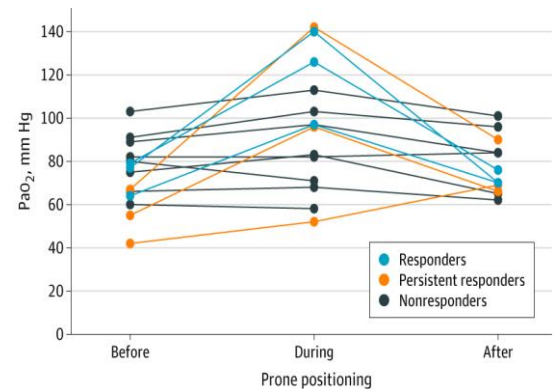


Managing Critically Ill COVID-19 Patients

Prone Positioning (PP)

- Context:** PP has been shown to improve outcomes in severe ARDS¹ prior to COVID-19.
- Current:** Small studies have demonstrated improved gas exchange via PP of awake, non-intubated patients with COVID respiratory disease. The improvement in PaO₂ occurs only during PP and the durability is unclear.² PP can be used with any noninvasive ventilation.³
- Cutting edge:** PP can be considered in critically ill COVID patients. The balance burdens and benefits is unproven.



Non-Invasive Ventilation Strategies

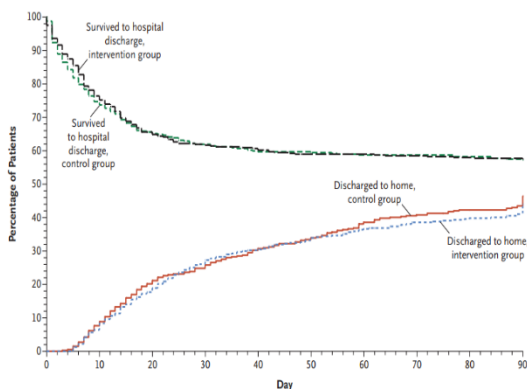
- Context:** Non-Invasive Ventilation (NIV) includes positive pressure and high-flow nasal canula (HFNC). Risks of aerosolization NIV were initially thought to outweigh benefits in COVID.
- Current:** Society recommendations around the globe vary about optimal use of NIV strategies.⁴
- Cutting Edge:** Positive pressure NIV can be combined with HFNC. This may result in patients being more ill at the time of intubation if NIV fails. NIV requires negative pressure rooms with strict PPE adherence.

Table 2 Respiratory non-invasive therapies for COVID-19: recommendations from scientific societies.

Scientific society (country), ref nr	Non-invasive respiratory therapy first option
SEPAR (Spain) ⁵⁶	HFNC
AIPO (Italy) ⁵⁷	Helmet CPAP
ESICM/SCCM (EU/US) ⁵⁸	HFNC
SPP (Portugal) ⁵¹	HFNC or CPAP
NHS (UK) ⁵⁹	CPAP
WHO ⁶⁰	HFNC or NIV
CTS (China) ⁶¹	HFNC
ANZICS (Australia/New Zealand) ⁶²	HFNC
Multiple Societies (Germany) ⁶³	Helmet NIV

Abbreviations: SEPAR-Sociedad Española de Patología Respiratoria; AIPO-Associazione Italiana Pneumologi Ospedalieri; ESICM-European Society of Intensive Care Medicine; SCCM-Society of Critical Care Medicine SPP-Sociedade Portuguesa de Pneumologia; CTS-Chinese Thoracic Society, ANZICS-Australian and New Zealand Intensive Care Society.

Neuromuscular Blockade



- Context:** Early neuromuscular blockade has been proposed as a way to improve patient synchronization with mechanical ventilation.
- Current:** Trial data has not demonstrated any beneficial effects of early neuromuscular blockade in patients with moderate-to-severe ARDS and may increase risk for extra-pulmonary adverse events.⁵
- Cutting Edge:** Early neuromuscular blockade should not be routinely employed in patients with COVID ARDS although no specific trials in COVID patients exist.

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