An Innovative Otolaryngology Resident Boot Camp

Esther R. Kiffel[2], Michael S. Weinstock[3], Christina J. Yang[3], Esther Rong[2], Merona A. Hollingsworth[4], Nadeem Akbar[3], Marc J. Gibber[3]

Corresponding author: Ms Esther R. Kiffel ekiffel@mail.einstein.yu.edu
Institution: 2. Albert Einstein College of Medicine, 3. Montefiore Medical Center and Albert Einstein College of Medicine, 4. Montefiore-Einstein Center for Innovation in Simulation
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Abstract

Simulation provides the opportunity for residency programs to introduce core skills and principles to residents in a low risk environment. We designed a four-week "boot camp" for junior otolaryngology residents aimed at providing the foundation necessary for effective management of commonly encountered clinical scenarios. Sessions emphasized learning through adult and pediatric simulation exercises, technical skills training and didactics. Feedback on resident performance was provided at the completion of simulation exercises.

Keywords: Otolaryngology; Boot Camp; Simulation;

Introduction

In the past few years otolaryngology residency training programs have developed successful one-day simulation "boot camps" aimed at promoting proficiency in performance of basic maneuvers and management of common clinical scenarios. Expanding upon this success, we designed a more time-intensive four-week curriculum intended to introduce core skills and principles to junior otolaryngology residents, equipping them to safely and effectively manage common clinical scenarios in an interactive and low-risk learning environment.

The students consisted of the junior residents in the department of Otolaryngology/Head and Neck Surgery at Montefiore Medical Center in New York City. The curriculum consisted of twenty-four sessions over the course of four weeks (Fig. 1). Sessions were divided into three categories: adult and pediatric simulation exercises, technical skills development, and didactics. Institutional review board approval and subjects' written informed consent were obtained prior to the course.
Adult and Pediatric Simulation Exercises

The adult and pediatric simulation exercises consisted of eight sessions. Exercises were designed to reflect common and challenging scenarios encountered during the course of an otolaryngology residency. An attending otolaryngologist observed resident subjects' performance for demonstration of clinical skills, critical thinking, situational awareness, professionalism, and effective communication. Following completion of the simulation exercise residents were debriefed on their performance.

Residents participated in three adult and two pediatric acute airway simulation sessions. Scenarios for acute airway simulation emphasized airway management in patients with angioedema, laryngospasm, trismus, and oropharyngeal bleeding. Two additional adult simulation exercises required resident subjects to manage a patient with epistaxis; first a patient with an anterior nasal bleed, followed by a patient with a posterior nasal bleed, as well as a patient with an expanding hematoma. Residents also participated in two team-based training sessions emphasizing coordination with residents from other medical services (such as pediatrics), which involved the following scenarios: dislodged tracheostomy tube, post-obstructive pulmonary edema, postoperative stroke, postoperative safe handoff, malignant hyperthermia, epiglottitis, and loss of airway.

Technical Skills Development

Residents participated in five sessions emphasizing technical skills acquisition and development. Two sessions were devoted to soft tissue techniques such as suturing and knot tying using the traditional pig foot model. Simulators devised by other faculty members in our department were used to teach microsurgical techniques for myringotomy and laryngeal suturing. We also devised a sinus simulator using bell peppers and their seeds to simulate sinonasal polyps.

Didactics

Sessions consisted of ten lectures given by an attending physician or senior resident. Topics included an introduction to the operating room and basic instruments, flexible laryngoscopy, bronchoscopy, tracheotomy, epistaxis management, laser safety, and subspecialty-specific orientations (head and neck, rhinology, otology).

Figure 1. Bootcamp Calendar
Take Home Messages

Notes On Contributors

Esther R. Kiffel is a medical student at Albert Einstein College of Medicine Class of 2019.

Michael S. Weinstock is a third year Otolaryngology resident at Einstein-Montefiore Medical Center.

Christina J. Yang is an Assistant Professor of Otorhinolaryngology-Head and Neck Surgery at Montefiore Medical Center and the Children's Hospital at Montefiore / Albert Einstein College of Medicine.

Esther Rong is a medical student at Albert Einstein College of Medicine Class of 2019.

Merona A. Hollingsworth has a Bachelors in Information Sciences, with an extensive background Medical Simulation and Technology. Merona is the Simulation Coordinator at Montefiore-Einstein Center for Innovation in Simulation (MECIS).

Nadeem Akbar is an Assistant Professor of Otolaryngology/Head and Neck Surgery and part of the Rhinology and Skull Base Surgery division at Montefiore Medical Center/Albert Einstein College of Medicine.
Marc J. Gibber is an Assistant Professor of Otolaryngology/Head and Neck Surgery at Montefiore Medical Center/Albert Einstein College of Medicine. He is the Director of research and development at the Montefiore/Einstein Center for Innovation and Simulation.

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Bibliography/References

Appendices

Declarations

The author has declared that there are no conflicts of interest.

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