The Otolaryngology-Head and Neck Surgery (OHNS) Resident Training Program at Johns Hopkins School of Medicine provides residents at levels PGY-1 through PGY-5 with the opportunity to be involved in the diagnosis and treatment of a wide variety of common and rare clinical problems.

First year residency training in OHNS includes training in General Surgery (6 months including SICU/Trauma rotation), Anesthesiology, Emergency Medicine, Neurosurgery, and OHNS (3 months). In addition, a well-structured, 6-month research exposure is required of all residents. Greater immersion in research (two years) is available. At present, one half of each resident class (two individuals) is selected to complete the two-year research experience.

Clinical rotations exist at The Johns Hopkins Hospital (JHH), Johns Hopkins Bayview Medical Center (JHBMC), and Greater Baltimore Medical Center (GBMC). Facial Plastics teaching also occurs at ambulatory sites: the Facial Plastics Surgicenter and at the Johns Hopkins Green Spring Station facility. During the 3¾ years of clinical rotations on the OHNS service the residents experience about 24 months of clinical duties at JHH, 6 months at JHBMC, and 15 months at GBMC.

Goals common to all residents.

Residents shall develop:

1. Technical skills needed to provide effective, appropriate, efficient, cost-effective and compassionate care of pediatric patients with disorders of the head & neck.
2. The medical knowledge base, clinical acumen and self-education skills necessary for effective head and neck surgery practice and continued life-long learning.
3. An understanding of and experience with quantitative methods of outcomes assessment as applied to outcomes in one's own practice, to support practice-based optimization of care.
4. Interpersonal and communication skills necessary for effective participation in a multidisciplinary care team. Residents shall learn to employ clear, concise, accurate and precise verbal communication with colleagues, other staff, patients and patients' family members. Residents will develop an appreciation for the importance and impact of nonverbal communication, compassion and cultural sensitivity in all interpersonal interactions.
5. Professional behavior, including honesty, compassion, level-headedness, decorum, and respect for others. All residents will have a detailed understanding of ethical issues in clinical and research settings, and all will develop skills needed for critical analysis of ethical issues.
6. Understanding of the larger context within which one practices the profession of otolaryngology. Organizational, managerial and technical skills required for application and refinement of systems designed to optimal clinical practice and patient safety.

An overview of the program rotation is provided for each year chronologically. To avoid confusion, the level of training will be described by clinical year (OTO1-OTO5) and not PGY level. Those residents completing the two-year research track will complete one

full year of clinical otolaryngology prior to entering the research rotation at the start of the PGY-3 year. As a result, the residents completing the standard clinical track and the residents completing the two year research track merge into the OTO4 year at different PGY levels (PGY4 and PGY5, respectively).

Progression of Responsibilities:

First year residency training in OHNS (OTO1)

ACGME guidelines require training in General Surgery (6 months including SICU/Trauma rotation), Anesthesiology, Emergency Medicine, Neurosurgery, and OHNS (3 months). During this year, two OTO1 residents begin the 6 month block of General Surgery and two begin the 6 month elective block. This allows for the creation of an OTO1 position on the JHH Head & Neck service. During the JHH H&N service rotation, the OTO1 resident is introduced to the organization of the JHH H&N service and is taught basic skills for outpatient assessment, care of H&N inpatients and airway management.

Second year residency training (OTO2)

During this year, each resident rotates through four 3 month clinical rotations. The OTO2 year now follows the internship year for all PGY2 residents. This is the first full year of clinical otolaryngology for all OTO2 residents.

As the OTO2 resident gains experience and becomes more proficient in all aspects of patient care, he/she is allowed to progress in level of responsibility. In-house call for the majority of this year affords an array of supervised clinical learning opportunities that sets the foundation for subsequent skill development. In addition to promoting individual skill development, this year establishes the foundation for effective interdisciplinary patient care. In the outpatient clinic, they are exposed to increasingly complex problems of the ears, nose, throat, head and neck by the supervising faculty. The resident is given increasing responsibility in formulating diagnostic workups and treatment plans as their experience and competence increases. This is also true for clinic-based procedures. They evaluate inpatient and emergency room consultations under the supervision of senior residents and on-call faculty. In the operating room, the OTO2 resident is heavily supervised but allowed to become more independent in decision making and the performance of procedures as their skills evolve. Intra-operative responsibilities progress from assisting faculty to serving as resident surgeon for increasing proportions of the case while guided by formative feedback. They are initially exposed to less complex procedures to establish basic procedural competency, and are included in more complex cases as experience and skills are acquired. While first assisting the chief resident or faculty, the resident is given an increasing appropriate portion of the advanced procedure to perform themselves. When appropriate, the OTO2 resident is also allowed to begin to teach medical student assistants through basic procedures, such as suturing.

Two residents per class proceed to clinical training for half of the OTO3 year, whereas the other two residents spend the following 2 years in the lab, emerging as OTO-4 residents thereafter.

JHH OTO2 Head & Neck (3 months)
This is one of busiest services for the OTO2 residents. During the rotation, residents gain experience in the diagnosis and management of tertiary H&N cancer patients. Specific details of the rotation are described in the goals and objectives of the JHH H&N rotations.

JHH OTO2 Otology/Neurotology (3 months)
During this rotation, residents gain experience in the diagnosis and management of tertiary Otology/Neurotology patients with hearing and vestibular disorders. Specific details of the rotation are described in the goals and objectives of the JHH Otology/ Neurotology service.

