

Surgical antimicrobial prophylaxis

All IV single doses unless stated

STARSHIP OR

QUESTIONS	CLEAN SURGERY	CLEAN-CONTAMINATED SURGERY	CONTAMINATED/DIRTY/COMPLEX SURGERY
<p>1. How clean is the surgery?</p> <p>2. What surgical antimicrobial prophylaxis do I need to give?</p> <p>3. When will I need to redose?</p> <p>Do not adjust dose for renal/hepatic impairment</p> <p>Continue current antimicrobial treatment regimens as scheduled peri-operatively</p> <p>Standard surgical prophylaxis should be administered in addition to any current therapy</p> <p>MRSA infected Add vancomycin 15mg/kg (ABW) (Max 2g) to regimen</p> <p>ESBL colonised/infected Seek advice from Paediatric Infectious Diseases</p> <p>Severe penicillin allergy - anaphylaxis Intra-abdominal replace cephalosporin with gentamicin 5mg/kg (LBW) (Max 360mg)</p> <p>All others replace cephalosporin with vancomycin 15mg/kg (ABW) (Max 2g) or clindamycin 10mg/kg (Max 600mg)</p> <p>When to give 0-60 mins before knife to skin for all antibiotics except vancomycin which should be completed within 30 minutes of incision</p> <p>When to redose (the same dose) with extensive blood loss or surgery >4 hours: Cephalosporin every 4 hours Cefuroxime every 4 hours Clindamycin every 6 hours Metronidazole every 7 hours Vancomycin every 8 hours Gentamicin not required</p>	<p>Antibiotic and dose</p> <p>Neurosurgery Craniotomy and CSF shunt insertion Myelomeningocele <i>cephazolin 30mg/kg (2g max)</i></p> <p>Head and neck surgery Thyroglossal cysts Thyroid surgery Hearing Implants <i>None required</i> <i>cephazolin 30mg/kg (2g max)</i></p> <p>Cardiac surgery 1. Congenital repair 2. Valve replacement <i>Unit specific guideline</i> 3. Thoracotomy 4. Implantable cardiac device <i>cephazolin 30mg/kg (2g max)</i></p> <p>Orthopaedics 1. Osteotomy/Dysplasia/lengthening 2. Spinal surgery – congenital/idiopathic 3. Open reduction int fixation 5. Revision surgery 6. Biopsy 7. Spinal surgery - complex <i>cephazolin 30mg/kg (2g max) then 15mg/kg q8h for up to 3 doses</i> <i>None required</i> <i>cephazolin 30mg/kg (2g max) and gentamicin</i></p> <p>General surgery 1. High risk abdominal laparoscopic surgery 2. High risk central lines 3. Thoracoscopy <i>cephazolin 30mg/kg (2g max)</i></p> <p>General surgery 1. Herniotomy 2. Orchidopexy/hydroceles 3. Elective skin procedures <i>None required</i></p> <p>Solid organ transplantation <i>Unit -specific guidelines</i></p>	<p>Antibiotic and dose</p> <p>ORL: 1. Adenoidectomy 2. Tonsillectomy 3. Tympanostomy 4. L & Bs 5. FESS/cleft palate 6. Repair CSF leaks 7. Mastoidectomy 8. Septoplasty, myringoplasty <i>None required</i> <i>cephazolin 30mg/kg (2g max)</i></p> <p>Dental Surgery <i>None required</i></p> <p>Trauma: Compound fractures grade 1 - 2 <i>cephazolin 30mg/kg (2g max)</i></p> <p>Neonatal GI Surgery <i>cephazolin 30mg/kg (2g max)</i></p> <p>Upper GI 1. Congenital surgery 2. Jejunostomy tube Placement <i>cephazolin 30mg/kg (2g max) and metronidazole 7.5mg/kg (500mg max)</i> 3. Small bowel surgery 4. Biliary surgery</p> <p>Colorectal 1. Appendicectomy 2. Colectomy 3. Trauma <i>cephazolin 30mg/kg (2g max) ± metronidazole 7.5mg/kg (500mg max)</i></p> <p>Urology 1. Nephrectomy 2. Cystoscopy 3. Renal stent placement 4. Any procedure that results in entry into the urinary tract (e.g. hypospadias) <i>cephazolin 30mg/kg (2g max)</i></p>	<p>Antibiotic and dose</p> <p>Other complex procedures above the diaphragm <i>cephazolin 30mg/kg (2g max) and metronidazole 7.5mg/kg (500mg max)</i></p> <p>Trauma: Compound fractures grade 3 <i>cephazolin 30mg/kg (2g max) and gentamicin 5mg/kg (360mg max)</i></p> <p>Peritonitis Abscess drainage Bowel anastomotic repair Fistula repair Reversal of stoma Urinary procedure that results in entry into the bowel <i>cefuroxime 50mg/kg (1.5g max) and metronidazole 7.5mg/kg (500mg max)</i></p>

Antimicrobial Stewardship Committee
November 2015

References:
 1. Bratzler DW, Dellinger EP, Olsen KM et al Clinical practice guidelines for antimicrobial. Am J Hosp Sys Pharm 2013; 70: 195-283.
 2. Peter Mac Surgical Antibiotic Prophylaxis-Flowchart and Decision Support Poster. Antimicrobial Stewardship Committee & therapeutic Drug Committee, August 2011 Peter MacCullum Hospital, Melbourne, Vic, Australia
 3. Therapeutic Guidelines Antibiotic v 15, 2014. Therapeutic Guidelines Limited, Melbourne.



