

RHINOLOGY

1. BRIEF DESCRIPTION OF TRAINING

Exposure to clinical rhinology is provided in each of the four ORL years over the course of several rotations in a graduated approach.

- MEE General Otolaryngology Rotation – PGY-2 and PGY-3 years
 - Clinic experience as PGY-2 in Sinus Center (Rhinology clinic)
 - Clinic experience as PGY-3 in Allergy Clinic
- Longwood Rotation – PGY-2 through PGY-5 years
- Pediatric Rhinology – MEE PGY-2 rotation and Children’s Hospital PGY-3 rotation
- A senior rotation (PGY-5) in Sinus/Laryngology/Endocrine provides exposure to more complex and advanced Endoscopic sinus procedures at MEE as well as Rhinology clinic exposure in the Sinus Center.

Endoscopic Sinus Surgery dissection course

- Required attendance during PGY-2 and PGY-5 year
- One day course with didactic sessions and fresh cadaver head dissections.

2. CORE BASIC SCIENCE KNOWLEDGE

- Anatomy and anatomical variations of the external nose, nasal cavity, paranasal sinuses and nasopharynx.
- Anatomy of adjacent structures including the anterior and central skull base, the orbits and their contents, and the oral cavity/oropharynx.
- Sensory and autonomic innervation of the nose and paranasal sinuses.
- Vascular supply of the anterior and posterior aspect of the nose and paranasal sinuses.
- Basic physiology of olfaction and function of the nose and paranasal sinuses.
- Basic physiology of respiratory function of the nose and paranasal sinuses.
- Developmental anatomy of the nose and the adjacent structures.
- Immunology and basic science mechanisms of allergy and its effects on nasal function.

3. CORE CLINICAL KNOWLEDGE

Pathogenesis, pathophysiology and treatment of common rhinologic disorders

- Congenital and developmental defects of the nose
- Acute infectious conditions of the nose and sinuses
- Chronic infectious conditions of the nose and sinuses
- Structural abnormalities
- Trauma to the nose and midface
- Olfactory disorders

- Benign tumors of the nasal cavity and paranasal sinuse
- Malignant tumors of the nasal cavity and paranasal sinuses
- Complications of acute and chronic rhinosinusitis
- Epistaxis

Diagnosis and Management of rhinologic emergencies

- Severe epistaxis
- Septal hematoma/abscess
- Complications of rhinosinusitis (orbital or intracranial)
- Invasive fungal rhinosinusitis
- CSF leak

4. DIAGNOSTIC SKILLS

- Ability to obtain a thorough history
- Ability to perform a complete otolaryngological physical examination
- Ability to obtain a focused rhinologic history
- Ability to perform a detailed rhinologic examination
- Ability to perform nasal endoscopic examination with recognition of pathology
- Cost-effective and safe implementation of additional diagnostic tests
 - Imaging studies
 - Biopsy
 - Microbiology
 - Allergy testing
 - Immunologic testing
- Ability to create a rational differential diagnosis for various rhinologic complaints

5. MEDICAL MANAGEMENT

- Understanding of the prevention of rhinologic disease
- Understanding of medical management of common rhinologic disorders.
 - Allergic and non-allergic rhinitis.
 - Acute rhinosinusitis.
 - Chronic rhinosinusitis with and without nasal polyposis
 - Olfactory disorders
 - Epistaxis
- Develop proper referral skills.
 - Allergy/Immunology
 - Ophthalmology
 - Neurosurgery
 - Neurology
 - Pain medicine
 - Facial plastic surgery
- Basic knowledge of otolaryngologic allergy therapy.

6. SURGICAL SKILLS

- Competence in assessing patient candidacy for surgical treatment of rhinologic disorders
 - Appropriate patient selection
 - Assessment of co-morbidities
 - Appropriate pre-operative medical management
 - Appropriate pre-operative testing (i.e. imaging studies, biopsy, etc)
 - Assessment of patient expectations
- Competence in intra-operative skills for the procedures listed below
- Competence in management of intra-operative and post-operative complications
- Competence in post-operative care

SPECIFIC SURGICAL PROCEDURES

Upon the completion of residency training, the resident should be competent in the following rhinologic procedures:

- Diagnostic nasal endoscopy
- Septoplasty
- Turbinate reduction
- Uncomplicated endoscopic sinus surgery
- Caldwell-luc procedure
- External ethmoidectomy
- Functional rhinoplasty/septoplasty for nasal obstruction
- Reduction of nasal fractures
- Nasal polypectomy
- Osteoplastic Frontal Sinus Surgery
- Resection of benign and malignant tumors of the paranasal sinuses
- External and Endoscopic vessel ligation for epistaxis

