

## AHA Guidelines for the Prevention of Infective Endocarditis

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- New Recommendations went into Effect
- Endorsed by: American Heart Assn.(AHA); American Dental Assn.(ADA); Infectious Disease Society of America; American Academy of Pediatrics

## Why Change the IE Prophylaxis Guidelines?

- IE is more likely to result from activities of daily living than from dental, GI or GU tract procedures.
- IE Prophylaxis may prevent only an "exceedingly small" number of IE cases following dental procedures.
- No published data demonstrate convincingly that the administration of prophylactic antibiotics prevents IE associated with bacteremia from an invasive procedure.

## Why Change? (continued)

- The risk of adverse events exceeds the benefits, "if any", from prophylactic therapy.\*
- Maintenance of optimal oral health and hygiene is more important than antibiotics in reducing the risk of IE.

\*www.ada.org

## Measures for Controlling Infective Endocarditis

1. Maximal Oral Health
2. Minimal Tissue Trauma
3. Antimicrobial Rinses
4. Regular Dental Checkups
5. Proper AHA Prophylaxis Regimen

1997 AHA Guidelines

## What, Me Worry? Antibiotic resistance is increasing

1971-1986 S. viridens drug resistance*	1994-2002 S. viridens drug resistance
Penicillin 0%	13% (17-50%)
Macrolide 11%	26% (22-58%)
Clincamycin 0%	4% (13-27%)

\*Prabhu RM, Piper KE, Baddour LM, et al. *Antimicrob Agents Chemother*. Nov 2004;48(11):4463-4465

## What Criteria Was Considered by the AHA Committee?

- What underlying cardiac conditions over a lifetime have the highest predisposition to the acquisition of endocarditis?
- What underlying cardiac conditions are associated with the highest risk of adverse outcome from endocarditis?
- Should recommendations for IE prophylaxis be based upon either or both of these 2 conditions?

## Cardiac Conditions Where Prophylaxis is Recommended (Table 3)

- Prosthetic Cardiac Valve
- Previous Infective Endocarditis
- **Congenital Heart Disease (CHD)**
  - Unrepaired cyanotic CHD, including palliative shunts and conduits
  - Completely repaired congenital heart defect with prosthetic material\* or device (surgical or by catheter) during the first six months after the procedure.\*\*
  - Repaired CHD with residual defects at/near the patch or device which inhibits endothelialization.
- Cardiac Transplant with Acquired Valvulopathy

## Cardiac Conditions (Table 3 cont.)

- Except for the conditions listed above, antibiotic prophylaxis is no longer recommended for any other form of Congenital Heart Disease(!)

### The Real Question

Who can we now ignore?

Patients who have taken prophylactic antibiotics routinely in the past but 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.

### No Antibiotics Necessary (cont.)

- There is no evidence that coronary artery bypass graft surgery is associated with a long-term risk for infection.
- Antibiotic prophylaxis for dental procedures is not needed for individuals who have undergone this surgery.
- Antibiotic prophylaxis for dental procedures is not recommended for patients with coronary artery stents.

### Dental Procedures Requiring Antibiotic Prophylaxis (Table 4)

- All dental procedures that involve manipulation of gingival tissue or the periapical region of teeth or perforation of the oral mucosa.

### The Real Question: What Procedures Can I Ignore?

- \*The following procedures and events do not need prophylaxis:
- Routine anesthetic injections through noninfected tissue.
- Taking dental radiographs.
- Placement of removable prosthodontic or orthodontic appliances, adjustment of orthodontic appliances, or placement of orthodontic brackets.

### No Prophylaxis (cont.)

- Shedding of deciduous teeth
- Bleeding from trauma to the lips or oral mucosa.

### Antibiotic Regimens

Situation	Agent	Regimen: one dose 30-60 min. prior to procedure	
		Adults	Children
Oral	Ampicillin	2g	50mg/kg
Oral Allergic to Penicillin	Cephalexin**	2g	50mg/kg
	Clindamycin	600mg	20mg/kg
	Azith/Clarithromycin	500mg	15mg/kg
Unable to take oral medication	Ampicillin	2g IM or IV	50mg/kg IM or IV
	Cefazolin (Ancef/Kefzol)	1g IM or IV	50mg/kg IM or IV
	Ceftriaxone(Rocephin)	1g IM or IV	50mg/kg IM or IV
Unable to take oral medication Allergic to Penicillin	Cefazolin or Ceftriaxone	1g IM or IV	50mg/kg IM or IV
	Clindamycin	600mg IM or IV	20mg/kg

### \*\*Cephalosporins

- Other 1st or 2nd generation oral cephalosporins may be substituted
- Cephalosporins should not be used in individuals with a history of anaphylaxis, angioedema, or urticaria with penicillins or ampicillin.

### Summary of Major Changes

- Bacteremia resulting from daily activities is much more likely to cause IE than bacteremia associated with a dental procedure.
- Only an extremely small number of cases of IE might be prevented by antibiotic prophylaxis even if prophylaxis is 100% effective.
- Antibiotic prophylaxis is not recommended based solely on an increased lifetime risk of acquisition of IE.

### Major Changes (cont.)

- Limit recommendations for IE prophylaxis only to those conditions listed in Table 3.
- Antibiotic prophylaxis is no longer recommended for any other form of CHD, except for the conditions listed in Table 3.

### Major Changes (cont.)

- Antibiotic prophylaxis is recommended for all dental procedures that involve manipulation of gingival tissues or periapical region of teeth or perforation of oral mucosa only for patients with underlying cardiac conditions associated with the highest risk of adverse outcome from IE (Table 3).

### Major Changes (cont.)

- Antibiotic prophylaxis is recommended for procedures on respiratory tract or infected skin, skin structures or musculoskeletal tissue only for patients with underlying cardiac conditions associated with the highest risk of adverse outcome from IE (Table 3).
- Antibiotic prophylaxis solely to prevent IE is not recommended for GI or GU tract procedures.

That is all.

Farewell