Oxygen Therapy with Limited Resources
COVID-19 Severe Acute Respiratory Infection (SARI) and Pneumonia

KEY POINTS
- Practical oxygen therapy
- Prevent infections in hospital staff

Suspect and Confirm Diagnosis of Covid-19 Infection
- Diagnose by case definition, clinically, by laboratory test
- Put a simple surgical facemask on patient
- Start infection prevention and control (IPC) measures
- Consider staff personal protection equipment (PPE), disinfect medical equipment and dedicated Covid-19 hospital spaces

Suspect Severe Pneumonia and Confirm Need for Oxygen
- Respiratory signs and symptoms
- Adult or adolescent SpO₂ <90%
- Child SpO₂ <90%

Confirm Hypoxia by Pulse Oximeter
- Start oxygen therapy if SpO₂ <90%
- Nasal cannula (prongs) or nasal catheter or face mask
- Nasal prongs for child < 5 years
- Adjust O₂ flow to target SpO₂ >90%
- Try prone position - pillow under chest
- If SpO₂ not ↑ or <90% → advanced oxygen/ventilator care needed

Cautions
- Keep surgical facemask over prongs/under oxygen mask
- Droplet spread with high flow O₂ from all devices
- No humidification to be used

Oxygen Delivery Devices
- Nasal prongs O₂ 1–5 L/min ☐☐
- Nasal catheter O₂ 1–2 L/min (infant & child) ☐☐☐
- Oxygen face mask O₂ 6–10 L/min ☐☐☐☐
- Oxygen face mask reservoir bag O₂ 10–15 L/min ☐☐☐☐☐
  Make sure reservoir bag inflates
- Venturi oxygen face mask O₂ 4–15 L/min ☐☐☐☐☐
  O₂ flow rate device specific

Resource Limitations
- Oxygen supply or the availability of oxygen delivery devices
- Assess and monitor oxygen supply
- Consider disinfection of prongs and masks

Decontamination and Disinfection
- Physical cleaning
- Soak in 0.1% sodium hypochlorite solution for 30 minutes
  Contains 1000 ppm available chlorine

Preparation of 0.1% Sodium Hypochlorite Solution
Check concentration of sodium hypochlorite in household bleach contains 5% or 5g/100ml sodium hypochlorite (= 50,000 ppm chlorine). Dilute bleach 1:50 with tap water. One measure of bleach to 49 measures of tap water makes 0.1% solution = 1000 ppm chlorine. If bleach concentration is less, dilute accordingly to give 0.1% solution = 1000 ppm chlorine. Prepare a bucket in a well ventilated place. Store covered in a cool shaded place and discard at 24 hours. Do not mix with detergents. Avoid contact with eyes.
Thoroughly rinse the oxygen delivery devices before reuse.