

Adult Antibiotic Prophylaxis in Permanent Pacemaker Insertion/ Implantable Cardiac Devices

General Principles of Prescribing for Surgical Prophylaxis

1. **Indication for prophylaxis** should comply with SIGN 104 guideline i.e when ‘highly recommended’, ‘recommended’ or ‘considered’ within guideline.
2. **Choice of agent:**
 - Adhere to recommended agent in table below where possible
 - Recommendations restrict the use of cephalosporins, clindamycin, quinolones and co-amoxiclav and use narrow spectrum agents where possible
 - Take recent culture results/antibiotic therapy and additional patient risk factors into account eg. morbid obesity, multiple previous surgeries, prosthetic material, diabetes. Discuss with Infection Specialist in a timely manner prior to surgery if multidrug resistance eg. Carbapenemase producing enterobacteriaceae (CPE) isolated
 - Check allergy status of patient including nature of allergy prior to prescribing
3. **Recording of antibiotic** on “once only” section of drug cardex and on Anaesthetic Record Sheet.
4. **Timing of antibiotic:**
 - ❖ Optimum timing of IV antibiotics is ≤60 minutes prior to skin incision, usually at induction of anaesthesia
 - ❖ Antimicrobial cover may be sub-optimal if given > 1 hour prior to skin incision or post skin incision
5. **Frequency of administration** should be single dose only unless:
 - ❖ Operation Prolonged (see re-dosing guidance table)
 - ❖ >1.5 litre intra-operative blood loss –Re-dose following fluid replacement (see re-dosing guidance table)
 - ❖ Specifically stated in following guideline

Document in the medical notes the indication for antibiotic administration beyond 1st dose.
6. **Arrangements for MRSA and MSSA positive patients**
 - ❖ MRSA positive: Decolonisation therapy should be used prior to elective surgery and antimicrobial prophylaxis should include cover for MRSA See NHSL Policy for management of patients colonised or infected with MRSA.
 - ❖ MSSA positive: Decolonisation therapy should be used prior to elective procedures where MSSA screening is in operation

Recommended Agents in Permanent Pacemaker Insertion/Implantable Cardiac Devices

Procedure	Recommended Prophylaxis (Suitable in Penicillin Allergy)	SIGN 104 recommendations/other comments
Insertion of permanent pacemaker/ implantable cardiac devices	¹ Teicoplanin IV 400mg if <65kg or 800mg if ≥65kg	Patients at high risk of infection (immunocompromised, diabetics, previous PPM infection, presence of temporary pacing line) can receive gentamicin IV (max 1mg/kg) at operator’s discretion in addition to teicoplanin IV.

¹If treatment course required after teicoplanin prophylaxis convert to vancomycin (dose according to NHSL treatment protocol with 1st dose 12 hours after teicoplanin). Clinicians should be aware of potential for allergic reactions to teicoplanin

IV Antibiotic Administration and Re-dosing Guidance

- ❖ Antibiotics should be given as a bolus injection where possible
- ❖ All re-dosing guidance based on pre-op eGFR>59ml/min/1.73²; if renal impairment present consult individual drug product literature

Antibiotic	Dose	Administration	Prolonged Surgery	>1.5L blood loss - Re-dose after fluid replacement
Teicoplanin 400mg vial	400mg if patient weight <65kg or 800mg if ≥65kg	Re-constitute slowly with 3.14ml ampoule of water for injection provided and roll gently until dissolved. If foamy, stand for 15 minutes until foam subsides then give EACH vial by slow IV injection over 3-5 minutes.	DO NOT re-dose	200mg if patient weight <65kg or 400mg if ≥65kg
Gentamicin 80mg/2ml vial	1mg/kg	No dilution required. Give by slow IV injection over 3-5 minutes.	If pre-op eGFR>59ml/min, re-dose at half prophylaxis dose after 8 hours	If repeat eGFR>59ml/min, re-dose at half prophylaxis dose