Title	Bacterial Infection Management
Version	2.0

1. Introduction

Antibiotic choice for the treatment of respiratory pathogens should be guided by:

- Presence / severity of symptoms
- Antibiotic sensitivities
- Previous response to treatment
- Allergy / intolerance to specific antibiotics

2. Haemophilus influenzae

2.1. Eradication of New Mild or Asymptomatic Infection

14 days PO amoxicillin (ß lactamase negative) or co-amoxiclav (ß lactamase positive) or

14 days PO clarithromycin if penicillin allergy

2.2. Eradication of New Severe Infection

14 days IV cefuroxime or IV co-amoxiclav

3. Streptococcus: Pneumococcus and Group A Streptococcus (GAS)

3.1. Eradication of New Mild or Asymptomatic infection

14 days PO amoxicillin (PO clarithromycin if penicillin allergy)

3.2. Eradication of New Severe Infection

14 days IV cefuroxime or IV co-amoxiclav

4. Staphylococcus aureus (MSSA)

4.1. Prophylaxis against Infection

All children <2 years should receive prophylaxis with PO flucloxacillin or trimethoprim.

4.2. Eradicating a New Infection

4.2.1. Mild or Asymptomatic infections

14 days PO flucloxacillin or clarithromycin.

If unsuccessful consider 2-4 weeks of PO co-trimoxazole or clindamycin

4.2.2. Severe Infections

14 days IV cefuroxime and IV flucloxacillin

4.3. Suppression of Chronic Infection

Chronic staphylococcus aureus infection can be suppressed with long term PO flucloxacillin or co-trimoxazole.

5. Staphylococcus aureus (MRSA)

5.1. Eradicating a New Mild or Asymptomatic Infection

Five days nebulised vancomycin, with

Four weeks of PO rifampicin plus one additional PO antibiotic (based on sensitivities). Options include clindamycin / fusidic acid / linezolid / clarithromycin.

5.2. Eradicating a New Severe Infection

Fourteen days of IV linezolid and vancomycin (may need to consider alternatives based on antibiotic sensitivities), followed by:

Four weeks of PO rifampicin plus one additional PO antibiotic (based on antibiotic sensitivities). Options include clindamycin / fusidic acid / linezolid / clarithromycin.

5.3. Nasal Carriage of MRSA (at the same time as skin carriage)

Treat with topical 2% mupirocin nasal ointment applied TDS (both nostrils) for 5 days (2 days off and re-swab on day 8).

5.4. Skin Carriage of MRSA (at the same time as nasal carriage)

Wash once daily with chlorhexidine gluconate 4% (e.g. Hibiscrub) for 5 days 2 days off and re-swab on day 8).

6. Pseudomonas aeruginosa (PA)

6.1. Eradication of New Mild or Asymptomatic PA Infection

- 3 months of oral ciprofloxacin and 3 months of nebulised colistin (e.g. Colomycin).

6.2. Eradication of New PA Infection in Systemically Unwell Child

- Two IV antibiotics for a minimum of 14 days:

1) IV tobramycin (IV colistin if tobramycin contraindicated)
2) IV ceftazidime (consider alternatives such as meropenem, aztreonam or IV piperacillin with tazobactam [Tazocin] based on antibiotic sensitivities).

Followed by:

- Three months of nebulised colistin (Colomycin), with three months oral ciprofloxacin

6.3. Suppression of Chronic Infection

6.3.1. Patients with chronic PA infection should receive long-term inhaled anti-PA therapy. Refer to Guideline B 2.2 "Inhaled Antibiotics for Patients Colonised with Pseudomonas aeruginosa" for Escalation ladder for inhaled treatment regimens.

6.3.2. Initial inhaled therapy is continuous nebulised colistin (Colomycin).

7. Burkholderia Cepacia Complex (BCC):

7.1. Eradication of New BCC Infection

Isolated samples should be genotyped. Infections can be transient so confirm infection with second sample. Evidence to support eradication of BCC infection is poor but due to the morbidity and mortality associated with chronic infection we advocate it is attempted.

Suggested eradication regimen:

1. Three IV antibiotics for a minimum of 14 days:
    i. IV tobramycin
    ii. IV ceftazidime or IV meropenem
    iii. PO/IV co-trimoxazole or IV temocillin
2. Three months of nebulised tobramycin or nebulised meropenem. Note BCC is inherently resistant to Colistin and therefore this should not be used.

7.2. Suppression of Chronic BCC Infection

Patients with chronic BCC infection should receive long-term nebulised tobramycin or meropenem. No evidence to support the addition of oral azithromycin.