CLINICAL SERVICES: EDUCATIONAL GOALS & EVALUATION PARAMETERS FOR EACH ROTATION

The Otolaryngology Residency Program at the University of Louisville is based at the University of Louisville Hospital and the integrated hospitals in our Health Sciences Campus including the Norton Hospital, Kosair Children’s Hospital, Jewish Hospital and the Louisville Veterans Administration Medical Center. The rotations are hospital based with the exception of the Plastic Surgery Rotation, which represents a month long rotation for the PGY-3 and 4 residents that is not institution specific; additionally, the Plastic Surgery Rotation does not represent the only plastic surgery experience that the residents are afforded, considerable Facial Plastic and Reconstructive Surgery is accomplished in the University Hospital and VAMC rotations. Below is listed the Description of the Educational Program, chronologically, for each of our rotations.

PGY-1 OTOLARYNGOLOGY GOALS AND OBJECTIVES

GENERAL SURGERY ROTATION

The Goals and Objectives for these rotations are adapted from the “Prerequisites for Graduate Surgical Education. A Guide for Medical Students and PGY1 Surgical Residents” published by the American College of Surgeons. This document was produced a few years ago, after the Graduate Education Committee of the American College of Surgeons convened a group of surgeons representing all of the surgical specialties (General Surgery, Neurological Surgery, Obstetrics & Gynecology, Ophthalmology, Orthopedic Surgery, Otolaryngology, Plastic Surgery, Urology, Thoracic Surgery, Pediatric Surgery,
Vascular Surgery, and Colon & Rectal Surgery). The purpose of the meeting was to “brain-storm” about what a PGY-1 surgical resident should learn before continuing in specialty surgical education. The lists of knowledge and skills were then circulated to 400 surgeons who ranked the lists according to priority: essential, desirable, or supplementary. Those areas of knowledge and skills that are pertinent to the formation of residents beginning their Otolaryngology residency have been selected and supplemented as deemed appropriate by the Residency Review Committee. These are adapted at the University of Louisville Otolaryngology Program in the context of the General Competencies, understanding this is an interconnected framework of learning:

The main goal of the general surgery rotation is to provide a broad exposure to the skills and knowledge base necessary for the appropriate evaluation, assessment, and management of the surgical patient. Secondary goals include learning to work as part of a health care team and developing the communication and professionalism skills necessary to become a successful physician.

**OBJECTIVES:**

**MEDICAL KNOWLEDGE:**

- Develop understanding of surgical aspects of physiology and homeostasis in the management of surgical patients
- Develop and enhanced understanding of diagnosis and management of medical comorbid conditions impacting surgical care
- Develop and enhanced understanding of assessment and intervention impaired nutritional status in the surgical patient
- Develop and enhanced understanding of the general surgical diseases affecting the following organ-systems: respiratory, alimentary, cardiovascular, urinary, endocrine, integument, and nervous
- Develop an understanding of the interfaces between General Surgery and Otolaryngology and understand areas that benefit from multidisciplinary assessment and management.

**PATIENT CARE:**

- Perform a comprehensive History and Physical Exam for a variety of surgical patients, with an emphasis on accurate documentations of pertinent positive and negative findings, identification of surgical risks, formation of an appropriate working and differential diagnosis, and development and documentation of a cogent plan with the assistance of more senior residents and attending supervision.
- Perform daily rounds with documentation of pertinent positive and negative findings on pre and postsurgical patients and consultations
- Write logical and pertinent orders and use appropriately order sets that are relevant to surgical patients
• Order and begin to interpret with input from senior residents and attending physicians laboratory and radiological tests that are patient centered, relevant and appropriate. Additionally avoiding the ordering of excessive or unnecessary tests.

INTERPERSONAL AND COMMUNICATION SKILLS
• Demonstrate appropriate interactions and attitudes with the following: patients, patient families, attending physicians, residents of all specialties, nursing staff, ancillary hospital staff, office staff and administration.
• Learn effective and appropriate communications regarding presentation of patients to other residents and attending physicians including but not limited to admission, changes in status, and critical physical, laboratory and other test results.
• Perform adequate written documentation of History and Physicals, Progress Notes, Preoperative and Operative notes, Postoperative notes and perioperative and maintenance orders.
• Perform dictations of operative reports and discharge summaries where appropriate that are accurate and meaningful.

PROFESSIONALISM
• Maintain appropriate appearance, attire, and demeanor for a physician/surgeon
• Maintain ethical relationships with patients, families, colleagues, and staff as prescribed in the Hippocratic Oath, AMA Ethics Statement and the Ethics Statement of the American Academy of Otolaryngology-Head and Neck Surgery
• Fulfill responsibilities to patients and healthcare team members
• Maintain appropriate and accurate medical records.
• Maintain and complete required dictations, signatures of records, operative case log, and accurate recording and observation of duty hours.
• Maintain appropriate sleep and rest in order to provide optimal and safe care when on service
• If unable to discharge clinical responsibilities in a safe and efficacious manner, notify senior resident(s), attending staff, and Otolaryngology Program Director

PRACTICE BASED LEARNING INITIATIVES ON THE GENERAL SURGERY ROTATION(S)
• Assist senior residents in the accumulation of data and preparation of presentation of cases for Quality Assurance/Morbidity and Mortality Conference in the Department of Surgery
• Attend Morbidity and Mortality Conference for the relevant surgical service

SYSTEMS BASED PRACTICE ON THE GENERAL SURGERY SERVICE:
• Develop Safe Practices relevant to patient care including but not limited to the following:
  o Good hand washing and other mechanical means of limiting patient sepsis between and among patients on the surgical service
  o Understanding and Demonstration of practice of Universal Precautions and other infection limiting initiatives
  o Understand and demonstrate effective utilization of Medicine Reconciliation in order to avoid use of medicines in which patients are allergic or in which adverse or multi-drug reactions can occur.
  o Complete requisite training for hospital specific EMR; maintain security of passwords.
The main goal of this rotation is to provide the PGY1 resident an organized experience to enable him/her to acquire the basic knowledge and skills in preoperative care including preanesthetic evaluation, anesthetic risk assessment, airway evaluation and immediate postoperative care.

OBJECTIVES:

**MEDICAL KNOWLEDGE:**

- Pharmacology of local and general anesthetic agents
- Pharmacology and application of critical care drugs including, but not limited to pressor agents, antiarrhythmic drugs, antihypertensives, alpha and beta adrenergic drugs and blockers, respiratory drugs, and the implications of drugs commonly used in medical practice and their implications on the safe delivery of local and general anesthesia.

