



COVID-19 UPDATE

AWAKE SELF-PRONING OF PATIENTS WITH COVID-19

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The purpose of this document is to advise healthcare practitioners on the proning of awake patients who are self-ventilating in the management of COVID-19. The content is based on the work by Madathil (2020) and the Intensive Care Society guidance for prone positioning of the conscious COVID patient (2020).

Background

About 20% of patients with COVID-19 disease require oxygen supplementation with about 5% needing invasive ventilation. Given the improvement noted with proning of mechanically ventilated patients during the current COVID-19 epidemic, it has been postulated that prone positioning may also be beneficial in conscious COVID-19 patients requiring basic respiratory support in terms of improving oxygenation, reducing the need for invasive ventilation and potentially even reducing mortality. Evidence to support the prone position in the awake self-ventilating patient is in large anecdotal, yet is supported by basic physiological principles including:

- Reducing load on lung fields by both the abdominal content and heart
- Recruitment of posterior lung segments and reduction of shunt due to reversal of atelectasis
- Improved Ventilation Perfusion matching – caused by a shift in pulmonary perfusion to anterior regions
- Potential to improve secretion clearance

Indications

Proning is indicated for confirmed or suspected COVID-19 patients requiring O₂ supplementation of 28% or more, or basic respiratory support (CPAP/NIV/HFNO) to achieve target O₂ saturations. Proning should only be considered for appropriate patients and undertaken by informed staff, with clarity on respiratory monitoring and escalation criteria.

Aims

Appropriate monitoring should support the following aims of prone positioning:

- Improve oxygenation and reduce O₂ demand
- Reduce work of breathing
- Recruit collapsed alveoli in dorsal regions of the lungs

Do Not Prone

Absolute contraindications to proning include:

- Immediate need for intubation
- Respiratory distress, accessory muscles active, respiration rate >35
- Decreased level of consciousness or agitation
- Spinal fractures, severe facial fractures or other non-fixated fractures
- Recent abdominal surgery, intestinal ischaemia or raised intra-abdominal pressure

- Cardiovascular instability, recent pacemaker insertion or recent thromboembolic event

Relative contraindications to proning include

- Pregnancy (2nd and 3rd trimesters)
- Morbid obesity
- Facial injuries
- Raised intracranial pressure

Proning in the awake patient may also be inappropriate in the following circumstances and discussion with appropriate specialist teams may be required:

- Inability to adopt a prone position independently
- Full stomach – including patients with nasogastric bolus feeds
- Pressure injury

Procedure

The flow chart taken from the Intensive Care Society document (Addendum A) should be used to guide the proning procedure. Preferably motivate appropriate patients to do self-proning and to change their positions every 30 minutes to 2 hours as below. A patient handout could assist with patient education.

1. Prone for 30 minutes to 2 hours; then
2. Lie on the right side for 30 minutes to 2 hours; then
3. Sitting up for 20 minutes to 2 hours; then
4. Lie on left side for 30 minutes to 2 hours; then start again with proning.

Some patients may tolerate a semi-prone position better. Ensure that there is no pressure on the abdominal area, as is seen in Figure 1.



Figure 1. Semi-prone position with pillow support

Resources

1. Madathil, S. 2020. Proning in the ward based awake self-ventilating patient with COVID-19 CDN: 093 V1.0 Issued on 16/04/2020.
2. Bamford, P., Bentley, A., Dean, J., Whitmore, D. & Wilson-Baig, N. ICS Guidance for Prone Positioning of the Conscious COVID Patient. 2020. <https://emcrit.org/wp-content/uploads/2020/04/2020-04-12-Guidance-for-conscious-proning.pdf>

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Addendum A: Decision tool for Awake Proning

Figure 1 – Flow diagram decision tool for Conscious Proning process

