CHRONIC LUNG DISEASE • 1/2

RECOGNITION AND ASSESSMENT

Definition

	Gestational age	
	<32 weeks	**≥32 weeks**
Time of assessment	36 weeks' CGA or discharge	>28 days, but <56 days postnatal age or discharge
Treatment with oxygen	**≥**28 days	**≥**28 days
	Bronchopulmonary dysplasia	
Mild	In air at 36 weeks' CGA or discharge	In air by 56 days postnatal age or discharge
Moderate	<30% oxygen at 36 weeks' CGA or discharge	<30% oxygen at 56 days postnatal age or discharge
Severe	≥30% oxygen +/- CPAP or ventilation at 36 weeks' CGA or discharge	≥30% oxygen +/- CPAP or ventilation at 56 days postnatal age or discharge

Target saturations 93–97% at 36 weeks' CGA (see **Oxygen saturation** guideline for details)

Investigations at time of assessment (see above)

- Blood gas
- Chest X-ray: homogenous opacification of lung fields developing after first week after birth or coarse streaky opacities with cystic translucencies in lung fields can be suggestive of CLD
- Echocardiography to rule out pulmonary hypertension or structural pathology
- Electrocardiography to rule out pulmonary hypertension
- Overnight pulse oximetry study (see **Oxygen on discharge** guideline)

TREATMENT

Optimise ventilation strategies

- Volume-targeted/volume-guarantee ventilation is preferred mode of ventilation in neonates
- if using pressure limited ventilation, use lowest possible ventilator pressures to deliver appropriate tidal volumes to minimise volutrauma/barotrauma [see **Ventilation**: **volume-targeted (volume guarantee/targeted tidal volume)** and **Ventilation: synchronous positive pressure ventilation (SIPPV)** guidelines]

Optimise nutrition

- Ensure adequate nutrient intake (120% of normal) because of increased work of breathing
- If growth unsatisfactory, involve neonatal/paediatric dietitian (see **Nutrition and enteral feeding** guideline)
- Avoid fluid overload

Corticosteroids

- If ventilator-dependent and requiring increasing or persistently high oxygen intake, consider using corticosteroids
- treatment with corticosteroids (dexamethasone/hydrocortisone) is a consultant decision
- **do not** use dexamethasone with non-steroidal anti-inflammatory drugs
- Inform parents of potential short-term and long-term adverse effects
- Obtain oral consent and record in notes

Short-term side effects of corticosteroids

- Risk of infection
- Poor growth
- Reversible ventricular hypertrophy
- Gastrointestinal perforation and bleeding
- Adrenal suppression
- Glucose intolerance

Long-term side effects of corticosteroids

- Increased risk of neurodisability

Doses

- Use **Neonatal Formulary** for dexamethasone dosage regimen (consultant decision on DART versus Minidex® regimen)
- If respiratory status worsens after initial improvement repeat course may be needed (consultant decision)

Monitoring while on corticosteroids

- Daily BP and urinary glucose

Diuretics

- Use of diuretics to improve lung function (consultant decision). Diuretics of choice are chlorothiazide and spironolactone (use of spironolactone can be guided by serum potassium). Avoid amiloride due to its lung fluid retaining properties
- Side effects include hyponatraemia, hypo/hyperkalaemia, hypercalciuria (leading to nephrocalcinosis) and metabolic alkalosis
- If no improvement on diuretics, stop after 1 week

SUBSEQUENT MANAGEMENT

Monitoring treatment

Continuous

- Aim for SpO_2 91–95% until 36 weeks' CGA
- After 36 weeks' CGA, maintain SpO_2 93–97% to prevent pulmonary hypertension
- Warm and humidify supplemental oxygen unless on low-flow oxygen
- Monitor weight, length and head growth (see **Growth monitoring** guideline)
- Assess for gastro-oesophageal reflux [see **Gastro-oesophageal reflux disease (GORD)** guideline]
- Aim to stop diuretic therapy before discharge (consultant decision)

DISCHARGE AND FOLLOW-UP

- If still oxygen-dependent at time of discharge (see **Oxygen at discharge** guideline)
- Long-term neurodevelopmental and respiratory follow-up