**PATIENT CARE:**

- Perform appropriate airway stabilization
- Perform basic orotracheal and nasotracheal intubations
- Perform appropriate ambu bag and ventilator based ventilation of patients
- Establish safe and efficacious venous access peripherally and centrally with appropriate supervision
- Become familiar with appropriate use of local, general and other supportive anesthetic medications
- Perform appropriate fluid management of the stable and unstable patient
- Assess and maintain appropriate patient oxygenation and ventilation of anesthetized and critically ill patients
- Develop and understanding of the interface of Anesthesiology and Otolaryngology in the management of the difficult airway and in the performance of critical care procedures such as open and percutaneous tracheostomy

**INTERPERSONAL AND COMMUNICATION SKILLS:**

- Understand the multidisciplinary relationship between Surgeon and Anesthesiologist in the service of the surgical/critical care patient (see also Professionalism)
- Communicate appropriately regarding patient stability, status changes, use of muscle relaxants and adequacy of anesthesia with regard to time and execution of surgical maneuvers
- Complete appropriate anesthetic notes and maintenance of anesthesia record with appropriate supervision of senior anesthesiology residents and attending staff
- Communicate information regarding anesthetic management to patients, family, staff, and other physicians with appropriate supervision of senior anesthesiology residents and attending staff
PROFESSIONALISM

- Develop a respect and understanding for the complex activities and management of our colleagues in anesthesiology and nurse anesthesia
- Maintain respect and optimal care for the anesthetized patient
- Maintain safe and optimal administration of anesthesia and pain relieving medications
- Maintain personal and environmental cleanliness in the operative theater and critical care environment

PRACTICE-BASED LEARNING

- Attend all Anesthesia didactic, patient and quality assurance (Morbidity and Mortality) conferences and learning activities while on the service
- Follow patients perioperatively to determine efficacy and complications of anesthetic management
- Complete and turn in one case analysis of anesthetic case management with sign off with the attending anesthesiologist and delivery to the Associate Program Director in Otolaryngology for evaluation and inclusion in the Otolaryngology resident's learning portfolio.

SYSTEMS-BASED PRACTICE

- Attend Quality Assurance Conference on the Anesthesiology Service and increase understanding of Operating Room and Hospital Systems with implications for the safe and efficacious delivery of anesthetic care to patients
- Attend Quality Assurance Conference on the Anesthesiology and Critical Care Service and increase understanding of ICU/Critical Care Systems with implications for the safe and efficacious care of patients

THORACIC SURGERY ROTATION

The main goal of this rotation is to provide the PGY1 resident an organized experience to enable him/her to acquire the basic knowledge and skills in the evaluation and management of patients with common cardiac and pulmonary surgical problems.

OBJECTIVES:

MEDICAL KNOWLEDGE:
• Demonstrates understanding of basic and applied cardiovascular physiology
• Demonstrates understanding of basic and applied pulmonary physiology
• Demonstrates knowledge of indications for basic cardiothoracic surgical procedures
• Demonstrates knowledge of the interface between the thorax, mediastinum and structures of the head and neck

PATIENT CARE:
• Performs complete history and physical examination, with emphasis on pertinent positive and negative findings on the cardiothoracic surgical patient
• Performs basis bedside procedures (see above) on cardiothoracic surgical patients with appropriate senior resident and attending supervision

INTERPERSONAL AND COMMUNICATION SKILLS
• Develops and understanding and respect for the role of the Cardiothoracic Surgeon in the care of patients, especially where there is a multidisciplinary interface with the Otolaryngologist Head and Neck Surgeon (see also Professionalism)
• Communicates patient history, physical findings, daily care, changes in status, and other patient related issues as appropriate with more senior surgical and cardiothoracic residents, attending physicians, staff, patients and families
• Performs and completes adequate written (or EMR entry) communications for history and physicals, daily care notes, procedural notes, and discharge summaries for patients on the Cardiothoracic service

PROFESSIONALISM
• Develops and understanding and respect for the role of the Cardiothoracic Surgeon in the care of patients, especially where there is a multidisciplinary interface with the Otolaryngologist Head and Neck Surgeon (see also Interpersonal and Communication Skills)
• Acts as an effective team member on the Cardiothoracic Surgical Service toward the safe and effective treatment of patients
• Acts in a respectful manner to patients, families, physicians and staff on the Cardiothoracic Surgical Service

PRACTICE BASED LEARNING
• Attends all appropriate didactic and patient care conferences relevant to the Cardiothoracic Surgical Rotation while on service
• Attends and participates (where appropriate) in the Quality Assurance (Morbidity and Mortality) Conference while on the Cardiothoracic Surgical Rotation
• Performs one written reflective analysis of a patient’s care with an emphasis on evidence-based medicine while on the Cardiothoracic Surgical Service. This must be signed off by a Cardiothoracic Surgical Attending and turned into the Associate Program Director in Otolaryngology for evaluation and inclusion in the resident’s learning portfolio

SYSTEMS BASED PRACTICE
• Attends the Quality Assurance Conference of the Cardiothoracic Surgical Service with the goal of enhance understanding of the hospital system based factors having implications on the care of cardiothoracic patients, with an emphasis on safe and efficacious care
• Seeks opportunities to learn the systems at Jewish Hospital and the University of Louisville Hospital in order to provide safe and efficacious care of patients

EMERGENCY MEDICINE ROTATION

The main goal of this rotation is to provide the PGY1 resident an organized experience to enable him/her to acquire the basic knowledge and skills in the evaluation and management of patients presenting to the emergency room with emphasis on patients presenting with head and neck complaints. The PGY1 resident should also gain a better appreciation of medical conditions often seen as co-morbidities in head and neck patients including, diabetes mellitus, hypertension, stroke, congestive heart disease, respiratory distress and myocardial infarction.

