ERS clinical practice guidelines: high-flow nasal cannula in acute respiratory failure.

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European Respiratory Society (ERS)

Oczkowski S, Ergan B, Bos L, et al. ERS clinical practice guidelines: high-flow nasal cannula in acute respiratory failure. Eur Respir J. 2022 Apr 14;59(4):2101574. [129 references]
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Overview

Guideline Objective

To provide evidence-based recommendations for the use of high-flow nasal cannula (HFNC) alongside other noninvasive forms of respiratory support in adults with acute respiratory failure (ARF)

Patient Population

Adults with ARF

Recommendations

Recommendation Statements

High-flow Nasal Cannula (HFNC) for Hypoxaemic Acute Respiratory Failure

Patient, Intervention, Comparator, Outcome (PICO) Question 1: Should HFNC or conventional oxygen therapy (COT) be used in patients with acute hypoxemic respiratory failure?

Recommendation 1. We suggest the use of HFNC over COT in adults acute hypoxemic respiratory failure. (**Conditional recommendation; Moderate certainty of evidence**)

PICO Question 2: Should HFNC or non-invasive ventilation (NIV) be used in patients with acute hypoxemic respiratory failure?

Recommendation 2. We suggest the use of HFNC over NIV in patients with acute hypoxemic respiratory failure. (**Conditional recommendation; Very low certainty of evidence**)

PICO Question 3: Should HFNC or COT be used during breaks from NIV in patients with acute hypoxemic respiratory failure?

Recommendation 3. We suggest use of HFNC over COT during breaks from NIV in patients with acute hypoxemic respiratory failure. (**Conditional recommendation; Low certainty of evidence**)

HFNC in Post-operative Patients

PICO Question 4: Should HFNC or COT be used in post-operative patients after extubation?

Recommendation 4. We suggest the use of either COT or HFNC in postoperative patients at low risk of respiratory complications. (**Conditional recommendation; Low certainty of evidence**)

PICO Question 5: Should HFNC or NIV be used in post-operative patients after extubation?

Recommendation 5. We suggest either HFNC or NIV in post-operative patients at high risk of respiratory complications. (**Conditional recommendation; Low certainty of evidence**)

HFNC to Prevent Extubation Failure in Nonsurgical Patients

PICO Question 6: Should HFNC or COT be used in non-surgical patients after extubation?

Recommendation 6. We suggest HFNC over COT in non-surgical patients after extubation at low or moderate risk of extubation failure. (**Conditional recommendation; Low certainty of evidence**)

PICO Question 7: Should HFNC or NIV be used in non-surgical patients after extubation?

Recommendation 7. We suggest the use of NIV over HFNC after extubation for patients at high risk of extubation failure unless there are relative or absolute contraindications to NIV. (**Conditional recommendation; Moderate certainty of evidence**)

HFNC in Hypercapnic Respiratory Failure

PICO Question 8: Should HFNC or NIV be used in patients with acute hypercapnic respiratory failure?

Recommendation 8. We suggest a trial of NIV prior to use of HFNC in patients with chronic obstructive pulmonary disease (COPD) and acute hypercapnic respiratory failure. (**Conditional recommendation; Low certainty of evidence**)

Evidence Rating Scheme

Certainty of evidence was rated as "high", "moderate", "low" or "very low", with randomized controlled trials (RCTs) starting as "high" certainty and observational evidence as "low" certainty. Evidence could be rated down one or two levels based upon whether the included studies were judged to be at high risk of bias; results were inconsistent between studies; or the evidence was indirect, imprecise or at high risk of publication bias.

Recommendation Rating Scheme

Interpretation of Strong and Conditional Recommendations

	Strong Recommendation	Weak Recommendation
For patients	Most individuals in this situation would want the recommended course of action and only a small proportion would not.	The majority of individuals in this situation would want the suggested course of action, but many would not.
For clinicians	Most individuals should receive the recommended course of action. Adherence to this recommendation according to the guideline could be used as a quality criterion or performance indicator. Formal decision aids are not likely to be needed to help individuals make decisions consistent with their values and preferences.	Different choices are likely to be appropriate for different patients and therapy should be tailored to the individual patient's circumstances. Those circumstances may include the patient's or family's values and preferences.
For policy-makers	The recommendation can be adapted as policy in most situations including for the use as performance indicators.	Policy making will require substantial debate and the involvement of many stakeholders. Policies are also more likely to vary between regions. Performance indicators would have to focus on the fact that adequate deliberation about the management options has taken place.

Note: Reproduced and modified from Schünemann H, Brożek J, Guyatt G, et al., GRADE Handbook, Version 3.2. 2008, with permission.

Related Content

Supporting Documents

- Supplement: Evidence Profiles.
- Supplement: Evidence to Decision and Voting Results.
- Supplement: PRISMA Flow Diagram.
- Supplement: Search Strategies.
- Using the GRADE Approach for Guideline Development: A Step-by-Step Guide.

Implementation Tools

- Shareable Guideline; 2022.
- Pocket Guideline; 2022.
- Slide Set; 2022.
- Webinar; 2022.

Patient Education

No patient education materials available.

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these Guideline Profiles is responsible for evaluating the appropriateness of applying them in a clinical setting.

TRUST Scorecard

Composition of Guideline Development Group (GDG)

Multidisciplinary GDG Members	**Yes**
Methodologist Involvement	**Yes**
Incorporation of Patient and Public Perspective	★★★★☆

Systematic Review of Evidence

Literature Search	★★★★★
Study Selection	★★★★☆
Evidence Synthesis	★★★★☆

Foundations for Recommendations

Strength of Evidence Grade	★★★★☆
Description of Benefits and Harms of Recommendations	★★★★☆
Summary of Evidence Supporting Recommendations	★★★★☆
Strength of Recommendations Rating	★★★★☆
Clear Articulation of Recommendations	★★★★★

Funding Source — **Yes**

Disclosure and Management of Financial Conflicts of Interests — ★★★☆☆

External Review — ★★☆☆☆

Updating — ★☆☆☆☆

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