Worcestershire Acute Hospitals NHS Trust

Pneumonia

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Key Amendments

Date	Amendment	Approved by
9th Feb 24	No changes to document	Paediatric Guideline Review

The following guidance is taken from the Partners In Paediatrics (PIP)

PNEUMONIA

If aged <1 month, refer to Neonatal guidelines

RECOGNITION AND ASSESSMENT

Definition

- Inflammation and consolidation of the lung caused by a bacterial, viral or mycoplasma infection
- Absence of clinical signs **AND** negative CXR makes pneumonia unlikely
- Up to 35% of lower respiratory tract infections have single virus as causative organism
- Can be presenting illness in cystic fibrosis and immunodeficiency states

Symptoms and signs

- Cough
- Fever
- Irritability
- Poor feeding
- Vomiting
- Tachypnoea at rest (most useful sign)

Awake or unsettled infants can have high respiratory rate on a single measurement; measure at rest and repeat

Table 1: WHO definition of tachypnoea

Age	Counted breath rate
<2 months	≥60/min
2–11 months	≥50/min
1–5 yr	≥40/min

- Bronchial breathing, inspiratory crackles
- Recession
- Abdominal pain (referred pleural pain)

Severe pneumonia

- >1 of following:
- temp >38.5°C
- respiratory rate >50 (>70 infant)
- infant moderate
  - severe recession
  - not feeding
  - apnoea
- infant severe (regardless of respiratory rate)
  - difficulty breathing
  - nasal flaring
  - grunting
- cyanosis
- tachycardia, capillary refill time >2 sec
- signs of dehydration

Investigations if severe

- Pulse oximetry
- FBC, blood culture
- Serum electrolytes (may have hyponatraemia owing to SIADH), CRP
- If mycoplasma pneumonia suspected, mycoplasma titre (indicate date of onset on request form) or PCR
- Sputum if able to provide good quality specimen
- Nasopharyngeal aspirate or nasal swab in viral transport medium for respiratory viruses
- If pertussis suspected, pernasal swab in charcoal transport medium
- Pleural fluid culture and pneumococcal PCR if aspirated
- If severe pneumonia, pneumococcal antigen in urine
- Routine chest radiography not advised if:
  - community acquired pneumonia
  - not admitted to hospital
- Do not perform lateral X-ray routinely

Differential diagnosis

- Bronchiolitis with atelectasis (usually aged <1 yr)
- Foreign body aspiration
- Tumour ('round' pneumonia)
- Empyema/lung abscess
- Tracheobronchitis
- Whooping cough

IMMEDIATE TREATMENT

See **Flowchart**

Pleural effusion

- See **Pleural effusion** guideline

SUBSEQUENT MANAGEMENT

- Change IV to oral within 24–48 hr
- If uncomplicated, total antibiotic course 7 days
- If complicated or staphylococcal pneumonia, treat for 14 days and 14–21 days for severe community acquired pneumonia
- Physiotherapy once cough productive
  - important if neuromuscular impairment results in poor clearance
- Maintain hydration
  - oral fluids if tolerated
  - if unable to take oral fluids use sodium chloride 0.9% with glucose 5% with potassium via IV infusion
  - restrict IV fluid replacement to 80% maintenance
  - monitor electrolytes

MONITORING TREATMENT

- Continuous SpO_2 monitoring if needing oxygen
- 1–4 hrly observation depending on severity of illness
- If no improvement in 24–48 hr, review diagnosis (repeat CXR) or treatment

DISCHARGE AND FOLLOW-UP

- Radiography follow-up if:
  - round pneumonia
  - collapse
  - persisting symptoms
- If previously healthy and recovering well radiography follow-up not required
  - previous lower respiratory tract infections
  - failure to thrive
- GP follow-up for all others within 6–8 weeks
- Convalescent mycoplasma titre can be obtained at this visit (indicate date of onset on request form)

Flowchart: Management of community acquired pneumonia in a previously well patient aged >1 month