

## ANTIBIOTIC PROPHYLAXIS FOR THE PREVENTION OF INFECTIVE ENDOCARDITIS

Adapted from the American Heart Association (AHA) 2007 guidelines, the European Society of Cardiology (ESC) 2009 guidelines, and the UK National Institute for Health and Clinical Excellence (NICE) 2008 guidelines.

Cardiac conditions for which antibiotic prophylaxis is recommended:

- Prosthetic cardiac valve or prosthetic material used for cardiac valve repair
- Previous infective endocarditis
- Certain congenital heart disease (CHD)\*
  - Unrepaired cyanotic CHD, including palliative shunts and conduits
  - Completely repaired CHD with prosthetic material or device, whether placed by surgery or catheter intervention, during the first 6 months post-procedure
  - Repaired CHD with residual defects at the site or adjacent to the site of a prosthetic patch or prosthetic device (which inhibit endothelialisation), by cardiac surgery or percutaneous technique
- Cardiac transplant recipients who develop cardiac valvulopathy
- Except for the conditions listed above, antibiotic prophylaxis is no longer recommended for other forms of CHD.

Cardiac conditions for which antibiotic prophylaxis is reasonable:

- Left sided valvular lesions
  - Aortic stenosis
  - Aortic regurgitation
  - Mitral stenosis
  - Mitral regurgitation

## Type of Procedures

Prophylaxis Recommended	Prophylaxis Not Recommended
<p>Dental Procedures:</p> <ul style="list-style-type: none"> <li>• All dental procedures requiring manipulation of the gingival or periapical region of the teeth or perforation of the oral mucosa</li> </ul>	<p>Dental procedures:</p> <ul style="list-style-type: none"> <li>• Routine anaesthetic injections through non-infected tissue</li> <li>• Placement of removable prosthodontic or orthodontic appliances</li> <li>• Shedding of deciduous/primary teeth</li> </ul> <p>Bleeding from trauma to the lips or oral mucosa</p>
<p>Respiratory Tract Procedures:</p> <ul style="list-style-type: none"> <li>• Invasive procedures of the respiratory tract that involves incision or biopsy of the respiratory mucosa, such as adenotonsillectomy</li> <li>• Invasive procedure to treat an established infection, such as drainage of an abscess or empyema</li> </ul>	<p>Respiratory tract procedures:</p> <ul style="list-style-type: none"> <li>• Endotracheal intubation</li> <li>• Bronchoscopy</li> </ul> <p>Tympanostomy tube insertion</p>
<p>Procedures involving infected skin, skin structure or musculoskeletal tissue</p>	<p>Gastrointestinal or genitourinary tract procedures (unless there is an established infection)</p>
	<p>Others:</p> <ul style="list-style-type: none"> <li>• Cardiac catheterization, including balloon angioplasty</li> </ul>

- Implanted cardiac pacemakers, implanted defibrillators, and coronary stents
- Incision or biopsy of surgically scrubbed skin
- Circumcision

**Antibiotic Regimens** (taken from AHA 2007 guidelines)

Situation	Agent	Regimen: single dose 30-60 min before procedure	
		Adults	Children
Oral	Amoxicillin	2g	50 mg/kg
Unable to take oral	Amoxicillin	2g IV or IM	50 mg/kg IV or IM
	OR Cefazolin or ceftriaxone	1g IV or IM	50 mg/kg IV or IM
Allergic to penicillin or ampicillin – oral	Cephalexin*†	2g	50 mg/kg
	OR Clindamycin	600mg	20 mg/kg
	OR Azithromycin/ Clarithromycin	500mg	15mg/kg
Allergic to penicillins or ampicillin and unable to take oral medication	Cefazolin or ceftriaxone†	1g IV or IM	50 mg/kg IV or IM
	OR Clindamycin	600mg IV or IM	20 mg/kg IV or IM
IV indicates intravenous route, IM indicates intramuscular route.			

- \* Or other first- or second-generation cephalosporin in equivalent adult or paediatric dosage
- † Cephalosporins should not be used in an individual with a history of anaphylaxis, angioedema or urticarial with penicillins or ampicillin

## References

1. Wilson W, Taubert KA, Gewitz M, Lockhart PB, Baddour LM, Levison M, et al. Prevention of infective 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 and Outcomes Research Interdisciplinary Working Group. *Circulation* 2007;116:1736-54.
2. Habib G, Hoen B, Tornos P, Thuny F, Prendergast B, Vilacosta I, et al. Guidelines on the prevention, diagnosis, and treatment of infective endocarditis (new version 2009): the Task Force on the Prevention, Diagnosis, and Treatment of Infective Endocarditis of the European Society of Cardiology (ESC). *Eur Heart J* 2009;30:2369-413.
3. Richey R, Wray D, Stokes T: Guideline Development Group. Prophylaxis against infective endocarditis: summary of NICE guidance. *BMJ* 2008;336:770-1.