

ANTIBIOTIC PROPHYLAXIS IN ENT PROCEDURES

The aim of surgical prophylaxis is to reduce rates of surgical site and healthcare-associated infections and so reduce surgical morbidity and mortality. There is however growing evidence that aspects of prescribing practice may themselves be associated with health-care associated infections and antimicrobial resistance. The [Scottish Antimicrobial Prescribing Group \(SAPG\)](#), along with the Scottish Government, monitors antimicrobial prescribing including surgical prophylaxis in order to reduce the rates of resistance and *C.difficile*. SIGN guideline 104 published in July 2008, and updated in April 2014, has outlined which surgical procedures require prophylactic antibiotics based on a review of the available evidence. Principles of prophylaxis have also been outlined, including timing and duration of antibiotic administration. In conjunction with the surgical specialties within NHS Tayside the Antimicrobial Management Group has undertaken to review local prophylaxis policy and to formulate a uniform policy.

Principles of Antibiotic Prophylaxis Policy

1. **Indication for prophylaxis** should comply with SIGN 104 guideline i.e. when 'highly recommended', 'recommended' or 'considered' within guideline.
2. **Timing of antibiotic(s):**
 - Optimum timing is intravenous dose given or infusion completed ≤ 60 minutes prior to skin incision
 - Sub-optimal if >1 hour prior to skin incision or post-skin incision
3. **Recording of antibiotic** prescription in 'once only' section of medicine chart to avoid multiple dosing
4. **Frequency of administration** should be single dose only unless:
 - > 1.5 litres intra-operative blood loss - re-dose following fluid replacement (see administration guidance table)
 - operation prolonged (see administration guidance table)
 - specifically stated in following guidelines
5. **Documentation in medical notes** of reason for antibiotic administration beyond single dose or state intention for antibiotic treatment course
6. **Choice of agent** should:
 - Avoid cephalosporins, clindamycin, quinolones and co-amoxiclav wherever possible
 - Use narrow spectrum agents when possible
 - Provision of alternatives for beta-lactam allergy
7. **De-colonisation therapy** prior to surgery when MRSA positive when recommended in Infection Prevention and Control Policies
8. **Complex individual prophylaxis** issues should be discussed with Microbiology or Infectious Diseases pre-operatively and recorded in medical notes
9. **Compliance with local policy** is required and monitored by NHS Tayside. Any deviation from policy must be recorded in the appropriate medical records.

IV Antibiotic Administration Guidance:

Antibiotic	Dose	Administration	Prolonged Surgery Time from administration of initial dose	>1.5L blood loss redose after fluid replacement
Co-amoxiclav	1.2g	Bolus over 3-5 minutes	1.2g to repeated every 4 hours	1.2g
Cefuroxime	1.5g	Bolus over 3-5 minutes	1.5g to be repeated every 4 hours	1.5g
Metronidazole	500mg	Infusion over 20 minutes	Redose 500mg if surgery > 8 hours	500mg

HEAD and NECK Procedure	SIGN 104 Recommendation	Antibiotic(s)	Comments
Clean, Benign e.g. tonsillectomy, adenoidectomy, ear surgery, routine nose, sinus and endoscopic sinus surgery	Not Recommended		
Clean, Malignant e.g. neck dissection	Consider Prophylaxis	No prophylaxis used locally	
Contaminated, Clean contaminated e.g. laryngectomy, complex septorhinoplasty	Recommended Not >24 hours, ensure broad spectrum aerobic + anaerobic cover provided	Co-amoxiclav 1.2g IV for 3 doses Penicillin allergy: IV cefuroxime 750mg - 1.5g + metronidazole 500mg for 3 doses	
Grommet Insertion	Recommended	Ciprofloxacin 0.3% eye drops (off label use)	Single topical dose after grommets inserted.

Developed by: ENT/AMG 2013
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References:

- SAPG Good Practice Recommendations for Surgical and Procedural Antibiotic Prophylaxis in Adults in NHS Scotland. <https://www.sapg.scot/media/4109/good-practice-recommendations-for-surgical-and-procedural-antibiotic-prophylaxis-in-adults-in-nhs-scotland.pdf> [Accessed September 2021]
- SAPG Recommendations for Re-dosing Antibiotics for Surgical Prophylaxis. <https://www.sapg.scot/media/4105/good-practice-recommendations-for-re-dosing-antibiotics-for-surgical-prophylaxis.pdf> [Accessed September 2021]