PREVENTION OF VIRIDANS GROUP STREPTOCOCCAL INFECTIVE ENDOCARDITIS

A Scientific Statement from the American Heart Association/ American Stroke Association

2007 Infective Endocarditis (IE) Guideline Updates

- Focused on risk of *adverse outcomes from* IE, *not risk of acquiring* IE
- Significantly scaled back the conditions for prophylaxis
- Only 4 categories with highest risk of adverse outcome included
  - Prosthetic cardiac valve or prosthetic material for valve repair
  - Previous IE
  - Congenital heart disease
  - Heart transplant recipients

2021 Prevention Of Viridans Group Streptococcal Infective Endocarditis: A Scientific Statement From The American Heart Association: Purpose

1. Review the studies published since the 2007 guidelines to assess the impact of the guidelines on practice
2. Determine if there was increased incidence of or mortality from viridans group streptococcal (VGS) IE since 2007
3. Reevaluate the rationale used to develop and promote 2007 guidelines
4. Assess whether the changes recommended in 2007 guidelines remain valid
5. Review whether the 4 underlying cardiac conditions listed in the 2007 guidelines with the highest risk of poor outcome from VGS IE should be expanded, be reduced, or remain the same
6. Suggest revisions to the 2007 guidelines based on A comprehensive review of published studies.

Summary Of Findings

- VGS IE is much more likely to develop as a result of transient VGS bacteremia attributable to routine daily activities such as chewing food and toothbrushing than from a dental procedure.
- An exceedingly small number of cases of VGS IE could be prevented by antibiotic prophylaxis (AP) for a dental procedure, even if prophylaxis is 100% effective.
- If ap for a dental procedure is effective in preventing a very small number of cases of VGS IE, it should be suggested only for those patients with the highest risk of adverse outcome from VGS IE.
- There is no convincing evidence of an increased frequency of morbidity or mortality from VGS IE in patients at low, moderate, or high risk of adverse outcome since publication of the 2007 document.
- AP for a dental procedure is not suggested solely on the basis of an increased lifetime risk of acquisition of VGS IE

CONSIDERATIONS FOR CLINICAL PRACTICE

- AP for a dental procedure that involves manipulation of gingival tissues, periapical region of teeth, or perforation of the oral mucosa is suggested only for patients with the highest risk of adverse outcome from VGS IE.
- Maintenance of good oral health and regular access to dental care are considered more important to prevent VGS IE than AP for a dental procedure. We suggest that all patients at risk for IE have routine dental examinations when such care is available.
- Shared decision making is important between patients and health care professionals. There may be instances when a health care professional and a patient disagree with the suggestions in the 2021 scientific statement. In these cases, the health care professional should be familiar with and understand the 2021 guidance to adequately inform patients of the risks and benefits of AP for a dental procedure so that an informed decision may be made

Prophylaxis Recommended*

Prosthetic cardiac valve or material
Presence of cardiac prosthetic valve
Transcatheter implantation of prosthetic valves
Cardiac valve repair with devices, including annuloplasty, rings, or clips
Left ventricular assist devices or implantable heart
Previous, relapse, or recurrent IE
CHD
Unrepaired cyanotic congenital CHD, including palliative shunts and conduits.
Completely repaired congenital heart defect with prosthetic material or device, whether placed by surgery or by transcatheter during the first 6 mo after the procedure
Repaired CHD with residual defects at the site of or adjacent to the site of a prosthetic patch or prosthetic device
Surgical or transcatheter pulmonary artery valve or conduit placement such as Melody valve and Contegra conduit
Cardiac transplant recipients who develop cardiac valvulopathy

Prophylaxis Not Recommended

Implantable electronic devices such as a pacemaker or similar devices
Septal defect closure devices when complete closure is achieved
Peripheral vascular grafts and patches, including those used for hemodialysis
Coronary artery stents or other vascular stents
CNS ventriculoatrial shunts
Vena cava filters
Pledgets

***ADDITIONS To 2021 Statement**

American Heart Association.

Prophylaxis and Dental Procedures

AP suggested
All dental procedures that involve manipulation of gingival tissue or the periapical region of teeth or perforation of the oral mucosa
AP not suggested
Anesthetic injections through noninfected tissue, taking dental radiographs, placement of removable prosthodontic or orthodontic appliances, adjustment of orthodontic appliances, placement of orthodontic brackets, shedding of primary teeth, and bleeding from trauma to the lips or oral mucosa

Antibiotic Regimens for Dental Procedures Single Dose 30 - 60 minutes before

Situation	Agent	Adults	Children
Oral	Amoxicillin	2 g	50 mg/kg
Unable to take oral medication	Ampicillin OR cefazolin or ceftriaxone	2 g IM or IV	50 mg/kg IM or IV
		1 g IM or IV	50 mg/kg IM or IV
Allergic to penicillin or ampicillin—oral	Cephalexin* OR azithromycin or clarithromycin OR doxycycline	2 g	50 mg/kg
		500 mg 100 mg	15 mg/kg <45 kg, 4.4 mg/kg >45 kg, 100 mg
Allergic to penicillin or ampicillin and unable to take oral medication	Cefazolin or ceftriaxone†	1 g IM or IV	50 mg/kg IM or IV

Clindamycin is no longer recommended for antibiotic prophylaxis for a dental procedure.

IM indicates intramuscular; and IV, intravenous.

*Or other first- or second-generation oral cephalosporin in equivalent adult or pediatric dosing.

†Cephalosporins should not be used in an individual with a history of anaphylaxis, angioedema, or urticarial with penicillin or ampicillin.