:***

The Patient Safety Committee of the American Academy of Orthopedic Surgeons (AAOS), in **February 2009**†#, unilaterally issued this new statement without input from the ADA. The new recommendation states:

"Given the potential adverse outcomes and costs of treating an infected joint replacement, the AAOS recommends that clinicians consider antibiotic prophylaxis for all total joint replacement patients prior to any invasive procedure that may cause bacteremia."

Although this statement is not intended as the standard of care, nor as a substitute for clinical judgment, it puts the dental practitioner in a difficult position when treating a patient who has a total prosthetic joint. If this patient develops an infection in a prosthetic joint after dental treatment, without pre-medication, it could be assumed that the dental procedure caused the infection unless proven otherwise.

Patients at Potential Increased Risk of Hematogenous Total Joint Infection

→ Immunocompromised / Immunosuppressed Patients:
- Inflammatory arthropathies: rheumatoid arthritis, systemic lupus erythematosus
- Disease, drug, or radiation–induced immunosuppression

→ Other Patients:
- Insulin–dependent (Type 1) diabetes
- Previous prosthetic joint infections
- Malnourishment
- Hemophilia
- Obesity
- Smoking

Notes for the front:

1 Adapted from Prevention of Infective Endocarditis: Guidelines From the American Heart Association, by the Committee on Rheumatic Fever, Endocarditis, and Kawasaki Disease. Circulation, e-published April 19, 2007. www.americanheart.org/presenter jhtml?identifier=3004539.

† From Prevention of Infective Endocarditis: Guidelines From the American Heart Association, by the Committee on Rheumatic Fever, Endocarditis, and Kawasaki Disease. Circulation, e-published April 19, 2007, page 7. www.americanheart.org/presenter.jhtml?identifier=3004539.

†† The following procedures and events do not need prophylaxis: routine anesthetic injections through non infected tissue, taking dental radiographs, placement of removable prosthodontic or orthodontic appliances, adjustment of orthodontic appliances, placement of orthodontics brackets, shedding of deciduous teeth and bleeding from trauma to the lips or oral mucosa.

††* Except for the conditions bulleted below, antibiotic prophylaxis is no longer recommended for any other form of CHD.

††** Prophylaxis is recommended because endothelialization of prosthetic material occurs within 6 months after procedure.

Notes for the back:

*IM = intramuscular; IV = intravenous

Or other first or second generation oral cephalosporin in equivalent adult or pediatric dosage.

**# Cephalosporins should not be used in an individual with a history of anaphylaxis, angioedema, or urticaria with penicillins or ampicillin

†# From the Information Statement, Antibiotic Prophylaxis for Bacteremia in Patients with Joint Replacements, e-published February, 2009. http://www.aaos.org/about/papers/advistmt/1033.asp