

ADULT ANTIBIOTIC PROPHYLAXIS IN PERMANENT PACEMAKER INSERTION/ IMPLANTABLE CARDIAC DEVICES

General Principles of Prescribing for Surgical Prophylaxis

- Indication for prophylaxis has been based on the [Scottish Antimicrobial Prescribing Group \(SAPG\) Good Practice Recommendations for Surgical Prophylaxis](#) (2022) and guided by national and local practice.
- 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.
 - If fluoroquinolones are prescribed, see [MHRA guidance on Clinical Guidelines webpage](#).
- Recording of antibiotic as 'STAT' on HEPMA and on Anaesthetic Record Sheet.
- 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.
- 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.
- Arrangements for MRSA and MSSA positive patients
 - MRSA positive: Decolonisation therapy should be used prior to elective surgery and antimicrobial prophylaxis should 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.

Adult Antibiotic Prophylaxis in Permanent Pacemaker Insertion/ Implantable Cardiac Devices

Recommended Agents in Permanent Pacemaker Insertion/ Implantable Cardiac Devices

Procedure	Recommended Prophylaxis (Suitable in Penicillin Allergy)
Insertion of permanent pacemaker / Implantable cardiac devices	Teicoplanin IV 400mg if < 65kg or 800mg if ≥ 65kg

- Vancomycin may be used as alternative to teicoplanin prophylaxis at a dose of 1g IV.
- If 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 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 Creatinine Clearance (CrCL) 60mL/min; if renal impairment present consult individual drug product literature.

Antibiotic	Dose	Administration	Prolonged surgery Procedure duration (from 1 st antibiotic dose)		>1.5L blood loss – Re-dose after fluid replacement
			Over 4 hours	Over 8 hours	
Teicoplanin	400mg if patient weight <65kg or 800mg ≥65kg	IV 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 (long half-life)	Do not re-dose (long half-life)	Give half original dose if >1.5L blood loss within first hour of operation

References

- British National Formulary (BNF). Accessed at: <https://bnf.nice.org.uk/drugs/>
- Electronic Medicines Compendium (EMC). Accessed at: <https://www.medicines.org.uk/emc/>
- NHS Injectable Medicines Guide (MEDUSA). Accessed at: <https://www.medusaimg.nhs.uk/>
- Scottish Antimicrobial Prescribing Group (SAPG) Good Practice Recommendations for Surgical Prophylaxis (October 2022). Access at: <https://www.sapg.scot/guidance-qi-tools/good-practice-recommendations/surgical-prophylaxis/>