

Adult General Surgery Antibiotic Prophylaxis

General points

Reference No.: CG-ANTI/2024/045

- Administration of prophylactic antibiotics should be documented on the anaesthetic record and as a STAT dose on EPMA
- In patients where **multi-resistant organisms have previously been isolated (e.g. ESBL, AmpC, CRE/CRO)**, please contact the microbiologist for advice
- Decolonisation therapy following local policy should be used prior to surgery when possible if patient MRSA positive
- The doses in the table below do not need amending for patients with renal or hepatic dysfunction unless specifically stated
- Intravenous prophylactic antibiotics should be given within the 60 minutes **before** skin incision, usually at induction of anaesthesia, and at least 10 minutes prior to tourniquet if used.
- 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 the following guidelines
- If faecal soiling, gastric spill, or treatment for peritonitis continue for 3-5 days, converting to oral as soon as possible.
- Gentamicin may rarely increase duration of neuromuscular blockade.
- If possible avoid NSAIDS for 24 hrs in patients given gentamicin.
- Hypotension is the most common presenting feature of antibiotic induced anaphylaxis

Antibiotic	Dose	Administration	Recommended re-dosing interval in prolonged surgery	>1500ml blood loss redose after fluid replacement
Gentamicin	3mg/kg up to a maximum dose of 300mg (round doses to the nearest 40mg) Check previous charts to ensure patient has not recently received a dose of gentamicin	Doses up to 160mg can be given as a bolus over 3-5 mins. Doses >160mg to be added to 100ml sodium chloride 0.9% and infused over 30 mins	Give original dose after 8 hours. If CrCl <60ml/min do not repeat.	Give half original dose
Metronidazole	500mg IV	Infuse over 20 mins	500mg after 8 hours	500mg
Flucloxacillin	1G IV	Bolus over 3-5 mins	1G after every 4 hours	1G
Teicoplanin	6mg/kg rounded up to the nearest 200mg. Max 800mg	Preferably as a 30 minute infusion	Redose after 12 hours	Give half the original dose

	Type of surgery	Antibiotic Choice	Comments
Lower gastrointestinal	Appendicectomy Colorectal Surgery *(see below for pre op antibiotics +/- bowel prep for elective colorectal resections)	Gentamicin IV and Metronidazole IV, Add IV Teicoplanin if high risk of MRSA or MRSA positive	Single dose unless prolonged surgery or >1500ml blood loss
Upper gastrointestinal	Oesophageal, Stomach and Duodenal, Gastric Bypass, Small Intestine	Gentamicin IV and Metronidazole IV. Add IV Teicoplanin if high risk of MRSA or MRSA positive	Single dose unless prolonged surgery or >1500ml blood loss
	Hernia Repair	Without mesh or laparoscopic procedure – prophylaxis not recommended Open procedure and mesh – prophylaxis not routinely recommended. Consider Flucloxacillin IV + Metronidazole IV in high risk patients. If allergic to penicillin or if high risk of MRSA or MRSA positive use Teicoplanin IV + Metronidazole IV	Single dose unless prolonged surgery or >1500ml blood loss
Hepatobiliary	Bile Duct, Pancreatic, Liver Gall Bladder Surgery (open)	Gentamicin IV and Metronidazole IV. Add IV Teicoplanin if high risk of MRSA or MRSA positive	Single dose unless prolonged surgery or >1500ml blood loss
	Gall bladder surgery (Laparoscopic)	Not routinely recommended but consider in high risk patients Gentamicin IV + Metronidazole IV. Add IV Teicoplanin if high risk of MRSA or MRSA positive	High risk: intraoperative cholangiogram, bile spillage, conversion to laparotomy, acute cholecystitis/pancreatitis, jaundice, pregnancy, immunosuppression, prosthetic material.
Breast Surgery	Sentinel node biopsy Excision of benign lump	Prophylaxis not recommended	
	Simple mastectomy, wide local excision, axillary node clearance, mammoplasty, breast reduction, nipple surgery	Flucloxacillin 1g IV If allergic to penicillin or if high risk of MRSA or MRSA positive use Teicoplanin IV	Single dose unless prolonged surgery or >1500ml blood loss
	All implant surgery and breast reconstruction procedures	Flucloxacillin 1g IV If allergic to penicillin or if high risk of MRSA or MRSA positive use Teicoplanin IV	Continue for up to 24 hours
Amputation		Be guided by C+S results prior to surgery. If no C+S Flucloxacillin IV + Gentamicin IV + Metronidazole IV. If allergic to penicillin or high risk of MRSA or MRSA positive use Teicoplanin IV + Gentamicin IV + Metronidazole IV	Usual duration 24hrs but up to 72hrs at surgeon's discretion. If wound infection or osteomyelitis post-op, see treatment guidelines

Vascular surgery	Without prosthetic material	Flucloxacillin IV + Gentamicin IV. If allergic to penicillin or high risk of MRSA or MRSA positive use Teicoplanin IV + Gentamicin IV If possible perineal contamination or associated septic focus (e.g. leg ulcer) add Metronidazole IV	Single dose unless prolonged surgery or >1500ml blood loss
	Vascular surgery with a synthetic graft	Loading dose of Teicoplanin IV 12 hourly for 3 doses, with first dose on induction + Gentamicin IV. Groin grafts - add metronidazole IV	Following 3 doses of Teicoplanin IV 12 hourly, continue it once daily until drains are removed (reduce teicoplanin daily dose in renal impairment). For treatment dose of gentamicin, see once daily gentamicin chart. Monitor levels. For more information regarding teicoplanin dosing, contact pharmacy.

***Pre-operative SSI protocol and full mechanical bowel preparation in colorectal surgery**

Pre op antibiotics +/- bowel prep for elective colorectal resections

Timing of intervention	Antibiotic (dose and route)	Antibiotic frequency	Bowel prep	Bowel prep frequency
Day before surgery	Oral Neomycin 1g and Oral Metronidazole 400mg	Three times during the day before surgery at 8am, 5pm and 10pm	Plenvu (or alternative PEG osmotic laxative)	Plenvu Dose 1 is a single sachet at 5pm and dose 2 is the contents of 2 sachets, A and B at 8 pm the day before surgery

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Documentation Controls

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Amended 12/07/2024	Addition of Pre-operative SSI protocol and full mechanical bowel preparation in colorectal surgery with neomycin and metronidazole and Plenvu Review and update of references Gentamicin dose amended to round to the nearest 40mg dose as per other guidelines The words 'at RDH only' for amputation and vascular surgery as this can be used across both QHB and RDH.
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