<table>
<thead>
<tr>
<th>CLINICAL SCENARIO</th>
<th>Usual duration</th>
<th>DRUGS/DOSES</th>
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<tbody>
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<td></td>
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<td><strong>Standard Protocol</strong></td>
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<tr>
<td><strong>Mild Salmonella enteritis (Nontyphoidal)</strong></td>
<td>Nil</td>
<td><em>Salmonella</em> enteritis is self-limiting in many patients and no therapy is indicated for mild cases in children ≥3 months of age.</td>
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</tbody>
</table>
| **Uncomplicated Salmonella enteritis (Nontyphoidal)** | 5 days         | *Salmonella* enteritis is self-limiting in many patients. **Antibiotic therapy is recommended in:**  
  - Neonates and children <3 months  
  - Severe diarrhoea in patients of any age  
  - Invasive disease, sepsis or bacteraemia (see below for IV recommendation)  
  - Patients with prosthetic vascular grafts or haemoglobinopathies  
  - Immunocompromised patients  
  In febrile patients <12 months of age, a blood culture +/- CSF is strongly recommended.  
  For *uncomplicated* *Salmonella* enteritis use:  
  **Child ≥1 month:** Oral *azithromycin* 20mg/kg/dose (to a maximum of 1 gram) on day one, followed by 10mg/kg/dose (to a maximum of 500mg) once daily for a further 4 days.  
  For dosing in Neonates refer to Infectious Diseases.
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| **Complicated Salmonella enteritis (Non-typhoidal)** | 5 to 7 days | **IV therapy is recommended if:**  
  - Oral therapy not tolerated  
  - Neonates and children <3 months  
  - Invasive disease, sepsis or bacteraemia (including endovascular infection, meningitis and osteoarticular infection)  
  In febrile patients <12 months of age, a blood culture +/- CSF is strongly recommended.  
  **Child ≥1 month:** IV ceftriaxone 50mg/kg/dose (to a maximum of 1 gram) 12 hourly.  
  An Infectious Diseases referral is recommended for neonates and/or any patient with invasive disease, endovascular or osteoarticular infection |
| **Enteric fever – typhoid and paratyphoid (Salmonella – typhi or paratyphi)** | 7-10 days (all IV) | **In children < 3 months of age CSF should be collected to exclude neurological disease.**  
  **Child < 1 month:** IV cefotaxime: dosing as per neonatal guidelines  
  **Child ≥1 month:** IV ceftriaxone 50mg/kg/dose (to a maximum of 1 gram) 12 hourly.  
  For patients with severe disease who have travelled to Pakistan, consider empiric use of a carbapenem to cover XDR typhoid. Discuss with Infectious Diseases team.  
  **Duration of IV therapy (NO oral step down):**  
  Children <3 months old: 10 days  
  Children ≥3 months and <12 months: 7 days |
| **Enteric fever – typhoid and paratyphoid (Salmonella – typhi or paratyphi)** | 7-10 days (IV and oral) | IV ceftriaxone 50mg/kg/dose (to a maximum of 1 gram) 12 hourly.  
  Step down to oral azithromycin 20mg/kg/dose (to a maximum of 1 gram) once daily if proven susceptible.  
  For patients with severe disease who have travelled to Pakistan, consider empiric use of a carbapenem to cover XDR typhoid. Discuss with Infectious Diseases team. |
### Enteral Infections: Paediatric Empiric Guidelines

#### CLINICAL SCENARIO

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| **Mild**                                                                         | 5 days         | Due to high resistance rates empiric therapy should not be commenced except in severe disease or immunocompromised patients. Await results of susceptibility testing before starting oral treatment. In selected patient groups with mild disease:  
  - Children < 6 years  
  - Food/healthcare/childcare workers  
  - People working or living in aged care facilities  
  **Child ≥1 month:** Oral co-trimoxazole 4mg/kg/dose of trimETHOPRIM component (to a maximum of 160mg) 12 hourly may be considered as an empiric agent. This should be further guided by results of susceptibility testing or discussion with Infectious Diseases or Clinical Microbiology |
| **Severe disease or immunocompromised patient**                                  | 5 days         | In severe disease or immunocompromised patients:  
  **Child ≥1 month:** IV ceftriaxone 50mg/kg/dose (to a maximum of 2grams) once daily while awaiting results of susceptibility testing. |
| **Campylobacter enteritis**                                                       | 3 days         | Campylobacter enteritis is self-limiting in many patients. Consider antibiotic therapy in infants, immunocompromised children or if enteritis is severe or prolonged.  
  **Child ≥1 month:** Oral azithromycin 10mg/kg/dose (to a maximum of 500mg) once daily.  
  **OR**  
  **Child ≥1 month:** Oral ciprofloxacin 12.5mg/kg/dose (to a maximum of 500mg) twice daily |
| **Giardiasis**                                                                   | 3 - 5 days     | Consider treatment in symptomatic patients.  
  **Child ≥1 month:** Oral metronidazole 30mg/kg/dose (to a maximum of 2 grams) once daily for 3 days.  
  **OR**  
  **Child ≥1 month:** Oral metronidazole 10mg/kg/dose (to a maximum of 400mg) three times a day for 5 days. |
**CLINICAL SCENARIO** | **Usual duration** | **DRUGS/DOSES**
--- | --- | ---
**Mild to moderate**
*Clostridium difficile* | 10 days | • Asymptomatic colonisation of young infants is common. Treatment of children < 2 years old should be discussed with Infectious Diseases or Clinical Microbiology services.
• Precipitating factors (e.g. broad-spectrum antibiotics such as 3rd generation cephalosporins, carbapenems or fluoroquinolones), should be modified or ceased, where possible.
• Proton pump inhibitors (e.g. esomeprazole) should be avoided where possible.
In children with mild disease, stopping antibiotic therapy is usually sufficient to resolve symptoms.
**Child ≥1 month:** Oral *metronidazole* 10mg/kg/dose (to a maximum of 400mg) 8 hourly.

