

Reducing Respiratory Device-Related Pressure Injuries through Interdisciplinary Skin Assessments



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Background

Hospital-acquired pressure injuries (HAPIs) remain a significant patient safety concern in the pediatric inpatient population, particularly among patients requiring respiratory support.

In the Apollo unit, most patients present with respiratory conditions requiring devices such as cannulas, BiPAP, CPAP, or tracheostomy interfaces.

A review of internal data and incident trends revealed that of all medical device related pressure injuries (11), there were 10 related to respiratory devices (FY2024). There were 13 total non-reportable HAPIs on Apollo in FY24.

Objective

Implement a standardized two-person RN and RCP skin assessment each shift for patients requiring respiratory support.

Aim

Through the use of K-Cards and reinforcement of standardized prevention practices, the project aimed to reduce respiratory device-related HAPIs and improve patient safety outcomes on the Apollo unit by September 30, 2025.

Materials

FOCUSED SKIN ASSESSMENT

YOUR SKIN, OUR PRIORITY!

Starting August 13th a head to toe Focused Skin Assessment will be completed Q-Shift by the RN & RCP **together** on all patients on any type of respiratory support in Apollo.

The HUCs will be performing an audit each shift for compliance purposes. Days - between 1600-1800 NOC - between 0400-0600

HAPI-Acute Care RN/RCP FOCUSED SKIN ASSESSMENT	
To be completed by 1600/0400 each shift	
1	Date: _____
2	DAY SHIFT NIGHT SHIFT
3	EXAMINE PATIENT UNDER BRIGHT LIGHT!
<ul style="list-style-type: none"> RN/RCP assess together posterior trunk/head Use light source when assessing scalp Assess skin under medical and respiratory device at least QH Use pressure barrier under devices (Ex: Mepilex under BiPAP mask) Alternate or off-load respiratory device QH (Ex: if mask, try nasal pillows, full face mask). Ensure skin is clean, dry, and intact. Assess (with a light source) and palpate occiput. 30 degree side to side positioning for high risk patients (edema, long intraoperative time, low cardiac output). Check pressure areas/skin over bony prominences (shoulder, scapula, trochanter, sacral, coccyx, heels). Skin under BiPAP/CPAP mask padded (Mepilex lite/Mapept). HFNC/NIC tubing on ears padded. Specialty surface for patients weighing 32kg and above: <ul style="list-style-type: none"> Fluoridized positioner-Z-flo for occipital off-loading on Tracheostomy patients (except C-spine precautions) and sacral off-loading. 	
<p>Pressure Injury Prevention Bundle</p> <p>COMPONENTS</p> <ul style="list-style-type: none"> Skin Assessment QH: <ul style="list-style-type: none"> On arrival to the unit (head to toe, posterior trunk/head, expose all skin). Thereafter, QH or more often if high risk. Use light source when assessing scalp. Device Rotation QH: <ul style="list-style-type: none"> Assess skin in contact with medical devices or more frequently (NIC, HFNC, BiPAP nasal mask, nasal pillow, full face mask, pulse oximeter, BP cuff). Cushioning with foam dressing for respiratory devices (Mepilex lite or Mapept). Patient Positioning QH: <ul style="list-style-type: none"> All sensory limited patient Maintain HOB 30 degrees, unless contraindicated. Document centralization. Appropriate Bed surface: <ul style="list-style-type: none"> Fluoridized positioner for occipital and sacral off-loading Specialty surface for patients > 32 kg. Refer to bed decision tree. Moisture Management: <ul style="list-style-type: none"> Silicone barrier cream (Hydraguard) for all diapered patients with intact skin. Thick silicone barrier cream (Z-pi, nu, r r a n) padded patients with non-intact skin. <p>CONSIDER:</p> <ul style="list-style-type: none"> Nutritional referral and safe patient handling equipment as indicated. WCN Referral as needed and as per policy. 	

PROCESS

- 1 - Date of assessment
- 2 - Choose Day or NOC shift
- 3 - Examine patients skin

Green side faces out when complete

K-Card **RED** → RN + RCP Skin Assessment → K-Card **GREEN** → HUC Audit Compliant

Methods

Setting:

36-bed pediatric acute care unit caring for primarily respiratory-related diagnoses.

Process:

- Upon admission of a patient requiring respiratory support, a K-Card was placed outside the patient's room
- At the beginning of each shift, the HUC ensured all K-Cards were positioned red side up.
- The red side served as a visual cue for the bedside RN and RCP to complete a two-person skin assessment once during the shift before 0600 / 1800.
- After completing the assessment, the RN/RCP flipped the K-Card to the green side.

Compliance Monitoring:

- At 0600 and 1800, the HUC rounded to audit compliance and entered data collected in Forms.

