

**Paediatric Clinical Management of Severe Acute Respiratory Infection (SARI) when 2019 Novel
Coronavirus (2019-nCoV) infection is suspected
Department of Medical Services**

Clinical syndromes associated with nCoV infection

Uncomplicated illness	Patients with uncomplicated upper respiratory tract viral infection, may have non-specific symptoms such as fever, cough, sore throat, nasal congestion, malaise, headache, muscle pain or malaise. The elderly and immunosuppressed may present with atypical symptoms. These patients do not have any signs of dehydration, sepsis or shortness of breath.
Mild pneumonia	Child with non-severe pneumonia has cough or difficulty breathing + fast breathing: fast breathing (in breaths/min): <2 months, ≥ 60 ; 2– 11 months, ≥ 50 ; 1–5 years, ≥ 40 and no signs of severe pneumonia.
Severe pneumonia	Child with cough or difficulty in breathing, plus at least one of the following: central cyanosis or SpO ₂ <90%; severe respiratory distress (e.g. grunting, very severe chest indrawing); signs of pneumonia with a general danger sign: inability to breastfeed or drink, lethargy or unconsciousness, or convulsions. Other signs of pneumonia may be present: chest indrawing, fast breathing (in breaths/min): <2 months, ≥ 60 ; 2–11 months, ≥ 50 ; 1–5 years, ≥ 40 . ² The diagnosis is clinical; chest imaging can exclude complications.
Acute Respiratory Distress Syndrome	Onset: new or worsening respiratory symptoms within one week of known clinical insult. Chest imaging (radiograph, CT scan, or lung ultrasound): bilateral opacities, not fully explained by effusions, lobar or lung collapse, or nodules. Origin of oedema: respiratory failure not fully explained by cardiac failure or fluid overload. Need objective assessment (e.g. echocardiography) to exclude hydrostatic cause of oedema if no risk factor present.
Sepsis	Children: suspected or proven infection and ≥ 2 SIRS criteria, of which one must be abnormal temperature or white blood cell count.

Septic shock	Children : any hypotension (SBP <5th centile or >2 SD below normal for age) or 2-3 of the following: altered mental state; tachycardia or bradycardia (HR <90 bpm or >160 bpm in infants and HR <70 bpm or >150 bpm in children); prolonged capillary refill (>2 sec) or warm vasodilation with bounding pulses; tachypnea; mottled skin or petechial or purpuric rash; increased lactate; oliguria; hyperthermia or hypothermia.
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Early supportive therapy and monitoring

Give supplemental oxygen therapy

Children with emergency signs (obstructed or absent breathing, severe respiratory distress, central cyanosis, shock, coma or convulsions) should receive oxygen therapy during resuscitation to target SpO₂ ≥94%; otherwise, the target SpO₂ is ≥90%

Empiric antimicrobials will be given by the decision of attending paediatrician.

Management of septic shock

Recognize septic shock in children with any hypotension (systolic blood pressure [SBP] <5th centile or >2 SD below normal for age) or 2-3 of the following: altered mental state; tachycardia or bradycardia (HR <90 bpm or >160 bpm in infants and HR <70 bpm or >150 bpm in children); prolonged capillary refill (>2 sec) or warm vasodilation with bounding pulses; tachypnea; mottled skin or petechial or purpuric rash; increased lactate; oliguria; hyperthermia or hypothermia.

In resuscitation from septic shock in children in well-resourced settings, give 20 ml/kg as a rapid bolus and up to 40-60 ml/kg in the first 1 hr

Indication For Transfer ICU

- Haemodynamic Instability
- Recurrent Apnoea or Slow irregular
- Breathing Rising. R R. And PR
- Failure to maintain. SpO₂ < 92 % with 8 lit of O₂

Monitoring (Needing Children for admission)

- RR, HR, SpO₂, Chest Indrawing and use of accessory muscle of respiration be monitored by 4 hourly

Antibiotic Therapy

- Viral pneumonia - no need for antibiotics
- Bacteria pneumonia if high Temperatures > 38 degrees Centigrade, High RR, Chest Recession

Children < 5 years of age First line Antibiotic

- PO Amoxicillin 40 mg / kg per dose twice daily for 5 days

2nd line of Antibiotic

- Co-amoxicillin 30 mg/kg/dose 3 times per day x 5-7 days
- Second or third generation Cephalosporins (Cefurixine, Cefprozil)

Children > 5 year and Older

- **First line** - Amoxicillin
- **Second line** - high Suspicion of Atypical Pneumonia – Azthromycin

For. 6 months and 17 years 10mg / kg per dose

- (Maximum 500 mg. Od For 3 days)

Antibiotic therapy for in patient First line.

- Injection Ampicillin 50 mg / kg per dose IV / IM Gentamicin 7.5 mg / kg per dose
- Injection Benzyl Penicillin (C pen) 50, 000unit per kg per dose OD for 5 to 7 days

2nd line.

- Injection Ceftriaxone 50 mg/ kg per OD IV / I'm
- Injection Co Amoxi Clav 30 mg / kg of Amoxicillin 8 hourly Or IV / I M Injection
Cefotaxime 200 mg / kg per day 3 divided dose IV / IM. OR Injection Cefuroxime 150 mg / kg per dose.

3rd line Injection Ceftazidime 30 mg / kg per dose 8 hourly

Other Aminoglycoside (Amikacin 2 mg / kg per dose 12 hourly if Sepsis is suspected)

Duration for In-patient settings

- Total duration - 7 days for mild to moderate patient More Severe case for 10 days
- Start with IV and Change Oral once
- The Clinical respond is good and the Child can Take Orally If the Child is vomiting
- Should be IV fluid. 80 % maintenance level and Serum Electrolyte.
- Should be monitored
- It is important to maintain Sp O₂ > 92 % For Children who are restless, tachycardic with severe chest indrawing, Cyanosis. Or not tolerate food
 - Nasal catheter , face mask or head box Posture Control
 - Oral paracetamol 15 mg/ kg per dose every 4 to 6 hourly to reduce the discomfort

Reference

1. Clinical management of severe acute respiratory infection when novel coronavirus (nCoV) infection is suspected (Interim guidance 12 January 2020)
2. WHO/nCoV/Clinical/2020.1
3. Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected (Interim guidance January 2020) WHO/2019-nCoV/IPC/v2020.1
4. Antibiotic guideline 2019 (North Okkalapa General and Teaching Hospital)
5. Infectious Diseases Subspecialty Consult (2nd edition)
6. SHW SOP for Wuhan Pneumonia (version 1)