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SKMC Class of 2022: SI/ME Abstract

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“Trauma to the Eye” – A Low Fidelity Module for Identifying Retrobulbar Hematoma and Practicing Lateral Canthotomy & Cantholysis

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Purpose: A retrobulbar hematoma (RH) can cause preventable blindness due to damage of the optic nerve. Due to its relative infrequency in the emergency department, Emergency Medicine (EM) residents have limited experience in recognizing and treating a RH. This paper outlines a simulated scenario that was developed to improve EM residents knowledge in diagnosing a RH and performing an emergent lateral canthotomy and cantholysis (LCC).

Methods: This module used a low fidelity task trainer and case vignette created for EM residents to practice recognizing a RH and performing a LCC. Participants took an assessment questionnaire before and after the teaching module, which included questions in the knowledge and affective domain. The study measured scores for recognition and treatment of a RH, stress levels (higher scores=less stress), and confidence levels using a paired t-test, and asked participants to indicate their feelings of comparative preparedness after the module.

Results and Conclusions: Participants' scores improved on the assessment questionnaire in the knowledge (12.30%, $p=0.00005$) and affective (confidence: 17.61%, $p=0.0002$; stress: 9.64%, $p=0.058$) domain. All participants indicated that they felt more prepared to treat a RH after the module. The results suggest that this teaching module significantly improved their ability to recognize and treat a RH, their confidence in performing the procedure, and their feelings of relative preparedness, but did not significantly decrease their stress. This module is a successful educational resource that can decrease cases of preventable blindness by improving EM residents ability to recognize and treat RHs.