Project Timeline:

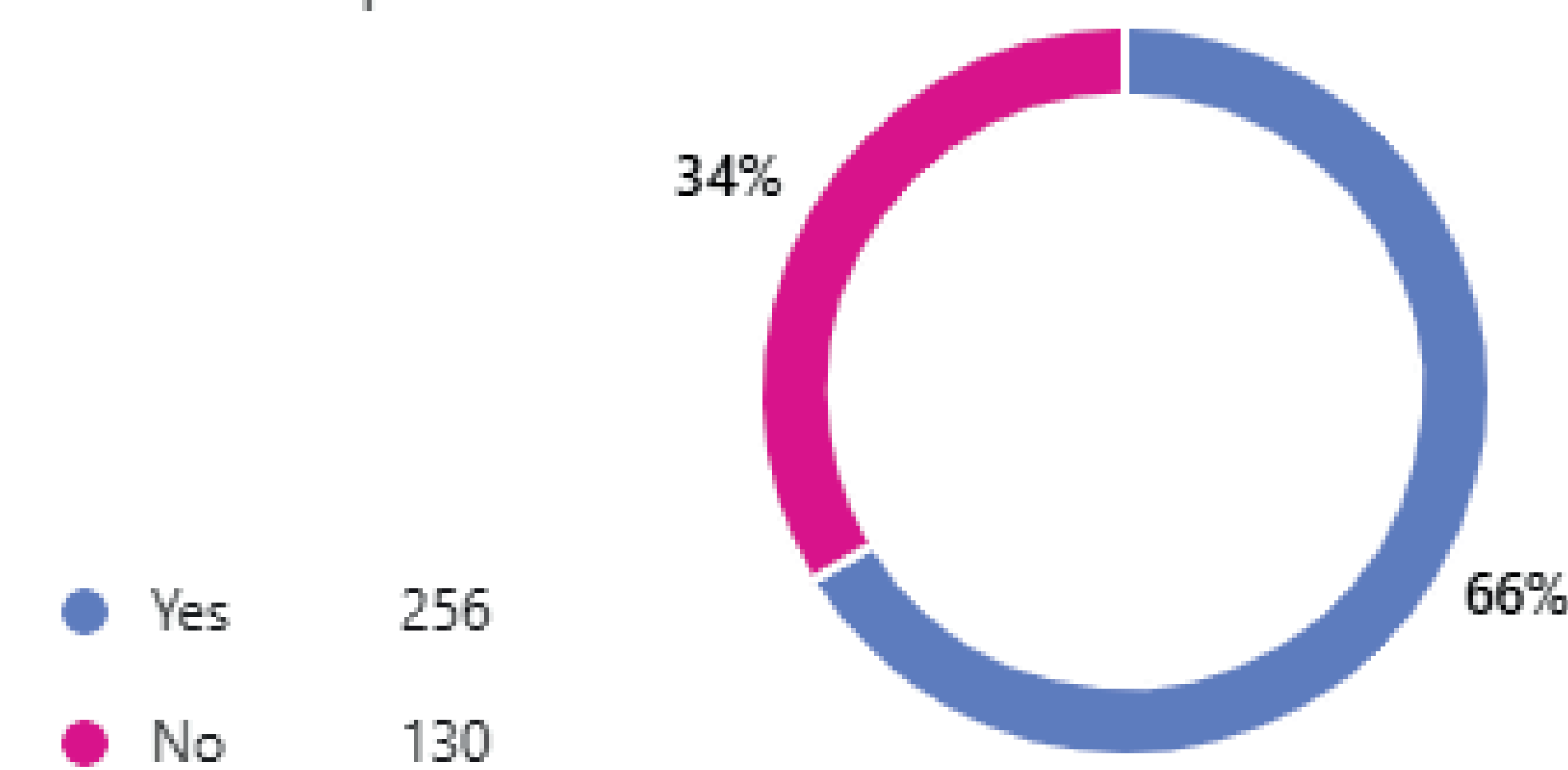
- August 2024 to January 2025

Results - Audits

HUC Compliance Audits:

- 386 audits completed
- 66% of rooms achieved 100% compliance with the RN/RCP skin assessment process
- 34% of rooms did not meet full compliance

4. 100% Compliant?



References

Lass, A., Warg, J., & Dagestad, A. (2024). A HAPI prevention program: Eliminated hospital-acquired pressure injuries with four eyes. *Nursing Management*, 55(4).

Wesley, K., Kharloubian, N., & Yoshizawa, C. (2024). Four eyes are better than two. *Journal of PeriAnesthesia Nursing*, 39(4), e5-e6.

Burr, K., Dwyer, E., Gavidia, M., et al. (2021). Utilization of a pressure injury prevention task force for respiratory device-related pressure injuries in pediatrics. *Respiratory Care*, 66(10 Suppl), 3603310. <https://doi.org/10.4187/respcare.20213603310>

Results - HAPI Occurrences

Intervention Start:

Two-person RN/RCP skin assessments, K-Cards, and HUC compliance audits implemented August, 2024.

