

Abstract

Background: Pupillary assessment is standard of care in critically ill patients.

Pupillometry is reliable and twice as reproducible and repeatable than manual pupillary assessment.

Local Problem: Cardiovascular ICU (CVICU) patients are at increased risk for neurologic complications. The purpose of this Evidence-Based Quality Improvement project was to integrate pupillometry into a CVICU to assist with neurologic assessment and detection of neurologic complications.

Methods: Project population included patients requiring mechanical circulatory support devices (MCS) in a 24-bed CVICU. Education on pupillometry was completed and orders for pupillometry were placed in the electronic medical record (EMR). Data was collected from the EMR over a two-month period measuring nursing compliance to pupillometry orders and provider notification or intervention.

Results: Sixteen patients required MCS. 551 of 735 pupillometry assessments were completed and documented. Resulting in 75% nursing compliance with obtaining pupillometry, which is an improvement from prior. 33 abnormal pupillary responses were documented; 5 had an associated documentation of provider notification/intervention.

Discussion: Sustaining pupillometry will require understanding the barriers to performing pupillometry, documenting the results, communicating the abnormal results, and documenting the communication and intervention completed. Investigation into workflow and ease of documentation needs to be completed. Improvement in documentation of provider notification/intervention regarding abnormal results is necessary to optimize care.

Conclusions: Accurate detection of neurological deterioration has potential to improve patient outcomes and early prediction of neurologic outcomes has potential to save on healthcare costs. This project demonstrates that it is feasible to routinely use pupillometry on MCSD patients.