

General Principles of Prescribing Antibiotics for Surgical Prophylaxis

1. **Timing.** Antibiotics should be administered, or infusion completed within 60 minutes before the procedure or skin incision.
2. **Document** doses in the “once only” section of the paper drug administration chart or as STAT orders on HEPMA.
3. **A single dose** of antibiotic is recommended. Exceptions are outlined in individual protocols.
4. **No dose adjustment** in renal or hepatic impairment is required unless indicated.
5. **Repeat dosing** may be required if the operation is prolonged (see table below for re-dosing guidance for individual antibiotics):
 - The repeat dose is given at the recommended interval from the time the initial dose was administered.
 - Intra-operative blood loss >1.5L. Re-dose following fluid replacement/blood transfusion.
6. **Discuss** patients with microbiologist at pre-op assessment for complex issues including:
 - Carriage of, or previous infection with resistant organisms other than MRSA.
 - Where eGFR is <20ml/min for alternatives to gentamicin.
 - Gentamicin is contra-indicated in patients with myasthenia gravis.
7. **MRSA.** See intranet for MRSA infection control policy on de-colonisation prior to surgery.
8. **Teicoplanin and gentamicin** are incompatible when mixed directly, therefore always flush between administrations.

Procedure	Recommended	Penicillin allergy OR MRSA
Parotidectomy; salivary gland surgery; excision mandibular cyst (clean/contaminated)	Co-amoxiclav 1.2G IV	Teicoplanin 800mg IV (600mg if weight <60kg) PLUS Metronidazole 500mg IV
Open reduction and internal fixation of compound mandibular fractures*	Co-amoxiclav 1.2G IV	Teicoplanin 800mg IV (600mg if weight <60kg) PLUS Metronidazole 500mg IV
TMJ joint replacement	Co-amoxiclav 1.2G IV, repeated at 8 hours and 16 hours	Teicoplanin 800mg IV (600mg if weight <60kg) PLUS Metronidazole 500mg IV, repeated at 8 hours and 16

Agreed by NHS Lothian Antimicrobial Management Committee (Sept 24) in consultation with clinical management team for Oral and Maxillofacial Surgery.

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Microbiologists: Pota Kalima, Simon Dewar

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Procedure	Recommended	Penicillin allergy OR MRSA
		hours
Orbital or zygoma fractures open or implant Le fort 1 and 2 fractures Le fort 3 (with no skull fracture)	Co-amoxiclav 1.2G IV, repeated at 8 hours and 16 hours	Teicoplanin 800mg IV (600mg if weight <60kg) PLUS Metronidazole 500mg IV, repeated at 8 hours and 16 hours
Orthognathic surgery (maxillary advancement, osteotomy)*	Co-amoxiclav 1.2G IV, repeated at 8 hours and 16 hours	Teicoplanin 800mg IV (600mg if weight <60kg) PLUS Metronidazole 500mg IV, repeated at 8 hours and 16 hours
Facial surgery with implant*	Co-amoxiclav 1.2G IV, repeated at 8 hours and 16 hours	Teicoplanin 800mg IV (600mg if weight <60kg) PLUS Metronidazole 500mg IV, repeated at 8 hours and 16 hours
Neck dissection alone (no tissue transfer)	Co-amoxiclav 1.2G IV, repeated at 8 hours and 16 hours	Teicoplanin 800mg IV (600mg if weight <60kg) PLUS Metronidazole 500mg IV, repeated at 8 hours and 16 hours
Head and neck cancer surgery with free tissue transfer and neck dissection*	Co-amoxiclav 1.2G IV, repeated 8 hourly for 24 hours. THEN Co-amoxiclav 625mg 8 hourly orally/NG for 2 further days. (Continue IV if enteral route unavailable.)	Teicoplanin 800mg IV (600mg if weight <60kg) PLUS Gentamicin IV (dose as per table) THEN Doxycycline 200mg orally for 2 days (if MRSA check doxycycline susceptible) (If enteral route unavailable: Vancomycin IV (dose using calculator; target trough 10-15mg/L)

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Procedure	Recommended	Penicillin allergy OR MRSA
Intraoral bone grafting procedures*	Co-amoxiclav 1.2G IV, repeated 8 hourly for 24 hours. THEN Co-amoxiclav 625mg 8 hourly orally/NG/peg /jej, for 2 further days. (Continue IV if enteral route unavailable.)	Teicoplanin 800mg IV (600mg if weight <60kg) PLUS Gentamicin IV (dose as per table) THEN Doxycycline 200mg orally/ng/peg/jej, for 2 days (if MRSA check doxycycline susceptible) (If enteral route unavailable: Vancomycin IV (dose using calculator; target trough 10-15mg/L)
Complex wisdom teeth extraction; if under GA	Co-amoxiclav 1.2G IV	Teicoplanin 400mg IV
Routine dental alveolar surgery e.g. wisdom tooth extraction	Nil	Nil
EUA & Panendoscopy/ Biopsies	Nil	Nil
Head and Neck Surgery (Clean, benign)	Nil	Nil
Facial surgery clean	Nil	Nil

*Indicates procedures likely to be longer than 4 hours – consider need to re-dose intra-operative antibiotics. See table [IV antibiotic administration and re-dosing guidance](#)

Intra-operative sampling for microbiology:

Samples of pus are preferred to swabs. A minimum volume of 1mL of pus should be submitted. Collect samples in plain sterile universal containers and place in sealed plastic bag. Swabs are not the optimal sample type. However, if received, swabs should be well soaked in pus. Sample the deepest part of the wound, avoiding superficial microflora, and clean the site before sampling. See NHS Laboratory website for laboratory details [Test Directory | Edinburgh and Lothians Laboratory Medicine \(edinburghlabmed.co.uk\)](#).

Gentamicin surgical prophylaxis dosing table:

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Height is used to estimate ideal body weight, dosing equates to approximately 3mg/kg capped at 300mg.

* When height <5-foot use actual body weight to calculate gentamicin dose.

FEMALE		
Height (Feet/Inches)	Height (cm)	Gentamicin dose
<5'	<152	*3mg/kg (max 300mg)
5' - 5'3"	152 - 163	160 mg
>5'3" - 5'8"	>163 - 175	200 mg
>5'8" - 6'1"	>175 - 188	240 mg
>6'1" - 6'4"	>188 - 193	280 mg
>6'4"	>193	300mg

MALE		
Height (Feet/Inches)	Height (cm)	Gentamicin dose
<5'	<152	*3mg/kg (max 300mg)
5' - 5'1"	152 - 155	160 mg
>5'1" - 5'6"	>155 - 168	200 mg
>5'6" - 5'11"	>168 - 180	240 mg
>5'11" - 6'4"	>180 - 193	280 mg
>6'4"	>193	300mg

IV antibiotic administration and re-dosing guidance

Antibiotic	Administration	Re-dosing advice: prolonged surgery	Re-dosing advice: >1.5L blood loss
Co-amoxiclav	Bolus over 3-5 minutes	Repeat original dose every 4 hours if needed. (Maximum of 4 intra-operative doses)	Repeat original dose
Gentamicin 3mg/kg	Bolus over 3-5 minutes	Give half original dose 8 hours after initial dose if eGFR > 60 ml/min	Give half original dose
Metronidazole	Infuse over 20 minutes	Repeat dose after 8 hours	Repeat original dose
Teicoplanin	Bolus over 3-5 minutes	Re-dosing not required	Give half original dose if ≥1,500 mL blood loss within first hour of operation

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