

# SESLHD GUIDELINE COVER SHEET



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<b>KEY TERMS</b>	Antibiotics, Antimicrobial
<b>SUMMARY</b>	To standardise antimicrobial use in neonates aiming to maximise efficacy while minimising adverse effects, including antimicrobial resistance.

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## Antimicrobial Guidelines – Newborn Care

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## Section 1 – Background

Any neonate suspected of sepsis requires urgent empiric antimicrobial therapy. Premature infants are more vulnerable to sepsis. All infants with suspected sepsis require discussion with fellow/neonatologist on duty.

Standardisation of empiric antibiotic therapy based on the local microbiological susceptibility<sup>3</sup> assists in maximising efficacy while minimising adverse effects including antimicrobial resistance.

Initial clinical manifestations of sepsis can be non-specific and a delay in the initiation of treatment can increase morbidity and mortality.

This guideline is to be used in conjunction with [SESLHD Medicines Formulary](#), [Australasian Neonatal Medicines Formulary](#), and [SESLHD Antimicrobial Stewardship Policy](#).

Choice of antimicrobial therapy depends on maternal factors, age at onset of infection, prematurity, focus of infection, any surgery undertaken and the presence or recent usage of central venous lines.

## Section 2 – Abbreviations & Definitions

NCC	Newborn Care Centre	LOS	Late-Onset Sepsis
RHW	Royal Hospital for Women	NICU	Neonatal Intensive Care Unit
CoNS	Coagulase Negative Staphylococcus	NEC	Necrotising Enterocolitis
CRP	C-Reactive Protein	CSF	Cerebrospinal Fluid
MRSA	Methicillin-Resistant Staphylococcus Aureus	EOS	Early-Onset Sepsis
SCH	Sydney Children's Hospital	QI	Quality Improvement
RCT	Randomised Controlled Trial	ID	Infectious Disease

Empirical antibiotic therapy	Early and appropriate initiation of antimicrobial agents in high-risk neonates before the result of blood culture susceptibility. <sup>6</sup>
Early-onset sepsis	Sepsis occurring <b>within</b> the first 72 hours of life.
Late-onset sepsis	Sepsis occurring <b>after</b> the first 72 hours of life.

## Section 3 – Antimicrobial Guideline – Newborn Care

Any infant with a suspected infection or at high risk of infection should be promptly assessed by the clinical team.

Obtain blood cultures (and other clinical specimens e.g. urine, CSF as appropriate). Do not delay antibiotic administration if unable to obtain specimens promptly.

The following table provides the preferred empirical antimicrobial agent based on the clinical indication. For drug dosing refer to [Australasian Neonatal Medicines Formulary](#). All neonates receiving antibiotics should be placed on oral nystatin as prophylaxis against systemic candidiasis. Occasionally, IV fluconazole prophylaxis is commenced in those infants identified at a significant risk of systemic fungal sepsis.

If there is suspicion or confirmation of multi-resistant organism, discuss the appropriate empirically therapy with Neonatologist and Infectious Diseases team.

Indication	Antimicrobial Treatment		
Early onset sepsis <sup>1,2</sup>		Benzylpenicillin + Gentamicin <sup>1,2</sup>	
Late onset sepsis <sup>3-7</sup>	Flucloxacillin OR Vancomycin	+	Gentamicin
Necrotising Enterocolitis	Vancomycin + Piperacillin/Tazobactam	OR	Vancomycin + Gentamicin
Meningitis	Benzylpenicillin OR Ampicillin <i>If Herpes Simplex encephalitis is suspected add Aciclovir.</i>	+	Cefotaxime
Urinary Tract Infection / Pyelonephritis	Ampicillin	+	Gentamicin
Skin and soft tissue infections	Flucloxacillin	<i>If MRSA is suspected, ADD Vancomycin while awaiting culture results.</i>	<i>If severe infection, ADD Gentamicin.</i>
Omphalitis	Flucloxacillin	<i>If MRSA is suspected, ADD Vancomycin while awaiting culture results.</i>	<i>If severe infection, ADD Gentamicin.</i>
Balanitis	Mupirocin 2% ointment or cream topically		
Cytomegalovirus	Ganciclovir <sup>8</sup> <i>Commence treatment only after discussion with Neonatologist and Infectious Diseases. Inform Pharmacy ASAP.</i>		
Candidiasis (systemic)	Fluconazole <i>If previous known Candida infection or patient has received Fluconazole previously, discuss with Infectious Diseases.</i>		
Pertussis (prophylaxis or treatment)	Azithromycin <i>Ensure contact tracing occurs and alert Infection Control and Public Health.</i>		

**STOP ANTIBIOTICS AFTER 24 HOURS IF BLOOD CULTURES ARE NEGATIVE** and sepsis is not clinically suspected.<sup>3</sup>

If blood cultures positive in the context of definite/probable clinical sepsis, wherever practical remove the existing central line as soon as possible.

**Coagulase Negative Staphylococcus (CoNS):** Once a blood culture is positive for CoNS, consideration should be given to stopping flucloxacillin or piperacillin/tazobactam and starting vancomycin while waiting for sensitivity report. Alternatively, once a blood culture is negative for CoNS, consideration should be given to stopping vancomycin.

## Section 4 –

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### Version and Approval History

Date	Version	Version and approval notes
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July 2016	1	S Bolisetty (Clinical Lead)
April 2019	2	J Smyth (Neonatologist), S Bolisetty (Lead clinician), B McMullan (paediatric infectious diseases specialist), M Lahra (SEALS microbiologist)
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