



Clinical practice guidelines

Independent organisations including medical societies have published clinical practice guidelines recommending the use of Nasal High Flow (NHF) therapy:

“[NHF] therapy is a relatively new type of noninvasive respiratory support that has been gaining widespread use in hospitalized patients in recent years.” – Qaseem et al. *Ann Intern Med.* 2021.¹

Nasal High Flow (NHF) therapy is recommended for use in several clinical practice guidelines covering various applications and clinical scenarios. Guideline publication is an important step in clinical practice change. A summary of guidelines recently published by independent organisations is captured below:

Publication	Title	Society	Journal
Rochweg et al. 2020. ²	The role for high flow nasal cannula as a respiratory support strategy in adults: a clinical practice guideline.	European Society of Intensive Care Medicine (ESICM)	Intensive Care Medicine
Qaseem et al. 2021. ¹	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.	American College of Physicians (ACP)	Annals of Internal Medicine
Evans et al. 2021. ³	Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock 2021.	Society of Critical Care Medicine (SCCM); Surviving Sepsis Campaign (SSC)	Critical Care Medicine
Piraino et al. 2021. ⁴	Management of Adult Patients With Oxygen in the Acute Care Setting.	American Association for Respiratory Care (AARC)	Respiratory Care
Oczkowski et al. 2022. ⁵	ERS Clinical Practice Guidelines: High-flow nasal cannula in acute respiratory failure.	European Respiratory Society (ERS)	European Respiratory Journal
Barnett et al. 2022. ⁶	Thoracic Society of Australia and New Zealand Position Statement on Acute Oxygen Use in Adults: ‘Swimming between the flags’.	Thoracic Society of Australia and New Zealand (TSANZ)	Respirology
WHO Guideline Development Group. 2022. ⁷	Clinical management of COVID-19: Living guideline, 23 June 2022.	World Health Organisation (WHO)	N/A
Tasaka et al. 2022. ⁸	ARDS Clinical Practice Guideline 2021.	[Japanese] ARDS Clinical Practice Guideline Creation Committee (JARDS)	Journal of Intensive Care

* Joint committee from the Japanese Society of Intensive Care Medicine, the Japanese Respiratory Society, and the Japanese Society of Respiratory Care.

Recommendations for NHF use

Clinical applications/ scenarios	ESICM	ACP	SSC	AARC	ERS	TSANZ	WHO	JARDS
PRIMARY SUPPORT - MEDICAL								
Patients with: Acute respiratory failure (ARF)				[a]				
Acute hypoxemic respiratory failure (AHRF)	[b]	[c]			[d]	[e]		
Acute respiratory distress syndrome (ARDS)								[f]
Acute hypercapnic respiratory failure					[g]			
Sepsis-induced AHRF			[h]					
Patients with severe or critical COVID-19							[i]	
Patients who are immunocompromised with AHRF				[j]				
PRIMARY SUPPORT - SURGICAL								
Low risk post-operative patients					[k]			
High risk post-operative patients					[l]			
High risk post- cardiothoracic surgery patients	[m]							
PRE-ESCALATION SUPPORT								
Pre-oxygenation for peri-intubation patients	[n]							
DE-ESCALATION SUPPORT								
Post-extubation	[o]	[p]		[q]				
Low risk, extubated patients					[r]			
High risk, extubated patients	[s]				[t]			
COMPLEMENTARY RESPIRATORY SUPPORT								
NIV-rested AHRF patients					[u]			
PROPHYLACTIC RESPIRATORY SUPPORT								
Patients requiring oxygen for any reason				[a.v.w]				

