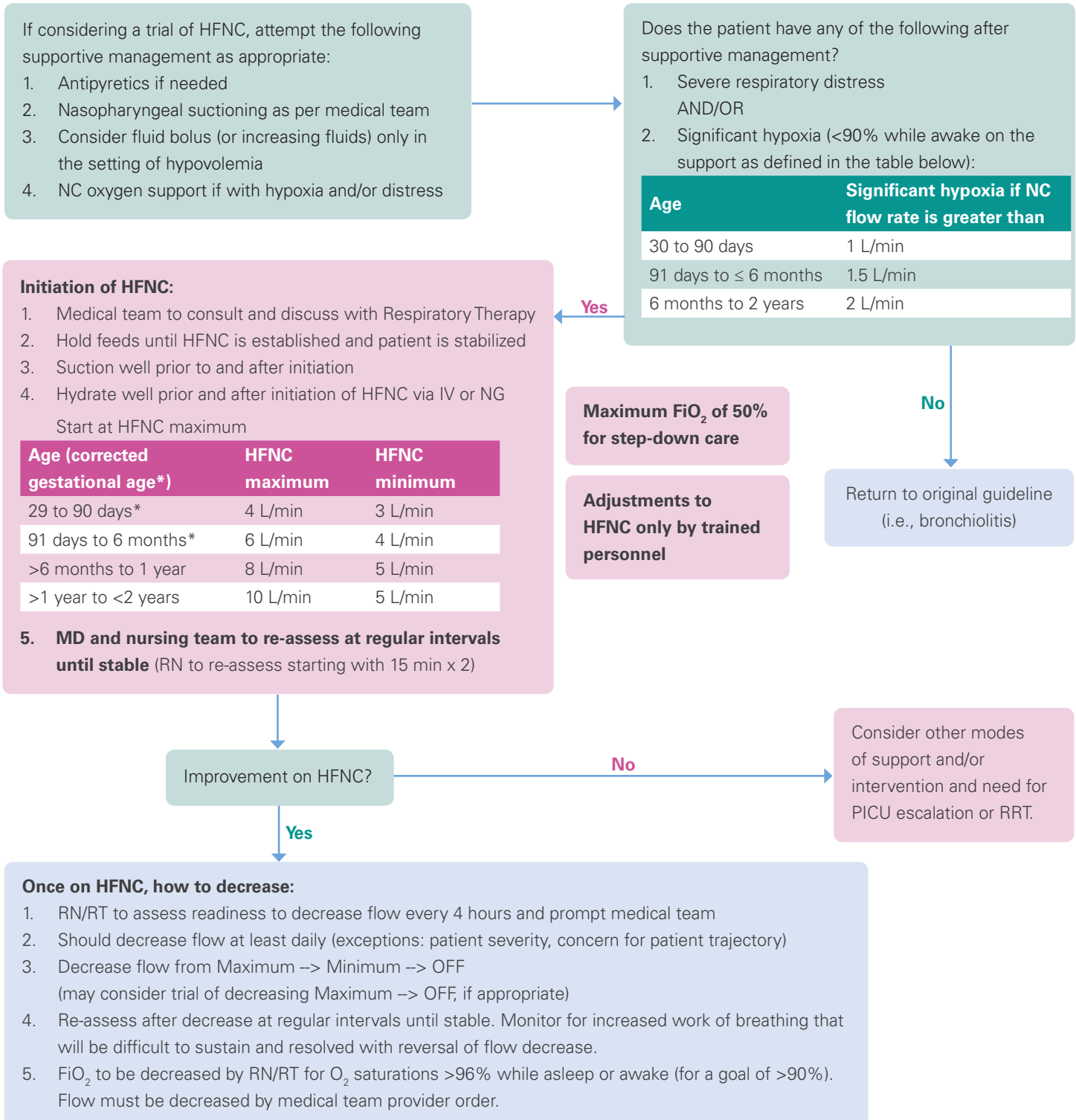


# Clinical Guideline

 This guideline should not replace clinical judgment.

## High-flow nasal cannula use in bronchiolitis

Pediatric Emergency and Hospital Medicine (step-down care)



# Clinical Guideline

## High-flow nasal cannula use in bronchiolitis

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**Additional notes:**

**Considerations for transfer to the PICU:**

1. Signs and symptoms of respiratory distress and/or persistent desaturations despite maximal HFNC and oxygen support
2. Concern for trajectory of patient illness and course
3. Any concern based on clinical judgment

**Once on HFNC - feeding recommendations as per provider discretion:**

1. May be started on IVF initially.
2. NG should be placed and enteral continuous feeds initiated for patients who remain NPO for greater than 24 hours after admission. May also consider ND tube placement.
3. Per provider discretion, may attempt oral feeding when the flow has been decreased to HFNC minimum, in the absence of signs of respiratory distress.
4. First oral feeding should be supervised by medical provider, RN or SLP.
5. Discontinue oral feeding in the presence of increased coughing, choking or respiratory distress.

