Neonatal respiratory distress and CPAP ≥ 32 weeks GA

**Signs**
- Tachypnoea > 60 breaths/minute
- Audible expiratory grunt
- Sternal, intercostal, lower costal recession
- Nasal flaring
- Cyanosis/Oxygen need
- Increased respiratory effort

**Principles of care**
- Oxygenation
  - Maintain SpO2 within target range
    - Term baby 92–98%
    - Preterm baby 90–95%
  - Monitor continuously SpO2 (preferably probe on right hand), respiratory rate, heart rate
- Blood gas
  - PCO2 may assist assessment
- Sepsis management
  - Full blood count and blood cultures
  - Antibiotics as per local policy or
  - Penicillin or Ampicillin and Gentamicin
- Chest x-ray to identify:
  - Air leak (e.g. pneumothorax)
  - Congenital diaphragmatic hernia
  - Chest masses/Cardiomegaly

**Blood glucose level**
- Treat if < 2.6 mmol/L

**Supportive care**
- Family centred approach
- Observe unclad in incubator
- Thermoneutral environment
- Minimal handling
- Developmental care

**Consult/Refer/Transfer as indicated**

**Guideline for consultation and referral**
- Level 1–5 neonatal service
  - As desired/required
- Level 2–3 neonatal service
  - If O2 ≥ 30% to maintain SpO2 within target range
  - If O2 requirement rapidly increases
  - If < 35 weeks GA
- Level 4 neonatal service or above
  - If stable in 21% O2 and
  - CPAP 5 cm H2O
  - Recurrent apnoeic episodes requiring stimulation
  - Increased work of breathing (sternal and intercostal recession, grunting, tachypnoea)
  - Agitation that cannot be relieved

**Ongoing care as indicated**
- Clinical assessment
- Supportive care
- Consult with higher level service
- Transfer/retrieval
  - Coordinate via RSQ
- Monitor continuously:
  - O2 requirement
  - PaCO2, pH
  - SpO2
- Vital signs + work of breathing
- Eyes are clearly visible
- CPAP interface positioned correctly
- Water level in humidifier
- Humidifier and circuit temperature
- CPAP pressure
- Nasal flaring
- O2 requirement
- O2 requirement
- Improved
- Blood gas
- Chest x-ray
- Patient comfort

**CPAP**
- At 8 cm H2O
- To maintain SpO2 within target range

**Signs of failure**
- O2 > 50% to maintain SpO2 within target range
- A rapid rise in O2 requirement—10% over 2 hours (e.g. an increase from 30% to 40%)
- A respiratory acidosis (e.g. pH < 7.25 with a normal base excess, or PaCO2 > 60 mmHg)
- Recurrent apnoeic episodes requiring stimulation
- Increased work of breathing (sternal and intercostal recession, grunting, tachypnoea)
- Agitation that cannot be relieved

**Signs of improvement**
- Decreased
  - Respiratory rate
  - Grunting
  - Sternal/intercostal recession
  - Nasal flaring
  - O2 requirement
  - Improved
  - Blood gas
  - Chest x-ray
  - Patient comfort

**Wean/cease CPAP**
- Pressure 1 cm every 2–4 hours until 5 cm

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Queensland Clinical Guideline. Neonatal respiratory distress including CPAP. Flowchart: F14.3-1-V6-R19