The Children's Hospital at Montefiore

High Flow Nasal Cannula Clinical Pathway: Bronchiolitis

Initiation Pathway

Prior to Initiation:
-Nasal suction then score
-Notify bedside RN, RT and MD
-Make NPO; offer breast pump if breastfeeding
-Consider PIV or NGT

-Intiate HFNC at following flow rates:
4 lpm for <6 mos of age
6 lpm for ≥ 6 mos of age
-Titrate FiO2 to maintain O2 sat ≥ 90%

In 15 minutes:
- obtain and document Respiratory Score, RR, pulse oximetry, HR and BP

Respiratory Score improves to ≤8?

No → Increase flow rate q15min to a maximum of:
8 lpm for < 6 mos of age
10 lpm for ≥ 6 mos of age

Yes → -Continue q15 min assessments as above for 1 hour
-HUDDLE 60 min post-initiation: Bedside RN, RT, MD

Respiratory Score improves to ≤8?

Yes → -Continue q15 min assessments as above for 1 hour
-HUDDLE 60 min post-initiation: Bedside RN, RT, MD

No → -Activate PMET to arrange PCCU transfer
-Place PIV if not done already
-May increase maximum flow rates/increase FiO2 while awaiting transfer, with ICU guidance

Inclusion criteria:
Previously healthy children with bronchiolitis
-Age 40 weeks CGA to 24 months
-One of the following:
1) Severe respiratory distress
2) Significant hypoxemia (Requiring >2 lpm NCO2)
3) RS persistently 9-12
-HFNC from ER: stable ≥1 hr RS≤8; max flow 6L<6mos, 8L≥6mos; FiO2 ≤50%
-HFNC from PICU: stable ≥4hrs, 4Lflow, FiO2 ≤50%

Exclusion criteria:
-ANY pre-existing medical condition, including BPD
-CGA <40 weeks
-Any apnea
-Altered mental status
-Poor perfusion

Maintenance

MONITORING:
-Continuous pulse oximetry,
-Suction then score q2h
-Document HR, RR, pulse oximetry q2h

FEEDING:
-May resume PO feeding if RR<60, with 1st feeding observed by staff
-If RR remains >60, consider continuous NG feeds

Consider proceeding to Weaning Pathway after 4 hours of Respiratory Score <5

Escalation: Activate PMET to arrange PCCU transfer if:
- Unchanged or worsening: RS remains ≥9 despite maximum flow **(8 lpm <6 mos, 10 lpm ≥6 mos)**
-Any apnea
- FiO2 requirement ≥50% to maintain O2 sat ≥90%
-Altered mental status
-Poor perfusion

Weaning Pathway

Clinically improving?
-RS<5, RR/HR improved
-No apnea
-FiO2 ≤50%
-Normal mental status
-Adequate perfusion

-Wean FiO2 to maintain O2 sat ≥ 90%
-Wean flow by 1 lpm q2h
-Document HR, RR, pulse oximetry q2h
-Suction then score q2h

Respiratory Score 1-4
-Continue weaning as above
-When stable at 2 lpm and <30% FiO2 for 4h, trial on room air or low flow NC O2
Follow Inpatient Bronchiolitis Pathway

Respiratory Score 5-8
Return to Maintenance phase and continue current flow rate

Respiratory Score 9-12
Return to Initiation phase and increase flow rate q15min until RS≤ 8, to maximum rates

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