

AHA Guideline

Prevention of Infectious Endocarditis Guidelines From the American Heart Association

**A Guideline from the American Heart Association
Rheumatic Fever, Endocarditis, and Kawasaki Disease Committee, Council on
Cardiovascular Disease in the Young, and the Council on Clinical Cardiology,
Council on Cardiovascular Surgery and Anesthesia, and the Quality of Care
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Endocarditis Prophylaxis: Does It Make Sense?

Rationale for dental prophylaxis:

- Dental procedures cause bacteremia
- Mouth flora common pathogens for BE
- The bugs are sensitive to antibiotics

Endocarditis Prophylaxis: Does It Make Sense?

Rationale for dental prophylaxis:

Overemphasis on antimicrobial prophylaxis
and underemphasis on maintaining good
oral hygiene

- No randomized trials
- Few observational studies
 - ...some positive
 - ...most negative
- Lots of “expert” opinion
- No cost-effectiveness studies

Endocarditis Prophylaxis: Does It Make Sense?

Incidence of bacteremia with dental procedures:

- Tooth extraction 10% - 100%
- Periodontal surgery 36% - 88%
- Teeth cleaning 40%
- Tooth scaling / root cleaning 8% - 80%
- Matrix / wedge placement 9% - 32%
- Non surgical endodontics 2% - 15%

- **Tooth brushing / flossing 20% - 68%**
- **Toothpicks 20% - 40%**
- **Water irrigation devices 7% - 50%**
- **Chewing 17% - 51%**

Endocarditis Prophylaxis: Does It Make Sense?

Incidence of bacteremia with dental procedures

The cumulative risk of endocarditis resulting from bacteremia caused by daily activities is far greater than the risk of endocarditis resulting from a single dental procedure

- Cumulative risk of bacteremia from daily events is 5370 min per month compared to 6 minutes for a single tooth extraction
 - Cumulative risk from daily events is 5.6 million times greater over 1 year than that resulting from a single tooth extraction
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Guntheroth, *Am J Cardiol* 1984;54:797-801
Pallasch, *Dent Clin North Am* 2003;47:623-639

Endocarditis Prophylaxis: Does It Make Sense?

Incidence of bacteremia with dental procedures

The Gray Zone:

**Which patients really need
prophylaxis?**

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Risk of endocarditis from a dental procedure:

- All patients 1 in 14,000,000
 - Patients with MVP with MR 1 in 1,096,824 **x13**
 - Patients with rheumatic disease 1 in 475,290 **x100**
 - Patients with prosthetic valve 1 in 114,069 **x125**
 - Patients with previous endocarditis 1 in 95,058 **x150**
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Endocarditis Prophylaxis: Does It Make Sense?

Risk of endocarditis
versus
Risk from endocarditis

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Indications for antibiotic prophylaxis

Patients with:

- **Prosthetic heart valves**
- **Previous infectious endocarditis**
- **Cyanotic congenital heart disease**
- **Congenital heart disease with indwelling shunts**
- **Cardiac transplantation with valvular abnormalities**

Class I: Talk with the patient