OBJECTIVES:

MEDICAL KNOWLEDGE:

• Demonstrate and understanding of the ABC's of acute patient evaluation
• Demonstrate and understanding of acuity and triage of patients in the Emergency Room Setting
• Demonstrate and understanding of the multidisciplinary and collaborative care environment in the emergency setting
• Demonstrate and understanding of common medical and surgical emergencies seen in the Emergency Room setting, with an emphasis on Otolaryngology related emergencies

PATIENT CARE

• Perform Initial assessment and triage of Emergency patients with appropriate senior resident and attending supervision
• Perform appropriate history and physical examination on Emergency Room patients for common and appropriate patients
• Perform common emergency procedures as listed in detail above in the Goals and Objectives

INTERPERSONAL AND COMMUNICATION SKILLS

• Develop appropriate and effective communication with patients experiencing medical and surgical emergencies with an emphasis on establishing effective rapport that facilitates diagnosis and management
• Efficiently communicate history, physical findings and appropriate test results to senior Emergency Medicine Residents, Attending Faculty and Consulting Physicians/Services
• Perform clear and concise write ups of history and physical, procedure notes, orders and discharge instructions for patients encountered in the Emergency Room

PROFESSIONALISM

• Learn and respect the role of the Emergency Physician in the care of medical and surgical patients, especially patients with Otolaryngology related problems
• Learn the appropriate interaction and communication with Emergency Medicine Physicians regarding patients entering the inpatient and outpatient consultation environments
• Demonstrate adequate, safe and compassionate care for patients and families experiencing emergent medical and surgical illness

PRACTICE-BASED LEARNING

• Attend and participate (where appropriate) in all Emergency Medicine Didactic Conferences and learning activities while on the ER Rotation
• Attend and participate (where appropriate) in the Emergency Medicine Quality Assurance (Morbidity and Mortality) Conference while on the Emergency Rotation
• Complete one surgical learning and instructional portfolio (SLIP) assignment based on an emergency department patient encounter. This must be signed and reviewed by the attending Emergency Department physician and turned into the Associate Program Director in Otolaryngology for evaluation and inclusion in the resident portfolio

SYSTEM-BASED PRACTICE

• Become familiar with the community disaster plan through the perspective of the Emergency Medicine Service
• Learn role and responsibilities in a disaster management plan

NEUROSURGERY ROTATION

The main goal of this rotation is to provide the PGY1 resident an organized experience to enable him/her to acquire the basic knowledge and skills in the evaluation and management of patients presenting with neurosurgical complaints. The resident should gain an appreciation for the collaborative efforts between the ORL and NES specialties.

OBJECTIVES:

MEDICAL KNOWLEDGE:

• Demonstrate basic and applied knowledge of neuroanatomy and physiology
• Demonstrate understanding of normal and abnormal neurological examination findings and the implications thereof
• Recognize common neurological/neurosurgical emergencies and become familiar with emergent interventions
• Recognize the interface areas of the Neurosurgeon and the Otolaryngologist Head and Neck Surgeon with respect to cranial base, sinonasal, orbital, ear and temporal bone, and neck
neurovascular structures and the cerebrospinal fluid spaces for both neoplastic and non-neoplastic disease

- Recognize the multidisciplinary role in the management of patients with craniofacial trauma with respect to initial evaluation and management and definitive repair

**PATIENT CARE:**

- Perform history and physical on Neurosurgical patients in the outpatient, emergency room and inpatient settings under the appropriate supervision of senior residents and attending staff
- Perform daily assessment, notes and appropriate orders on Neurosurgical inpatients under the appropriate supervision of senior residents and attending staff
- Participate in outpatient Neurosurgery clinics and complete assessments and documentation under the appropriate supervision of senior residents and attending staff
- Participate in call or night float systems with the Neurosurgery resident staff, with strict adherence to ACGME duty hours requirements

**INTERPERSONAL AND COMMUNICATION SKILLS**

- Verbally present initial and continuing care, including changes in patient status to senior neurosurgery residents and attending staff
- Communicate findings to patients, family and staff as deemed appropriate by senior neurosurgery residents and staff
- Complete concise and accurate written (EMR) history and physical exams, inpatient notes, outpatient notes, consultation reports, orders and discharge summaries under the appropriate supervision of senior neurosurgery residents and attending staff
- Communicate in an appropriate and professional manner at all times with patients, families, residents, attending staff and all other constituents involved in patient care while on the Neurosurgery Rotation

**PROFESSIONALISM**

- Learn and respect the role of the Neurosurgeon in the care of patients
- Learn the appropriate interface and communication between the Neurosurgeon and the Otolaryngologist in the appropriate multidisciplinary collaborative care of patients
- Act as a respectful member of a team caring for patients on the Neurosurgical Service

**PRACTICE BASED LEARNING**

- Attend and participate in Quality Assurance/Morbidity and Mortality Conference while rotating on the Neurosurgery Service
- Attend and participate in didactic conferences while on the Neurosurgery Service
- Complete one surgical learning and instructional portfolio (SLIP) assignment based on a neurosurgical patient encounter. This must be completed prior to going off service and signed by a Neurosurgical Attending. It must be turned into the Associate Program Director in Otolaryngology for evaluation and inclusion in the resident’s learning portfolio

**SYSTEM BASED PRACTICE**

- Attend and participate in Neurosurgery patient care and Quality Assurance/Morbidity and Mortality Conferences with an emphasis on understanding the impact of systems and resources in patient care
The main goal of this rotation is to acquire the basic knowledge and surgical skills necessary for evaluation and management of the Otolaryngology Head and Neck Surgery patient. The PGY-1 resident should acquire basic skills in Otolaryngology procedures such as otomicroscopy and flexible fiberoptic laryngoscopy so that transition to full time training as a PGY-2 resident will be smooth and less stressful. The primary emphasis will be on providing the experiences necessary to move from direct supervision to indirect supervision (with direct immediately available) as a PGY-2 trainee.

**OBJECTIVES:**

**MEDICAL KNOWLEDGE**

- The resident should demonstrate basic knowledge in applicable head and neck and temporal bone anatomy.
- The resident should demonstrate awareness and recognition of common clinical presentations of adult and pediatric otolaryngology patients, in both the inpatient and outpatient setting.
- The resident should be able to interpret commonly used diagnostic tests, including CT and MRI scans and basic audiometry.

**PATIENT CARE**

- The resident should be able to perform evaluation and management of a patient admitted to the hospital, including history and physical exam, formulation of a plan of therapy, and necessary orders for therapy and tests.
The resident should be able to perform preoperative evaluation and management, including history and physical exam, formulation of a plan of therapy, and specification of necessary tests.

The resident should be able to perform evaluation and management of postoperative patients, including the conduct of monitoring, specifying necessary tests to be carried out, and preparing orders for medication, fluid therapy, and nutrition therapy.

The resident should be able to perform basic venous access procedures, placement of nasogastric tubes and feeding catheters, and arterial puncture; with direct supervision, the resident should be able to perform closure of surgical incisions, repair of skin and soft tissue lacerations, excision of skin/subcutaneous tissue lesions, endotracheal intubation and non-emergent tracheostomy.

