2023

Sustained Reduction of Pressure Injury in the Pediatric Cardiac OR

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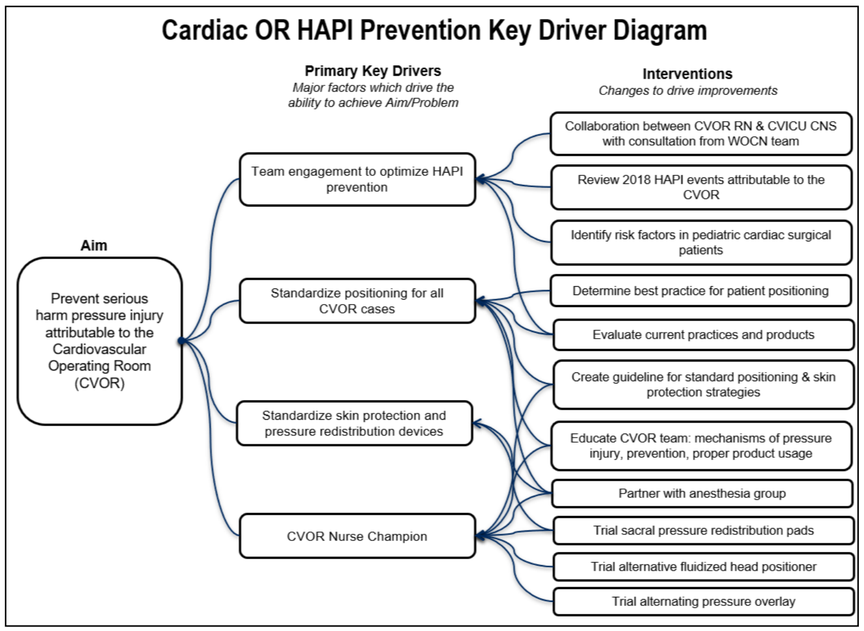
Background

- Pediatric cardiac surgery patients have multiple risk factors for developing hospital-acquired pressure injury (HAPI) including an extended immobile time, multiple monitoring devices, and altered hemodynamics related to cardiopulmonary bypass, hypothermia, chronic hypoxia, and compromised tissue perfusion.
- In 2018, three serious harm pressure injuries were related to cardiac surgical procedures at our organization.
- These patients experienced significant consequences including pain, additional surgical procedures, anesthetic exposures, and extended length of stay.
- Limited evidence exists to guide practice for HAPI prevention in the pediatric cardiothoracic perioperative area.

Goal

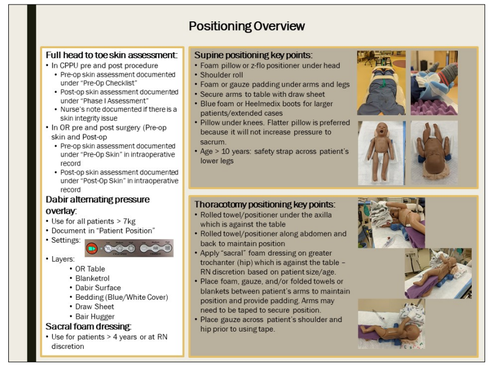
- To prevent HAPI related to the cardiac operating room (CVOR) by standardizing maximum skin protective strategies.

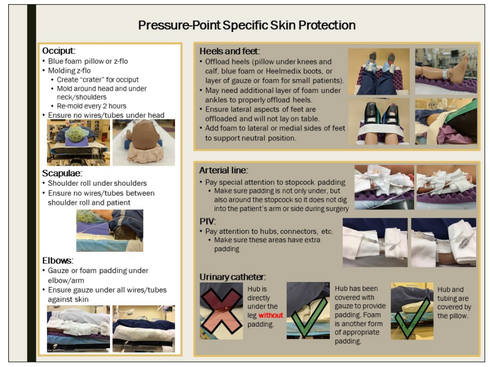


Interventions

- Collaboratively, a senior CVOR nurse and the Cardiac ICU Clinical Nurse Specialist partnered to lead a quality improvement initiative for HAPI prevention in the CVOR.
- Serious harm HAPI events were reviewed to identify risk factors.
- Local practice was evaluated and compared to evidence-based AORN recommendations.
- A key driver diagram was used to guide interventions.
- Sacral dressings were trialed in collaboration with the wound care team.
- The Perioperative Skin Protection Guide was created.
- Focus areas include assessment, positioning, pressure-point padding, and surfaces
- A reference was created for operating room staff to standardize and reinforce optimal positioning and skin protection.
- A novel alternating-pressure overlay (Dabir Micropressure Surgical Surface), which provides pressure-redistribution during surgical procedures, was trialed and adopted for every patient > 7kg.

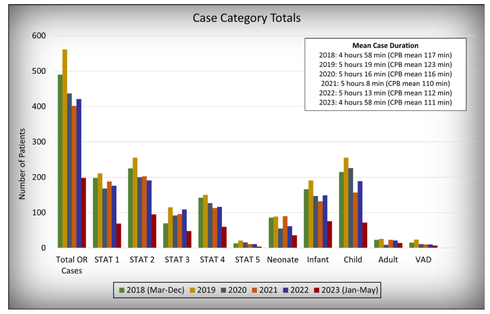
Courtesy of Dabir Surfaces





Results

- Despite a decrease in total cases during the CVOID-19 pandemic, acuity and time in OR remained consistent with pre-pandemic numbers.
- There have been no serious-harm HAPI attributed to the CVOR since March 2018, representing 63 consecutive months without harm.
- This represents 2,509 consecutive cardiac surgical cases without a pressure injury through May 2023.



Conclusion & Next Steps

- Our guideline elements are utilized for every patient, regardless of projected case duration, as we believe that every cardiac surgical case poses risk for skin injury.
- The nurse champion's consistent presence in the CVOR role models best practice and provides ongoing education and reinforcement.
- To sustain our results, next steps include ongoing staff education, implementing gel positioners in the CVOR, and reinforcement with anesthesia providers regarding appropriate fluidized positioner use.
- Use of the Dabir alternating-pressure overlay has spread to CICU and PICU for high-risk patients including ECMO and those intolerant to repositioning.

References and acknowledgments go here