

Minneapolis VA Health Care system

Service Line: Specialty Care, Dental

Standard Operating Procedure for: Guidance pertaining to making an informed decision about Antibiotic Prophylaxis before dental procedures

1. **Purpose**

- a. To establish guidelines that can be used by dentists or dental specialists to determine if antibiotic prophylaxis is necessary for their patients prior to undergoing dental procedures, while being cognizant of the VA Antimicrobial Stewardship Program (ASP).

2. **Responsibility and Authority**

- a. The dental team is responsible for management of their patients, including the use of antibiotic prophylaxis where applicable.

3. **Background information**

- a. Compared to previous recommendations, there are currently few patient subpopulations who would benefit from antibiotic prophylaxis prior to designated dental procedures
- b. Cumulative, low grade bacteremias (triggered by normal daily activities, such as tooth brushing, flossing and chewing) are a greater risk factor in developing Infective Endocarditis (IE), more so than sporadic, high grade bacteremias (caused by invasive dental procedures). Maintenance of oral health to reduce bacteremia from daily activities is more important than antibiotic prophylaxis.
- c. Adverse events associated with inappropriate antibiotic use include antimicrobial resistance, *C. difficile* associated disease (CDI), allergic reactions and disruptions in normal flora
- d. Some conditions that may warrant antibiotic prophylaxis are:
  - i. Heart conditions (risk of developing IE)
    - 1. Artificial heart valve
    - 2. History of IE
    - 3. Certain specific congenital heart conditions ([see AHA guidelines](#))-highly recommend Cardiology consult
    - 4. Cardiac transplant that develops a problem in the heart valve
  - ii. These conditions are NOT recommended for prophylaxis:
    - 1. Coronary artery stents, history of coronary artery bypass graft (CABG)
- e. Presence of prosthetic joints is no longer an indication to provide antibiotic prophylaxis prior to dental procedures.
  - i. Consider the [online Appropriate Use Criteria \(AUC\) from AAOS](#) as a tool to determine if antibiotic prophylaxis is necessary for complex patients
- f. Antibiotic prophylaxis prior to invasive dental procedures reduces bacteremia, but does not necessarily prevent infection
- g. Invasive dental procedures that may warrant antibiotic prophylaxis:
  - i. Involve manipulation of dento-gingival junction, periapical region or perforation of the oral mucosa (**NOT** including local anesthetic injections in **non-infected** soft tissues)
    - 1. Examples are procedures that are subgingival, incision and drainage of an abscess, surgery involving flaps, and extraction and implant surgeries
    - 2. Examples of procedures considered to be **non-invasive**: radiographs, supra gingival manipulation, local anesthetic in non-infected soft tissues, removal of sutures, trauma to lips or oral mucosa

#### 4. **Procedure**

- a. Conduct a detailed analysis of patient's medical history
- b. If the dentist has questions about conditions that may warrant antibiotic prophylaxis, consult with patient's cardiologist or appropriate specialist.
  - i. In uncommon or exceptional cases it is appropriate to have the specialist prescribe the necessary antibiotic prophylaxis
  - ii. Give patient direction about which appointments require the prophylaxis
- c. Use the CDSS tool in CPRS to help determine if antibiotic prophylaxis is recommended for your patient
  - i. On Orders tab, click on medicine outpt orders
  - ii. Click on 55 Antimicrobials (CDSS)
  - iii. Click on 86 Prevention of Infection
  - iv. Click on appropriate scenario
- d. Where antibiotic prophylaxis is considered, discuss the risks and benefits with the patient
- e. Where antibiotic prophylaxis is deemed appropriate, direct the patient to take the prophylaxis 1 hour prior to the start of the dental procedure. If the patient forgot, take as soon as possible, and evaluate the risk of continuing the procedure.
- f. Provide advice to the patient about prevention of low grade bacteremias
  - i. Maintain good oral health-this is more important for prevention of infection than antibiotic prophylaxis
  - ii. Inform patient of symptoms of IE and prosthetic joint infection (PJI) and when to seek medical attention
- g. Treat dental infections promptly
  - i. Where possible, do not delay definitive, conservative dental treatment
  - ii. Only prescribe antibiotics when there is infection present
- h. Consider anesthesia
  - i. General anesthesia through endotracheal intubation increases the risk of developing bacteremia compared to local anesthesia

#### 5. **Antibiotic choice considerations**

- a. See CDSS for recommendations
- b. Amoxicillin is preferred over Penicillin (PCN) as it is more effective against gram negative anaerobes and is associated with lower incidence of GI adverse effects
- c. If a patient reports a PCN allergy, conduct an allergy assessment to determine if it is a true allergy. If not, consider prescribing cephalexin.
- d. In the unusual case where a patient cannot take PCN or cephalexin, doxycycline or azithromycin would be first choice. Clindamycin is no longer recommended by the ADA, due to the side effects- it increases the risk of developing CDI, even after a single dose. Clindamycin also gives suboptimal prophylactic coverage.
- e. If patient is taking an antibiotic with the same spectrum as the one indicated for antibiotic prophylaxis, additional antibiotics do not need to be prescribed
- f. Consider intramuscular antibiotic therapy for patients with GI disorders

#### 6. **Revision**

- a. Original issue date: June 2020
- b. Most recent revision: Feb 2023
- c. To be reviewed annually

## 7. Signatures

## 8. Sources

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