- ^a In hospitalised patients with acute respiratory failure (ARF), consider early initiation of [NHF].
- ^b Strong recommendation for [NHF] compared to conventional oxygen therapy (COT) in hypoxemic respiratory failure.
- ^c Conditional recommendation for the use of [NHF] rather than noninvasive ventilation (NIV) in hospitalized adults for the management of acute hypoxemic respiratory failure.
- ^d Conditional recommendations for the use of [NHF] over both COT and NIV in patients with acute hypoxemic respiratory failure.
- ^e [NHF] may be used in patients with acute, severe, hypoxemic respiratory failure.
- ^f Weak recommendations for the use of noninvasive respiratory support [NIV, NHF] instead of COT and tracheal intubation as an initial respiratory management for adult patients with acute respiratory failure suspected of having ARDS.
- ^g Conditional recommendation for a trial of NIV prior to use of [NHF] in patients with chronic obstructive pulmonary disease (COPD) and acute hypercapnic respiratory failure.
- ^h Weak recommendation for the use of [NHF] over NIV for adults with sepsis-induced hypoxemic respiratory failure.
- ⁱ Conditional recommendation to use [NHF] in hospitalized patients with severe or critical COVID-19 and acute hypoxaemic respiratory failure rather than standard oxygen therapy.
- ^j Either [NHF] or COT may be used with patients who are immunocompromised.
- ^k Conditional recommendation for the use of either [NHF] or COT in postoperative patients with low risk of respiratory complications.
- ^l Conditional recommendation for the use of either [NHF] or NIV in postoperative patients with high risk of respiratory complications.
- ^m Conditional recommendation for postoperative [NHF] in high risk and/or obese patients following cardiac or thoracic surgery.
- ⁿ No recommendation is made regarding use of [NHF] in the peri-intubation period. Conditional recommendation for patients who are already receiving [NHF] to continue [NHF] during intubation.
- ^o Conditional recommendation for patients normally extubated to [NIV] to continue use of [NIV] rather than [NHF].
- ^p Conditional recommendation for [NHF] rather than COT in hospitalized adults with postextubation acute hypoxemic respiratory failure.
- ^q Compared to COT, [NHF] appears to reduce re-intubation when used immediately postextubation.
- ^r Conditional recommendation for the use of [NHF] over COT for non-surgical patients at low risk of extubation failure.
- ^s Conditional recommendation for [NHF] over conventional oxygen therapy (COT) following extubation for patients who are intubated more than 24 hours and have any high risk feature.
- ^t Conditional recommendation for the use of [NIV] rather than [NHF] for patients at high risk of extubation failure unless there are relative or absolute contraindications to [NIV].
- ^u Conditional recommendation for the use of [NHF] over COT during breaks from NIV in patients with acute hypoxemic respiratory failure.
- ^v Consider [NHF] to avoid escalation to NIV. [NHF] may avoid escalation to NIV and the need for intubation in patients with significant hypoxemia, likely due to its effects on oxygenation and dyspnea compared to COT.
- ^w Consider humidification for supplemental oxygen when flows > 4 L/min are used.

For further information, please visit www.fphcare.com/hospital/adult-respiratory/optiflow/nhf-clinical-practice-guidelines/ or click on the hyperlinked reference below.

1. Qaseem A, Etzeandia-Ikobaltzeta I, Fitterman N, 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. *Ann Intern Med.* 2021 Jul;174(7):977-984. [Epub ahead of print].
2. Rochweg B, Einav S, Chaudhuri D, et al. The role for high flow nasal cannula as a respiratory support strategy in adults: a clinical practice guideline. *Intensive Care Med.* 2020 Dec;46(12):2226-2237.
3. Evans L, Rhodes A, Alhazzani W, et al. Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock 2021. *Crit Care Med.* 2021 Nov 1;49(11):e1063-e1143.
4. Piraino T, Madden M, J Roberts K, et al. Management of Adult Patients With Oxygen in the Acute Care Setting. *Respir Care.* 2021 Nov 2;respacare.09294. [Epub ahead of print].
5. 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.
6. Barnett A, Beasley R, Buchan C, et al. Thoracic Society of Australia and New Zealand Position Statement on Acute Oxygen Use in Adults: 'Swimming between the flags'. *Respirology.* 2022 Apr;27(4):262-276.
7. Clinical management of COVID-19: Living guideline, 23 June 2022. Geneva: World Health Organization; 2022 (WHO/2019-nCoV/Clinical/2022.1). Available from: <https://www.who.int/publications/i/item/WHO-2019-nCoV-clinical-2022-1/> [Accessed 12 September 2022].
8. Tasaka S, Ohshimo S, Takeuchi M, et al. ARDS Clinical Practice Guideline 2021. *J Intensive Care.* 2022 Jul 8; 10(1):32.

