

EMPIRIC ANTIBIOTIC GUIDELINES - SCH

Policy[®]

DOCUMENT SUMMARY/KEY POINTS

- These updated guidelines outline the initial and appropriate empiric antibiotics for specific clinical conditions in a non-immunocompromised patient, until the organism(s) and sensitivities are identified
- They form the basis for the Sydney Children's Hospital (Randwick) Antimicrobial Stewardship Program and electronic "Guidance MS" system

CHANGE SUMMARY

- Several changes have been made throughout the table recommend re-reading the entire document.
- 24/03/21: minor review. Updated link to Aminoglycoside SCH guideline, Pg 11.
- 06/10/2021: minor review. Gentamicin added to recommended antibiotic regimen for Severe sepsis (sepsis + shock) in neonates (< 1 month), Pg 9

READ ACKNOWLEDGEMENT

 All staff at SCH who are involved in the prescribing, dispensing and administration of antimicrobial agents to SCH patients are to read and acknowledge they understand the contents of this document.

Department Heads and Nursing Unit Managers at SCH are to be aware of this document.

This document reflects what is currently regarded as safe practice. However, as in any clinical situation, there may be factors which cannot be covered by a single set of guidelines. This document does not replace the need for the application of clinical judgement to each individual presentation.

Approved by:	SCHN Policy, Procedure & Guideline Committee	
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Team Leader:	Pharmacist	Area/Dept: AMS SCH

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1 Empiric antibiotic guidelines

BODY SYSTEM	CONDITION (select for antibiotic, dose, frequency)			
	Open fracture: Clean			
BONE/JOINT	Open fracture: Contaminated			
	Osteomyelitis / Septic Arthritis			
CARDIOVASCULAR	Endocarditis			
CENTRAL NERVOUS	<u>Encephalitis</u>			
SYSTEM	Meningitis suspected or proven			
GASTROINTESTINAL	Peritonitis			
	UTI (all) < 1 month			
GENITOURINARY TRACT	Uncomplicated UTI <i>(no renal abnormalities)</i> ≥ 1 month			
IKAUI	Pyelonephritis/ Urosepsis ≥ 1 month			
<u>OPHTHALMOLOGICAL</u>	Orbital/Mod/severe periorbital cellulitis			
	Acute epiglottitis OR bacterial tracheitis			
	Otitis media			
	Pertussis (Suspected OR confirmed)			
RESPIRATORY	Pneumonia (MILD TO MODERATE)			
	Pneumonia (SEVERE)			
	Tonsillitis /Acute bacterial pharyngitis			
SEPSIS (SEVERE)	Sepsis and shock			
SUSPECTED SEPSIS	Suspected bacterial sepsis (not critically ill)			
	Bites			
SKIN/SOFT TISSUE/	Cellulitis			



CONDITION	AGE	ANTIBIOTIC, ROUTE, DOSE (MAX DOSE) FREQUENCY				
BONE OR JOINT					<u>HOME</u>	
Open fracture clean	≥ 1 m	flucloxacillin IV 50 mg/kg (2g) 6-hourly [€] if premature neonate/suspected MRSA ADD vancomycin IV* ††				
Open fracture contaminated	≥ 3 m	amoxicillin-clavulanate IV* 25 mg/kg (of amoxicillin) (1g) 8-hourly if water-related injury: ADD ORAL ciprofloxacin* 20 mg/kg (750mg) 12-hourly				
		flucloxacillin GA	PNA	DOSE	FREQUENCY	
		Any	0 - 7 days 8 - 28 days	50 mg/kg 50 mg/kg	12-hourly 8-hourly	
Osteomyelitis OR Septic Arthritis		if premature				
	≥ 1 m	flucloxacillin IV 50 mg/kg (2g) 6-hourly [€] if premature neonate/suspected MRSA ADD vancomycin IV* ††				
CARDIOVASCUL	AR SYSTE	EM			<u>HOME</u>	
Endocarditis	≥ 1 m	benzylpenicillin IV 60 mg/kg (1.8g) 4-hourly AND flucloxacillin IV 50 mg/kg (2g) 4-hourly AND gentamicin IV†† if premature neonate/suspected MRSA ADD vancomycin IV* ††				



