

# 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 SpO<sub>2</sub> ≤90%
- Child SpO<sub>2</sub> <90%



#### Confirm Hypoxia by Pulse Oximeter

- Start oxygen therapy if SpO<sub>2</sub> <90%
- Nasal cannula (prongs) or nasal catheter or face mask
- Nasal prongs for child < 5 years
- Adjust O<sub>2</sub> flow to target SpO<sub>2</sub> >90%
- Try prone position - pillow under chest
- If SpO<sub>2</sub> not ↑ or <<90% → advanced oxygen/ventilator care needed



#### Cautions

- Keep surgical facemask over prongs/under oxygen mask
- Droplet spread with high flow O<sub>2</sub> from all devices
- No humidification to be used

#### Oxygen Delivery Devices

- Nasal prongs O<sub>2</sub> 1–5 L/min
- Nasal catheter O<sub>2</sub> 1–2 L/min (infant & child)
- Oxygen face mask O<sub>2</sub> 6–10 L/min
- Oxygen face mask reservoir bag O<sub>2</sub> 10-15 L/min   
*Make sure reservoir bag inflates*
- Venturi oxygen face mask O<sub>2</sub> 4–15 L/min   
*O<sub>2</sub> 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.**