

Pressure Injury Prevention in Cardiothoracic Transplant Patients

PURPOSE

Our institution identified an emerging concern involving deep tissue injuries among our cardiothoracic transplant patients, with four identified cases of injury in the intergluteal cleft. These recent sacral and intergluteal pressure injuries were noted shortly after patients returned to the CICU following transplant procedures. In response, a multidisciplinary team comprising two Nursing Professional Development Practitioners and Wound and Perioperative Clinical Nurse Specialists initiated a root cause analysis to better understand the contributing factors.

Current practice involves positioning cardiothoracic transplant patient's supine on a fluid immersion pad while utilizing a sacral silicone-boarded foam dressing. Despite these measures, patients continued to develop intergluteal cleft injuries, highlighting the need to evaluate current protocols and identify additional interventions.

AVAILABLE EVIDENCE

Pressure injuries lead to higher rates of morbidity, longer hospital stays, and increased health care costs. Treatment costs range from \$20,900 to \$151,700 per injury, contributing to an annual total of \$27 billion to the health care system, and approximately 60,000 deaths each year.

An extensive literature search was performed, and a synthesis table created. This provided our team with the evidence and guidance needed to develop a skin protection protocol that would benefit our patient needs.

DESCRIPTION OF PROTOCOL

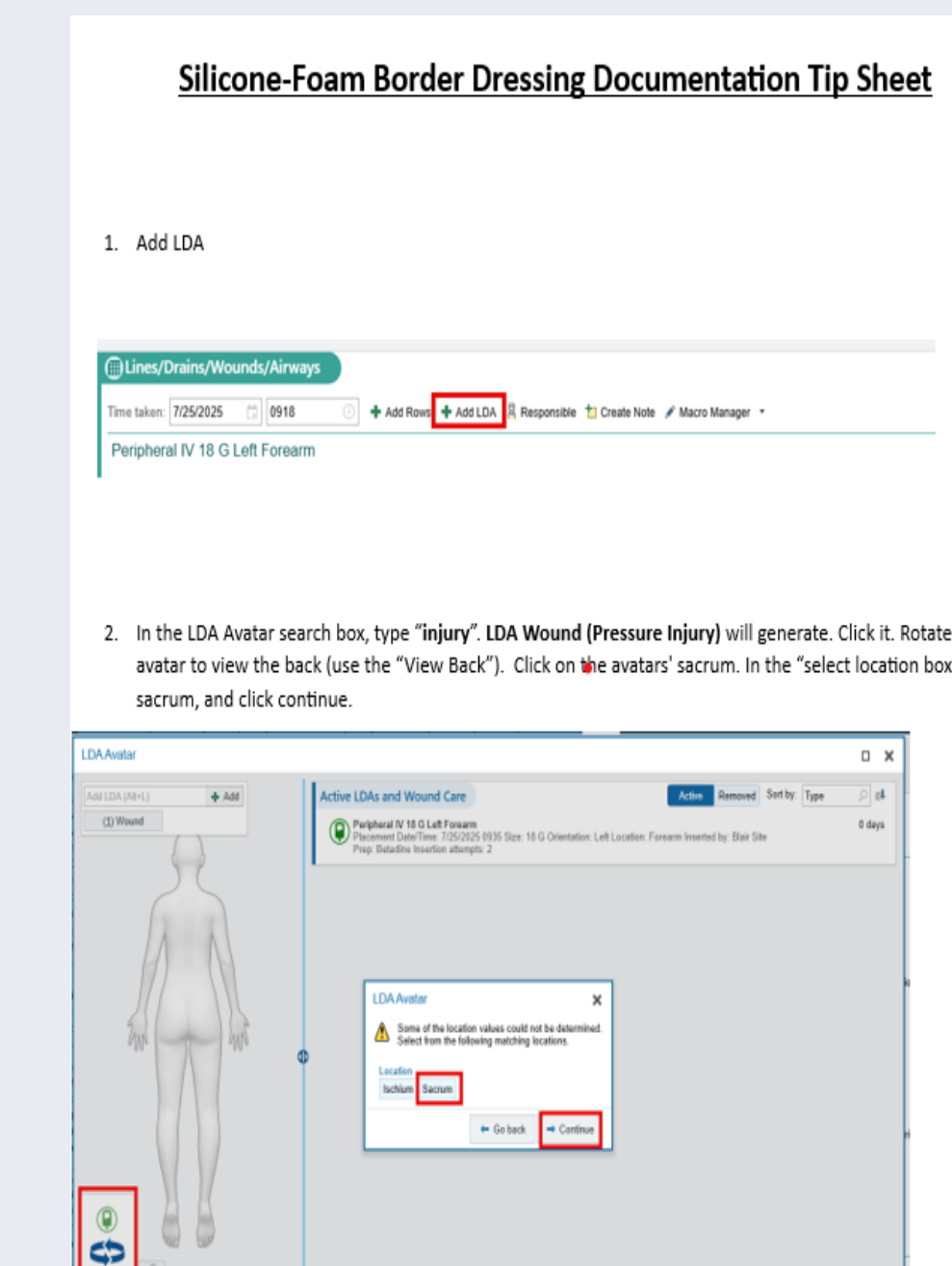
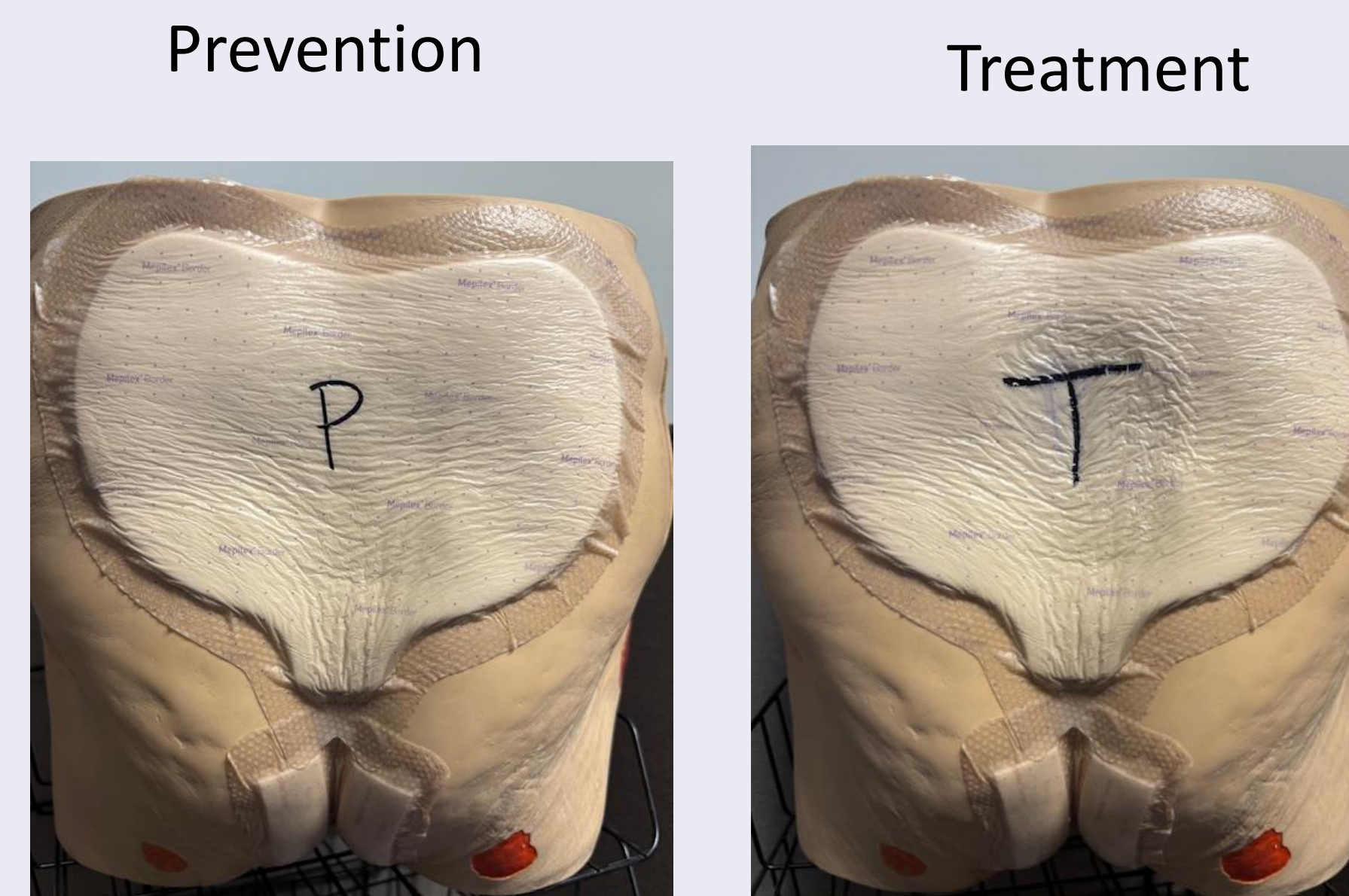
- Cardiothoracic Skin Injury Prevention Protocol**
- Patient undergoing cardiothoracic transplant procedure will receive:**
- X1, sacral silicone-border dressing to sacrum
 - X2, 2x5 silicon-border dressings to the intergluteal folds
- Dressings to be labeled:**
- "P" for Prevention (if skin is intact)
 - "T" for Treatment (if a wound is present)
- Skin assessment to be done in OR (pre- and post-procedure)**
- Dressing will remain in place during transfer from OR to ICU**
- Skin assessment to be done on admission to the ICU**
- ICU nurse will determine if the dressing remains in place for treatment**

