

## ANTIMICROBIAL TREATMENT BEFORE DENTAL PROCEDURES IN PATIENTS WITH BACTERIAL ENDOCARDITIS

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### ABSTRACT

Infective endocarditis is a rare condition with significant morbidity and mortality. It may arise following bacteraemia in a patient with a predisposing cardiac lesion. In an attempt to prevent this disease, over the past 50 years, at-risk patients have been given antibiotic prophylaxis before dental procedures.

### INTRODUCTION:

Some of the antibiotics are presented as prophylaxis of infective endocarditis in patients at risk with rheumatic, inherited or acquired heart disease who are undergoing invasive dental procedures. The prophylaxis is of a high importance in order to be reduced the risk of bacteraemia after dental procedures.

Our goal is to present the most commonly used prescriptions in dentistry to be in favor of dental practitioners when choosing the antibiotic prophylaxis for patients at risk.

### PRESCRIPTIONS:

#### ADULTS

Rp. Amoxicillin caps. 500 mg (Duomox, Amopen, Ospamox)

D.t.d. 4 caps.

S. 4 caps. (2 g) p.o., 1 hour before the dental procedure\*

Note: Standart prophylaxis scheme of infective endocarditis in adults and children > 30 kg

#### ADULTS WHO CANNOT TAKE ORAL MEDICATION

Rp. Ampicillin fl. 1 000 mg (Ampicillin, Standacillin)

D.t.d. 1 000 mg, diluted 1:4 in sterile saline solution

S. 2 g i.m.or i.v. 30 min before the dental procedure\*

#### ADULTS ALLERGIC TO PENICILLIN

Rp. Clindamycin caps. 300 mg (Dalacin C, Clindamycin MIP 300)

D.t.d. 2 caps

S. 2 caps p.o., 1 hour before the dental procedure\*

or

Rp. Cefadroxil caps. 500 mg (Biodroxil, Duracef)

D.t.d. 4 caps

S. 2 caps p.o., 1 hour before the dental procedure\*

Note: To be avoided in patients allergic to penicillin.

or

Rp. Azithromycin caps. 500 mg (Azatril, Azibiot, Sumamed)

D.t.d. 1 caps

S. 1 caps p.o., 1 hour before the dental procedure\*

\*Patients with high risk: half of the dose could be repeated 6 hours after the initial dose (exception is azithromycin, where a second dose is not necessary).

#### ADULTS ALLERGIC TO PENICILLIN AND CANNOT TAKE ORAL MEDICATION

Rp. Cefazolin fl. 1000 mg (Kefzol, Cefazolin)

D.t.d. 1 000 mg fl.

S. 1 000 mg i.m. or i.v. 30 min before the dental procedure\*

#### CHILDREN

Rp. Amoxicillin powder for oral suspension 125 mg/5 ml or 250 mg/5 ml (Amopen, Ospamox)

D.t.d. 60 ml fl.

S. 50 mg/kg p.o. 1 hour before the dental procedure\*

Note: Standart prophylaxis scheme of infective endocarditis in children >30 kg. The initial dose amoxicillin could be calculated according to patients body weight: < 15 kg, 750 mg; 15-30 kg, 1000 mg; >30 kg, 2000 mg

**CHILDREN ALLERGIC TO PENICILLIN**

Rp. Cefadroxil fl. powder for oral suspension 250 mg/5 ml (Duracef)

D.t.d. 60 ml fl.

S. 50 mg/kg p.o. 1 hour before the dental procedure

Note: To be avoided in patients allergic to penicillin

*or*

Rp. Azithromycin fl. powder for oral suspension 100 mg/ 5 ml or 200 mg/ 5 ml (Sumamed)

D.t.d. 20 ml fl.

S. 15 mg/kg p.o. 1 hour before the dental procedure

**CHILDREN ALLERGIC TO PENICILLIN AND CANNOT TAKE ORAL MEDICATION**

Rp. Cefazolin fl. 500 mg (Kefzol)

D.t.d. 500 mg fl.

S. 25 mg/kg g i.m. or i.v. 1 hour before the dental procedure

**PATIENTS WITH HIGH RISK**

Rp. Ampicillin fl. 1 000 mg (Ampicillin, Standacillin)

D.t.d. 1 000 mg fl., diluted 1:4 in sterile saline solution

S. 2 g i.m. or i.v. 30 min before the dental procedure

*together with*

Rp. Gentamycin fl. 40 mg/ml; 80 mg/2 ml (Gentamycin)

D.t.d. according to be body weight

S. 1.5 mg/kg (do not exceed 120 mg) i.m. or i.v. 30 min before the dental procedure

*6 hours later*

Ampicillin 1 000 mg/100 ml i.m. or i.v. or Amoxicillin 1 000 mg p.o.

