

HIGH-FLOW NASAL CANNULA (HFNC) FOR BRONCHIOLITIS

Protocol Exclusion Criteria

- > 36 months of age
- Primary diagnosis other than bronchiolitis or viral pneumonia such as bacterial pneumonia or being treated for asthma (steroids)
- Apnea or bradycardia requiring intervention
- Co-morbid conditions:
 - Air leak/pneumothorax
 - Anatomic or acquired airway defects (i.e. croup, stenosis)
 - Neuromuscular disease
 - Chronic lung disease with chronic O2 need
 - Abnormal respiratory status at baseline
 - Hemodynamically significant cardiac condition (e.g. unrepaired VSD, need cardiac meds, complex congenital heart disease)

LOCATION

- Admitted to Davis 7 can initiate there and remain if meeting criteria
- Transfers and ED: admit to ICU for HFNC

CRITERIA for INITIATING HFNC

- No exclusion criteria
- RAC severe (consider for RAC moderate)

- Requires >2L/min NC at 100% fiO2

CRITERIA for HFNC OUTSIDE of ICU

- 4 months old
- Requires suctioning every 2 hours or less frequent
- FiO2 weaned to < 0.5 within 1 hour of initiation of HFNC
- Flow < 2 L/kg/min (MAX 20L/min)
- Resolution of SEVERE work of breathing component of RAC within 1 hour of initiation of HFNC

CRITERIA for TRANSFERRING out of ICU on HFNC

- Improving or stable RAC – recommend minimum of 6 hours in the ICU, unless comes off HFNC then no minimum
- Meets above criteria for remaining on HFNC outside of ICU

RESPIRATORY ASSESSMENT CLASSIFICATION (RAC)				
Can be used on patients on and off HFNC. If patient requires suctioning, use post-suctioning classification. Preferably classify when the child is calm unless child is inconsolable.				
ASSESSMENT COMPONENTS		CLASSIFICATION		
		Mild	Moderate	Severe
AGE-BASED RR	≤ 3 months	≤ 60	61-69	≥ 70
	4 – 12 months	≤ 50	51-59	≥ 60
	> 12 months	≤ 40	41-44	≥ 45
WORK OF BREATHING		Normal OR mild retractions	Moderate retractions	Severe retractions, head bobbing, OR grunting
MENTAL STATUS		Baseline	Fussy, anxious, OR sleepy	Lethargic (not just sleepy), OR inconsolable
The HIGHEST score for any component determines the patient’s classification. A severe rating in any component would indicate a SEVERE classification. A mix of mild and moderate ratings would indicate a MODERATE classification. When in doubt, err on the side classifying a patient as more severe.				

RT or RN ASSESSMENT TIMELINE per RESPIRATORY CLASSIFICATION

- Can be assessed more frequently, and may be more frequent after HFNC initiation
 - Initiation huddle (RN/RT/MD) and reassess within 1 hour for meeting criteria to remain out of ICU if initiated on Davis 7.
 - Moderate or Severe RAC - every 2 hours (RN/RT shared responsibility).
 - Mild RAC – every 4 hours

Nutrition Considerations (Goal to start within 6 hrs)

- Oral feeds for all of the following:
 - RR < 70 for age < 3 mo
 - RR < 60 for 4-12 mo
 - RR < 50 for age > 12 mo
 - HFNC < 2 L/kg/min or per MD discretion
 - RAC mild or moderate or MD discretion
- Consider continuous/bolus NG feeds if:
 - Poor PO intake
 - Concerns for aspiration
- Trial ND if not tolerating continuous NG



WEIGHT BASED FLOW RATES		
WEIGHT	FLOW	FIO2
< 10 kg	2 L/kg/min	Initiate at 0.5 Titrate for SpO2 90-95% awake ≥ 88% asleep That doesn't improve with suctioning
≥ 10 kg	20 L/min	

Round to nearest whole number flow for weight-based flows.
Examples 4.6 kg x 2 L/kg/min = 9 L/min 12.5 kg = 20 L/min
Titrate FiO2 to **target SpO2 90-95%**. Consider escalation of flow rate if FiO2 > 0.5

Other resources

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