

UC Irvine

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health

Title

Practical Training for Emergency Burr Hole Using Three-Dimensional Printed Task Trainer

Permalink

<https://escholarship.org/uc/item/13s9w48h>

Journal

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 24(3.1)

ISSN

1936-900X

Authors

Crouh, Andrew
Andrusaitis, Jessica

Publication Date

2023

DOI

10.5811/westjem.61027

Copyright Information

Copyright 2023 by the author(s). This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

selection, this would best be addressed by further expansion of the course to be required for all M4s.

30 Practical Training for Emergency Burr Hole Using Three-Dimensional Printed Task Trainer

Andrew Crouch, Jessica Andrusaitis

Introduction: There is limited space around the brain and if this area fills up with fluid, this can cause compression of brain tissue and be life-threatening. In order to relieve the pressure, a hole can be drilled through the skull. This is typically performed by a neurosurgeon but if a neurosurgeon is not available, the emergency medicine (EM) physician should be prepared to do it. This is a rare procedure and most EM physicians have not had exposure to it. A pilot trial with our model (Image 1; Image 2) was conducted in June 2022 with 5 EM residents and 2 neurosurgery residents. By the end of the session, all residents could accurately describe and perform the procedure without assistance.

Educational Objectives: To evaluate the efficacy of a Burr hole task trainer by using a survey to assess the comfort levels of participants before and after using the task trainer.

Curricular Design: This is a prospective study on an educational model to teach placement of a Burr hole. We will use a survey to assess pre- and post- skill lab comfort with this procedure by EM residents PGY1-3. The study will take place during a skills session at an ACGME-accredited EM residency at a Level 1 Trauma center scheduled for January 4, 2023.

The anticipated number of participants is 60. Participants will rank their overall comfort of performing Burr hole placement before and after the skills session.

Impact/Effectiveness: Since residents currently get little to no training in this procedure, we anticipate that our formal survey results will confirm that practice with this model increases physician comfort level. Since faster evacuation of fluid collection is associated with better outcomes, we hope that training with this task trainer will increase physician skill and confidence and translate to better patient outcomes.

31 REPS Shift Debrief

Jennifer Bolton, Conor Dass, TJ Welniak, Aaron Barksdale

Introduction/ Background: Burn-out has been found to be prevalent in emergency medicine residents while professional levels of fulfillment have been found to be low. Debriefs are common in emergency medicine and at many institutions have been implemented after difficult

cases such as codes or traumas. There has also been research on barriers to obtaining and giving feedback in the emergency department to facilitate learning in emergency medicine residency. Based on this review, in theory, if residents are given a formal, organized time to talk through positive moments on shift, their own growth, feedback from peers and attending physicians, and reflecting on what was learned during the shift and how to improve on future shifts, this could improve burnout and job satisfaction in emergency medicine residents.

Educational Objective: A debrief checklist was



Image 1.



Figure 2.