

# Quick Reference Guide – ICU Surge Proning Team for COVID19



COVID - 19

Be Safe – Be Smart – Be Kind

## Clinical Considerations for Prone Positioning:

Prone positioning is used to improve oxygenation in patients who require mechanical ventilatory support for management of Acute Respiratory Distress Syndrome (ARDS) in the intensive care unit (ICU). International reports indicate that some patients with COVID19 are presenting with ARDS characteristics (Gattinoni et al, 2020).

Evidence has shown that early prone positioning can be used to improve oxygenation and has a mortality benefit in ventilated patients with ARDS (Guérin et al, 2013). Altering chest wall mechanics to allow lungs to inflate at lower pressures, the benefits of prone positioning are inclusive of, but not limited to, optimization of ventilation/perfusion (V/Q) matching, increase in functional residual capacity (FRC) and facilitation of secretion drainage. In patients with severe ARDS (PaO<sub>2</sub>:FiO<sub>2</sub> ratio of <150 mm Hg, with an FiO<sub>2</sub> of ≥0.6 and a PEEP of ≥5 cm of water), early application of prolonged prone-positioning sessions can significantly decrease mortality rates (Guérin et al, 2013). Western Health has a prone protocol in the ICU and significant experience proning patients who meet the criteria.

In Western Health ICUs, physiotherapists are actively involved when patients are proned and provide interprofessional education and training to the other members of the ICU team. Another role for physiotherapists described in the literature is to lead the team in the prone manoeuvre (Thomas et al, 2020).

## Rationale of Physiotherapy-led Proning team during COVID19:

During the COVID19 pandemic, a physiotherapy-led prone team will be implemented when there is need for two or more patients at any one time, to be proned in the ICU, at either site. This strategy will be used to support the anticipated critical care nursing and medical workforce shortages during surge. The prone team model is illustrated in Figure 1. This will utilise the physiotherapy workforce to the full scope of their practice and supports a team-based approach to care.

### ICU Physiotherapy Workforce Model and Principles:

- ICU proning plan: Prone at 4pm (+ 16 hours) = de-prone 8am. This provides the advantage of patients remaining supine during the day for procedures/line changes etc.
- A 7-day physiotherapy service, will be available from 7am up to 9pm (prone patient dependent).
- From an infection control perspective, physiotherapists on the prone team at Western Health, will be restricted to work only in ICU (where possible).

## Proning team implementation:

Patients to be proned will be assessed in conjunction with the ICU team throughout the day as follows:

1. Proning team activated as per medical criteria (see ICU handbook):
  - > 4 – 6 hours:
    - PEEP >15
    - FiO<sub>2</sub> >0.6
2. ICU team to consider reviewing the advanced resuscitation plan (ARP) prior to prone positioning
3. Activation by nurse in charge (NIC) via pager number #332 at Footscray, #116 at Sunshine, in discussion with medical team (airway holder identified at this point)
4. Standardised page: *"Prone team activation for Bed X. ext YYYYY"*
5. Prone team lead to respond via extension provided
6. Prone team lead to contact medical team member (airway holder) & assembles team at bedspace

