

Pressure Injury Prevention in Cardiac Surgery

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INTRODUCTION

- Pressure injury prevention in the intraoperative phase of care can be challenging especially in the cardiac surgery patient.
- This patient population tends to be on the operating room bed for an extended time and has multiple co-morbidities.
- There is not an opportunity to reposition during the surgery.
- The Center of Medicare and Medicaid consider pressure injuries a never event.

During this assessment, the Association of Perioperative Nurses (AORN) latest update:

- “Place high-risk patients on high-specification reactive or alternating air pressure support surfaces before and after surgery”. (AORN e-mail June 8, 2022).

METHODOLOGY

- The DMAIC process of define, measure, analyze, improve and control was used.
- A review of patient pressure injuries.
- A literature search was completed.
- A product search and review was conducted.

EXTRINSIC-INTRAOPERATIVE FACTORS (AORN 2023)

- General anesthesia.
- Position of the patient.
- Prolonged procedure time.
- Blood loss during surgery.
- Pressure.
- Cardiopulmonary bypass.
- Anesthetic agents used.
- Sedation.
- Use of vasopressors.
- OR time > Than 2 hours.
- Heat and moisture.
- Shear and friction.
- Hypothermia.
- Hypotension.

DEFINE

- All the surgical interventions were greater than six hours.
- The hospital acquired pressure injury appeared within 12 hours of surgery.
- General anesthesia.
- Supine position.
- Vasopressors.

INTRINSIC FACTORS (AORN 2023)

- Darker skin tones.
- Female biological gender.
- Poor skin turgor.
- Infection.
- Nutritional condition.
- Diabetes.
- Episodes of hypotension.
- Low hemoglobin.
- Hematocrit ≤ 35 .
- Diastolic pressure ≤ 60 .
- Body mass index < 18 .
- Age > 60 .
- Elevated lactate levels.
- History of pressure injuries or current pressure injury.
- High ASA score.

COMMUNICATION/TEAMWORK

- A presentation to the Cardiovascular Quality Subcommittee on.
 - The problem.
 - Current practice.
 - Evidence.
 - Choices/solutions.
 - References.
- Concerns for movement during critical portions of the surgery were expressed.
- A trial was granted for use of an alternating pressure overlay during surgical interventions.
 - Education provided with hands on demonstration.

DATA COLLECTION

- Overlays and 4 controllers were purchased.
- The alternating pressure overlay was adopted as routine care during cardiac surgery.
- Continue to track all cardiac cases.

CONCLUSION

- Data was gathered and reviewed at 60 days.
 - No pressure injuries.
 - No movement was noted by surgeons during the care of the cardiac surgery patient.
 - 7 months of data and no intraoperative pressure injuries.
 - Additional complex surgeries adopting the alternating pressure overlay.

REFERENCES

1. Int Wound J. 2019;16(3):634-640.
2. Prevention and treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline 2019.
3. Association of periOperative Registered Nurses, (2023) Guidelines for Perioperative Practice Denver, Co.
4. JWOCN November/December 2021 DOI: 10.1097/WON.0000000000000815 Pittman, Horvath, Beeson, et al.

