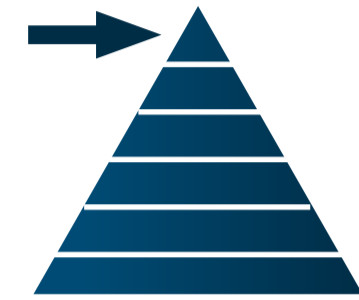


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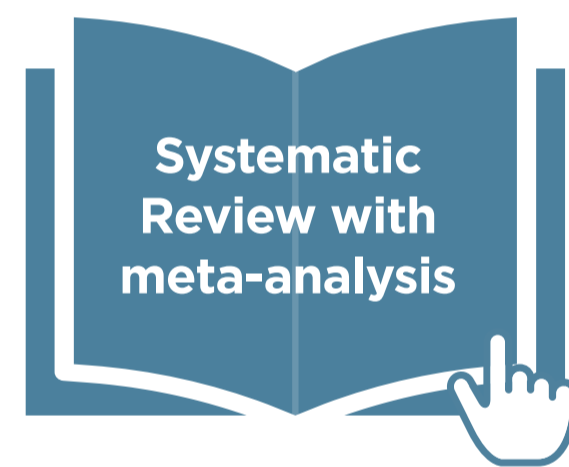
High flow nasal cannula (HFNC) in the immediate post-operative period:
A systematic review and meta-analysis.



Publication:
Systematic review &
meta-analysis

Objectives:

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



Systematic
Review with
meta-analysis



Devices &
settings

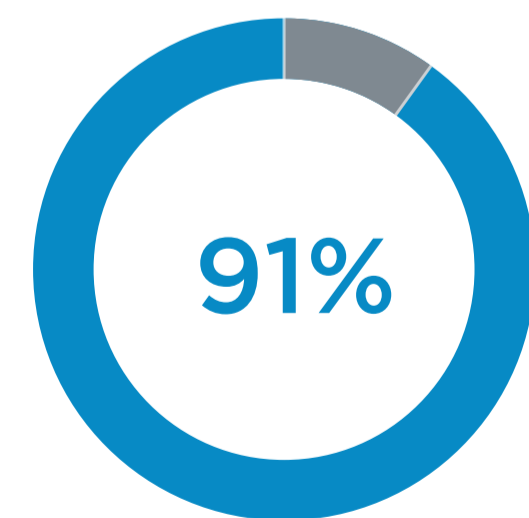


Systematic review
search method

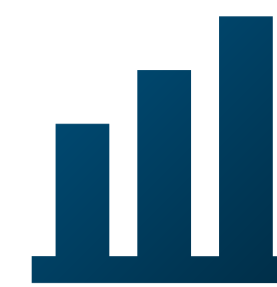
Searched 'high flow nasal cannul*' etc AND (adult OR mature OR grown)
Filters: Publication date from 1 Jan 2007 to 6 Nov 2019; Humans; English; Spanish

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

RCT
n=11



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



Meta-analysis
results
NHF vs COT (10 RCTs)

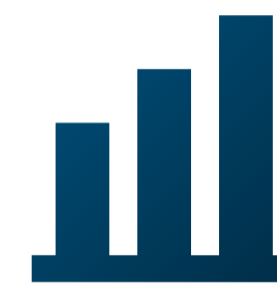
Decreased risk of requiring
intubation:

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)

Analyzed RCTs	Flow (L/min)											Subjects (n)	Patients Inclusion Criteria	
	10	15	20	25	30	35	40	45	50	55	60			
Ansari et al. 2016													59	Elective lung resection
Brainard et al. 2017													51	Thoracic surgery
Corley et al. 2015													155	Cardiopulmonary bypass (BMI > 30 kg/m ²)
Futier et al. 2016													220	Abdominal and or thoracic surgery
Parke et al. 2013													341	Cardiopulmonary bypass
Pennisi et al. 2019													96	Thoracotomic lung resection
Sahin et al. 2018													100	CABG (BMI > 30 kg/m ²)
Stephan et al. 2015													830	Cardiothoracic surgery
Tatsuishi et al. 2019													148	Off-pump CABG
Yu et al. 2017													110	Thoracoscopic lobectomy due to lung tumor
Zochios et al. 2018													100	Elective cardiac surgery

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NHF vs COT

NHF vs NIV

Flow Range

Starting Flow

Mean Flow

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.