CENTRAL NERVOUS SYSTEM - ENCEPHALITIS					<u>HOME</u>	
		For herpes simplex virus: aciclovir IV*				
	< 3 m	PMA	PNA	DOSE	FREQUENCY	
Encephalitis		>30 weeks	n/a	20 mg/kg	8-hourly	
3 m - ≤12	3 m - ≤12 y	aciclovir IV*	500 mg/m ²	8-hourly		
	> 12 y	aciclovir IV*	10 mg/kg 8	-hourly		

! ENSURE ADEQUATE HYDRATION & MONITOR RENAL FUNCTION See Intravenous Aciclovir-Drug Protocol or search "aciclovir" in epolicy

CENTRAL NERVOUS SYSTEM – MENINGITIS HOME						
		cefotaxime IV	*			
		GA	PNA	DOSE	FREQUENCY	
		≥ 37 weeks	0 - 7 days	50 mg/kg	8-hourly	
		≥ 37 weeks	8 - 28 days	50 mg/kg	6-hourly	
	< 1 m	AND either a	mpicillin IV			
	HOSPITAL FOR WOMEN	GA	PNA	DOSE	FREQUENCY	
		≥ 37 weeks	0 - 7 days	100 mg/kg	12-hourly	
Meningitis		≥ 37 weeks	8 - 28 days	100 mg/kg	8-hourly	
suspected or proven		OR benzylpe	nicillin IV 90 m	g/kg 8-hourly (:	≥37 weeks GA)	
		cefotaxime IV* 50 mg/kg 6-hourly (OR ceftriaxone IV* 50 mg/kg 12-hourly)				
	1 - 2 m	AND ampicillin IV 50 mg/kg 4-hourly				
		If gram-positive cocci seen in CSF [§] change to: cefotaxime IV* AND vancomycin IV*††				
		cefotaxime IV*	*50 mg/kg (2g)	6-hourly		
	≥ 2 m	(OR ceftriaxone IV* 50 mg/kg (2g) 12-hourly)				
		AND dexame dose of antibio		5 mg/kg (10mg) with/before first	



GASTROINTEST	INAL TRAC	СТ			<u>HOME</u>		
		ampicillin IV					
		GA	PNA	DOSE	FREQUENCY		
		≥ 37 weeks	0 - 7 days	50 mg/kg	12-hourly		
		≥ 37 weeks	8 - 28 days	50 mg/kg	8-hourly		
	< 1 m	AND metronida	zole IV* LOAD	15 mg/kg, the	en		
	Royal	<u>PMA</u>	PNA	DOSE	FREQUENCY		
	HOSPITAL FOR WOMEN	37 - < 41 weeks	s n/a	7.5 mg/kg	8-hourly		
Peritonitis acute infection requiring		AND gentamici	n IV <i>††</i>				
antibiotic therapy		for monotherapy or if gentamicin unsuitable use piperacillin-tazobactam IV* 80 mg/kg of piperacillin component 6-hourly					
	≥ 1 m	ampicillin IV 50 mg/kg (2g) 6-hourly AND metronidazole IV* 7.5 mg/kg (500mg) 8-hourly AND gentamicin IV ††					
		for monotherapy or if gentamicin unsuitable use piperacillin-tazobactam IV* 100 mg/kg of piperacillin component (4g) 8-hourly					
GENITOURINAR'	Y TRACT				<u>HOME</u>		
		ampicillin IV:					
	< 1 m	GA	PNA	DOSE	FREQUENCY		
UTI	Tion	≥ 37 weeks	0 - 7 days	50 mg/kg	12-hourly		
(all)	Royal	≥ 37 weeks	8 - 28 days	50 mg/kg	8-hourly		
	FOR WOMEN	AND gentamicin IV ††					
UTI uncomplicated no renal abnormalities	≥ 1 m	ORAL trimethoprim-sulfamethoxazole: 4 mg/kg (of trimethoprim) (160mg) 12-hourly (OR ORAL cefalexin 12.5 mg/kg (500mg) 6-hourly)					
Pyelonephritis / Urosepsis	≥ 1 m	ampicillin IV 50 AND gentamici	mg/kg (2g) 6-h				



