

General Principles of Prescribing Antibiotics for Surgical Prophylaxis

- Timing.** Antibiotics should be administered, or infusion completed within 60 minutes before the procedure or skin incision.
- Document** doses in the "once only" section of the paper drug administration chart (the kardex) or as STAT orders on HEPMA.
- A single dose** of antibiotic is recommended. Exceptions are outlined in individual protocols.
- No dose adjustment** in renal or hepatic impairment is required unless indicated.
- 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.
- 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.
- MRSA.** See intranet for MRSA infection control policy on de-colonization prior to surgery.
- Teicoplanin and gentamicin** are incompatible when mixed directly, therefore always flush between administrations.

Procedure	Recommended	Penicillin allergy or MRSA
Colorectal surgery	Gentamicin IV (dose as per table)	Gentamicin IV (dose as per table)
	AND	AND
	Metronidazole 500mg IV	Metronidazole 500mg IV
	AND	AND
	Amoxicillin 1g IV	Teicoplanin 400mg IV

Gentamicin surgical prophylaxis dosing table

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
Amoxicillin	Bolus over 3-5 minutes	Repeat original dose (every) 4 hours	Repeat original dose
Gentamicin	Bolus over 3-5 minutes	Repeat half original dose 8 hours after initial dose if eGFR >60	Repeat half original dose
Metronidazole	Infuse over 20 minutes	Repeat original dose after 8 hours	Repeat original dose
Teicoplanin	Bolus over 3-5 minutes	No re-dosing required	200mg (half original dose), if ≥ 1.5L blood loss within first hour of operation

Agreed by NHS Lothian Antimicrobial Management Committee in consultation with clinical management team for Colorectal

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Date: December 2024

For review: December 2027