**Severe or recurrent**
*Clostridium difficile* | Refer to [Oral Vancomycin monograph](#) | • Treatment of children < 2 years old should be discussed with Infectious Diseases or Clinical Microbiology services.
• Alternative causes (e.g. rotavirus or norovirus) should be excluded prior to treatment
• Precipitating factors (e.g. broad-spectrum antibiotics such as 3rd generation cephalosporins, carbapenems or fluoroquinolones), should be modified or ceased, where possible.
• Proton pump inhibitors (e.g. esomeprazole) should be avoided where possible.
Severe disease includes patients with:
• fever >38.5°C
• haemodynamic instability
• severe abdominal pain (or evidence of bowel perforation)
• ileus or toxic megacolon
• white cell count >15 x 10⁹/L and <20% neutrophils
• elevated creatinine
• elevated lactate
• low albumin
Discuss all severe or recurrent patients with Infectious Diseases or Clinical Microbiology services.
**Child ≥ 2 years of age:** Oral *vancomycin* 10mg/kg/dose (to a maximum of 125mg) four times a day.
In complicated patients (e.g. hypotension, shock or ileus).
**ADD**
**Child ≥1 month:** IV *metronidazole* 12.5mg/kg/dose (to a maximum of 500mg) 8 hourly.
### CLINICAL SCENARIO

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<th>Helicobacter pylori</th>
<th>7 days</th>
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*Helicobacter pylori* infection is less common in children than in adults, with a prevalence of <5%. Children should only be tested for *H. pylori* when their symptoms are strongly suggestive and should be confirmed with endoscopy.

Consider

**Child ≥1 month:** Oral [amoxicillin](https://www.medicines.org.uk/embase/medicine/amoxicillin) 25mg/kg/dose (to a maximum of 1 gram) twice daily.

**AND**

**Child ≥1 month:** Oral [clarithromycin](https://www.medicines.org.uk/embase/medicine/clarithromycin) 7.5mg/kg/dose (to a maximum of 500mg) twice daily.

**AND**

a proton pump inhibitor (e.g. omeprazole or esomeprazole)

In high or low risk penicillin allergy use oral [metronidazole](https://www.medicines.org.uk/embase/medicine/metronidazole) 10mg/kg/dose (to a maximum of 400mg) twice daily instead of amoxicillin. Alternatively, consider amoxicillin oral challenge for patients with low risk penicillin allergy in discussion with immunology.

### Perianal and fistulising disease in Crohn’s disease

**Child ≥1 month:** Oral [metronidazole](https://www.medicines.org.uk/embase/medicine/metronidazole) 10mg/kg/dose (to a maximum of 400mg) twice daily.

**OR**

If refractory to metronidazole:

**Child ≥1 month:** Oral [ciprofloxacin](https://www.medicines.org.uk/embase/medicine/ciprofloxacin) 12.5mg/kg/dose (to a maximum of 500mg) twice daily.

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### a) 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.

### b) Oral ciprofloxacin should only be used in those patients able to swallow tablets as ciprofloxacin is extremely unpalatable. Doses should be rounded to the nearest portion of a tablet. (Tablet strengths are 250mg and 500mg).

### c) Oral vancomycin – IV solution may be administered orally in those unable to swallow capsules or for doses <125mg.

### Related CAHS internal policies, procedures and guidelines

- [Antimicrobial Stewardship Policy](https://www.childrens.com/research-and-clinical-endeavors/antimicrobial-stewardship)
References and related external legislation, policies, and guidelines (if required)


Useful resources (including related forms)

Guidelines for exclusion of people with enteric infections and their contacts from work, school and childcare settings.

This document can be made available in alternative formats on request for a person with a disability.

File Path: W:\Safety & Quality\CAHS\CLOVERS MEDICAL Pharmacy\Procedures Protocols and Guidelines\ChAMP\Word\Empiric Guidelines

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Reviewer / Team: Children’s Antimicrobial Management Program Pharmacist

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Date: August 2020

Standards Applicable: NSQHS Standards: ☑ ☑ ☑

NSMHS: N/A

Child Safe Standards: N/A

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