


Guideline

Management Guideline for Non-typhoidal Salmonellosis in Children

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HUMAN RIGHTS

This governance document has been human rights compatibility assessed. No limitations were identified indicating reasonable confidence that, when adhered to, there are no implications arising under the *Human Rights Act 2019*.

PURPOSE

This guideline is to provide a standardised approach to the initial assessment and management of non-typhoidal salmonellosis in children.

SCOPE

This guideline provides information for Children's Health Queensland staff caring for paediatric patients with suspected non-typhoidal salmonellosis infections.



GUIDELINE

Management guideline for Non-Typhoidal Salmonellosis (NTS) in children

Age	Salmonella in stool; no bacteremia ¹	Age	Salmonella bacteremia ²	Salmonella meningitis	Salmonella Osteomyelitis
< 6 months	-7 days antibiotic treatment (oral switch if child well) ¹ -If febrile or unwell, take blood culture +/- CSF and commence IV antibiotic	< 3 months	10 days IV antibiotics; CSF for all	All ages: IV cefotaxime (neonates) or ceftriaxone for 4-6 weeks. Consider repeat CSF after 48-72 hours to ensure CSF sterility. If persistent growth in CSF, add ciprofloxacin IV (if susceptible) to cefotaxime or ceftriaxone for duration of therapy	All ages: Four to six weeks antibiotics (the required IV duration is not established, suggest minimum 2 to 4 weeks IV antibiotics based on susceptibilities).
		3-12 months	7 days IV antibiotics; CSF if clinically indicated		
> 6 months	-No antibiotics if well -If febrile or unwell, take blood culture +/- CSF and consider IV antibiotic -Oral switch when well to complete 7 days	>12 months	7 days antibiotics (IV to oral switch if child well)		

1. There is very limited evidence to guide treatment recommendations for NTS gastroenteritis in young infants (less than six (6) months of age). Due to the increased risk for invasive disease and severe sequelae of invasive infection, we recommend treating all infants in this age group although risk of extra-intestinal dissemination needs to be balanced against the well-established risk of prolonged excretion.

2. Current literature suggests 7 to 10 days of antibiotics is sufficient for most age groups. Due to the increased risk for complications following bacteraemia, it is recommended a CSF analysis is performed in all infants under three (3) months.

SELECTION OF ANTIBIOTICS

Choice of antibiotics depends on antibiotic sensitivities of *Salmonella* sp.

RECOMMENDED PARENTERAL EMPIRIC ANTIMICROBIAL THERAPY WHILE AWAITING SENSITIVITIES IS:

- Cefotaxime IV 50 mg/kg/dose (maximum 2 g/dose) 6-hourly.
- or
- Ceftriaxone IV 100 mg/kg 24-hourly (maximum 4 g/day).

RECOMMENDED EMPIRIC ORAL ANTIBIOTIC THERAPY:

- Oral Azithromycin: 20 mg/kg (maximum 1 g) for first dose then 10 mg/kg (maximum 500 mg) once daily for further 6 days.

ALTERNATIVE ORAL ANTIBIOTIC OPTIONS:

- Oral Amoxicillin 30 mg/kg/dose (maximum 1 g/dose) three times daily.
- or
- Oral Trimethoprim-sulfamethoxazole 4 mg/kg/dose (maximum 160 mg trimethoprim component per dose) twice daily.

Regular review of resistance patterns recommended to guide empiric antibiotic therapy. Recommended empirical oral therapy is Amoxicillin, Trimethoprim-sulfamethoxazole or Azithromycin. Azithromycin should be used particularly if there are concerns about resistance (e.g. returned travellers). Some caution is needed if using Trimethoprim-sulfamethoxazole in infants less than two (2) months (risk of kernicterus) and in using Azithromycin in infants less than one (1) month (risk of hypertrophic pyloric stenosis).

TARGETED ANTIBIOTIC THERAPY IS BASED ON ANTIBIOTIC SUSCEPTIBILITIES OF *SALMONELLA* SPECIES.

Salmonella is a notifiable disease. Contact [Public Health](#).

SUPPORTING DOCUMENTS

Standards:

- [National Safety and Quality Health Service \(NSQHS\) Standards](#)

Supporting documents:

- [CHQ-PROT-63105-1 Isolation table – Symptom / Disease Organism](#)
- [CHQ-PROC-01036 Antimicrobial: Prescribing and Management](#)
- [CHQ Antimicrobial restrictions list](#)
- [CHQ-GDL-01067 Paediatric Bone and Joint Infection Management](#)

CONSULTATION

Key stakeholders who reviewed this version:

<ul style="list-style-type: none"> • Director, Infection Management and Prevention services, Immunology and Rheumatology (CHQ) • Infection Specialists, Infection Management and Prevention service (CHQ) 	<ul style="list-style-type: none"> • Paediatric Infection Specialist Consultant, Gold Coast University Hospital • Pharmacist Advanced - Antimicrobial Stewardship Pharmacist (CHQ) • Medicines Advisory Committee – endorsed xx/12/2024
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REFERENCES

No.	Reference
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4.	Zaidi et al, Non-typhi <i>Salmonella</i> bacteremia in children. PIDJ 1999;18:1073-77
5.	Price et al, Antibiotics for <i>Salmonella</i> meningitis in children. JAC 2000;46:653-5.
6.	Wen SCH et al. Non-typhoidal Salmonella infections in children: Review of literature and recommendations for management. Journal of Pediatrics and Child Health. 2017; 53 (10): 936-941.

GUIDELINE REVISION AND APPROVAL HISTORY

Version No.	Modified by	Amendments authorised by	Approved by	Comments
1.0	Infectious Diseases Consultant, Infection Management and Prevention services	Antimicrobial Stewardship Team	EDMS, Chair Medicines Advisory Committee	
2.0	Infectious Diseases Consultant, Infection Management and Prevention services	Antimicrobial Stewardship Team	EDMS, Chair Medicines Advisory Committee	
3.0 04/01/2019	Infectious Diseases Consultant, Infection Management and Prevention Service (IMPS)	Medicines Advisory Committee (CHQ)	Executive Director Clinical Service (QCH)	
4.0 17/12/2020	Infectious Diseases Consultants (IMPS), Pharmacist Advanced – Antimicrobial Stewardship	Medicines Advisory Committee (CHQ)	Executive Director Clinical Service (QCH)	
5.0 27/01/2023	Infectious Diseases Consultants (IMPS), Pharmacist Advanced – Antimicrobial Stewardship	Director IMPS	Divisional Director Medicine	
6.0 3/12/2024	Infectious Diseases Consultants (IMPS), Pharmacist Advanced – Antimicrobial Stewardship	Medicines Advisory Committee (CHQ)	Executive Director Clinical Service	Out of session Chair MAC approval

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Accreditation references	National Safety and Quality Health Service Standards (1-8): 3 Preventing and Controlling Healthcare Associated Infection, 4 Medication Safety ISO 9001:2015 Quality Management Systems: (4-10)