IMPLEMENTATION

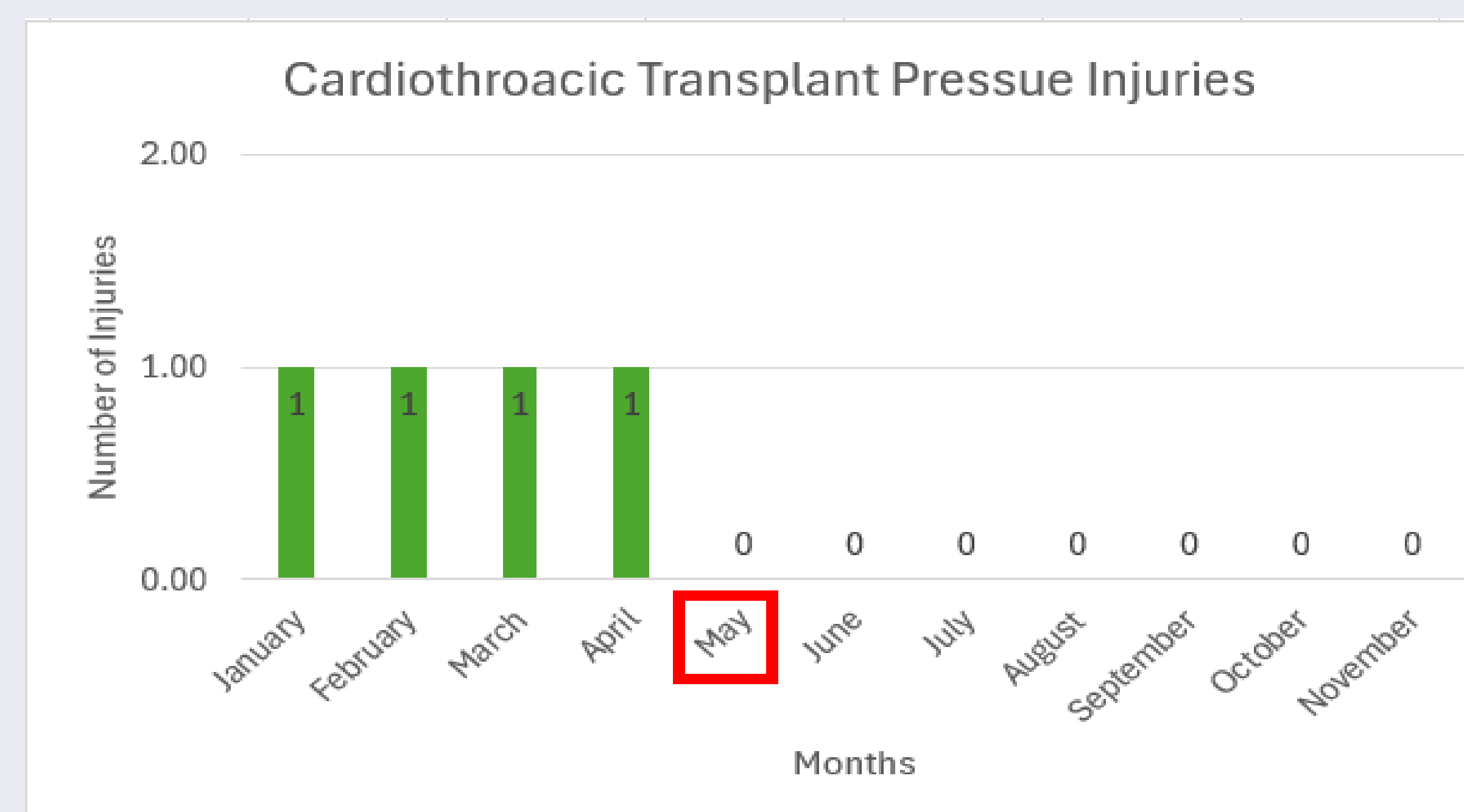
- January-April 2025**
 - Jan-April- Four intergluteal cleft pressure injuries reported in the cardiothoracic surgical patient population
 - March- Assessment of current state and root cause analysis
 - April- Analysis of dressings, dressing selected, dressing inventory, location determined, and par level determined
- May 2025**
 - May 12-16- Established documentation process and added skin dressing protocol into the surgeon's preference cards
 - May 19-23- Cardiothoracic nursing team and cardiac ICU received training
 - May 28- Go-live
- June-December 2025**
 - June 4-July 2- weekly meetings to analyze project, feedback, and review dressing application
 - August 4-Nov 5- Monthly meetings, ongoing auditing of dressing techniques, event reports, skin prevalence outcomes
 - Nov-Dec- Optimizing the electronic medical record to include documentation of preventative skin measures

INTERVENTIONS

Prevention VS Treatment



RESULTS



- Jan-April - 4 acquired injuries
- May – Implementation month

RESULTS CONTINUED

The initiative launched on May 28, 2025. As of November 2025, there have been zero sacral or intergluteal cleft pressure injuries, compared to four injuries recorded between January and May 2025.

To monitor the initiative, the specialized team collaborated with the cardiothoracic operating room and cardiac ICU staff, holding monthly meetings to analyze the project, provide feedback, and assess dressing application techniques and the skin assessment process. In addition, the team regularly audits case documentation and event reports to monitor compliance and identify ongoing opportunities for improvement.

CONCLUSION

Collaborating as a multidisciplinary team with a shared goal has fostered active communication and enhanced adherence to preventative practices, leading to a decrease in hospital-acquired pressure injuries, improved patient safety, and progress toward the zero-harm target.

ACKNOWLEDGMENTS

We would like to acknowledge our clinical wound management team, cardiothoracic surgical nurses, and our critical care nurses for assisting in our improvement project.

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