



GUIDELINE

Surgical Prophylaxis: Genitourinary

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

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

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

- Surgical prophylaxis refers to a **single** preoperative dose given 0 to 60 minutes prior to surgical incision unless otherwise stated.⁽¹⁾
- If **vancomycin** is required for surgical prophylaxis, start the vancomycin infusion within the 120 minutes before surgical incision (ideally at least 15 minutes before incision) to ensure adequate blood and tissue concentrations at the time of incision and allow potential infusion-related reactions to be recognised before induction of anaesthesia. The infusion can be completed after surgical incision.⁽¹⁾
- Patients with prior urinary tract infection (UTI) should be tested and treated for bacteriuria prior to surgery. Results should be taken into consideration for the antibiotic choice for prophylaxis. If microorganisms grown in previous urine specimens are not susceptible to the protocol antibiotics then contact Infectious Diseases for advice.⁽¹⁾
- Patients receiving broad spectrum antibiotics prior to surgery may not require additional surgical prophylaxis. For patients already receiving beta-lactam antibiotics (e.g. cefazolin, piperacillin tazobactam or amoxicillin clavulanate) an additional dose can be given just prior to surgical incision if the last dose was given > 3 hours prior to surgery.
- Consider a higher capped dose of cefazolin (to a maximum of 3 grams) in obese patients. Refer to: [Guidelines for Drug Dosing in Overweight and Obese Children 2 to 18 years of age](#).^(1, 2) Gentamicin should be dosed on adjusted body weight in overweight and obese individuals.
- Refer to [ChAMP – Medical Prophylaxis Guideline](#) for additional cover in patients at risk of endocarditis.

CLINICAL SCENARIO (Children ≥1 month of age)	DRUGS/DOSES			
	Standard Protocol	Known or Suspected MRSA ^a	Low risk Penicillin Allergy ^b	High Risk Penicillin Allergy ^b
Pyeloplasty, Reimplantation or Hypospadias repair	IV cefazolin 30 mg/kg (to a maximum of 2 grams) as a single dose Repeat dose if operation > 3 hours AND IV gentamicin 2 mg/kg (to a maximum of 320mg) as a single dose only	vancomycin ^c AND gentamicin ^d	As per standard protocol	vancomycin ^c AND gentamicin ^d
	Ongoing prophylaxis with oral cefalexin 12.5 mg/kg/dose (to a maximum of 250 mg) given once daily at night OR trimethoprim with sulfamethoxazole (co-trimoxazole) 2 mg/kg/dose of the trimethoprim component given once daily (to a maximum of 80 mg) is recommended whilst stents are in situ.			
Cystoscopy +/- ureteric stent removal	CONSIDER IV gentamicin 2 mg/kg (to a maximum of 320 mg) as a single dose			
Bladder augmentation or Mitrofanoff appendico-vesicostomy	IV piperacillin/tazobactam ^e 100 mg/kg (to a maximum of 4 grams piperacillin component) as a single dose. Repeat dose if operation > 3 hours	ADD vancomycin ^c to standard protocol	cefazolin ^f AND gentamicin ^d AND metronidazole ^g	vancomycin ^c AND gentamicin ^d AND metronidazole ^g
Nephrectomy (Complete or Partial)	IV cefazolin 30 mg/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 AND gentamicin ^d
Circumcision, orchidopexy or hydrocele repair	Prophylaxis not routinely recommended			
Micturating cystourethrogram (MCUG)	Antibiotic prophylaxis should be given for a total of 3 days, commencing the day prior to the scan. Children with a history of UTIs caused by resistant pathogens may need different prophylaxis. Please discuss with infectious diseases.			
	Oral cotrimoxazole 4 mg/kg/dose (to a maximum of 160 mg trimethoprim component) given 12 hourly OR cefalexin 20 mg/kg/dose (to a maximum of 500 mg) given 8 hourly	Oral cotrimoxazole	As per standard protocol	Oral cotrimoxazole

- 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. Check for MicroAlert B or C on iCM.
 - ii. Household contacts of MRSA colonised individuals
 - iii. In children who reside in regions with higher MRSA rates (e.g. Kimberley, Pilbara and Goldfields) 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 Infectious Diseases service
- b) Refer to the [ChAMP Beta-lactam Allergy Guideline](#):
 - Low risk allergy: a delayed rash (>1hr after initial exposure) without mucosal or systemic involvement (without respiratory distress and/or cardiovascular compromise).
 - High risk allergy: an immediate rash (<1hr after exposure); anaphylaxis; severe cutaneous adverse reaction {e.g. Drug Rash with Eosinophilia and Systemic Symptoms (DRESS) and Stevens – Johnson syndrome (SJS) / Toxic Epidermal Necrolysis (TEN)} or other severe systemic reaction.
- c) IV [vancomycin 15 mg/kg](#) (to a maximum dose of 750mg) given via slow infusion. Repeat dose if operation > 6 hours (**repeat dose not required in the setting of abnormal renal function**). Start the vancomycin infusion within 120 minutes before the surgical incision (ideally at least 15 minutes before incision) to ensure adequate blood and tissue concentrations at the time of incision and to allow potential infusion related reactions to be recognised before induction of anaesthesia. The infusion can be completed after surgical incision.
- d) IV [gentamicin 2 mg/kg](#) (to a maximum of 320mg) as a single dose only
- e) IV [piperacillin/tazobactam 100 mg/kg](#) (to a maximum of 4 grams piperacillin component) as a single dose only. Repeat dose if operation >3 hours.
- f) IV [cefazolin 30 mg/kg](#) (to a maximum of 2 grams) as a single dose only. Repeat dose if the operation is > 3 hours.
- g) IV [metronidazole 12.5 mg/kg](#) (to a maximum of 500mg) as a single dose only.

Related CAHS internal policies, procedures and guidelines
Antimicrobial Stewardship Policy
ChAMP empiric guidelines and monographs
KEMH Neonatal Medication Protocols

References and related external legislation, policies, and guidelines
1. Antibiotic Writing Group. Therapeutic Guidelines - Antibiotic. West Melbourne: Therapeutic Guidelines Ltd; 2022. Available from: https://tqldcdp-tg-org-au.pklibresources.health.wa.gov.au/etqAccess .
2. Bratzler DW, et al. (2013). "Clinical practice guidelines for antimicrobial prophylaxis in surgery." Am J Health-Syst Pharm 70 : 195-283.
3. Alsaywid, B. S., et al. (2019). "Antibiotic prophylaxis in children with ureteric stents: Bliss or misery?" Urology annals 11 (4): 421-425.

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