Antibiotic Prophylaxis Guidelines

Many people take an antibiotic before having any type of dental treatment. The purpose of this is to help prevent a serious infection that may occur with dental or other minor surgical treatment. Some of the most common reasons that your doctor may prescribe antibiotics before dental or other surgery includes: mitral valve prolapse (a weakening of one of the valves in your heart), certain types of artificial implants (such as a mechanical heart valve or other types of surgical implant devices), an artificial joint replacement, or a heart murmur caused by a roughened heart valve. The use of pre-treatment antibiotics is called Antibiotic Prophylaxis or simply put, preventing infection through pre-procedure antibiotics.

Antibiotic prophylaxis was first recognised as a way to prevent a serious and sometimes life-threatening bacterial infection that affects the tissues of the heart called bacterial endocarditis. Bacterial endocarditis most often leads to inflammation and deformation of the heart. It is this process that produces the life-threatening effects of bacterial endocarditis. As we have discussed, giving patients at greatest risk for developing bacterial endocarditis antibiotic prophylaxis is one of the most effective ways of preventing this devastating infection.

The guideline for antibiotic prophylaxis for patients with heart disease is developed by the American Heart Association. The American Heart Association, AHA, published its first heart disease treatment guidelines in 1955. Since then the guidelines have been modified several times. Updates to the AHA guidelines has consistently aimed at making antibiotic prophylaxis more easily understand by patients and healthcare professionals. At times guideline updates are issued when new medical information becomes available that affects the prevention and treatment of bacterial infections. This has become very important in recent years as an increasing number of bacteria have become antibiotic resistant (antibiotics loose their effectiveness against the bacteria).

The AHA guidelines are followed by most healthcare providers, but it is not unusual to find certain changes in dosages or medications made by particular doctors.
Antibiotic prophylaxis is recommended for the following chronic medical conditions:

**Patients at a High-Risk of Developing Bacterial Infection:**
- Prosthetic cardiac valves, including bioprosthetic and homograft valves.
- Previous Bacterial endocarditis
- Complex cyanotic congenital heart disease (e.g., single ventricle states, transposition of the great arteries, tetralogy of Fallot).
- Surgically constructed systemic pulmonary shunts or conduits.

**Patients at a Moderate-Risk of Developing Bacterial Infection:**
- Most other congenital cardiac malformations (other than those listed above and below).
- Acquired valvar dysfunction (e.g., rheumatic heart disease).
- Hypertrophic cardiomyopathy.
- Mitral valve prolapse with valvar regurgitation and/or thickened leaflets.

**Endocarditis prophylaxis is not usually recommended for the following chronic medical conditions:**

**Negligible-risk category (no greater risk than general population).**
- Isolated secundum atrial septal defect.
- Surgical repair of atrial septal defect, ventricular septal defect, or patent ductus arteriosus.
- Previous coronary artery bypass graft surgery.
- Mitral valve prolapse without valvar regurgitation.
- Physiologic, functional, or innocent heart murmurs.
- Previous Kawasaki disease without valvar dysfunction.
- Previous rheumatic fever without valvar dysfunction.
- Cardiac pacemakers (intravascular and epicardial) and implanted defibrillators.
If you have been treated for one of the chronic medical conditions identifies at risk for developing bacterial endocarditis, antibiotic prophylaxis is recommended for the following dental procedures:

- Dental extractions *(teeth pulling)*
- Peridontal *(in the mouth)* procedures including surgery, scaling and root planing, probing, and recall maintenance.
- Dental implant placement and reimplantation of avulsed teeth.
- Endodontic *(root canal)* instrumentation or surgery only beyond the apex.
- Sub-lingual *(below the gum-line)* placement of orthodontic bands but not brackets.
- Intra-ligamental local anesthetic injections *(medication used to numb the mouth that is injected into a ligament in the mouth)*.
- Routine cleaning of teeth or implants where bleeding is anticipated.

**Antibiotic prophylaxis is not recommended for the following dental procedures:**

- Restorative *(repair)* dentistry *(operative and prosthodontic)* with or without retraction chord.
- Local anesthetic injections *(medication used to numb the mouth injected into tissue other than the ligament)*.
- Intracanal endodontic treatment; post placement and buildup.
- Placement of rubber dams, postoperative suture removal, taking of oral impressions, and flouride treatments.
- Placement of removable prosthodontic or orthodontic appliances and orthodontic appliance adjustment.
- Taking of oral x-rays.
- Loss of primary teeth *(baby teeth)*.
If antibiotic prophylaxis is necessary, the following medications and dosages are recommended by the AHA:

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<th>Individual Situation</th>
<th>Antibiotic Drug</th>
<th>Regimen</th>
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| Standard Prophylaxis                                      | Amoxicillin     | Adults: 2.0 grams
|                                                           |                 | Children: 50 mg per kg of weight
|                                                           |                 | *Both taken by mouth one (1) hour before a planned dental procedure.* |
| Patients who are unable to take oral medication           | Ampicillin      | Adults: 2.0 grams
|                                                           |                 | Children: 50 mg per kg of weight
|                                                           |                 | *Both given into the vein or a large muscle within 30 min before a planned dental procedure.* |
| Patients who are allergic to Penicillin                   | Clindamycin     | Adults: 600 mg
|                                                           |                 | Children: 20 mg per kg of weight
|                                                           |                 | *Both taken by mouth one (1) hour before a planned dental procedure.* |
| Patients who are allergic to Penicillin                   | Cephalexin or Cefadroxil | Adults: 2.0 grams
|                                                           |                 | Children: 50 mg per kg of weight
|                                                           |                 | *Both taken by mouth one (1) hour before a planned dental procedure.* |
| Patients who are allergic to Penicillin                   | Azithromycin or Clarithomycin | Adults: 500 mg
|                                                           |                 | Children: 15 mg per kg of weight
|                                                           |                 | *Both taken by mouth one (1) hour before a planned dental procedure.* |
| Patients who are allergic to Penicillin and unable to take medications by mouth | Clindamycin | Adults: 600 mg
|                                                           |                 | Children: 20 mg per kg of weight
|                                                           |                 | *Both given into the vein within 30 min before a planned dental procedure.* |
| Patients who are allergic to Penicillin and unable to take medications by mouth | Cefazolin | Adults: 1.0 grams
|                                                           |                 | Children: 25 mg per kg of weight
|                                                           |                 | *Both given into the vein or a large muscle within 30 min before a planned dental procedure.* |