ADULT ANTIBIOTIC PROPHYLAXIS IN HEAD AND NECK SURGERY

NHS Lanarkshire

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
- 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 Head and Neck Surgery

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

Procedure	1st Choice	If True/Severe Penicillin Allergy	If MRSA Positive	Comments
Head and neck (contaminated/ clean-contaminated)	Co-amoxiclav 1.2g IV	Clarithromycin 500mg IV + Metronidazole 500mg IV	Clarithromycin 500mg IV + Metronidazole 500mg IV + Teicoplanin IV 400mg if <65kg or 800mg if ≥65kg	
Head and neck (clean)	Not routine	Not routine	Not routine	Not recommended for benign surgery. Should be considered for malignant surgery or neck dissection
Stapedectomy ear surgery	Not routine	Not routine	Not routine	Not recommended
Grommet insertion	Ciprofloxacin 2mg/mL ear drops 2 drops as a one off dose after insertion			Local recommendation
Tonsillectomy (16+ years)	Co-amoxiclav 1.2g IV	Clarithromycin 500mg IV	Clarithromycin 500mg IV + Teicoplanin IV 400mg if <65kg or 800mg if ≥65kg	Local recommendation
Adenoidectomy, nose, sinus and endoscopic surgery	Not routine	Not routine	Not routine	Not recommended
Complex septorhinoplasty	Co-amoxiclav 1.2g IV	Clarithromycin 500mg IV + Metronidazole 500mg IV	Clarithromycin 500mg IV + Metronidazole 500mg IV + Teicoplanin IV 400mg if <65kg or 800mg if ≥65kg	The duration of prophylaxis should not be greater than 24 hours
Facial plastic surgery with implant	Flucloxacillin 1g IV	Teicoplanin IV 400mg if <65kg or 800mg if ≥65kg	Teicoplanin IV 400mg if <65kg or 800mg if ≥65kg	Should be considered
Facial surgery (clean)	Not routine	Not routine	Not routine	Not recommended

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.

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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	
Clarithromycin	500mg	**IV** Re-constitute 500mg vial with 10ml of water for injection then give by IV infusion in 250ml glucose 5% or sodium chloride 0.9% over 60 minutes into a large proximal vein.	Not required	Repeat 500mg	Repeat 500mg
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 if ≥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.	Not required; DO NOT re-dose – long half life	Not required; 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/

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