Chaudhuri et al. June 2020, American College of Chest Physicians

High flow nasal cannula (HFNC) in the immediate post-operative period: A systematic review and meta-analysis.

Publication:
Systematic review & meta-analysis

Objectives:

Is routine HFNC use superior to continuous oxygen therapy (COT) or noninvasive venilation (NIV) in preventing intubation in post-operative patients.

Systematic Review with meta-analysis

Systematic review search method

Searched 'high flow nasal cannul*' etc AND (adult OR mature OR grown)
Filters: Publication date from 1 Jan 2007 to 6 Nov 2019; Humans; English; Spanish

Total n=650
PubMed 224
Web of Science 128
Embase 298

RCT n=11

Devices & settings

91%

91% of the analyzed studies used F&P Optiflow Systems

Meta-analysis results
NHF vs COT (10 RCTs)

Decreased risk of requiring intubation:
Relative risk [RR] 0.32, 95% confidence interval [CI] 0.12 - 0.88, moderate certainty

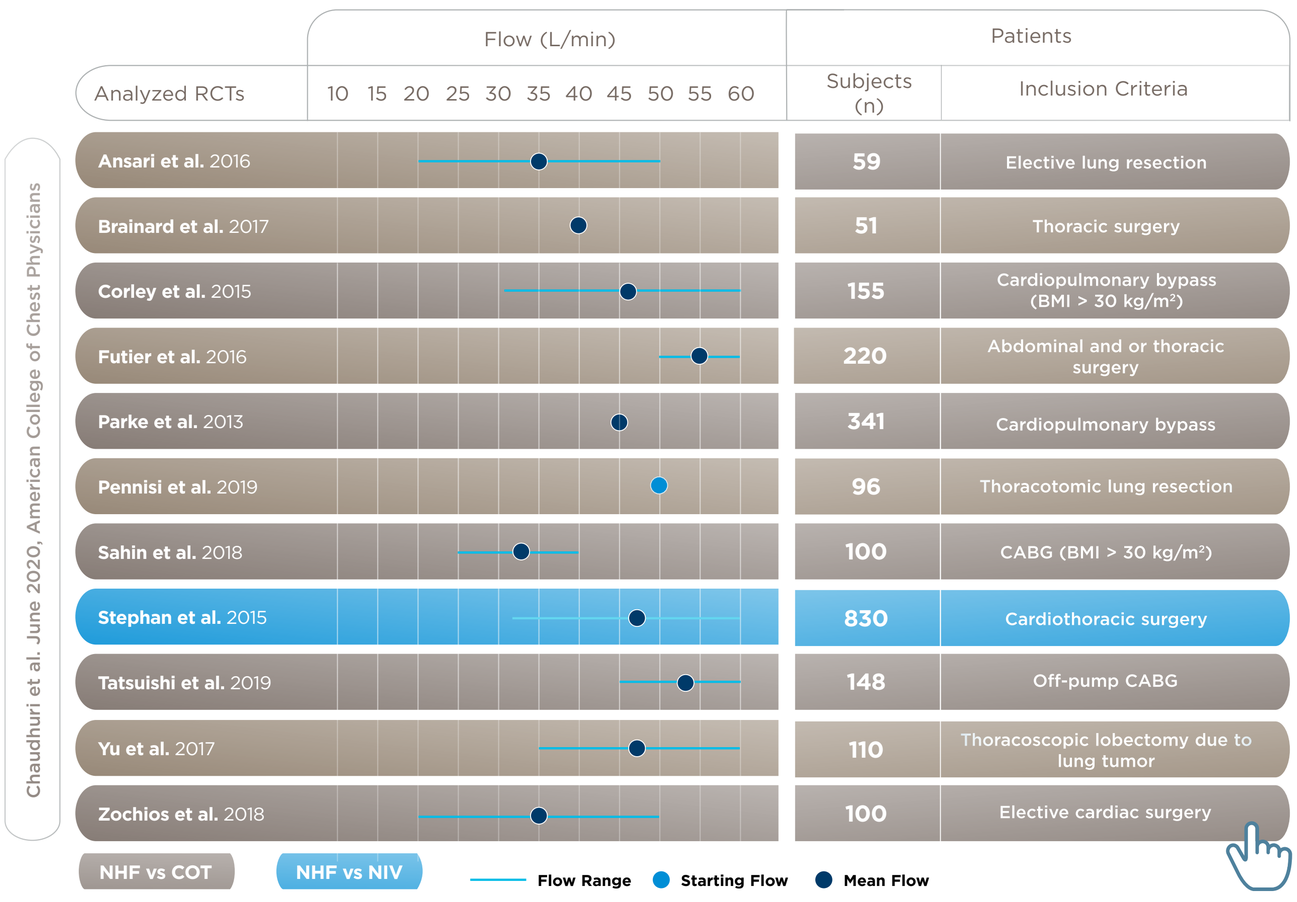
Decreased escalation of respiratory support:
[RR] 0.54, [CI] 0.31 - 0.94, very low certainty

No difference in: Mortality, ICU and hospital length of stay (LoS), or incidence of post-operative hypoxemia.

Other results
NHF vs NIV (1 RCT)

No difference in:
Intubation rate, rate of respiratory therapy failure, or ICU LoS

Skin breakdown:
More common with NIV after 24 hours ($p < 0.001$)



Some flows were calculated from the reported mean and standard deviation or interquartile range, and/or the known flow limits of the system used. Where the mean alone is reported, no estimated maximum or minimum is calculated unless an initial flow (different to the mean) is reported in which case it is taken as one of the limits.