ADULT ANTIBIOTIC PROPHYLAXIS IN BREAST SURGERY

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 where appropriate.

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.

Decolonisation therapy should be used prior to elective surgery if patient MRSA positive and antimicrobial prophylaxis should include cover for MRSA.

- See NHSL Policy for management of patients colonised or infected with MRSA.

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Recommended Agents in Breast Surgery

Dosing specified based on CrCL >60ml/min; if renal impairment consult individual drug product literature.

Procedure	1st Choice	MRSA positive or True/Severe penicillin allergy	Comments
Breast cancer surgery	Consider Flucloxacillin 1g IV	Consider Teicoplanin IV 400mg if <65kg or 800mg if ≥65kg	Prophylaxis should be considered
Breast reshaping procedures	Consider Flucloxacillin 1g IV	Consider Teicoplanin IV 400mg if <65kg or 800mg if ≥65kg	Prophylaxis should be considered
Breast surgery with implant	Co-amoxiclav 1.2g IV	Teicoplanin IV 400mg if <65kg or 800mg if ≥65kg + Metronidazole 500mg IV	Recommended
Breast duct excision in previous abscess/duct fistula	Co-amoxiclav 1.2g IV	Teicoplanin IV 400mg if <65kg or 800mg if ≥65kg + Metronidazole 500mg IV	Review previous microbiology

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 product literature.

Antibiotic	Dose	Administration	Prolonged surgery Procedure duration (from 1st antibiotic dose)		>1.5L blood loss – Re-dose after fluid replacement
			Over 4 hours	Over 8 hours	
Co-amoxiclav	1.2g	**IV** Re-constitute 1.2g vial with 20ml of water for injection and give by slow IV injection over 3-4 minutes.	Repeat 1.2g	Repeat 1.2g (again)	Repeat 1.2g
Flucloxacillin	1g	**IV** Re-constitute 1g vial with 20mL of water for injection and give by slow IV injection over 3-4 minutes.	Repeat 1g	Repeat 1g (again)	Repeat 1g
Metronidazole	500mg	**IV** Already diluted. Give by IV infusion over at least 20 minutes.	Not required	Repeat 500mg	Repeat 500mg
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

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References

- Association of Breast Surgery, Summary Statement: Antibiotic Prophylaxis in Breast Surgery (November 2015). Accessed at: https://associationofbreastsurgery.org.uk/media/64256/final-antibiotic-prophylaxis.pdf
- 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). Accessed at: https://www.sapg.scot/guidance-qi-tools/good-practice-recommendations/surgical-prophylaxis/