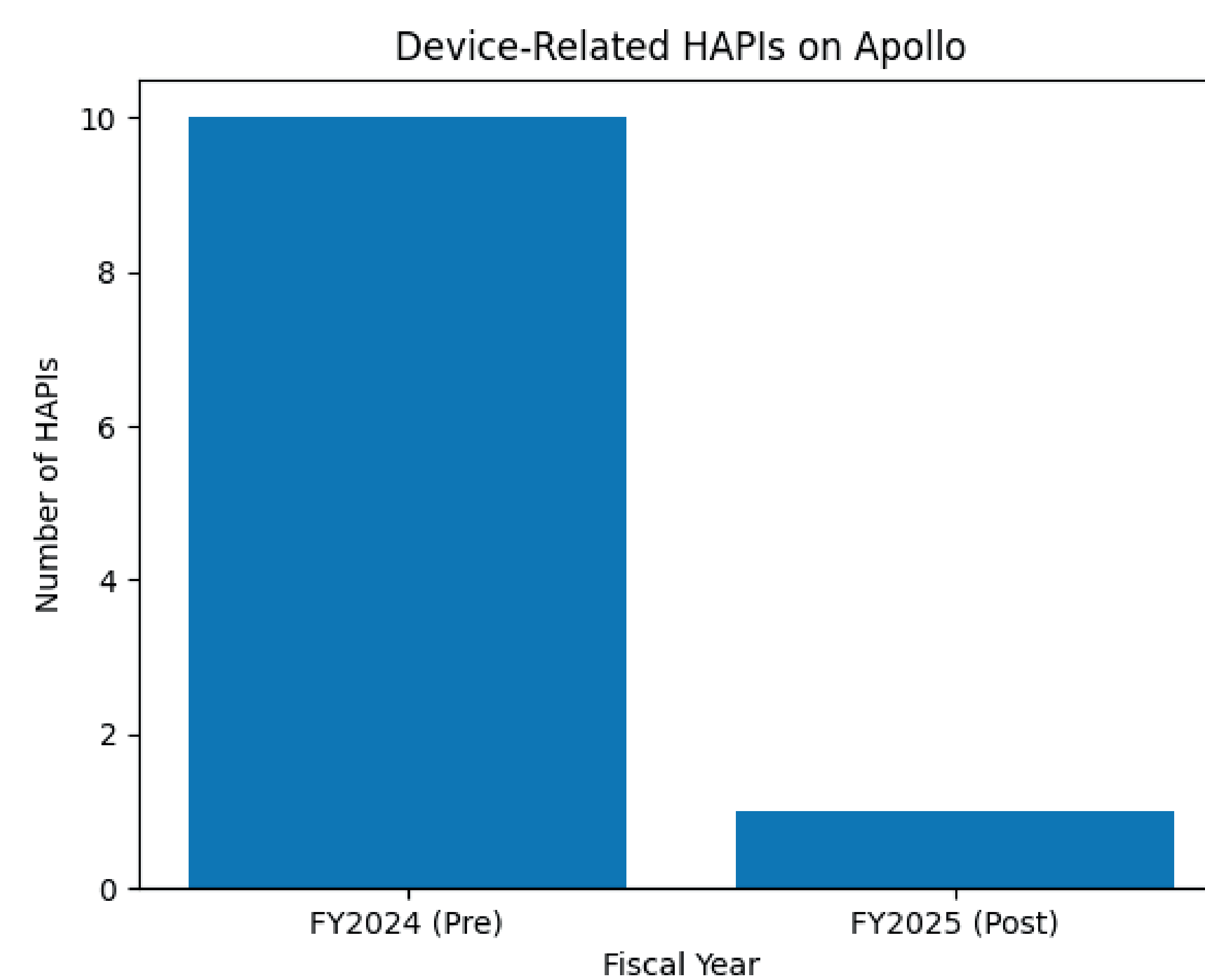
HAPI Outcomes:

FY2024 (Pre-Intervention) 10/1/23-9/30/24

- 0 reportable HAPIs
- 13 non-reportable HAPIs
- **10 respiratory device-related HAPIs**

FY2025 (Post-Intervention) 10/1/24-9/30/25

- 0 reportable HAPIs
- 2 non-reportable HAPIs
- **1 respiratory device-related HAPI**



10 → 1
90% Reduction

Sustainability

- K-Cards & HUC audits discontinued **January, 2025**
- Two-person skin assessments continued as recommended practice, though not formalized in policy until **March, 2026**

Barriers

- HUC audits alone were insufficient to ensure reliable compliance measurement
 - Inconsistent documentation of RN/RCP participation impacted compliance tracking
 - Reliance on visual cues (K-Cards) introduced variability in process adherence