OPHTHALMOLO	GICAL				<u>HOME</u>	
Mild peri-orbital (preseptal) cellulitis	≥ 1 m		in 12.5 mg/kg (5 ucloxacillin 12.5 i			
		cefotaxime IV	*			
		GA	PNA	DOSE	FREQUENCY	
	< 1 m	≥ 37 weeks	0 - 7 days	50 mg/kg	8-hourly	
Orbital cellulitis OR	Royal HOSPITAL	≥ 37 weeks	8 - 28 days	50 mg/kg	6-hourly	
Moderate to severe	FOR WOMEN	if premature neonate/suspected MRSA ADD vancomycin IV* ††				
peri-orbital cellulitis	≥ 1 m	cefotaxime IV* 50mg/kg 8-hourly (2g) (OR ceftriaxone IV* 50 mg/kg (2g) 24-hourly) if premature neonate/suspected MRSA ADD vancomycin IV* ††				
RESPIRATORY -	- EPIGLOT	TITIS OR BAC	TERIAL TRACH	EITIS		
RESPIRATORY -	- EPIGLOT	cefotaxime IV		EITIS		
RESPIRATORY -	- EPIGLOT			DOSE	FREQUENCY	
RESPIRATORY -	- EPIGLOT	cefotaxime IV	*		FREQUENCY 8-hourly	
RESPIRATORY -	- EPIGLOT	cefotaxime IV GA	* PNA	DOSE		
Acute	<1 m RThe	cefotaxime IV GA ≥ 37 weeks	* PNA 0 - 7 days 8-28 days	DOSE 50 mg/kg	8-hourly	
	<1 m	cefotaxime IV GA ≥ 37 weeks ≥ 37 weeks	* PNA 0 - 7 days 8-28 days	DOSE 50 mg/kg	8-hourly	
Acute epiglottitis OR bacterial	<1 m RThe	cefotaxime IV GA ≥ 37 weeks ≥ 37 weeks AND flucloxac	* PNA 0 - 7 days 8-28 days	DOSE 50 mg/kg 50 mg/kg	8-hourly 6-hourly	
Acute epiglottitis OR	<1 m RThe	cefotaxime IV GA ≥ 37 weeks ≥ 37 weeks AND flucloxac GA	* PNA 0 - 7 days 8-28 days sillin IV [€] PNA	DOSE 50 mg/kg 50 mg/kg DOSE	8-hourly 6-hourly FREQUENCY	



