

## Abstract

### UNDER PRESSURE: HOW THE CVICU CHAMPIONED SKIN PROTECTION AND REDUCED THE PREVALENCE OF UNIT-ACQUIRED PRESSURE ULCERS

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**Problem:** The prevalence of unit-acquired pressure ulcers (UAPU) in the Cardiovascular ICU (CVICU) was routinely exceeding NDNQI benchmark levels.

**Background/Evidence:** The CVICU's defined patient population has many risk factors that increase susceptibility to the development of pressure ulcers, including decreased nutrition and mobility, poor tissue perfusion, hypovolemia, invasive monitoring devices, and the administration of medications such as vasopressors.

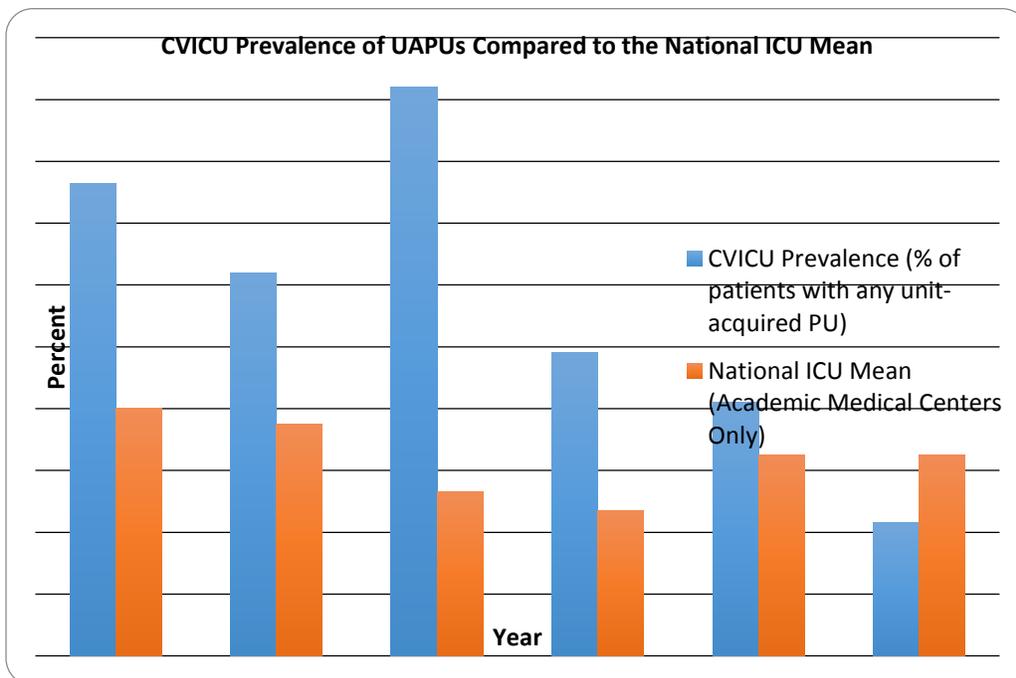
**Purpose:** This presentation will explain how a staff nurse-driven skin team reduced the prevalence of UAPUs in the CVICU patient population.

**Methods:** The CVICU had formed a skin team in 2009 that audited the unit on a monthly basis. Due to the large percentage of patients acquiring ulcers during their stay on the CVICU, the skin team changed its formula to conduct weekly skin rounds beginning in 2014. The remodeled Skin Team, performed weekly audits, tracked multiple data points associated with pressure ulcer trends, and educated fellow staff on pressure ulcer prevention. This included proper dressing applications, risk factors, where to check for less commonly found UAPUs, and documentation. The documentation of pressure ulcers was standardized, and weekly audit results were emailed to staff to increase awareness of trends. The overall method for reducing pressure ulcers was to help nurses identify how to mitigate the risk factors that contributed to pressure ulcer development. These risk factors were identified in chart reviews conducted by skin champions to assess what treatments, or lack of treatments, might have contributed to the development of a UAPU, such as the patient's nutrition status, vasopressor administration, mobility, use of skin protective devices such as an air mattress, and fluid status (hyper- or hypovolemia). Between two to six hours were spent on weekly audits performing the above methods to heighten skin protection awareness. In addition to weekly auditing, skin champions served as a resource for other nurses on the floor should skin concerns arise outside of audit days. Skin champions were utilized to photograph and document newly UAPUs or present-on-admission pressure ulcers. Skin champions were then able to provide immediate feedback for how to deal with the discovered wound and answer any questions the bedside RN might have.

**Results:** Because the CVICU's patients developed UAPUs in the same locations prior to weekly rounding, education released in weekly e-mails or at weekly audits prevented the recurrence of more common injuries, resulting in a decrease of UAPUs on OHSU's 12K CVICU. For example, UAPUs were commonly discovered under Arterial line catheters, behind ears due to nasal cannulas, on the bridge of noses from Bipap masks, inside the nares from Dobhoff tubes, and on

the lips due to endotracheal tube placement. After skin team education was released on how to handle these more commonly found UAPUs, the unit experienced a decrease in the prevalence of Stage I and II pressure ulcers below NDNQI benchmarks. Following weekly skin audits, the unit went 19 weeks without a UAPU and there were no ulcers identified in 4 consecutive NDNQI quarterly surveys in 2014. The ulcers that developed were less severe. Before weekly skin rounds, Stage I and II unit-acquired pressure ulcers occurred in 8.2-15.3% of the unit's patients; after 12 months of instituting weekly skin rounds in 2014, stage I and II UAPUs were accounted in only 4.3% of the identified patient population. The table and graph below demonstrate the improvement in skin protection after weekly audits began in 2014.

| Year | CVICU Prevalence (% of patients with any unit-acquired PU) | National ICU Mean (Academic Medical Centers Only) |
|------|--|---|
| 2009 | 15.3   | 8   |
| 2010 | 12.4   | 7.5   |
| 2011 | 18.4   | 5.3   |
| 2012 | 9.8  | 4.7   |
| 2013 | 8.2  | 6.5   |
| 2014 | 4.3  | 6.5   |



**Conclusion:** The revamped staff nurse driven Skin Team facilitated an increased awareness and prevention of pressure ulcers by rounding on the unit one time per week for two to six hours. This time was used to audit the CVICU on skin protection, measured by the prevalence of

UAPUs. When UAPUs were found, their discovery allowed for teachable moments on how to prevent the same type of UAPUs from occurring. The weekly rounding and education allowed the CVICU to identify weak points in preventing UAPUs and make them strengths. As of now the CVICU has developed a reputation for having no UAPUs nearly every audit. As a result, the unit has gone to trialing skin rounds every other week. So far the CVICU has still maintained a culture of proper skin protection indicated by low prevalence of UAPUs (currently at 4.3% of the patients that have been through the CVICU this year). The CVICU will continue every other week skin rounding unless the prevalence of unit-acquired pressure ulcers begins to rise above appropriate benchmark levels. Seemingly, the skin champions of the CVICU have developed a culture of skin protection and empowered other bedside nurses to know how to protect their patient's skin through education. As a result, the unit maintains a high standard for protecting patient's skin, evidenced by the decrease in stage I and II UAPU development. Education and resources will still be provided by skin champions to other staff in order to facilitate this long-term culture change; a change that's better for patients, their families, and all the staff of OHSU's 12K CVICU.