

Appendix 1: Antibiotic prophylaxis for surgical procedures

Antibiotic prophylaxis for Cardiovascular Procedures

Surgery / Procedure	Regimen
<p>PERMANENT PACEMAKER AND CARDIOVERTER DEFIBRILLATOR IMPLANTATION</p> <p>Hypersensitivity to penicillins or cephalosporins</p> <p>In patients known to be colonised with MRSA or at high risk of MRSA</p> <p>Subsequent doses are NOT usually required</p>	<p>Flucloxacillin 1g IV as a single dose at induction</p> <p>Clindamycin 600mg IV as a single dose at induction</p> <p>Teicoplanin 600mg IV as a single dose at induction</p>
<p>TEMPORARY PACING WIRE IMPLANTATION</p>	<p>Teicoplanin 600mg IV as a single dose at induction, followed by two further doses of 600mg at 12-hours followed by 600mg 24-hourly until permanent pacing wire is situated or temporary pacing wire is removed</p>
<p>TRANSCATHETER AORTIC VALVE REPLACEMENT</p> <p>Patients with renal impairment (CrCl < 50mL/min) <i>Lower doses may be required in patients with severe renal impairment CrCl < 10mL/min</i></p>	<p>Single dose Teicoplanin 600mg IV at induction [preferably 20min before incision] Plus Single dose Gentamicin 160mg IV [240mg if over 90Kg] at induction (ensure patient does not have any renal impairment]</p> <p>Cefuroxime 1.5g plus 2 further doses at 8 and 16 hours post-op</p>

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<p>CARDIO-THORACIC SURGERY</p> <p>Hypersensitivity to penicillins / In patients known to be colonised with MRSA</p> <p><i>**patients with severe renal impairment CrCl <10mL/min</i></p> <p><i>**Patients for thoracic surgery with existing active infection</i></p>	<p>Gentamicin IV 3mg/kg as a single dose at induction plus Flucloxacillin IV 1g as a single dose at induction, followed by 3 further doses of flucloxacillin 1g at 6, 12 and 18hours post op</p> <p>Gentamicin IV 3mg/kg as a single dose at induction plus Teicoplanin IV 800mg as a single dose at induction</p> <p>Discussed with microbiologist for an individualised plan</p> <p>Discussed with microbiologist for an individualised plan</p>
<p>Consultant cardiac surgeons may choose to use a 2nd dose of gentamicin on day 2 post op. However this should be a clinical decision and following obtaining a gentamicin trough level <1mg/l (sample collected between 18-24hours after 1st dose) before administering the 2nd dose.</p>	

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Prophylaxis against infective endocarditis

In March 2008, NICE issued guidance on antimicrobial prophylaxis against infective endocarditis in adults and children undergoing interventional procedures.

Antibiotic prophylaxis has not been proven to be effective and there is no clear association between episodes of infective endocarditis and interventional procedures. Any benefits from prophylaxis need to be weighed against the risks of adverse effects for the patient and of antibiotic resistance developing. As a result, **NICE have recommended that antibiotic prophylaxis is no longer offered routinely for defined interventional procedures.**

When to offer prophylaxis

Do **NOT** offer antibiotic prophylaxis against infective endocarditis:

- To people undergoing dental procedures
- To people undergoing non-dental procedures at the following sites:
- Lower and upper gastrointestinal tract
- Genitourinary tract; this includes urological, gynaecological and obstetric procedures and childbirth
- Upper and lower respiratory tract; this includes ear, nose and throat procedures and bronchoscopy.

Do **NOT** offer chlorhexidine mouthwash as prophylaxis against infective endocarditis to people at risk undergoing dental procedures.

Whilst these procedures can cause bacteraemia, there is no clear association with the development of infective endocarditis. Prophylaxis may expose patients to the adverse effects of antimicrobials when the evidence of benefit has not been proven.

Managing infection

Any infection in patients at risk of endocarditis should be **investigated promptly and treated appropriately** to reduce the risk of endocarditis.

If patients at risk of endocarditis are undergoing a gastro-intestinal or genitourinary tract procedure at a site where infection is suspected, they should receive appropriate antibacterial therapy that includes cover against organisms that cause endocarditis.

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Advice

Offer people at risk of infective endocarditis clear and consistent information about prevention including:

- The benefits and risks of antibiotic prophylaxis, and an explanation of why antibiotic prophylaxis is no longer recommended
- The importance of maintaining good oral health
- Symptoms that may indicate infective endocarditis and when to seek expert advice
- The risks of undergoing invasive procedures, including non-medical procedures such as body piercing or tattooing

The following cardiac conditions are at risk of developing infective endocarditis:

- Acquired valvular heart disease with stenosis or regurgitation
- Valve replacement
- Patients with a prosthetic cardiac valve
- Structural congenital heart disease including:
 - Unrepaired cyanotic CHD, including palliative shunts and conduits
 - Completely repaired congenital heart defect with prosthetic material or device, whether placed by surgery or by catheter intervention, during the first 6 months after the procedure (i.e. pre-endothelialisation)
 - Repaired CHD with residual defects at the site or adjacent to the site of a prosthetic patch or prosthetic device (which inhibit endothelialisation)
- Hypertrophic cardiomyopathy
- Patients with previous infective endocarditis
- Cardiac transplantation recipients who develop cardiac valvulopathy

If prophylaxis is considered appropriate for individual patients, please choose from one of the regimens below:

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<p>PROPHYLAXIS AGAINST INFECTIVE ENDOCARDITIS</p> <p>Serious allergy to penicillins/allergy to cephalosporins</p> <p>Patients with renal impairment (CrCl < 50mL/min)</p> <p>In patients known to be colonised with MRSA or at high risk of MRSA</p> <p>In patients known to be colonised with MRSA or at high risk of MRSA with renal impairment (CrCl < 50mL/min)</p>	<p>Amoxicillin 1g IV as a single dose at induction PLUS Gentamicin 3mg/kg IV as a single dose at induction</p> <p>Teicoplanin 600mg IV as a single dose at induction PLUS Gentamicin 3mg/kg IV as a single dose at induction</p> <p>Cefuroxime 1.5g IV as a single dose at induction</p> <p>Teicoplanin 600mg IV as a single dose at induction PLUS Gentamicin 3mg/kg IV as a single dose at induction</p> <p>Teicoplanin 600mg IV as a single dose at induction PLUS Cefuroxime 1.5g IV as a single dose at induction</p>