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

<table>
<thead>
<tr>
<th>Meta-analysis results</th>
<th>NHF vs COT (10 RCTs)</th>
<th>Decreased risk of requiring intubation:</th>
<th>Relative risk [RR] 0.32, 95% confidence interval [CI] 0.12 - 0.88, moderate certainty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other results</td>
<td>NHF vs NIV (1 RCT)</td>
<td>Decreased escalation of respiratory support:</td>
<td>[RR] 0.54, [CI] 0.31 - 0.94, very low certainty</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No difference in: Mortality, ICU and hospital length of stay (LoS), or incidence of post-operative hypoxemia.</td>
<td></td>
</tr>
</tbody>
</table>

### Devices & settings

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

### Analysis

<table>
<thead>
<tr>
<th>Systematic review search method</th>
<th>PubMed 224</th>
<th>Web of Science 128</th>
<th>Embase 298</th>
</tr>
</thead>
<tbody>
<tr>
<td>PubMed 2020 American College of Chest Physicians</td>
<td>650</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Other results

**NHF vs COT (10 RCTs)**

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

**NHF vs NIV (1 RCT)**

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

### Flow Chart

1. **Systematic review & meta-analysis**
2. **Objectives:**
   - Is routine HFNC use superior to continuous oxygen therapy (COT) or noninvasive ventilation (NIV) in preventing intubation in post-operative patients.
3. **Devices & settings**
   - 91% of the analyzed studies used F&P Optiflow Systems.
4. **Analysis**
   - 91% of the analyzed studies used F&P Optiflow Systems.
5. **Other results**
   - No difference in: Intubation rate, rate of respiratory therapy failure, or ICU LoS.
6. **NHF vs COT (10 RCTs)**
   - No difference in: Mortality, ICU and hospital length of stay (LoS), or incidence of post-operative hypoxemia.
7. **NHF vs NIV (1 RCT)**
   - No difference in: Mortality, ICU and hospital length of stay (LoS), or incidence of post-operative hypoxemia.

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**Flow Chart notes:**

- 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.

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**Literature Review:**

- Ansari et al. 2016
- Brainard et al. 2017
- Corley et al. 2013
- Sahin et al. 2018
- Stephan et al. 2015
- Tatsuishi et al. 2019
- Tatsuki et al. 2019
- Yu et al. 2017
- Zochios et al. 2018
- Pennisi et al. 2019
- Futier et al. 2016
- Chaudhuri et al. 2020

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**Inclusion Criteria**

<table>
<thead>
<tr>
<th>Analyzed RCTs</th>
<th>Flow (L/min)</th>
<th>Flow Range</th>
<th>Starting Flow</th>
<th>Mean Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHF vs COT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NHF vs NIV</td>
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<td></td>
</tr>
</tbody>
</table>

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**Searched 'high flow nasal cannula' 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

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