**PATIENTS WITH HIGH RISK, ALLERGIC TO AMPICILLIN AND AMOXICILLIN**

Rp. Vancomycin fl. 1000 mg (Vancocin)

D.t.d. 1 000 mg

S. 1 000 mg i.v. to be applied for 1-2 hours.

*together with*

Rp. Gentamycin fl. 40 mg/ml; 80 mg/2 ml (Gentamycin)

D.t.d. according to the body weight

S. 1.5 mg/kg (do not exceed 120 mg) i.m. or i.v. 30 min before the dental procedure

**PATIENTS WITH RISK**

Rp. Amoxicillin caps. 500 mg (Duomox, Amopen, Ospamox)

D.t.d. 4 caps

S. 2 g p.o. 1 hour before the dental procedure\*

*together with*

Rp. Ampicillin fl. 1 000 mg (Ampicillin, Standacillin)

D.t.d. 2 fl. 1 000 mg

S. 2 g i.m. or i.v. 30 min before the dental procedure\*

**PATIENTS WITH RISK, ALLERGIC TO AMPICILLIN AND AMOXICILLIN**

Rp. Vancomycin fl. 1 000 mg (Vancocin)

D.t.d. 1 fl. 1 000 mg

S. 1 g to be applied slowly for about 1-2 hours i.v. 30 min before the dental procedure\*

**PATIENTS WITH HIGH RISK – CHILDREN**

Rp. Ampicillin fl. 1 000 mg (Ampicillin, Standacillin)

D.t.d. 2 fl. 1 000 mg

S. 50 mg/kg i.v. or i.m. (do not exceed 120 mg) 30 min before the dental procedure\*

*together with*

Rp. Gentamycin fl. 40 mg/ml; 80 mg/2 ml (Gentamycin)

D.t.d. according to the body weight

S. 1,5 mg/kg (do not exceed 120 mg) i.m. or i.v. 30 min before the dental procedure.

*6 hours later*

Ampicillin 25 mg/kg i.m. or i.v. or Amoxicillin 25 mg/kg p.o.

**PATIENTS WITH HIGH RISK - CHILDREN, ALLERGIC TO AMPICILLIN AND AMOXICILLIN**

Rp. Vancomycin fl. 1000 mg (Vancocin)

D.t.d. 1 fl. 1 000 mg

S. 20 mg/kg i.v. to be applied for 1-2 hours.

*together with*

Rp. Gentamycin fl. 40 mg/ml; 80 mg/2 ml (Gentamycin)

D.t.d. according to the body weight

S. 1,5 mg/kg (do not exceed 120 mg) i.m. or i.v. 30 min before the dental procedure.

**PATIENTS WITH RISK – CHILDREN**

Rp. Ampicillin fl. 1 000 mg (Ampicillin, Standacillin)

D.t.d. 1 fl. 1 000 mg

S. 50 mg/kg i.m. or i.v. 30 min before the dental procedure.\*\*

**PATIENTS WITH RISK – CHILDREN,  
ALLERGIC TO AMPICILLIN AND AMOXICILLIN**

Rp. Vancomycin fl. 1000 mg (Vancocin)

D.t.d. 1 fl. 1 000 mg

S. 20 mg/kg i.v. to be applied for about 1-2 hours  
30 min before the dental procedure. ++

++Total dose for children should not exceed the dose  
for adults.

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**REFERENCES:**

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Treatments for endocarditis include antibiotics and, in certain cases, surgery. Since there are many ways to develop endocarditis, your doctor might not be able to pinpoint the exact cause of your condition. However, people at greatest risk of endocarditis usually have damaged heart valves, artificial heart valves or other heart defects. Some dental procedures that can cut your gums may allow bacteria to enter your bloodstream. Bacteria can more easily attach to the lining of your heart (endocardium), if the lining's surface is rough. In endocarditis, clumps of bacteria and cell fragments form in your heart at the site of the infection. These clumps, called vegetations, can break loose and travel to your brain, lungs, abdominal organs, kidneys or limbs. Dental procedures that involve manipulation of gingival tissue, manipulation of the periapical region of teeth, or perforation of the oral mucosa\*. Vaginal delivery. 1. Patients with prosthetic cardiac valves. (A) Integrated imaging strategy in patients with suspected infective endocarditis (IE). In the challenging subgroup of patients with possible IE after initial evaluation by transthoracic echocardiography and transesophageal echocardiography (TEE), cardiac CT imaging, metabolic imaging, or cross-sectional imaging of the head and viscera by CT scanning or magnetic resonance imaging (MRI) may help to reach an early definite diagnosis. Procedures in patients with bacterial. Endocarditis. Adriana Krasteva. Prophylaxis against infective endocarditis Antimicrobial prophylaxis against infective endocarditis in adults and children undergoing interventional procedures. Nice Clinical guideline 64, Developed by the Center for Clinical Practice at NICE. Jan 2008. The Internet Journal of Dental Science. 2009; 7 4. Prophylaxis against infective endocarditis. Antimicrobial prophylaxis against infective endocarditis in adults and children undergoing interventional procedures. Nice Clinical guideline 64, Developed by the Center for Clinical Practice at NICE 2008. Vancomycin fl.