**INTERPERSONAL AND COMMUNICATION SKILLS**

- The resident shall demonstrate the ability to concisely and accurately present clinical findings to the attending physician or senior resident on bedside rounds and in the outpatient clinic.
- The resident shall demonstrate the ability to effectively communicate treatment plans and findings to patients and their families.

**PROFESSIONALISM**

- The resident shall demonstrate sensitivity to the needs of other members of the patient care team regarding work load and fatigue.
- The resident shall be punctual for all operative cases, clinic assignments, and conferences.
- The resident shall be responsive to questions and consultations from other services.

**PRACTICE BASED LEARNING AND IMPROVEMENT**

The resident shall attend and participate in the monthly Otolaryngology Quality Improvement/Morbidity and Mortality conference.

- The resident shall complete and submit a case report manuscript based on a patient encounter.

**SYSTEMS BASED PRACTICE**

- The resident shall complete all documentation including operative dictations, history and physical exams, discharge summaries, and progress notes, in a timely fashion according to Joint Commission standard timelines.
- The resident shall demonstrate an awareness of basic evaluation and management and CPT coding principles as they pertain to Otolaryngology documentation.
PGY 2-5 OTOLARYNGOLOGY GOALS AND OBJECTIVES

UNIVERSITY OF LOUISVILLE ROTATION

The University of Louisville Hospital is a large city hospital with a diverse patient population, including a busy Level I Trauma center. This hospital provides the bulk of the indigent care for the city of Louisville and surrounding areas and is the site of the largest volume of surgical procedures, both elective and emergent, for the residency program.

1. The goals and objectives specific to the University of Louisville Rotation and applicable to all PGY-levels rotating on the service are listed below, with all Otolaryngology Milestones expected to be addressed at various times during the rotation:

GOALS:

1. To learn to provide appropriate in-patient assessment, care, and coordination of care and consultation to all patients under the care of the Otolaryngology service. Progressive levels of responsibility are assigned as experience warrants but basically follow the PGY-level.
2. To provide accurate assessment of emergency and trauma patients in the Emergency Department of the University of Louisville Hospital in consultation with the Emergency Medicine Service and the Trauma Surgery Service during evening, weekend, and holiday schedules. The resident will learn to perform an accurate assessment of the emergency and trauma patient...
under the supervision of the PGY-4 and PGY-5 level resident and ultimately the Otolaryngology attending faculty member. The goal will be to perform an accurate assessment of the ENT related emergency, to determine through triage the management priorities of such patients, and to execute a treatment plan that requires close coordination from other disciplines and services that have an impact on the multiply injured patient. The residents will learn how to coordinate otolaryngology operative care in the complex and multiply injured patient, with more complex levels of management being acquired through the assumption of additional levels of responsibility.

3. To provide assessment, planning and coordination of care of head and neck oncology patients through the Multidisciplinary and Ambulatory Clinics of the University of Louisville Hospital. The resident will attend the weekly Multidisciplinary Cancer Clinic and accompanying conference to learn to perform the initial assessment and subsequent presentation of complex head and neck cancer patients. The resident will learn the appropriate indications for application and sequencing of treatment modalities. Furthermore, the resident will be exposed to purpose, design, and practical application and enrollment of patients into clinical trials regarding the treatment of head and neck cancer patients. The resident will become familiar with assessment of response, staging, diagnosis, and management of recurrent cancer, and diagnosis and management of complications that may occur in the multimodality management of head and neck cancer patients.

**OBJECTIVES:**

All PGY-levels shall attend all didactic conferences specific to the rotation and residency, including Monday morning Clinical Case conference, Friday Core Curriculum conference, and monthly Facial Trauma conference. Evaluation methods: attendance forms, direct observation of participation, competency-based end of rotation global assessments by faculty. Competency emphasis: primary-medical knowledge; secondary-professionalism, practice based learning and improvement, interpersonal and communication skills.

2. All PGY-levels shall attend the Ambulatory Care Otolaryngology clinic and the Friday afternoon Continuity of Care clinic, and attain proficiency and competency in evaluation and management of patients seen in this setting.

Evaluation methods: direct observation by attending faculty, 360 degree evaluations by ancillary personnel, patients and peers, competency based end of rotation global assessments by faculty.

Competency emphasis: primary-patient care; secondary-medical knowledge, professionalism, interpersonal and communication skills, systems-based practice

3. All PGY-levels shall attend and display progressive proficiency and skill in the operating room at the University of Louisville Hospital. PGY-level specific procedure skills will be listed below. Evaluation methods: direct observation by attending faculty, electronic feedback rating of surgical competency via QR reader, competency based end of rotation global assessments by faculty.

Competency emphasis: patient care, medical knowledge
4. All PGY-levels shall demonstrate proficiency in the assessment of inpatients admitted to the University of Louisville Hospital and cared for by the Otolaryngology service, directly or indirectly. The resident will be assessed as to his/her ability to perform a focused history taking, physical examination pertinent to the patient’s problem, assessment of pertinent risk factors and comorbidities, presentation and communication, and the presence and organization of a medical data base sufficient to formulate a treatment plan specific to the patient’s problem. Furthermore, the residents at all levels of training will be expected to gain proficiency in medical documentation and utilization of and proficiency with the electronic medical record. All residents will be held to a high standard of professionalism and effective communication skills when dealing with coworkers, regardless of status in the hospital hierarchy.

**Evaluation methods:** direct observation, 360 degree evaluation by ancillary personnel, patients, and peers, competency based end of rotation global evaluations by faculty.

**Competency emphasis:** primary-patient care, professionalism; secondary-medical knowledge, interpersonal and communication skills, systems-based practice.

5. All residents shall demonstrate progressive proficiency and skill in evaluating and managing the adult patient with emergent or trauma-related otolaryngologic disease.

**Evaluation methods:** direct observation by faculty, competency based end of rotation global evaluations by faculty.

**Competency emphasis:** patient care, systems-based practice.

6. The PGY-2, 3 residents will demonstrate attendance of and progressive proficiency and competency in the evaluation and development of a management plan of head and neck cancer patients seen in a Multidisciplinary Head and Neck Oncology clinic setting. Further stressed in this clinic will be the resident’s ability to work effectively as a member of the head and neck cancer patient care team. Communication and professionalism skills will be acquired with the resident assuming progressive responsibility for discussion and management of patients with radiation oncologists, medical oncologists, social workers, psychologists, nutritionists, nursing and oncology research staff.

**Evaluation methods:** direct observation, 360 degree evaluation by ancillary personnel, competency based end of rotation global evaluations by faculty.