# High-Flow Nasal Cannula Guideline

## Executive Summary

### Children's Hospital of Richmond at VCU High-Flow Nasal Cannula Workgroup

**Pediatric Hospital Medicine Owner:** Ashlie Tseng, MD

**Pediatric Respiratory Therapy:** Jennifer L. Reed, BS, RRT

**Pediatric Respiratory Committee (consulting):** Douglas Willson, MD

**Pediatric Emergency Medicine Nursing Practice Council (consulting):** Celia Hanson, RN, CPEN

### Approved (August 2018)

**Pediatric Emergency Medicine Quality Committee:**

Rashida Woods, MD

**Chief of Emergency Medicine:**

Harinder Dhindsa, MD, MPH, MBA, FACEP, FAAEM

**Chief of Pediatric Hospital Medicine:**

David Marcello III, MD

**CHoR Clinical Guidelines Committee:**

Jonathan Silverman, MD

**CHoR Quality Council, Executive Sponsor:**

Jeniece Roane, MS, RN, NE-BC

José Muñoz, MD

### References

Bressan S, Balzani M, Krauss B, Pettenazzo A, Zanconato S, Baraldi E. High-flow nasal cannula oxygen for bronchiolitis in a pediatric ward: a pilot study. *Eur J Pediatr.* 2013 Dec;172(12):1649-56. doi: 10.1007/s00431-013-2094-4. Epub 2013 Jul 31. PubMed PMID: 23900520.

Franklin D, Babl FE, Schlapbach LJ, Oakley E, Craig S, Neutze J, Furyk J, Fraser JF, Jones M, Whitty JA, Dalziel SR, Schibler A. A Randomized Trial of High-Flow Oxygen Therapy in Infants with Bronchiolitis. *N Engl J Med.* 2018 Mar 22;378(12):1121-1131. doi: 10.1056/NEJMoa1714855. PubMed PMID: 29562151.

Kepreotes E, Whitehead B, Attia J, Oldmeadow C, Collison A, Searles A, Goddard B, Hilton J, Lee M, Mattes J. High-flow warm humidified oxygen versus standard low-flow nasal cannula oxygen for moderate bronchiolitis (HFWHO RCT): an open, phase 4, randomised controlled trial. *Lancet.* 2017 Mar 4;389(10072):930-939. doi: 10.1016/S0140-6736(17)30061-2. Epub 2017 Feb 2. PubMed PMID: 28161016.

McKiernan C, Chua LC, Visintainer PF, Allen H. High flow nasal cannulae therapy in infants with bronchiolitis. *J Pediatr.* 2010 Apr;156(4):634-8. doi: 10.1016/j.jpeds.2009.10.039. Epub 2009 Dec 29. PubMed PMID: 20036376.

Ralston SL, Lieberthal AS, Meissner HC, Alverson BK, Baley JE, Gadomski AM, Johnson DW, Light MJ, Maraqa NF, Mendonca EA, Phelan KJ, Zorc JJ, Stanko-Lopp D, Brown MA, Nathanson I, Rosenblum E, Sayles S 3rd, Hernandez-Cancio S; American Academy of Pediatrics. Clinical practice guideline: the diagnosis, management, and prevention of bronchiolitis. *Pediatrics.* 2014 Nov;134(5):e1474-502. doi: 10.1542/peds.2014-2742. Erratum in: *Pediatrics.* 2015 Oct;136(4):782. PubMed PMID: 25349312.

Riese J, Fierce J, Riese A, Alverson BK. Effect of a Hospital-wide High-Flow Nasal Cannula Protocol on Clinical Outcomes and Resource Utilization of Bronchiolitis Patients Admitted to the PICU. *Hosp Pediatr.* 2015 Dec;5(12):613-8. doi: 10.1542/hpeds.2014-0220. Epub 2015 Jan 1. PubMed PMID: 26545390.

Riese J, Porter T, Fierce J, Riese A, Richardson T, Alverson BK. Clinical Outcomes of Bronchiolitis After Implementation of a General Ward High Flow Nasal Cannula Guideline. *Hosp Pediatr.* 2017 Apr;7(4):197-203. doi: 10.1542/hpeds.2016-0195. Epub 2017 Mar 14. PubMed PMID: 28292850.

Seattle Children's Hospital, Zaman S, Beardsley E, Crotwell D, Di Blasi R, Foti J, Hoffer D, Ringer C, Roberts J, Slater A, Striegl A, Villavicencio C, 2017. Bronchiolitis Pathway. Available from: <http://www.seattlechildrens.org/pdf/bronchiolitis-pathway.pdf>

Schibler A, Pham TM, Dunster KR, Foster K, Barlow A, Gibbons K, Hough JL. Reduced intubation rates for infants after introduction of high-flow nasal prong oxygen delivery. *Intensive Care Med.* 2011 May;37(5):847-52. doi: 10.1007/s00134-011-2177-5. Epub 2011 Mar 3. PubMed PMID: 21369809.

# High-Flow Nasal Cannula Guideline

## Executive Summary

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*Title:* **High-Flow Nasal Cannula Guideline**

*Authors:*

**Children's Hospital of Richmond at VCU**

Ashlie Tseng, MD

Jennifer L. Reed, BS, RRT

Douglas Willson, MD

Celia Hanson, RN, CPEN

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*Retrieval website:* **<http://www.chrichmond.org/clinical-pathway-HFNC>**

*Example:*

Children's Hospital of Richmond at VCU, Tseng A, Reed J, Willson D, Hanson C. HFNC Guideline. Available from:

<http://www.chrichmond.org/clinicalguideline-HFNC>