

# New recommendations for high-flow nasal oxygen in hospitalized patients with acute respiratory failure

April 27 2021, by Andrew Hachadorian

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The American College of Physicians (ACP) today released a new Clinical Guideline with recommendations for the appropriate use of high-

flow nasal oxygen in hospitalized patients for initial or post-extubation management of acute respiratory failure. The new, evidence-based clinical guideline was published in *Annals of Internal Medicine*.

Appropriate Use of High-Flow Nasal Oxygen in Hospitalized Patients for Initial or Post-Extubation Management of Acute Respiratory Failure: A Clinical Guideline from the American College of Physicians, is based on the best available evidence on the benefits and harms of high-flow nasal [oxygen](#), taken in the context of costs and patient values and preferences. The target patient population is [adult patients](#) with acute respiratory failure treated in a [hospital setting](#) (including emergency departments, hospital wards, intermediate/step-down units, and intensive care units). The guideline also includes input from 2 CGC public members and a 7-member CGC Public Panel, who provide layperson perspectives on values and preferences.

High-flow nasal oxygen (HFNO) therapy is a relatively new type of noninvasive respiratory support that has been gaining widespread use for hospitalized [patients](#) in recent years. It involves the delivery of warm and humidified oxygen at a flow higher than the patient's inspiratory flow via a small nasal cannula. The purported benefits of HFNO compared to conventional oxygen therapy (COT) and high-flow systems and noninvasive ventilation (NIV) include improved patient comfort, compliance and physiological advantages, and can be used as respiratory support in critically ill patients for a number of indications including respiratory failure or support post-extubation.

For the management of acute hypoxemic respiratory failure in hospitalized adults, ACP suggests clinicians use high-flow nasal oxygen rather than noninvasive ventilation (NIV). The evidence showed demonstrable improvement in clinically meaningful outcomes, including a large reduction in mortality, modest reduction in intubations and in hospital-acquired pneumonia as well as an improvement in patient

comfort. Additionally, the CGC considered that most patients can use HFNO and there are usually no contraindications unless related to issues with fitting the nasal cannula.

In hospitalized adults with post-extubation acute hypoxemic respiratory failure, ACP suggests clinicians use high-flow nasal oxygen rather than conventional oxygen therapy (COT). In this population, evidence showed HFNO may reduce re-intubation slightly and may improve patient comfort compared to COT, and that HFNO may not perform worse than COT with regard to all-cause mortality, hospital-acquired pneumonia, and length of ICU stay

The guideline notes that more research is needed to identify which patients are most likely to benefit from HFNO, particularly by type of acute [respiratory failure](#) as evidence was insufficient on patients with hypercapnia.

None of the included studies compared the use of HFNO with NIV or COT for [acute respiratory failure](#) in the setting of post lung transplantation, pulmonary embolism, pulmonary arterial hypertension, or asthma. COVID-19 and related treatments were not part of this guideline.

**More information:** Amir Qaseem et al. Appropriate Use of High-Flow Nasal Oxygen in Hospitalized Patients for Initial or Postextubation Management of Acute Respiratory Failure: A Clinical Guideline From the American College of Physicians, *Annals of Internal Medicine* (2021). [DOI: 10.7326/M20-7533](https://doi.org/10.7326/M20-7533)

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