**Competency emphasis:** primary- patient care, systems-based practice; secondary- professionalism, interpersonal and communication skills, medical knowledge, practice-based learning and improvement.

Specific surgical objectives to be achieved by PGY-year should include but not be limited to:

PGY-2: adult tonsillectomy, tracheostomy, diagnostic direct laryngoscopy/esophagoscopy/bronchoscopy, incision and drainage of deep neck abscesses, biopsy of neck masses, open reduction and internal fixation of noncomplex midfacial and mandible fractures.
PGY-3: continued proficiency in PGY-2 level procedures; also, uncomplicated neck dissection, total laryngectomy, open reduction and internal fixation of more complex midfacial and mandible fractures, simple tympanoplasty without mastoidectomy.

PGY-4: continued proficiency in PGY-3 level procedures: also, thyroidectomy, parathyroidectomy, complex head and neck resections and myocutaneous flap reconstruction, parotidectomy, tympanomastoidectomy, rhinoplasty.

PGY-5: continued proficiency in PGY-4 level procedures; also, stapedotomy and complex ossicular chain reconstruction, endoscopic sinus surgery and skull base procedures, transoral robotic resections of head and neck tumors.

**Competency emphasis:** primary-patient care, medical knowledge; secondary-professionalism, interpersonal and communication skills, systems-based practice.
KOSAIR CHILDREN’S HOSPITAL COMPONENT

Component Overview:

The Kosair-Children’s Hospital is the only free standing children’s hospital in the state of Kentucky and provides a wide breadth and depth of complex pediatric medical and surgical patient experience to the residency program. The PGY-2 resident plays the primary role in this rotation, with the PGY-3 -4, and -5 residents participating in the surgical and medical management of more complex pediatric otolaryngology disorders.

COMPONENT SPECIFIC GOALS AND OBJECTIVES

PGY-2 GOALS

1. To learn the basic tenets of pediatric otolaryngologic care, both inpatient and outpatient, emergent and routine, and operative and office based.

2. To learn how to provide timely consultative care and to work collaboratively with other physicians and providers.

3. To learn to assess surgical candidacy for a variety of pediatric conditions including otitis media and adenotonsillar disease, and to learn to effectively manage pediatric perioperative care in both healthy children and children with comorbid conditions.

PGY-2 OBJECTIVES

1. The resident will be provided with sufficient operative experience and exposure to develop technical proficiency in a prescribed list of pediatric otolaryngologic surgical procedures, and shall demonstrate adequate knowledge of perioperative pediatric otolaryngologic surgical management.

    Competency emphasis: patient care, medical knowledge, practice-based learning and improvement
**Evaluation instruments**: operative case logs, direct observations with electronic feedback via QR reader, competency based end of rotation global evaluation by faculty.

2. The resident shall develop working knowledge of common otolaryngologic conditions encountered in the pediatric population, as well as the ability to formulate appropriate diagnostic treatment plans.

   **Competency emphasis**: medical knowledge, patient care

   **Evaluation instruments**: direct observation, competency based end of rotation global evaluation by faculty.

3. The resident will attend the weekly outpatient clinic and monthly multidisciplinary craniofacial clinic and provide first-line care to the attendees.

   **Competency emphasis**: patient care, systems-based practice, professionalism

   **Evaluation instruments**: direct observation, competency based end of rotation global evaluation by faculty

4. The resident will provide otolaryngologic consultation in a variety of settings, including the emergency department, general medical-surgical inpatient wards, the pediatric intensive care unit and the neonatal intensive care unit.

   **Competency emphasis**: patient care, medical knowledge, professionalism, systems-based practice, interpersonal communication

   **Evaluation instruments**: direct observation, 360 degree evaluation by peers, patients, and ancillary personnel, competency based end of rotation global evaluation by faculty

5. The resident will attend didactic conferences including resident book club, Journal club, Otolaryngology Grand Rounds, Pediatric Medicine Grand Rounds (when applicable), and the Kosair-Children’s Quality Improvement conference.

   **Competency emphasis**: professionalism, practice-based learning and improvement

   **Evaluation instruments**: attendance logs from New Innovations, direct observation, competency based end of rotation global evaluation by faculty

6. The resident will develop interpretive abilities for commonly used diagnostic tests including polysomnography and audiometry.

   **Competency emphasis**: patient care, medical knowledge

   **Evaluation instruments**: direct observation, , competency based end of rotation global evaluation by faculty.

7. The resident shall demonstrate collaborative patient care skills, including coordination of care with the patient, family, and other members of the health care team. The resident will learn to interact appropriately with all involved in his patients’ care.
Competency emphasis: patient care, interpersonal and communication skill, professionalism, systems based practice.

Evaluation instruments: direct observation, 360 degree evaluations by peers, patients, and ancillary personnel, competency based end of rotation global evaluation by faculty.

PGY-2 shall be able to perform the following procedures by the end of the rotation:

- myringotomy with/without tube placement
- adenoidectomy with/without tonsillectomy
- ear tube removal with/without granulation polyp removal
- removal of foreign bodies from the ear and nose
- excision of noncomplex congenital, inflammatory and neoplastic neck masses
- repair of complex lacerations of the head and neck
- drainage of superficial and deep neck abscesses
- closed reduction of nasal fractures
- maxillomandibular fixation
- aspiration/drainage of peritonsillar abscesses
- Neonatal and Pediatric diagnostic laryngoscopy and bronchoscopy
- Neonatal and Pediatric tracheostomy

Basic Pediatric airway interventional procedures such as excision of laryngeal papillomata

PGY-3, 4, 5 GOALS

1. The goal of the Kosair Children’s Hospital rotation for PGY – 3,-4, and-5 levels is to advance technical skills in pediatric procedures, participating in more complex surgical cases and providing more advanced levels of pediatric care. Opportunities for teaching medical students and more junior residents will be increased, and more autonomy in clinical areas will be offered as appropriate.

PGY-3, 4, 5 OBJECTIVES
1. The resident will participate in more complex surgical procedures, including basic otologic procedures, (tympanoplasty, mastoidectomy, cochlear implantation), advanced airway management (rigid bronchoscopy with/without laser, tracheostomy, airway reconstructive procedures), excision of complex congenital, inflammatory and/or neoplastic neck masses, and repair of complex facial fractures.

   **Competency emphasis:** patient care, medical knowledge, practice-based learning and improvement

   **Evaluation instruments:** direct observation, operative case logs, competency based end of rotation global evaluation by faculty.

2. The resident will serve as consultant to the junior resident and accompany them to evaluate patients when requested. The resident will attend the outpatient clinic as time permits.

