



GUIDELINE

Surgical Prophylaxis: Craniofacial and Maxillofacial

Scope (Staff):	Clinical Staff – Medical, Nursing, Pharmacy
Scope (Area):	Perth Children's Hospital (PCH)

This document should be read in conjunction with this [DISCLAIMER](#)

- Surgical prophylaxis refers to a **single** preoperative dose given 15 to 60 minutes prior to surgical incision unless otherwise stated.
- If **vancomycin** is required for surgical prophylaxis the infusion **must be completed** one hour **prior** to surgical incision due to the extended distribution phase.

CLINICAL SCENARIO		DRUGS/DOSES			
		Standard Protocol	Known or Suspected MRSA ^a	Penicillin allergy ^b Delayed	Penicillin allergy ^b Immediate
Head and Neck Surgery	Head and neck skin or soft tissue injury requiring surgical repair without wound soiling, contamination or mucous membrane involvement	IV cefazolin 30mg/kg (to a maximum of 2 grams) as a single dose Repeat dose if operation > 3 hours	vancomycin ^c	As per standard protocol	vancomycin ^c
	For selected craniofacial and orthognathic surgeries, if further prophylaxis is considered necessary use oral amoxicillin/clavulanic acid 25mg/kg (to a maximum of 875mg amoxicillin component) 12 hourly	Discuss with ID or Microbiology service			
	Contaminated non-elective surgery (e.g. complex wounds, open fractures, wound soiling)	IV piperacillin/tazobactam 100mg/kg (to a maximum of 4 grams piperacillin component) Repeat dose if operation > 3 hours	ADD vancomycin ^c to standard protocol	Discuss with ID or Microbiology service	Discuss with ID or Microbiology service

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CLINICAL SCENARIO		DRUGS/DOSES			
		Standard Protocol	Known or Suspected MRSA ^a	Penicillin allergy ^b Delayed	Penicillin allergy ^b Immediate
ENT Procedures	Selected routine elective ENT procedures: tonsillectomy adenoidectomy endoscopic sinus surgery septoplasty uncontaminated neck dissection	Antibiotic prophylaxis is not recommended for these procedures as it has not been shown to reduce postoperative infection rates. Prophylaxis against endocarditis for these procedures for patients with certain cardiac conditions is recommended – see the Medical Prophylaxis Guideline .			
	Cochlear implant	IV cefazolin 30mg/kg (to a maximum of 2 grams) as a single dose Repeat dose if operation > 3 hours	ADD vancomycin ^c to standard protocol	As per standard protocol	clindamycin ^d
Head and neck surgery	Clean ^e surgery without insertion of prosthetic material.	Not recommended			
	Clean ^e surgery with insertion of prosthetic material Craniofacial surgery & spring cranioplasty	IV cefazolin 30mg/kg (to a maximum of 2 grams) as a single dose Repeat dose if operation > 3 hours	ADD vancomycin ^c to standard protocol	As per standard protocol	vancomycin ^c
		For selected craniofacial surgeries, if further prophylaxis is considered necessary, use short course oral amoxicillin/clavulanic acid 25mg/kg/dose (to a maximum of 875mg amoxicillin component) 12 hourly	Discuss with ID or Microbiology service		
	Clean-contaminated ^f surgery without insertion of prosthetic material: cleft lip or palate Abbe flap alveolar bone graft pharyngoplasty	IV amoxicillin/clavulanic acid ^g Repeat dose if operation > 3 hours	As per standard protocol	cefazolin ^h and metronidazole ⁱ	clindamycin ^d and gentamicin ^j

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Head and neck surgery	Clean-contaminated ^f surgery with insertion of prosthetic material:	IV amoxicillin/clavulanic acid ^k for 24 hours only. See dosing frequency below.	ADD vancomycin ^c to standard protocol	cefazolin ^h and metronidazole ⁱ	clindamycin ^d and gentamicin ^j
	orthognathic surgery (Mandibular / maxillary osteotomies)	For selected orthognathic surgeries, if further prophylaxis is considered necessary, use oral amoxycillin/clavulanic acid 25mg/kg (to a maximum of 875mg amoxicillin component) 12 hourly	Discuss with ID or Microbiology service		

