Reducing Perioperative Corneal Abrasions: The Impact of Standardized Practice In the Perioperative Setting

Stephanie Felix BSN, RN, Vina Travero BSN, RN, Estelle Swanson DNP, RN, CCRN

Weston PACU

Background

In Q2 2024, RNs in the Post-Anesthesia Care Unit (PACU) noted an increased number of patients experiencing perioperative corneal abrasions. Literature supports that there is not a standardized protocol in place to prevent or treat corneal abrasions across the continuum. Corneal abrasions (CA) accounts for 35% of injuries, in which 16% led to permanent ocular morbidity.

Literature Review

Literature supports that CA are a common preventable surgical injury. Patient risk factors like diabetes, obesity, and HTN as well as task-related and system related factors can compromise optic nerve perfusion and can contribute to optic nerve injury when CA occurs. It also suggests that increasing the RN's knowledge regarding risk factors, interventions, and escalation will decrease the incidence of CA.

Objective/Purpose

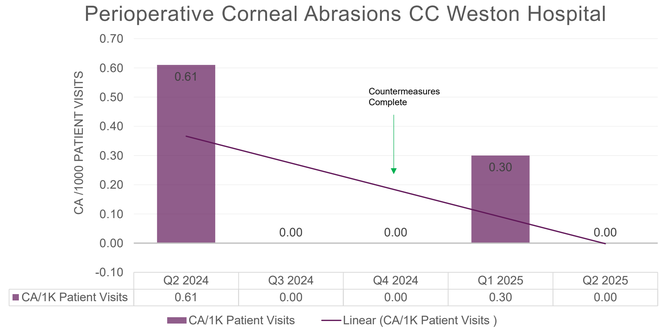
Develop a standardized CA practice for PACU nurses that will increase knowledge in assessment, recognition, nursing interventions, and escalation process to decrease the incidence of CAs in the PACU setting by Q2 2025.

Methods

In Q3 2024, an interdisciplinary team was formed to review and develop a plan for prevention of perioperative acquired CAs. Guided by a comprehensive literature review, the team created an evidence-based preoperative risk-factor checklist designed to identify patient at high risk for developing CA. Pre-Op RNs implements the risk-factor checklist, patients with a score of 3 or greater is deemed at risk for CA. Once identified, CA-specific preoperative interventions are initiate, and the patient's risk score is communicated to the anesthesia team to determined whether additional protective measures are required. In the PACU, nurses continue protective measures and initiate post-op interventions.

Outcomes

In Q2 2024, the perioperative CA injury rate was 0.61/1000 per patient visits. Following the implementation of key countermeasures including an evidence-based risk-factor checklist, enhanced communication, and both preoperative and postoperative protective strategies, the CA injury rate declined to 0.30 in Q1 2025 and 0.0ytd in Q2 2025. The reduction in CA injuries validates the team's commitment to avoid preventable injuries in the perioperative setting.



Conclusions

Peri-operative stakeholders took steps to reduce CA based on the evidence presented. The practice change has resulted in a significant reduction in CA injuries. The risk-factor checklist, escalation, and education can be adopted in any organization's perioperative team. Future work can be explored to incorporate the risk factor checklist into the electric medical record to make it part of the routine standard of care for all patients undergoing operative procedures.

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