   **Competency emphasis:** patient care, professionalism, interpersonal and communication skill.

   **Evaluation methods:** direct observation, 360 degree evaluation by peers, competency based end of rotation global evaluation by faculty.

3. The resident will learn to recognize and manage more complex pediatric otolaryngologic conditions, including common syndromes and velopharyngeal insufficiency. The resident will provide primary evaluation of complex consultations from the pediatric and neonatal intensive care units.

   **Competency emphasis:** patient care, medical knowledge, interpersonal and communication skills, professionalism

   **Evaluation instruments:** direct observation, 360 degree evaluation by peers, competency based end of rotation global evaluation by faculty
NORTON/JEWISH HOSPITAL COMPONENT

Component Overview:

The Norton Hospital and Jewish/St. Mary’s Hospital are both integrated teaching hospitals for adults with a large primary care base from both University of Louisville faculty and community based physicians. They are central to the mission of our program, providing a major adult operative experience in otolaryngology.

COMPONENT SPECIFIC GOALS AND OBJECTIVES

GOALS:

1. To expose the Otolaryngology resident to the practice of Otolaryngology in a large community hospital with a primary care constituency from both the academic and private community.

2. To teach the Otolaryngology resident the essential and specific elements of history, physical examination, and ancillary testing in the adult inpatient setting.

3. To teach (with PGY-specific progression) operative care of adult patients with head and neck diseases including the skin of the head and neck including melanoma and non-melanoma skin cancers, the upper aerodigestive tract including the salivary glands, the nose and paranasal sinuses, the ear and related organs, and the soft tissues of the head and neck.

4. To teach the resident communication and professionalism skills through patient, physician and staff interaction in a large adult community based teaching hospital. This is to include informal communications with patients, family, medical staff, nursing, and other ancillary staff.

5. To teach the resident skills in deriving information and contributing quality information to and from the electronic medical record. This will include education regarding the clinical and economic importance of efficiently and correctly written and coded patient encounters.

OBJECTIVES:

1. All PGY-levels shall be able to work efficiently in a private community hospital system, while providing effective Otolaryngologic care, both medical and surgical.

2. Residents shall learn to efficiently manage surgical patients in an outpatient setting.

Evaluation methods: direct observation, competency based end of rotation global evaluation by faculty.
VA MEDICAL CENTER ROTATION

Overview:

The Louisville Veterans Affairs Medical Center is a part of VISN 9 group of national Veterans Hospitals. This is a busy facility with the principle mission of serving the needs of veterans. Because of the aging of the veteran population, it allows our Otolaryngology residents the opportunity to learn the intricacies of operative and non-operative care in a geriatric population with considerable medical comorbidities. Because of the comorbidities of the population, this rotation serves as an effective source of education of residents in complex decision making in Otolaryngology. All Otolaryngology Milestones are addressed at different time points during the rotation.

The following are two rotation specific conferences that are required of rotating residents:

1. VAMC Tumor Board: This conference meets approximately monthly at the VAMC and is an institution wide tumor board in an American Joint Commission on Cancer (CoC) accredited program. Head and Neck Cancer Cases are presented by the Chief Resident assigned to the VA rotation on a monthly basis. This enables the resident to refine presentation skills to a multidisciplinary body. Cases are discussed regarding the application of decision to treat or palliate. Additionally, decision making regarding application of modalities such as surgery, radiation and chemotherapy are discussed. The impact of medical comorbidities on oncology a treatment decision is emphasized in this rotations patient population. Furthermore, availability and application of clinical trials is reviewed.

2. VAMC Morbidity and Mortality Conference: This is a Surgery Morbidity and Mortality Conference for all surgical disciplines active at our VAMC. The conference is held quarterly. At this conference the Chief Resident or PGY-3/4 resident presents case load data, morbidity and mortality. The emphasis of the Conference is the early identification, prevention, and treatment of medical and surgical complications seen in patients treated at the facility.

ROTATION SPECIFIC GOALS AND OBJECTIVES

GOALS:

1. To expose the resident to the Federal Veterans Administration Healthcare System in order to understand the health risks and nuances of this patient population.
2. To understand the impact of medical comorbidities in Otolaryngologic decision making.
3. To gain an enhanced understanding of Otolaryngology in an aging population.
4. To gain understanding of and facility with a sophisticated Electronic Medical Record (CPRS-Computerized Record System) of the VA hospital in order to ascertain specific and important historical information regarding patients.

5. To gain facility with a sophisticated Electronic Medical Record system and develop appropriate skills in making record entry, include the use of Otolaryngology Specific templates.

6. To gain increased skills in performing adult Otolaryngology procedures including, but not limited to endoscopic sinonasal surgery, laryngoscopy, Bronchoesophagology, facial plastic and reconstructive surgery, sleep apnea surgery, head and neck oncologic surgery, and otology.

OBJECTIVES:

1. All residents shall demonstrate understanding of policy and procedures affecting patient care in a complex federal healthcare system.
   Evaluation methods: direct observation, focused chart review, competency based end of rotation global evaluation by faculty
   
   Competency emphasis: systems based practice

2. All residents shall demonstrate understanding of medical comorbidities in patient care.
   Evaluation methods: direct observation, oral examination, competency based end of rotation global evaluation by faculty
   
   Competency emphasis: patient care, medical knowledge

3. All residents shall understand the otolaryngologic aspects of the care of geriatric patients.
   Evaluation methods: direct observation, oral examination, 360 degree evaluation by ancillary personnel, competency based end of rotation global evaluation by faculty
   
   Competency emphasis: medical knowledge, patient care

4. The resident shall demonstrate understanding of the Electronic Medical record system at the VAMC in his/her ability to successfully navigate the system and extract pertinent information and make appropriate documentation and order entry.
   Evaluation methods: focused document review, competency based end of rotation global evaluation by faculty
   
   Competency emphasis: systems based practice, interpersonal and communication skills

5. The resident shall demonstrate progression of technical competence in the execution of Otolaryngology procedures in the adult population, specifically endoscopic sinonasal surgery, head and neck oncology, Laryngology, bronchoesophagology, facial plastic and reconstructive surgery (especially local flap reconstructions from skin cancer, Rhinoplasty and upper eyelid blepharoplasty), sleep apnea surgery and otology.
   Evaluation methods: direct observation electronic feedback of Surgical Competency via QR reader, and competency-based end of rotation evaluation by faculty
The Plastic and reconstructive surgery rotation is an addition to the specific experiences at each of the hospital-based rotations it is specifically targeted to the PGY-4 and -5 residents to strengthen their overall exposure to the discipline. This rotation will specifically address the Nasal Deformity Otolaryngology Milestone.