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PAEDIATRIC CARDIOTHORACIC

Antimicrobial Stewardship Committee
August 2016

QUESTIONS	CLEAN SURGERY	CHEST REOPENING/RETURN TO THEATRE	CONTAMINATED/DIRTY/COMPLEX SURGERY
	Antibiotic and dose	Antibiotic and dose	Antibiotic and dose
<p><i>Do not adjust dose for renal/hepatic impairment</i></p> <p><i>Continue current antimicrobial treatment regimens as scheduled peri-operatively</i></p> <p><i>Standard surgical prophylaxis should be administered in addition to any current therapy</i></p> <p>MRSA infected Add vancomycin 15mg/kg (ABW) (Max 2g) to regimen</p> <p>ESBL colonised/infected <i>Seek advice from Paediatric Infectious Diseases</i></p> <p>Complex medical or surgical issues <i>Seek advice from Paediatric Infectious Diseases</i></p> <p>Severe penicillin allergy - anaphylaxis Replace cefazolin with vancomycin 15mg/kg (ABW) (Max 2g) or clindamycin 10mg/kg (Max 600mg) If 2 post-operative doses required use standard treatment regimens without taking levels</p> <p>When to give <i>0-60 mins before knife to skin for all antibiotics except vancomycin which should be completed within 30 minutes of incision</i></p> <p>When to redose (the same dose) with Blood loss >1500mL or surgery >4 hours: Cefazolin every 4 hours Clindamycin every 6 hours Vancomycin every 8 hours</p>	<p>Primary cardiac surgery</p> <ol style="list-style-type: none"> Prior to skin incision Going onto bypass Every four hours during the procedure AND at the completion of surgery 	<p>Return to theatre or chest opening in PICU within 24 hours of primary operation</p>	<p>Valve replacement in a patient with active endocarditis</p>
	<p>cefazolin 30mg/kg (2g max) cefazolin 30mg/kg (1g max) into bypass pump cefazolin 30mg/kg (2g max) <u>then</u> 30mg/kg (1g max) q8h for 2 doses postoperatively</p>	<p>cefazolin 30mg/kg (2g max) <u>then</u> 30mg/kg (1g max) q8h for 2 doses postoperatively</p>	<p>cefazolin 30mg/kg (2g max) <u>then</u> 30mg/kg (1g max) q8h for 2 doses postoperatively</p>
	<p>Non-bypass cardiac surgery</p>	<p>Delayed chest closure >24 hours after primary procedure</p>	<p>Re-exploration of wound because of suspected infection</p>
	<p>cefazolin 30mg/kg (2g max) <u>then</u> 30mg/kg (1g max) q8h for 2 doses postoperatively</p>	<p>cefazolin 30mg/kg (2g max) <u>then</u> 30mg/kg (1g max) q8h for 2 doses postoperatively</p>	<p>cefazolin 30mg/kg (2g max)</p>
	<p>Implantable cardiac devices</p>		<p>Washout and debridement for proven infection</p>
	<p>cefazolin 30mg/kg (2g max) <u>then</u> 30mg/kg (1g max) q8h for 2 doses postoperatively</p>		<p>Continue current antimicrobial treatment and ask surgeon if antibiotics should be deferred until after sampling <u>then</u> cefazolin 30mg/kg (2g max) <u>and</u> current treatment as per prescribed timing</p>

References:
 Edwards FH, Engelman RM, Hauck P, Shahian DM, Bridges CR. The Society of Thoracic Surgeons Practice Guideline Series: Antibiotic prophylaxis in cardiac surgery, Part I: duration. Ann Thorac Surg 2006; 81: 397-404
 Edwards R, Shahian D, Shemin R, Guy ST, Bratzler D, Edwards F, Jacobs M, Fernando H, Bridges C. The Society of Thoracic Surgeons Practice Guideline Series: Antibiotic prophylaxis in cardiac surgery, Part II: antibiotic choice. Ann Thorac Surg 2007; 83: 1569-76.
 Lador A, Nasir H, Mansur N, Sharoni E, Biderman P, Leibovici L, Paul M. Antibiotic prophylaxis in cardiac surgery: systemic review and meta-analysis. J Antimicrob Chemother. 2012; 67: 541-50
 Kappeler R, Gillham M, Brown NM. Antibiotic prophylaxis for cardiac surgery. J Antimicrob Chemother. 2012; 67: 521-2.

