

Royal Hospital for Children Glasgow - Antibiotic Prophylaxis for Paediatric Cardiothoracic Surgery

General Principles for prescribing:

- Administer the pre-operative IV prophylaxis dose within the 60 minutes prior to skin incision/intervention.
- Administer antibiotic doses intravenously and NOT into the cardiac bypass circuit.
- To reduce the risk of post-operative drug errors, prescribe antibiotics on the 'Once Only' section of the drug kardex and also on the anaesthetic record.
- Seek Microbiology or ID opinion for patients on existing antimicrobial therapy or with complex microbiological problems.
- Follow RHC Glasgow monographs for drug reconstitution and administration.

PROOF COPY

Procedure	Antibiotic	Pre-operative Dose	Intra-operative Doses	Post-operative Doses
Cardiac Surgery ONLY insertion of pacemakers, prosthetic heart valves, annuloplasty rings or interposition grafts in the Left Heart (systemic circulation). This includes Aortic Root Replacement, with or without associated valve replacement.	Teicoplanin and Gentamicin Check if patient has had any doses of gentamicin prior to surgery. Vancomycin is a suitable alternative to teicoplanin if the patient is already on treatment. Continuous infusions can continue while in theatre. Intermittent infusions should be finished at least one hour prior to surgery. Please liaise with Consultant Anaesthetist re timings.	NEONATE		
		Teicoplanin: 16mg/kg Gentamicin: 5mg/kg	Not required	If chest closed Teicoplanin: One dose of 8mg/kg 24 hours after the pre-operative dose Gentamicin: Not required If chest open, continue prophylaxis and consult microbiology/ID for duration Teicoplanin: 8mg/kg 24 hourly starting 24 hours after the pre-operative dose. Gentamicin: Check pre dose 'trough' 22-24 hours after the theatre dose. When the level is <2 mg/L, continue with 5mg/kg 24 hourly. Check level every 2-3 days or sooner if renal function deteriorates. If patient on continuous vancomycin infusion: Check a trough within 12-24 hours post surgery, or sooner if renal function deteriorating.
		CHILD 1 MONTH-16 YEARS		
		Teicoplanin: 10mg/kg (max 400mg) Gentamicin: 5mg/kg (max 400mg)	Not required	If chest closed Teicoplanin: 10mg/kg 12 hourly for 2 doses Give the first dose 12 hours after the pre-operative dose. Gentamicin: Not required If chest open, continue prophylaxis and consult microbiology/ID for duration Teicoplanin: 10mg/kg 12 hourly for 2 doses Give the first dose 12 hours after the pre-operative dose. Thereafter, reduce the dose to 6mg/kg 24 hourly Gentamicin: Check pre dose 'trough' 22-24 hours after the theatre dose. When the level is < 1mg/L, continue with 5mg/kg 24 hourly. Check level every 2-3 days or sooner if renal function deteriorates. If patient on vancomycin intermittent infusion: If a vancomycin dose is missed during surgery, please administer the dose as soon as possible after surgery. Otherwise, give the next dose as normal. Check a trough within 12-24 hours post surgery, or sooner if renal function deteriorating.
Cardiac Surgery All procedures except for those detailed above.	Cefuroxime	NEONATE		
		50mg/kg	Age 1-6 days: 50mg/kg 12 hourly Age 7-28 days: 50mg/kg 8 hourly If severe blood loss, (25ml/kg) consider a further dose after fluid replacement.	If chest closed Age 1-6 days: 50mg/kg 12 hourly for 2 doses. Give the first dose 12 hours after the last theatre dose. Age 7-28 days: 50mg/kg 8 hourly for 3 doses. Give the first dose 8 hours after the last theatre dose. If chest open, continue prophylaxis and consult microbiology/ID for duration Age 1-6 days: 50mg/kg 12 hourly Give the first dose 12 hours after the last theatre dose. Age 7-28 days: 50mg/kg 8 hourly Give the first dose 8 hours after the last theatre dose.
		CHILD 1 MONTH-16 YEARS		
		50mg/kg (max 1.5g)	50mg/kg (max 1.5g) every 4 hours If severe blood loss (25ml/kg) consider a further dose after fluid replacement.	If chest closed 50mg/kg (max 1.5g) 8 hourly for 3 doses. Give the first dose 8 hours after last theatre dose. If chest open, continue prophylaxis and consult microbiology/ID for duration 50mg/kg (max 1.5g) 8 hourly. Give the first dose 8 hours after last theatre dose.
If patient is Penicillin Allergic or has MRSA: Teicoplanin and Gentamicin	See dosing regimen above			