**ROTATION SPECIFIC GOALS AND OBJECTIVES**

**GOALS:**

1. To gain understanding of patient and physician goals in the treatment of patients seeking aesthetic and reconstructive surgery of the head and neck.
2. To gain an understanding of appropriate soft tissue handling skills in surgery of the head and neck.
3. To increase skills in the performance of soft tissue and bony surgery for aesthetic and reconstructive purposes in the head and neck.
4. To develop an increased understanding of indications, contraindications, limitations, techniques and complications of aesthetic and reconstructive procedures of the head and neck.

**OBJECTIVES:**

1. The resident shall demonstrate understanding of methods designed to integrate patient and physician goals in patients seeking aesthetic and reconstructive surgery of the head and neck, particularly aesthetic rhinoplasty. Evaluation methods: direct observation, oral examination, and competency-based end of rotation global evaluation by faculty.

   **Competency emphasis:** medical knowledge, interpersonal and communication skills, professionalism

2. The resident shall demonstrate appropriate soft tissue handling skills in the head and neck. Evaluation methods: direct observation, competency-based end of rotation global evaluation by faculty.

   **Competency emphasis:** patient care

3. The resident shall demonstrate progression in surgical performance of soft tissue and bony procedures for aesthetic and reconstructive purposes in the head and neck. Evaluation methods: direct observation, surgical case logs, competency based end of rotation global evaluation by faculty.

   **Competency emphasis:** patient care, medical knowledge
4. The resident shall demonstrate understanding of indications, contraindications, limitations, techniques and complications of aesthetic and reconstructive procedures of the head and neck.
Evaluation methods: direct observation, oral examination, competency based end of rotation global evaluation by faculty.
Competency emphasis: medical knowledge, practice based learning and improvement

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**RESEARCH ROTATION**

The research rotation shall consist of 3 nonconsecutive months in the PGY-3 and -4 years, two months during the PGY-3 year and 1 month during the PGY-4 year. During this rotation the resident shall be excused from all clinical duties except night call. There are PGY-specific goals and objectives for each year of residency and they are listed below.

**GOALS for all PGY levels:**

1. To develop understanding of research design, including formulating a hypothesis and designing an experimental strategy to evaluate it.
2. To become familiar with the regulatory and ethical requirements for the proper conduction of research.
3. To execute a clinical and/or basic science research project from conception to publication.
4. To become competent at oral and written presentation of research findings.
5. To develop the skills need to critically evaluate research and interpret the relevance to clinical practice.

**PGY-specific objectives**

**PGY-1**

1. The resident shall complete all prerequisite training required for submission to the IRB.
2. During the Otolaryngology rotations, the resident shall identify a research mentor and possible topic for PGY-2 project.
3. If available, the resident shall attend the “Resident as Researcher” symposium.

**PGY-2**

1. The resident shall perform a case control study with chart review, to be completed by Resident Research Day in June of the academic year.
2. The resident shall have the project proposal submitted to the Research committee by August 15, with IRB approval obtained prior to the next quarterly meeting of the Research committee (November).
3. The resident shall submit a written progress report to the Research committee at the 3’rd quarter meeting (February-March).
4. The resident shall submit an abstract (in Triologic Society format) and draft manuscript for approval prior to presentation on Resident research day. The manuscript will be submitted in its final form for publication in a peer-reviewed journal.
5. The resident will submit the project abstract for presentation at the section meeting for the Triologic Society or other approved meeting.
PGY-3

1. The resident shall develop a research project that entails prospective collection of data and written informed consent.
2. The resident shall be assigned 2 months of dedicated research time, one month during the first 6 months of the academic year and one month during the second 6 months of the academic year.
3. The resident shall have a written project proposal submitted to the Research committee by August 15; IRB application should be submitted prior to the first day of the first research month. IRB approval should be completed prior to the end of the first research month, if not sooner.
4. The research resident shall not have other clinical responsibilities except call; prior approval of the Program Director will be required to “pull” the resident for other clinical coverage.
5. The resident shall have weekly meetings with Dr. Goldman during the rotation to assess progress and discuss obstacles to performance of research.
6. Time on the research rotation will be used to produce a systemic review and synthesis of relevant literature. This review will be of publishable quality, and will serve to advance the resident’s skills in critically evaluating extant literature and implications for clinical practice.
7. Written progress reports will be submitted to the Research committee quarterly.
8. The resident shall present an interim summary of his/her research findings at Resident Research day. An abstract (in Triologic Society format) with interim findings will be due prior to the presentation.

PGY-4

1. The resident shall be assigned 1 month of dedicated research time, during the first 6 months of the academic year.
2. The resident shall not be assigned other clinical responsibilities during this time except backup call; if progress toward completion of the project is deemed satisfactory, the resident may be able to take advantage of operative cases in which they are lacking relative to their co-resident and key indicator goals.
3. The resident shall submit written progress reports to the Research committee quarterly.
4. The resident shall have weekly meetings with Dr. Goldman during the rotation to assess progress and discuss obstacles to the performance of research.
5. The resident shall submit an abstract (in Triologic Society format) and a draft manuscript for approval prior to the presentation on Resident Research day.
6. The resident shall submit the project abstract for presentation at the Combined Otolaryngologic Spring Meetings or other approved meeting.
7. The resident shall submit the final manuscript for publication in a peer-reviewed journal.

PGY-5

1. The resident shall serve on the Research committee and attend all called meetings.
2. The resident shall be responsible for initial editing of the PGY-2 and -4 residents’ draft manuscripts.
3. The resident shall attend the COSM if presenting, either podium or poster. Expenses for meeting attendance will be covered by Departmental funds.
4. The resident will be expected to complete any outstanding project(s) from the previous year (i.e. submit a final manuscript) by August 31st.
OFFICE BASED OTOLARYNGOLOGY ROTATION

During the PGY-4 year, the resident shall spend one month seeing outpatients in the faculty practice in order to obtain exposure to management of otolaryngic allergy, laryngology, rhinology and pediatrics in a private practice setting. The resident is expected to follow this general schedule:

Monday Morning—allergy
Monday PM—General Otolaryngology or Pediatric Otolaryngology
Tuesday AM and PM—Dr. Gadre otology clinic (every other Tuesday)
Tuesday AM and PM—Dr. Little Plastic clinic
Wednesday—Dr. Chandran laryngology clinic
Thursday—Dr. Winstead rhinology
Friday PM—continuity clinic

The goals of the Office Based rotation are as follows:

1. To understand the breadth of general and subspecialty otolaryngology office practice
2. To understand the components of the preoperative and postoperative general and subspecialty otolaryngology patient visit
3. To understand the daily practice of office evaluation, billing and coding and outpatient utilization of ancillary testing in an otolaryngology private/academic practice.