RESPIRATORY -	OTITIS ME	EDIA			HOME		
	< 2 m	1st line ORAL	amoxicillin 15 m	ng/kg 8-hourly			
Otitis	Royal HOSPITAL FOR WOMEN			vulanate (Augm noxicillin) 8-houi	,		
media		1 st line ORAL a	amoxicillin 15 m	ng/kg (500mg) 8	3-hourly		
	≥ 2 m	2 nd line ORAL amoxicillin-clavulanate (AugmentinDUO400®) 22.5 mg/kg (of amoxicillin) (875mg) 12-hourly					
RESPIRATORY -	- PERTUSS	HOME.					
	< 6 m	ORAL azithromycin* 10 mg/kg 24-hourly					
Pertussis suspected		ORAL azithromycin* Day 1: 10 mg/kg (500mg) 24-hourly, then 5 mg/kg (250mg) 24-hourly (OR ORAL clarithromycin* 7.5 mg/kg (500mg) 12-hourly) (OR ORAL trimethoprim-sulfamethoxazole: 4mg/kg (of trimethoprim) (160mg) 12-hourly)					
Or	≥ 6 m						
confirmed							
RESPIRATORY -	- (MILD – M	(MILD – MODERATE) PNEUMONIA					
		benzylpenicillir	ı IV				
		GA	PNA	DOSE	FREQUENCY		
	< 1 m	≥ 37 weeks	≤ 7 days	60 mg/kg	12-hourly		
_	Royal	≥ 37 weeks	8 - 28 days	60 mg/kg	6-hourly		
Pneumonia mild to moderate	HOSPITAL FOR WOMEN	•	i <mark>n IV ††</mark> Chlamydia susp ycin IV* 10 mg/l				
		benzylpenicillin IV 60 mg/kg 6-hourly					
	1 - < 2 m	AND gentamicin IV ††					
	1-~2111	if pertussis, <i>Mycoplasma</i> or <i>Chlamydia</i> suspected					
		ADD azithromycin IV* 10 mg/kg 24-hourly					
Pneumonia	≥ 2 m	AND/OR	llin 25 mg/kg (1				
mild	<u> </u>	ORAL azithromycin* 10 mg/kg (500mg) 24-hourly					
		(OR ORAL clarithromycin* 7.5 mg/kg (500mg) 12-hourly)					
		•		oplasma or Chla	amydia		
		• •	n IV 60 mg/kg ((2.4g) 6-hourly			
Pneumonia	≥ 2 m	AND/OR	ovoin* 10 ma//	a (500ma) 24 b	oourly		
moderate				g (500mg) 24-h <i>5 mg/kg (500m</i> g			
		•	•				
	for suspected pertussis, Mycoplasma or Chlamydia						

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RESPIRATORY -	SEVERE I	PNEUMONIA			<u>HOME</u>
		cefotaxime IV*			
		GA	PNA	DOSE	FREQUENCY
		≥ 37 weeks	0 - 7 days	50 mg/kg	8-hourly
		≥ 37 weeks	8 - 28 days	50 mg/kg	6-hourly
Pneumonia severe or complicated	< 1 m	AND clindamyc	in IV* [€] PNA	DOSE	FREQUENCY
		> 38 weeks	0 - 7 days	5 mg/kg	8-hourly
CONSULT RESPIRATORY	Royal HOSPITAL FOR WOMEN	> 38 weeks	8 - 28 days	5 mg/kg	6-hourly
		if pertussis, Myo ADD azithromyo if shocked / ICU ADD vancomyo if risk of HSV p	cin IV* 10 mg/kg I / premature ne	g 24-hourly eonate / suspe	ected MRSA:
Pneumonia severe or complicated CONSULT RESPIRATORY	≥ 1 m	if risk of HSV pneumonitis ADD aciclovir IV* □ cefotaxime IV* 50 mg/kg (2g) 6-hourly (OR ceftriaxone IV* 50 mg/kg (2g) 24-hourly) AND clindamycin IV* 10 mg/kg (600mg) 8-hourly □ if severe sepsis/ needs ventilation/ suspected MRSA bacteraemia ADD vancomycin IV*†† if pertussis, Mycoplasma or Chlamydia suspected ADD azithromycin IV* 10 mg/kg (500mg) 24-hourly			
RESPIRATORY -	TONSILLI	TIS OR BACTE	RIAL PHARYN	GITIS	
Tonsillitis/ Acute bacterial pharyngitis	≥ 1 m	ORAL phenox	ymethylpenicilli	<mark>n</mark> 15 mg/kg (5	500mg) 12-hourly

