

CONSIDERATIONS:

- Infants <28 0/7wks CGA should generally be maintained on NIPPV.
- Maintain on CPAP until no WOB and baseline FiO₂ <25% and at least 32 wks gestation.
- HHHFNC (RAM, Infant flow, or Vapotherm) should generally be reserved for infants born ≥32 0/7wks or those with skin breakdown or significant cranial molding issues.
- When weaning, goal is <10% increase in FiO₂, comfortable WOB, RR<60 and pC0₂ 50-65. No more than 6 apnea spells in 24 hours requiring stimulation.

INITIAL CPAP SETTINGS: Discontinue NIPPV rate and continue at approximate MAP achieved on NIPPV.

LAB WORK/IMAGING:

- POCT gases one hour following initiation and PRN.
- Weekly CBG
- Consider CXR within 6-24 hours with change in mode of support and PRN. Avoid hyperinflation.

ADDITIONAL CONSIDERATIONS:

- Transcutaneous pCO₂ monitor. May wish to avoid in chronic phase of disease.
- Minimize time off CPAP.
- Refer to NIV Skin Care Guidelines (TBD)
- Two staff members present for cares and/or when switching mask/prongs to avoid atelectasis.
- Weekly skin care rounds by respiratory team to evaluate for skin breakdown

WEANING DOWN CRITERIA*:

- Stability Criteria (must meet all criteria to wean)
 - FiO₂ <25%
 - No significant apnea (>2 moderate episodes in 12h or >3 in 24h or any spell requiring PPV)
 - Saturations within criteria 90-95% most of the time.
 - Blood gas pH >7.25 pC0₂ <65 and base deficit <8 (if available)
- If any 2 or more failure criteria are met (see below) return to previous settings

WEANING OFF CRITERIA*:

- Maintain on CPAP+5 until ≥32 0/7wks and ≥1600gm. Once Stability Criteria met for 24-48 hrs and FiO₂ 21% proceed as below.
- Infant should be able to tolerate time off CPAP during cares up to 15 min or more
- Goal to get to PEEP 5 FiO₂ 21%, and hold until all criteria are met, then trial straight to RA
- If fails room air due to desaturations, then may trial LFNC: if significant ROP may use 0.5LPM NC blended oxygen (goal baseline FiO₂ need <30%), if no sig ROP may use home O₂ (max for 2-3 kg is 1/8 LPM, 3-4 kg is 1/4 LPM, 4-5 kg is 1/2 LPM)

FAILURE OF WEAN OR WEAN OFF:

- Significantly increased work of breathing
- Tachypnea >60 for >2hrs and retractions
- Significant apnea (>2 episodes in 12h or >3 in 24h or any spell requiring PPV)
- Increased FiO₂ >10% (follow graph in room for infants on home oxygen)
- Abnormal blood gas with pCO₂ >65
- If failure criteria met after RA/LFNC attempt, and infant remains <34wks, return to CPAP 5 for one week
- Monitor for failure criteria for 7 days once off support.

***IF STILL CPAP DEPENDENT AT 36 WEEKS:**

- Consider airway evaluation if clinical indication
- Consider GER pathway
- Weekly blood gas to evaluate for chronic retention
- Consider continuing caffeine until no longer requiring positive pressure
- Echo at 36 wks and prior to d/c to evaluate for PHN (consider monthly in severe cases)
- Pulmonology consult around 38-40 weeks
- OT to work with infants on oral feedings
- Older infants with BPD may require higher PEEP (+8/+9) to maintain FRC- goal to keep FiO₂ < 25% and they may do RA/LFNC trial q 1-2 weeks directly from higher PEEP
- **May consider prolonged CPAP up to 50 weeks CGA if improving and no significant issues other than BPD**