Specific subspecialty objectives are stated below:

Objectives for Laryngology

1. The resident should achieve proficiency in videostroboscopic examination and diagnosis using both flexible and rigid laryngoscopy with the digital KayPENTAX videostroboscopic equipment.
2. The resident should achieve a basic understanding of voice therapy techniques used for dysphonia, muscle tension dysphonia, and vocal cord dysfunction.
3. The resident should be able to take an adequate voice history in the assessment of the voice clinic patient.
4. The resident should understand the surgical vs. medical decision-making process in patients with various voice disorders.

5. The resident should be able to adequately utilize ancillary services for evaluation of hoarseness, such as labs and imaging as well as other consulting physicians.

Objectives for Pediatric Otolaryngology:

1. The resident should achieve proficiency in the preoperative evaluation of otitis media, adenotonsillar disease, pediatric chronic rhinosinusitis, pediatric airway issues, and pediatric nasal/neck masses.

2. The resident should be able to document experience in performing adequate history and physical exam in a spectrum of pediatric patients from newborn through adolescence.

3. The resident should be able to formulate a differential diagnosis of various pediatric otolaryngology conditions.

4. The resident should be able to adequately obtain informed consent from patients and parents regarding basic surgical and office procedures.

5. The resident should be able to assess postoperative results for adequacy of treatment.

OTOLARYNGIC ALLERGY: The resident is expected to obtain sufficient knowledge to diagnose and treat allergy related disorders of the upper respiratory tract.

The resident is expected to gain this knowledge by reading appropriate textbook assignments, attending lectures given by faculty, participating in Allergy focused Grand Rounds and Journal Clubs, attending intramural and extramural didactic and hands-on courses, and performing supervised patient evaluations in the outpatient setting.

The resident is expected to learn and gain practical hands-on experience with otolaryngic allergy testing and treatment techniques in the clinical setting.

Curriculum

Specific Reading Assignments


> Allergy in ENT Practice: The Basic Guide, King, et al, 2005

> Food Allergy, Trevino, et al, 1997
Cognitive Goals and Objectives:

1. Learn basic immunology related to allergic etiology and symptomatology.
   - Exhibit an understanding of basic immunology related to the Gel and Coombs Classification with emphasis on Type I (IgE mediated) and Type III (Immune complex mediated) immunologic responses.
   - Exhibit knowledge of cellular and chemically mediated responses and their effect on symptom production.

2. Learn concepts, specific etiologies and symptomatology of seasonal and perennial allergies.
   - Become familiar with seasonal allergens, their classification, and timing of pollination/prevalence.
   - Become familiar with local and regional environmental factors affecting antigenicity and potency of allergens.
   - Understand the multiple etiologies of perennial allergies.
   - Learn common allergic symptoms related to the ears, nose, mouth and throat and the head and neck region in general.

3. Learn theory and principles of food related allergy, etiology and diagnosis.
   - Exhibit an understanding of fixed ("anaphylactic") food allergy, its causes and symptoms.
   - Exhibit an understanding of cyclic ("delayed") food allergy, its causes and symptoms.

4. Expand knowledge about medications useful for the treatment of allergy, their indications, contraindications, appropriate dosing and side effects.
   - Become familiar with the proper patient selection, use and dosing of antihistamines, decongestants, mucolytics/expectorants, corticosteroids (oral and topical), leukotriene inhibitors, and other “allergy” medications.
   - Understand potential side effects and contraindications of allergy medications.

5. Learn principles, techniques and indications for testing the suspected allergic patient.
   - Exhibit knowledge and understanding of allergy testing principles as they relate to skin reactivity (erythema and whealing) to allergens when applied topically, by prick method, intradermal injection and progressive dilutional testing.
   - Gain knowledge of different testing techniques including skin testing and in-vitro testing and the applications of each.
   - Understand indications for testing the suspected allergy patient and the indications and contraindications of specific testing techniques.

6. Learn clinical indications for and techniques for immunotherapy.
   - Exhibit understanding of when to recommend immunotherapy to the allergy patient.
   - Exhibit understanding of how immunotherapy affects the patient’s immune system and how it results in symptom control.

7. Learn the signs, symptoms and treatment of anaphylaxis.
   - Develop knowledge of the physical signs and symptoms of anaphylaxis and be able to differentiate them from those of the vasovagal reaction.
• Develop knowledge of basic and advanced treatment methods for anaphylaxis.

Technical Goals and Objectives:

1. Learn to interpret symptoms and physical signs of inhalant allergy.
   • Develop basic and advanced history skills in order to recognize the common symptoms of otolaryngic allergy.
   • Develop basic and advanced physical exam techniques to recognize common physical signs of otolaryngic allergy.

2. Learn techniques for inhalant allergy testing.
   • Gain practical experience with basic skin testing techniques and interpretation by observing and performing prick, intradermal and dilutional techniques in the clinic and laboratory setting.
   • Learn in-vitro testing techniques (with emphasis on RAST-type) and be able to interpret results.
   • Apply knowledge of etiologic factors of inhalant allergy to techniques of environmental control and avoidance measures.

3. Learn application of avoidance and medical management for inhalant allergy.
   • Understand and recommend allergy avoidance measures, including environmental controls measures, for the treatment of inhalant allergies.

4. Learn methods for diagnosis and treatment of fixed and cyclic food allergy.
   • Recognize methods of diagnosing fixed food allergies to include detailed history and in-vitro testing for IgE mediated reactions and principles of avoidance.
   • Recognize the major steps in the food allergy “cycle” and be able to apply them in the clinical setting.
   • Be able to utilize the Elimination/Challenge test for the diagnosis of cyclic food allergy in the clinical setting.
   • Understand and be able to apply use of the Rotary Diversified diet in the management of cyclic food allergies.

5. Learn techniques necessary for providing immunotherapy (Both SCIT and SLIT).
   • Apply skin and in-vitro testing results for application to immunotherapy treatment.
   • Prepare skin testing treatment boards.
   • Prepare multi-dose multi-antigen vials based on test results.
   • Perform and interpret vial tests.
   • Administer allergy shots to patients.
   • Manage immunotherapy dose escalation.
   • Understand maintenance immunotherapy.
   • Understand problem solving during immunotherapy.