### ***Bedside Nurse Preparation – as per prone checklist (see Appendix A)***

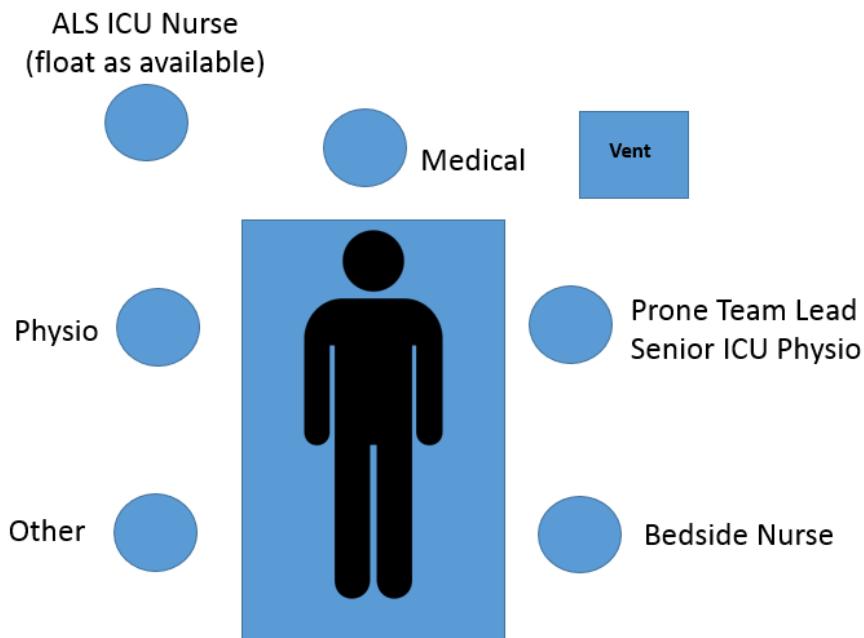
- Once prone team activated, bedside nurse to prepare for arrival:
  - Sedation/Paralysis
  - Emergency drugs available
  - ETT on patient's right side of mouth – ETADS vs tying
  - Suctioned recently
  - Pre-oxygenate
  - Lines. Sutured/secured, stop all non-essential – sedation and vasoactives only
  - Stoma bag change
  - NG feed stopped and aspirated
  - Spare ECG dots x5
  - Eyes – pad and lubricate
  - Pillows x3 and 2x sheets
  - Emergency airway trolley – same and size smaller ETT, laryngoscope

### ***Outside Bay – Prone team huddle***

The following key points will be discussed amongst the prone team (bedside nurse, physiotherapists, ALS ICU trained nurse and medical team and other relevant, available staff) prior to entering the bay.

- Communicate proning about to commence in bed X to ANUM/medical
- Confirm ARP discussed and documented in ICCA
- Discuss checklist with bedside nurse if available outside bay, otherwise in bay
- Infection control check
- Crash trolley
- Where each member will stand (leader to direct)

# Independent prone team



**Figure 1- Prone team model**

*ALS ICU trained nursing staff should be present and may act as a float during the manoeuvre as available. Where 'Other' team members could include Physiotherapists, Bedside Nurses, and Patient Service Assistants. Depending on ICU workforce availability other team members are Occupational Therapists, Allied Health Assistants, or Theatre Technicians.*

## Other considerations

### Prone positioning for the person with obesity:

#### 1. Suitability to perform manoeuvre:

- No clear weight “cut-off”, clinical reasoning required based on body habitus/shape and weight
- Manual handling considerations - is it feasible to lift/move based on shape/weight
- Is adequate space available on the bed to complete the manoeuvre
- Will prone position be feasible given body habitus e.g. abdominal bulk to allow for diaphragmatic excursion

#### 2. Staffing:

- Need for additional team members n = 7+ (may be required to move limbs/trunk)
- Availability of additional staff including to de-prone

#### 3. Equipment:

- Availability of appropriate equipment for bariatric patient (bed/mattress) and as per above, is space available to complete the manoeuvre
- In extreme circumstances prone on to a second bed could be considered
- Referral / involvement of Bariatric Assessment Team (BAT) if required

BAT Referral criteria is a patient who is morbidly obese (BMI >40) and whose:

- Weight exceeds, or appears to exceed, the identified safe working load/weight capacity of standard hospital equipment
- Size restricts the use of standard furniture
- Size restricts mobility

## Other related documents

- **WH ICU Handbook – includes WH prone checklist**
- **ANZICS COVID-19 Guidelines** (click for hyperlink)
- **DHHS ICU Turning Teams Workforce Model dated 20 April 2020**

## References

1. Gattinoni L, et al. COVID-19 pneumonia: different respiratory treatment for different phenotypes? April 2020. Intensive Care Medicine.
2. Guérin C, et al. Prone Positioning in Severe Acute Respiratory Distress Syndrome. N Engl J Med 2013; 368:2159-2168.
3. ARDS Definition Task Force. Ranieri VM, Rubenfeld GD, Thomson BT, Ferguson ND, Caldwell E, Fan E, Camporota L, Slutsky AS. Acute respiratory distress syndrome: the Berlin Definition. JAMA. June 20 2012; 307(23):2526-33
4. Thomas P, et al. (2020): Physiotherapy management for COVID-19 in the acute hospital setting. Recommendations to guide clinical practice. Version 1.0. Journal of Physiotherapy. 23 March 2020.

## Appendix A

### Western Health Prone checklist

