Editor's Note

Endocarditis Prophylaxis Yes: Endocarditis Prophylaxis No

Key words: endocarditis prophylaxis

As consultant cardiologists, we are frequently asked by our colleagues in dentistry, urology, pulmonary disease, gastrointestinal diseases, and general surgery whether or not prophylactic antibiotics are indicated to prevent infectious endocarditis.

I recently participated in a continuing medical education meeting in which Nanette Kass Wenger, M.D., F.A.C.C., discussed this area in depth. She presented the information in such an organized and understandable manner that I thought it would be useful to readers if they had this information in one place, accessible for ready reference when colleagues ask which patients should have endocarditis prophylaxis.

According to Wenger, patients can be divided into three main general risk categories related to their cardiac condition: high, moderate, and negligible.

1. Patients with High Risk— Endocarditis Prophylaxis Recommended

- A. Patients with any type of prosthetic cardiac valve
- B. Patients with previous bacterial endocarditis
- C. Patients with any cyanotic congenital heart disease not yet corrected by surgery
- D. Patients with congenital heart disease who have undergone systemic to pulmonary artery shunts either with the patient's own vessel or with a conduit, for example, BT shunt

2. Patients with Moderate Risk— Endocarditis Prophylaxis Recommended

- A. Congenital cardiac malformations in which there are high-velocity left to right shunts
- B. Patients with acquired valvular heart disease
- C. Patients with proven hypertrophic cardiomyopathy, particularly those in whom there is a pressure difference between the apex of the ventricle and the outflow area

- D. Patients with mitral regurgitation secondary to mitral valve prolapse and patients with gross mitral valve prolapse and thickened mitral valve leaflets

3. Patients with Negligible Risk—Infectious Endocarditis Prophylaxis Is Not Recommended

- A. Atrial septal defect of the secundum variety
- B. Postoperative atrial septal defect repair or patent ductus arteriosus repair
- C. Coronary artery bypass graft surgery
- D. Simple mitral valve prolapse without valvar regurgitation
- E. Physiologic, or functional, or innocent systolic heart murmurs; in this category, one should ascertain by echocardiography that this so-called physiologic murmur is not related to valvular heart disease
- F. History of rheumatic fever without evidence of rheumatic heart disease
- G. Implanted devices such as cardiac pacemakers and ICDs
- H. Patients with known Kawasaki disease of the coronary arteries with no evidence of valve deterioration

4. Dental Procedures for Patients with High and Moderate-Risk Cardiac Conditions—Infectious Endocarditis Prophylaxis Recommended

- A. Dental extractions
- B. Periodontal procedures, including surgery, scaling and root planing, probing and recall maintenance
- C. Dental implant placement and reimplantation of avulsed teeth
- D. Endodontic (root canal) instrumentation of surgery only beyond the apex
- E. Subgingival placement of antibiotic fibers or strips
- F. Initial placement of orthodontic bands but not brackets
- G. Intraligamentary local anesthetic injection
- H. Prophylactic cleaning of teeth or implants where bleeding is anticipated

5. Dental Procedures for High- and Moderate-Risk Cardiac Conditions in Which Endocarditis Prophylaxis Is Not Recommended

- A. Restorative dentistry, for example, filling cavities and replacing missing teeth

- B. Local anesthetic injections
- C. Intracanal endodontic treatment; placement and buildup
- D. Placement of rubber dams
- E. Postoperative suture removal
- F. Placement of removable prosthodontic or orthodontic appliances
- G. Taking of oral impressions
- H. Fluoride treatments
- I. Taking of oral radiographs
- J. Orthodontic appliance adjustment
- K. Shedding of primary teeth

6. Other Procedures in High- and Moderate-Risk Cardiac Conditions in Which Infectious Endocarditis Prophylaxis Is Recommended

- A. Respiratory tract
 - 1. Tonsillectomy and/or adenoidectomy
 - 2. Surgical operations that involve respiratory mucosa
 - 3. Bronchoscopy with a rigid bronchoscope
- B. Gastrointestinal tract
 - 1. Sclerotherapy for esophageal varices
 - 2. Esophageal stricture dilation
 - 3. Endoscopic retrograde cholangiography with biliary obstruction
 - 4. Biliary tract surgery
 - 5. Surgical operations that involve intestinal mucosa
- C. Genitourinary tract
 - 1. Prostatic surgery
 - 2. Cystoscopy
 - 3. Urethral dilation

7. Other Procedures in High- and Moderate-Risk Cardiac Patients in Which Endocarditis Prophylaxis Is Not Recommended

- A. Respiratory tract
 - 1. Endotracheal intubation

- 2. Bronchoscopy with a flexible bronchoscope with or without biopsy
- 3. Typanostomy tube insertion
- B. Gastrointestinal tract
 - 1. Transesophageal echocardiography
 - 2. Endoscopy with or without gastrointestinal biopsy
- C. Genitourinary tract
 - 1. Vaginal hysterectomy
 - 2. Vaginal delivery
 - 3. Caesarian section
 - 4. In uninfected tissue:
 - a. Urethral catheterization
 - b. Uterine dilation and curettage
 - c. Therapeutic abortion
 - d. Sterilization procedures
 - e. Insertion or removal of intrauterine devices

8. Other Areas in High- and Moderate-Risk Cardiac Patients in Which Endocarditis Prophylaxis Is Not Recommended

- A. Cardiac catheterization, including balloon angioplasty
- B. Implantation of cardiac pacemakers, defibrillators, and coronary stents
- C. Incision or biopsy of surgically scrubbed skin
- D. Circumcision

I purposely did not include recommendations regarding which antibiotics to use under these conditions, since these recommendations are readily available from the American Heart Association.¹

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Editor-in-Chief

Reference

1. Committee on Rheumatic Fever, Endocarditis, and Kawasaki Disease: Prevention of Bacterial Endocarditis: Recommendations by the American Heart Association. *J Am Med Assoc* 1997;277:1794-1801