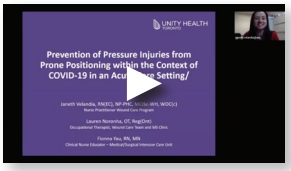
Mölnlycke Health Care Sponsored Session:

Prevention of Pressure Injuries from Prone Positioning within the Context of COVID-19 in an Acute Care Setting



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In July 2019, the Medical/Surgical Intensive Care Unit (MISCU) Team and the Wound Care Team (WCT) at St. Michael's Hospital in Toronto began a project with the goal of decreasing the incidence of hospital-acquired pressure injuries (PIs) in the ICU. The plan for the project included pre- and post-data collection; performing chart audits; conducting a survey to explore staff confidence towards PI assessment, staging and management; and recording pressure injury point prevalence and incidence.

After baseline data were collected in October 2019, an e-learning module was created, RNs were provid-

Proning

Proning is the process of turning a patient from their back onto their stomach (Figure 1). This is a collaborative effort by nurses, respiratory therapists and physicians done in a slow, controlled and co-ordinated manner. Proning is done to improve oxygenation for patients with moderate to severe adult respiratory distress syndrome by reducing pleural pressure, improving alveolar recruitment, ventilation and gas exchange, and mobilizing secretions. Proning is not used in patients with new or worsening respiratory symptoms, changes in diagnostic images or changes in P/F ratio (less than or equal to 150 mmHg). Proning must be used for a minimum of 12 hours and must consider bed surfaces (air mattresses vs. gel-based therapeutic pressure redistribution surfaces), positioning devices (pillows) and skin protection requirements (eye patches and eye lubricants, foam facial pillows, dressings to reduce shearing).

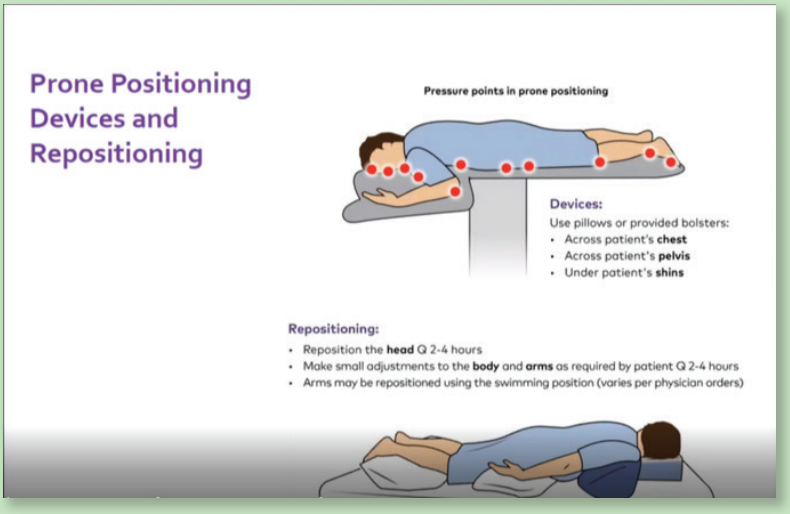

Figure 1. Prone Positioning

ed with education and the patient/family education pamphlet was updated. Product evaluation of soft silicone multi-layered foam dressings was completed through a literature review, a review of the most current practice guidelines and meeting with an expert clinician, Tod Brindle.

Clinical practice guidelines from the NPIAP (2016) recommend the use of foam dressings for the prevention of pressure injuries. Benefits of a five-layered foam include the ability to impact four extrinsic factors that can contribute to developing pressure injuries: minimizing and redistributing shear, redistributing pressure, reducing friction and maintaining optimal microclimate.

When the COVID-19 pandemic began, the priorities of the project changed. There was a sharp increase in the number of patients being proned as part of treatment in the ICU and an increased number of referrals for patients with hospital-acquired PIs. The MISCU and WC teams worked together to review St. Michael's Hospital prone positioning policy and the NPIAP's most recent literature for prevention of PI in patients being put in prone positioning. The project focused on three factors: prophylactic foam, positioning devices and repositioning principles.

Prophylactic multi-layer foam

Prophylactic multi-layer foam is used to protect the patient's forehead, chin, chest, hips, knees, sacrum and bilateral heels. A pillow is used to protect the patient's head. Skin barriers are used at the corners of the mouth to avoid moisture-associated skin damage caused by drooling.

Positioning devices

Positioning devices like heel-lift boots, wedge pillows and positioning rolls are used to offload pressure points. With more patients being put in a prone position, more thought must go into what prevents pressure injuries while lying on the stomach. A literature review found that not much robust data are available, but what data do exist suggest use of pillows under the chest, abdomen and shins (to relieve pressure on ankles and knees). Recommendations state that pillow height should be altered to avoid hyperextension of neck and spine. However, frontline clinicians disagreed that pillows were enough for patients, stating they were too firm/soft, not the right size or not readily available. The project team trialled various cushions and devices from around the hospital and eventually agreed on a bolster type that seemed to work well. Work in this area is ongoing.

Repositioning principles

Repositioning principles must be adapted to be applied in the context of COVID-19 in the acute-care setting. Typical protocol is to reposition every two hours, but when COVID-19 is present, best practice suggests repositioning every 2–4 hours while regularly making small adjustments to the head and arms.

The project team developed proning kits that are ready to use for each patient preparing to be proned, with the goal of simplifying the process for ICU staff. The kits include an educational pamphlet for clinicians that contains simple instructions and visual cues.

Finally, the team worked with the hospital's IT department to create an order set to standardize the prone positioning protocol in the hospital. The order set includes:

- application of a multi-layered foam for seven days in a specified location
- skin assessment completed during every shift for all areas below the foam dressing
- use of pillows across the chest, pelvis and shins while in prone position
- assessment of pressure points every 2–4 hours
- head turns and eye care every 2–4 hours

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