Upon the completion of training, the resident should have a working knowledge of, but may require additional training before independently performing, the following procedures:

- Endoscopic repair of CSF leak
- Endoscopic skull base surgery
- Endoscopic dacrocystorhinostomy
- Endoscopic orbital decompression
- Endoscopic optic nerve decompression
- Endoscopic Sphenoidotomy to expose the sella for pituitary surgery
- Complicated or revision endoscopic sinus surgery
- Repair of choanal atresia
- Advanced endoscopic frontal sinus procedures

7. GRADUATED EXPERIENCE

A graduated experience and increased responsibilities are expected with advancing years of ORL training. The resident will assume increasing responsibility for diagnosis, medical management, and surgical therapy for rhinologic disorders.

By the end of the **PGY-2 year** the resident should be able to demonstrate:

- Competence in basic diagnostic skills as well as the basic science and clinical core knowledge in rhinology
- Basic familiarity with the use of the nasal endoscope in the clinic and operative setting, including atraumatic application of local anesthesia and topical nasal decongestants, endoscopic management of epistaxis and nasal biopsy
- Basic familiarity with imaging studies for rhinologic disease

By the end of the **PGY-3 year**, the resident should be able to demonstrate:

- Competence in the performance of septoplasty, turbinate reduction, nasal fracture reduction, polypectomy and the basics of endoscopic sinus surgery, including anterior ethmoidectomy and maxillary antrostomy.
- Competence in the postoperative management of patients who have undergone nasal/sinus surgery

By the end of the **PGY-4 year**, the resident should be able to demonstrate:

- Competence in the performance of endoscopic sinus surgery, including posterior ethmoidectomy and sphenoidotomy, osteoplastic frontal sinus obliteration, Caldwell Luc, and endoscopic DCR.
- Competence in the management of suppurative complications of sinusitis

By the end of the **PGY-5 year**, the resident should be able to demonstrate:

- Competence in difficult or revision endoscopic sinus surgery
- Familiarity with advanced rhinologic techniques, including endoscopic frontal sinus surgery, repair of CSF leak, resection of intranasal and sinus tumors, endoscopic orbital decompression, endoscopic skull base surgery.

8. ASSESSMENT OF SKILLS

An OSAT evaluation has been incorporated into the Longwood rotation, assessing endoscopic sinus surgery in the PGY-3 and/or PGY-4 years. It is each resident's responsibility to assure that the OSAT is completed during the rotation.

9. ABOto CORE SURGICAL PROCEDURES

Core surgical procedures that are being assessed by the ABOto, based on the post-graduate year that competency was obtained

- Septoplasty
- Endoscopic ethmoidectomy
- Endoscopic sphenoid sinusotomy

10. EDUCATIONAL CONFERENCES IN RHINOLOGY

Attendance is mandatory

- CADAVERIC DISSECTION COURSE – PGY-2 and PGY-5
- AAOA Allergy Course – PGY-3 year
- Rhinology Core Curriculum

- Special Problems in Rhinology/Journal Club – required during SLE rotation

Attendance is optional

- Rhinology/Journal Club – optional for other residents
- CME course – Endoscopic Sinus Surgery of the Sinuses and Eustachian Tube

11. MILESTONES ASSESSMENT

- Rhinosinusitis (patient care)
- Inhalant Allergy (medical knowledge)
- Please see the below website for details
<https://www.acgme.org/acgmeweb/Portals/0/PDFs/Milestones/OtolaryngologyMilestones.pdf>

12. SUGGESTED READING

- Stammberger H, Hasler G: Functional endoscopic sinus surgery: The Messerklinger technique. Mosby Year Book, 1991
- Donald PJ, Gluckman JL, Rice DH: The sinuses. Raven Press, 1995.
- Montgomery WW: Surgery of the upper respiratory tract. Lippincott, Williams & Wilkins, 1995.
- King HC: Allergy in ENT practice: a Basic Guide. Thieme Medical Publishers, 1998.
- Chapters concerning the nose and paranasal sinuses in one of the comprehensive textbooks in otolaryngology, such as Cummings, Fredrickson, Krause, Richardson, Schuller, Otolaryngology-Head and Neck Surgery, Mosby Co. 1998.
- Applicable readings from AAO-HNS Home Study Course and SIPACs.