Standardizing Procedural Readiness in Otolaryngology Through an Advanced Integration Curriculum

University of Vermont
Larner College of Medicine

Sofia Leusch B.S.[1], Alex Carp B.S.[1], John Rustad M.D.[2] Cody Schroeder M.D.[3], Allison, Lipsky M.D.[3], Erin Ostby M.D.[3]

1. Larner College of Medicine at the University of Vermont, Burlington, VT, 2. Department of Otolaryngology, University of Minnesota , 3. Department of Otolaryngology, University of Vermont Medical Center, Burlington, VT

INTRODUCTION

- Competency-based medical education is increasingly the standard across medical training
- Inclusion of structured assessment of procedural skill acquisition in such curricula remains limited.[1,2]
- Stage-appropriate proficiency with common subspeciality procedures (e.g., flexible laryngoscopy) is an important marker of readiness in the evaluation of surgical advanced integration students.[3]
  - Variability in home-program curricula leads to inconsistent preparedness.[2]
- We aimed to develop and implement a standardized, competency based procedural curriculum for otolaryngology AI electives.

OBJECTIVES

- To characterize medical students' clinical and procedural experiences during the UVM Otolaryngology Advanced Integration curriculum
- Assess their self-reported confidence and preparedness for residency
- Identify gaps in procedural exposure that could inform development of a standardized, competency-based AI curriculum at other otolaryngology department programs

METHODS

- Standardized curriculum incorporating a competency checklist of otolaryngology-specific procedural skills was developed by otolaryngology faculty, residents, and medical students at an academic medical center.
- Survey has been sent out to 4th year students who have completed the rotation at the University of Vermont Medical Center (UVMMC) ENT department.
- Assessing clinical readiness, self-reported confidence, and satisfaction with the rotation.
- Data will be analyzed using a paired t-test.

RESULTS

Developed Curriculum

- Identified 17 core skills and 12 advanced goals for AI 4th year students.
- Procedural competencies included endoscopy and ultrasound.
- Competency-based evaluations (vs summative grading).
- Focus on safe technique, procedural consistency, and clinical readiness.
- Outlined core procedures and clinical experiences that are accessible and appropriate for AI students .
- Didactic instruction, simulation, hands-on practice, and supervised clinical application.
- Students will use the developed document to track their skills and get feedback. (Figure 1)
- Implemented in the 2026 4th year rotation season at UVMMC Department of Otolaryngology

Core Experiences for all UVM ENT AI/Away Students	Date	Attending/Resident Signature
CLINICAL		
Perform a complete head and neck exam		
Perform a detailed ear exam		
Work up a voice or breathing-related complaint		
Interpret an audiogram or tympanogram		
Review and interpret a sinus CT		
CLINIC/BEDSIDE PROCEDURES		
Perform or assist in flexible endoscopy		
Perform ultrasound (e.g., thyroid/parathyroid)		
OPERATING ROOM		
Rhinoplasty		
Mastoidectomy/tympanoplasty		
Microlaryngoscopy		
Functional endoscopic sinus surgery (FESS)		
Myringotomy with tube insertion		
Tonsillectomy or adenoidectomy		
Thyroidectomy or parathyroidectomy		
Neck dissection or sentinel lymph node biopsy		
EDUCATION/TEAMWORK		
Attend and participate in all departmental educational session (e.g., tumor board, journal club, grand rounds)		
Present a case-based topic		

Figure 1. Example Checklist of Core Requirements

Survey Results

- *NOTE: Data is currently being collected and not analyzed at this time*
- *Preliminary* data shows 4th year students were overall satisfied with their UVMMC ENT experience
- Participants reported increased confidence in predetermined core clinical skills and procedural experience
- Participants reported satisfaction with teaching and feedback

DISCUSSION

Learner Preparedness and Educational Equity

- Standardized procedural expectations may reduce variability in readiness among ENT away rotation students entering residency.
- Emphasis on safe, reliable performance rather than mastery provides developmentally appropriate preparation for incoming interns to address skill gaps before residency.
- Standardization shifts learning from opportunistic exposure to intentional competency development.
- Establishing common expectations may create a more equitable measure of readiness across students from different training environments.

Generalizability and Adaptation

- Programs can implement the curriculum longitudinally or as a concentrated preparatory experience.
- There are options to adapt this framework at institutions with varying resource accessibility
  - Ex: Simulation skills sessions
- Provides flexibility for scaling and adapting the curriculum across ENT programs nationally.

Limitations

- Small sample size at a single institution
- Can only assess short-term readiness and confidence; no longitudinal data

FUTURE DIRECTIONS

- Longitudinal assessment of students throughout intern year to identify the durability of the skills learned during 4th year.
- Expansion to multiple institutions to help improve quality and equity of otolaryngology education
- Evaluate attending physicians view on medical student preparedness given current curriculum and assess need for change.
- Future work should evaluate longitudinal outcomes during intern year and validate the framework across multiple institutions.

REFERENCES

1. Ryll LS, Pellegrini WR, Richards PQ, Zhou MT, Newlands SD, Levi JR. A Cross-Sectional Survey Study Evaluating United States Medical School Curricula in Otolaryngology. *Ann Otol Rhinol Laryngol*. 2023;132(11):1412-1417. doi:10.1177/00034894231164220
2. Van Melle E, Frank JR, Holmboe ES, Dagnone D, Stockley D, Sherbino J. A Core Components Framework for Evaluating Implementation of Competency-Based Medical Education Programs. *Acad Med*. 2019;94(7):1002. doi:10.1097/ACM.0000000000002743
3. Education FC for UM. Foundational Competencies for Undergraduate Medical Education. AAMC. Accessed January 5, 2026. https://www.aamc.org/about-us/mission-areas/medical-education/cbme