## Using Silicone Mesh to Mitigate Forehead Pulse Oximeter-Related Pressure Injuries

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### Background

- Pulse oximeter probes on the forehead are used to obtain O2 saturation readings
- Silicone mesh is used beneath wetto-moist dressings and negative pressure wound therapy sponges to prevent adherence of the product to the wound bed
- Medical device-related pressure injuries (MDRPI) were occurring on the forehead despite rotating the probe *more* frequently than manufacturer guidelines

#### Methods

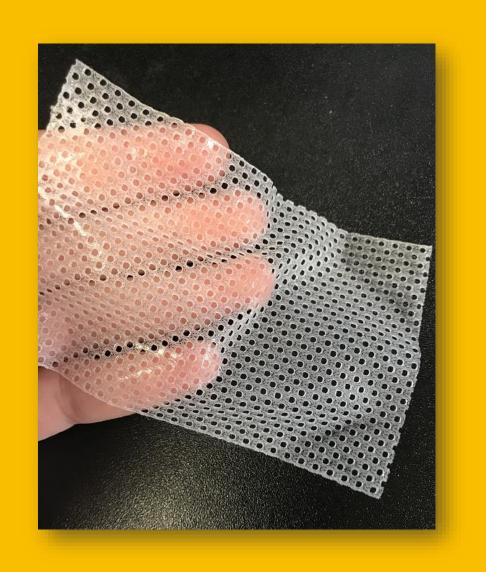
- Implemented application of silicone mesh under the forehead probe
- Monitored accuracy of pulse oxygenation readings before and after placement of mesh
- Continued to rotate pulse oximeter probe with mesh every 2 hours per unit protocol

#### Results

- Application of silicone mesh under the forehead pulse oximeter probe eliminated this medical devicerelated pressure injury in the Cardiac Surgery Intensive Care Unit (CSICU)
- Pulse oximeter medical devicerelated pressure injuries were reduced from 11% (2012-2017) to 0% (2018- present) in the CSICU

# Silicone mesh barrier led to 100% reduction in forehead pulse oximeter related pressure injuries

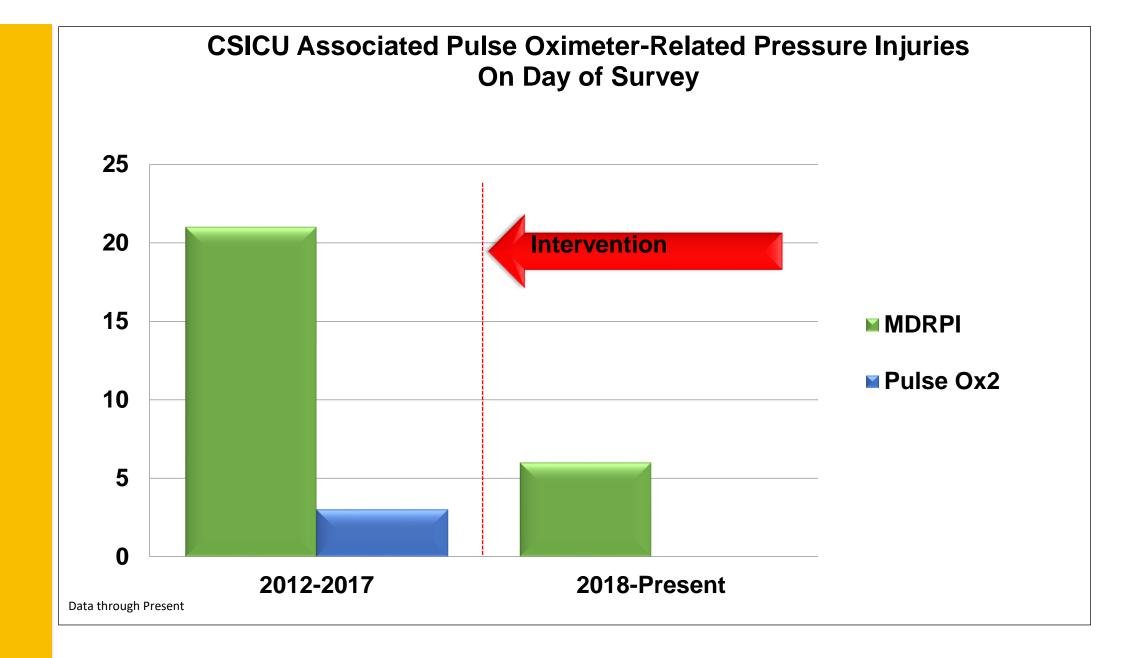








Scholars Compass Link to Poster & Supplemental Material



#### **VCU Pulse Oximetry Sensor Decision Tree\***

Choose pulse oximetry sensor in the order listed below.

 Goal: Application of the sensor that yields an accurate pulse oximetry reading, while exposing the patient to the least amount of risk to skin integrity.

Apply to finger.<sup>3</sup>

Assess skin at location site daily.<sup>3</sup>

If unable to obtain accurate pleth, escalate to Nellcor™ Adult Velcro SC-A.

Apply to finger¹

• Inspect skin integrity at location site every 8 hours.1

If unable to obtain accurate pleth, escalate to Xhale Nasal Alar™ nasal clip.

• Apply to nare. Rotate location every 2 hours; do not apply to nasal septum.<sup>4,5</sup>

• Accurate pleth only guaranteed when applied to nares, rectangle to outside. 4,5 • If unable to obtain accurate pleth, escalate to Nellcor FASTMAX™ sensor.

Assess daily for readiness to de-escalate to alternative probe.

Apply to forehead.<sup>2</sup> Place a layer of silicone mesh between pulse ox and forehead

Ensure pulse oximetry is reliable and not affected by the silicone mesh.

 Rotate location on forehead every 2 hours. (VCUH recommendation based on patient pressure injury survey outcomes.)

Assess daily for readiness to deescalate to alternative sensor.