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SEVERE SEPSIS	(sepsis +	shock)			<u>HOME</u>		
		cefotaxime IV	*				
		GA	PNA	DOSE	FREQUENCY		
		≥ 37 weeks	0 - 7 days	50 mg/kg	8-hourly		
		≥ 37 weeks	8 - 28 days	50 mg/kg	6-hourly		
	< 1 m	AND ampicilli	n IV				
	Royal	GA	PNA	DOSE	FREQUENCY		
	HOSPITAL FOR WOMEN	≥ 37 weeks	0 - 7 days	100 mg/kg	12-hourly		
Sepsis and		≥ 37 weeks	8 - 28 days	100 mg/kg	8-hourly		
shock		AND gentamic	sin IV <i>††</i> ected ADD van	comycin IV*††			
	≥ 1 m	cefotaxime IV* 50 mg/kg (2g) 6-hourly (OR ceftriaxone IV* 50 mg/kg (2g) 24-hourly) ≥ 1 m AND gentamicin IV †† If MRSA suspected ADD vancomycin IV*††					
SUSPECTED BA	CTERIAL S	SEPSIS (not cr	itically ill)		<u>HOME</u>		
Suspected sepsis normal	sepsis	ampicillin IV GA ≥ 37 weeks ≥ 37 weeks AND gentami	PNA 0 - 7 days 8 - 28 days	DOSE 50 mg/kg 50 mg/kg	FREQUENCY 12-hourly 8-hourly		
CSF	1 - < 2 m	ampicillin IV 50) mg/kg 6-hour	ly			
	≥ 2 m		^r 50 mg/kg (2g) ne IV* 50 mg/k	6-hourly (g (2g) 24-hou rl	(y)		



SKIN/SOFT TISS	UE				<u>HOME</u>	
Bites human or animal	1 - 3 m	Less than 4 > 4 kg: 25 n (OR ORAL Age 1 - 2 n	clavulanate IV*: kg: 25 mg/kg (of ng/kg (of amoxici amoxicillin-clavu n: Augmentin® 15	llin) 8-hourly llanate: i mg/kg (of amo	xicillin) 8-hourly	
	≥ 3 m	amoxicillin-clavulanate IV* 25mg/kg (of amoxicillin) (1g) 8-hourly (OR ORAL amoxicillin-clavulanate AugmentinDUO400®: 22.5 mg/kg (of amoxicillin) (875mg) 12-hourly				
Mild cellulitis OR Impetigo	> 1 m	ORAL flucloxacillin 12.5 mg/kg (500mg) 6-hourly (OR ORAL cefalexin 12.5mg/kg (500mg) 6-hourly €)				
Cellulitis if admission required	< 1 m Royal HOSPITAL FOR WOMEN	•	PNA 0 - 7 days 8 - 28 days e neonate/suspec	DOSE 50 mg/kg 50 mg/kg	FREQUENCY 12-hourly 8-hourly	
	≥ 1 m	flucloxacillin IV 50 mg/kg (2g) 6-hourly [€] if premature neonate/suspected MRSA ADD vancomycin IV* ††				
Link to <u>orbital or p</u>	eri-orbital (_l	pre septal) ce	<u>ellulitis</u>		<u>HOME</u>	

Policy No: 2012-7004 v4

Policy: Empiric Antibiotic Guidelines - SCH



2 Explanatory notes

Royal HOSPITAL FOR WOMEN For preterm neonates (< 37 weeks gestational age) refer to Australasian Neonatal Medicines Formulary.

Select the icon OR access via CIAP Paediatric Specialty Guide

- tt See Vancomycin-SCH and/or Aminoglycoside-SCH for dose & monitoring
- Aciclovir: Intravenous -Drug Protocol for dosing & administration
 - In children with suspected community-acquired methicillin resistant
- Staphylococcus aureus infection (ca-MRSA), contact Infectious Diseases for advice.
- * Restricted agents require approval via Guidance MS See RESTRICTION CATEGORIES

IV to Oral Switch criteria and SCHN PRACTICE GUIDELINE

PNA, Postnatal age; PMA, Postmenstrual age; m, months of age; y, years

3 References

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- 4. BNF Joint Formulary Committee. British National Formulary (online) London: BMJ Group and Pharmaceutical Press available from: http://www.medicinescomplete.com.acs.hcn.com.au [Accessed January 2020]
- Australasian Neonatal Medicines Formulary (online), available from: https://www.anmfonline.org/clinical-resources/ [Accessed January 2020]

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