

PREVENTION AND MANAGEMENT OF BPD

Prevention and Management in **First** Week of Life

- Give Caffeine if <32+0 GA, avoid fluid overload and delay Na-supplementation until good urine output
- Extubate to bubble CPAP/HHFNC asap
- Start **early hydrocortisone**, if
 - ventilated at 5 days of life and $FiO_2 > 0.4$ or $PCO_2 > 8.5\text{kPa}$
 - CXR changes of hyper-expansion and/or patchy areas of density and emphysema
 - history of chorioamnionitis/early neonatal sepsis
- Screen ventilated babies who cannot be extubated for Ureaplasma
- Consider early targeted PDA treatment

Management **after the First** Week of Life

- Start **dexamethasone** for rescue treatment or extubation, if $FiO_2 > 0.6$. Wean asap.
- Start **late hydrocortisone**, if
 - $FiO_2 > 0.4$ irrespective of respiratory support mode
 - already received one dexamethasone course
- Switch to adrenal hypoplasia dose, if an extended low dose treatment required; consider random cortisol and Synacthen Test
- Consider bronchodilators, inhaled corticosteroids, mucolytic therapies and physiotherapy for acute respiratory decompensation and short term use of diuretics to aid extubation, weaning or preventing re-intubation
- Consider ECHO for pulmonary hypertension and pulmonary vein obstruction
- Consider high energy formula to reduce fluid overload and GERD after discussion with dietician

Assessment for BPD and Referral to the Respiratory and HDU Team

- Review any premature infant born <30+0 GA at 34+0 CGA for the presence of BPD:
 - persistent parenchymal lung disease with radiographic confirmation
 - criteria for Yellow/Orange/Red Zone for >3 consecutive days to maintain oxygen saturation between 90 and 95% (saturation limits 89 – 96%)

Grade	Mechanical Ventilation	SIPAP/NCPAP/HHFNC (≥ 3 l/min)	HHFNC (< 3 l/min)	Low Flow NC* (≤ 1 l/min)
0	No	No	No	No
I	No	Yes, in air	Yes, in $FiO_2 \leq 0.3$	Yes, in $FiO_2 \leq 0.4$
II	Yes, in air	Yes, in $FiO_2 \leq 0.3$	Yes, in $FiO_2 > 0.3$	Yes, in $FiO_2 > 0.4$
III	Yes, in O_2	Yes, in $FiO_2 > 0.3$		

* Please refer to the Non-Invasive Respiratory Support Guideline for further details about low flow cannula and oxygen concentration

- Red Zone:** Likely to need prolonged hospital admission with any mode of respiratory support. Refer to the Respiratory Team and RACH HDU at 34+0 CGA. ECHO for pulmonary hypertension and pulmonary vein obstruction at 36+0 CGA.
- Orange Zone:** Unlikely to need prolonged hospital admission with non-invasive respiratory support, but likely to be discharged home in oxygen. Refer to the Respiratory Team at 34+0 CGA. ECHO for pulmonary hypertension and pulmonary vein obstruction at 36+0 CGA.
- Yellow Zone:** Very unlikely to need prolonged hospital admission with non-invasive respiratory support and unlikely to be discharged home in oxygen. Refer to the Respiratory Team at 36+0 CGA if still requiring oxygen. Consider ECHO at 36+0 CGA if still in oxygen.
- Green Zone:** Does not need oxygen. Do not refer to the Respiratory Team.