

# Does the use of high flow nasal cannula (HFNC) oxygen therapy safely improve outcomes in infants with bronchiolitis?

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## Bronchiolitis

- Common (1/3 of children)
- Viral lower respiratory tract infection
- Typically < 1 year of age
- 2 - 3% hospital admission (30000 / year)
  - 2 - 6% PICU admission



## HFNC

- Heated, humidified gas
- Improved O<sub>2</sub> delivery to terminal airways
- Dead space washout
- Reduced inspiratory resistance
- Increased lung compliance

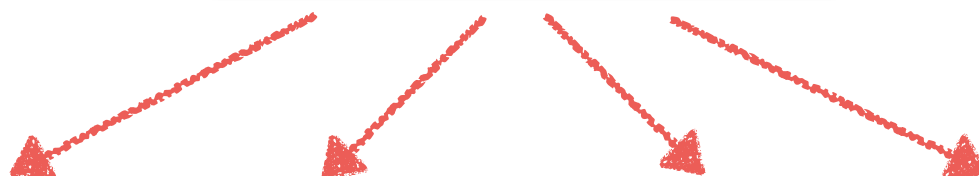


### NICE bronchiolitis guidelines<sup>1</sup>:

Acknowledge the *widespread use* of HFNC oxygen therapy but give *no recommendation* for its use in the management of bronchiolitis

Literature Review  
(Medline / Embase / Bibliography review)

4 Randomised Control Trials  
6 observational studies



Outcomes	Economics	Safety	Future
HFNC therapy reduced intubation rates <sup>2,3</sup> + escalation of care <sup>4,5</sup>	Cost implications are considerable but remediable <sup>1,5</sup>	No adverse incidents reported in any study <sup>4-9</sup>	Outcome of PARIS study (large, multi-centre RCT) awaited <sup>10</sup>

## Limitations

- Blinding impossible
- Small sample sizes
- Performance bias common
- High risk babies often excluded
- Some interventions not generalisable

## References

1. National Institute for Health and Care Excellence, 2015
2. McKiernan et al, 2010
3. Bermudez et al, 2017
4. Mayfield et al, 2014
5. Kepreotes et al, 2016
6. Bressan et al, 2013
7. Campana et al, 2014
8. Davison et al, 2017
9. Miles et al, 2017
10. Franklin et al, 2015