

# Guidance Tool:

## Prone Positioning of the Awake & Alert Adult COVID-19 patient

### Purpose:

- To support evidence-based practice and clinical decision-making by health care professionals in regards to use of prone positioning for awake, alert, adult COVID-19 patients in an acute care setting including:
  - Indications and contraindications
  - Risks and benefits
  - Proper Positioning
  - Monitoring needs and documentation

### Key Messages

- Prone positioning may be a treatment option for some awake and alert patients having difficulty maintaining arterial oxygen levels (e.g., hypoxemic respiratory failure and/or Acute Respiratory Distress Syndrome [ARDS]).
- In awake, alert COVID-19 patients, early prone positioning, when used along with other non-invasive ventilation, may help improve oxygen saturation.
  - Decision support criteria are available in this document
  - Currently, there are ongoing international studies of awake proning with Calgary Zone hospitals in participation. <https://clinicaltrials.gov/ct2/show/NCT04402879>
  - There is currently no strong evidence to support sustained benefit from prone positioning in patients with COVID-19 pneumonia
- In the Intensive care unit, prone positioning of intubated, mechanically ventilated patients with moderate to severe ARDS is a proven, life –saving, but complex intervention.
- Prone positioning should not be used in place of mechanical ventilation for patients showing signs of respiratory distress in which intubation and ventilation support is indicated as it could further delay care

### Prone Position Ventilation Principles

Prone position may assist with better ventilation and oxygenation in patients with the most severe forms of COVID-19 pneumonia. Proposed mechanisms include:

- Improve secretion drainage,
- Improved lung recruitment: Causes the diaphragm to move lower and backward (caudal and dorsal), which helps open up the bases of the lungs for gas exchange
- Takes the weight of the heart off of the lungs, thus decompressing the left lower lobe and part of the right lower lobe,
- Reduces the pleural pressure,
- Equalizes the transpulmonary pressure in the dorsal and ventral areas, which reduces the strain stress on recruited alveoli,
- May reduce ventilation-perfusion mismatches.













## Evidence for Prone Positioning

The efficacy and safety of awake prone positioning of non-intubated COVID-19 patients with hypoxemic respiratory failure is not established and hence this practice is not recommended for routine application in COVID-19 patients. (AHS Scientific Advisory Committee [SAG], May 2020). However, there is some evidence to support the early use of Prone Positioning in Awake & Alert adult patients in select circumstances.

The American College of Emergency Physicians recommends

- For patients with persistent hypoxemia despite increasing supplemental oxygen requirements in whom endotracheal intubation is not otherwise indicated, a trial of awake prone positioning to improve oxygenation should be considered.
- Awake prone positioning is NOT recommended as a rescue therapy for refractory hypoxemia to avoid intubation in patients who otherwise require intubation and mechanical ventilation.

Interprofessional team collaboration is important and may include nursing, physicians, respiratory services, rehabilitation services, pharmacist and other disciplines. All clinicians should also understand the rationale of prone positioning and its limitation as well as the ongoing debate on the effectiveness of this intervention. A patient's feedback and perception of treatment is a key component in evaluating effectiveness.



## References

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