- a) Children known or suspected to be colonised with MRSA may need to have their therapy/prophylaxis modified. Children suspected of having MRSA include:
- i. Children previously colonised with MRSA
 - ii. Household contacts of MRSA colonised individuals
 - iii. In children who reside in regions with higher MRSA rates (e.g. Kimberley and the Pilbara) a lower threshold for suspected MRSA should be given
 - iv. Children with recurrent skin infections or those unresponsive to ≥ 48 hours of beta-lactam therapy. For further advice, discuss with Microbiology or ID service
- b) An immediate (IgE mediated) reaction is characterised by the development of urticaria, angioedema, bronchospasm or anaphylaxis within 1 to 2 hours of drug administration. Delayed reactions including maculopapular or morbilliform rashes, drug fever and cytopaenias are more in keeping with other forms of immunological reactivity. Isolated diarrhoea is not usually immune-mediated and does NOT contraindicate the future use of an antibiotic.
- c) IV [vancomycin 15mg/kg](#) (to a maximum initial dose of 750mg) given via slow infusion. Repeat dose if operation > 6 hours (**repeat dose not required in the setting of abnormal renal function**). Vancomycin infusion must be **completed** one hour **prior** to surgical incision due to the extended distribution phase
- d) IV [clindamycin 15mg/kg](#) (to a maximum of 600mg) as a single dose. Repeat dose if operation > 6 hours. If further post-surgical doses are required, clindamycin should be dosed at 10mg/kg/dose (to a maximum of 600mg) 8 hourly.
- e) Clean surgical wounds are defined as an uninfected operative wound in which no inflammation is encountered and the respiratory, alimentary, genital or uninfected urinary tracts are not entered. Additionally clean wounds are primarily closed and, if necessary, drained with a closed drainage.
- f) Clean –contaminated surgical wounds are defined as an operative wound in which the respiratory, alimentary, genital, or urinary tracts are entered under controlled conditions and without unusual contamination. Specifically, operations involving the biliary tract, appendix, vagina and oropharynx are included in this category provided no evidence of infection or major break in technique is encountered.
- g) IV [amoxicillin/clavulanic acid](#) (doses based on amoxicillin component):
 Birth (term) to <40kg: IV 25mg/kg (maximum 1g) as a single dose.
 >40kg: IV 1g as a single dose.
 Repeat dose if operation > 3 hours.
- h) IV [cefazolin 30mg/kg/dose](#) (to a maximum of 2 grams) as a single dose. Repeat dose if operation >3 hours.
- i) IV [metronidazole 12.5mg/kg/dose](#) (to a maximum of 500mg) as a single dose.
- j) IV [gentamicin 5mg/kg](#) (to a maximum of 320mg) as a single dose only.
- k) IV [amoxicillin/clavulanic acid](#)
 Birth (term) to 3 months and <4kg: IV infusion 25mg/kg every 12 hours. For 24 hours only.
 Birth (term) to 3 months and >4kg: IV infusion 25mg/kg every 8 hours. For 24 hours only.
 >3 months and <40kg: IV 25mg/kg (maximum 1g) every 8 hours. For 24 hours only.
 >40kg: IV 1g every 8 hours. For 24 hours only.

Related internal policies, procedures and guidelines[Antimicrobial Stewardship Policy](#)[ChAMP Empiric Guidelines](#)**References (if required)**

1. Antibiotic Writing Group. Therapeutic Guidelines - Antibiotic. West Melbourne: Therapeutic Guidelines Ltd; 2019. Available from: <http://online.tg.org.au.pklibresources.health.wa.gov.au/ip/>
2. Bratzler DW, Dellinger EP, Olsen KM, Perl TM, Auwaerter PG, Bolon MK, et al. Clinical practice guidelines for antimicrobial prophylaxis in surgery. Am J Health-Syst Pharm. 2013;70:195-283.

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