

A pediatric high-flow nasal cannula protocol standardizes initial flow and expedites weaning.

Robert K. Wisner MD. *Pediatr Pulmonol.* 2021 May;56(5):1189-1197

Objective : Respiratory illnesses compose the most common diagnoses of patients admitted to pediatric intensive care units. In pediatrics, high-flow nasal cannula (HFNC) therapy is an intermediate level of respiratory support with variability in practice. We conducted a pre-post intervention study of patients placed on HFNC therapy before and after the implementation of an HFNC protocol.

Methods : This was a quality improvement/pre-post intervention study of pediatric patients who received HFNC therapy in our teaching, tertiary care children's hospital between January 2015 and April 2019. Patients were evaluated before and after the implementation of a protocol that promoted initiation of higher flow and rapid weaning. Our primary outcomes were initial flow and rate of weaning pre- and post-protocol; our secondary outcomes were HFNC failure rate (defined as escalation to noninvasive ventilation or mechanical ventilation) and length of hospital stay. Propensity matching was used to account for differences in age and weight pre- and post-protocol.

ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet



HFNC – is it a real new beginning ?

Results:

In total, 584 patients were included, 292 pre-protocol, and 292 post-protocol. The median age was 20 months, and **the indication for HFNC therapy was bronchiolitis in 29% of patients.** Post-protocol patients compared to pre-protocol patients had significantly a higher initial flow (median 14.5 L/min vs. 10 L/min, $p < .001$) and a higher weaning rate of flow (median 4.1 L/min/h vs. 2.4 L/min/h, $p < .001$). **Post-protocol patients also had a lower HFNC failure rate (10% vs. 17%, $p = .015$) and a shorter length of stay (5.97 days vs. 6.80 days, $p = .006$).**

Conclusions : Among pediatric patients, the implementation of an HFNC protocol increases initial flow, allows for more rapid weaning, and may decrease the incidence of escalation to noninvasive ventilation or mechanical ventilation.

Key messages: HFNC will be a standard of care with excellent results for early weaning, circumventing invasive ventilation in children with respiratory illnesses.

EXPERT COMMENT

“HFNC – may enhance faster weaning off oxygen and hence decrease length of hospital stay in children with respiratory distress .”

DR ILIN KINIMI

Consultant, Pediatric Pulmonologist

Fellowship in Pediatric Pulmonology & Sleep Medicine (Singapore)

ERS Diplomate in Pediatric Respiratory Medicine

Manipal Hospitals, Bangalore

With warm regards,

**DR MANINDER S
DHALIWAL**

DR. PIYUSH GUPTA
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Reference

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