JHH OTO2 Pediatric OHNS (3 months)
This rotation is the only focused exposure to pediatric OHNS, although pediatric patients are seen at both affiliate hospitals (GBMC and Bayview). Residents on this assignment will receive concentrated training in congenital, inflammatory, infectious and neoplastic diseases of the upper aerodigestive track, head and neck affecting the pediatric population including sinonasal aspects of pediatric care. Otoscopy, sinonasal endoscopy, and flexible fiberoptic laryngoscopy in young children will be learned. Residents will become familiar with the management of craniofacial anomalies through the Kennedy-Krieger Institute staff. In the operating room, the resident will participate in a wide variety of general pediatric OHNS procedures including pediatric FESS, airway management, and laryngotracheal anomalies and trauma. By the end of the rotation, the residents will have experience in management of otitis media, sinusitis, and adenotonsillitis in the pediatric population. They will know how to work-up and manage a pediatric neck mass, as well as the common pediatric neoplastic conditions. All residents will receive additional “hands on” experience in foreign body removal through the airway management course held in the MISTC Center. In the course, residents will be introduced to the endoscopic/ surgical equipment and techniques needed for removal of foreign bodies.

JHBMC OTO2 (3 months)
This rotation was created to provide the residents with greater clinical experience in diagnosis and management of patients with general OHNS disorders. The Bayview medical campus provides exposure to a diverse patient population. This rotation also emphasizes the outpatient clinical and continuity of care and includes a concentrated exposure to peri- and intra-operative surgical management of sinus disease.

Third year residency training (OTO3)
A well-structured, six-month research exposure is required of all residents and this begins in the OTO3 year. During this year two residents begin the traditional or standard track including six months of research and six months of clinical experience at GBMC.

These residents alternate through the OTO3 clinical rotation at GBMC. The other two residents are immersed in full-time research funded by the T32 training grant for 2 years, of which they receive ACGME credit for 1 year. After completion of the two year program, these residents will re-enter the clinical rotations in the OTO4 year.

As the OTO3 resident gains experience and becomes more proficient in all aspects of patient care, he/she is allowed to progress in level of responsibility including taking a leadership role in patient care and participation in the teaching of more junior residents. In the outpatient clinic, they are exposed to increasingly complex head and neck problems as well as allowed increasing independence in formulating diagnostic workups and treatment plans. Clinic-based procedures are increasingly performed rather than observed as the skill level progresses. As knowledge and experience progresses, the OTO3 is expected to be more independent about formulating initial care plan decisions for inpatient and emergency room consultations as well as on head and neck surgery service patients. In the operating room, the OTO3 is allowed to become increasingly independent in the performance of basic otologic, rhinologic, pediatric and adult airway, and head and neck surgery procedures, as primary surgeon under faculty and chief resident supervision. In addition, while first assisting, the resident is given increasing portions of advanced procedure to perform themselves. As skills accelerate, the OTO3 is also allowed to take the medical student assistants through basic surgical procedures.

GBMC OTO3 (6 months)
During this rotation, residents are exposed to a predominantly private patient population including adult and pediatric patients with general OHNS disorders. In addition there is an active H&N practice with emphasis on rehabilitation at the Milton J. Dance Center for H&N Rehabilitation.

Fourth year residency training (OTO4):
This is an important transition year from junior to senior resident that is accompanied by increasing patient care responsibilities including inter-disciplinary collaboration in the care of complex patients as well as teaching and leadership of the resident team. During this year, each resident rotates through four 3-month clinical rotations. As indicated above, two residents completing the two-year research track and two residents in the standard clinical track merge into the OTO4 year at different PGY levels (PGY4 and PGY5). This is the second full year of clinical otolaryngology for all four residents, with residents in the standard track having 6 months more clinical experience than those in the (2-year) research track. This variance in clinical experience is taken into consideration and residents are supervised closely to assess skill levels. The rotation schedule is arranged to ensure that both residents in the research track have at least 6 months of additional clinical experience at GBMC and JHBMC before taking in-house call and providing chief coverage at JHH.

During the OTO4 year, residents gain subspecialty experience in Facial Plastics and Reconstructive Surgery (FPRS), Laryngology and Rhinology, in addition to clinical experience in a variety of clinical settings including GBMC and ambulatory surgical

centers (predominately private/insured patients), JHBMC (heavily weighted toward medical assistance patients), and JHH (tertiary and quaternary referral center). In addition, this year provides residents with more autonomy and independence in running a service, as the more senior resident at JHBMC, and the covering chief resident when on call at JHH or when the OTO5 resident is away on vacation.

GBMC OTO4 (3 months)
The intermediate residents gain subspecialty experience and development of clinical, surgical, and leadership skills that are required for the chief resident year. The residents are expected to make substantial advancements in their fund of knowledge, clinical acumen, judgment, and surgical skill during the OTO4 year. They take a leadership role in the presentation of cases at clinical conferences and increasingly integrate problem-based learning and the study of evidence based medicine in their daily practice. They perform more advanced surgical cases such as tympanomastoidectomy, stapedectomy, neck dissection and laryngectomy while on this rotation. They are exposed to a wide variety of clinical faculty and begin to make judgments regarding specific styles and practices that they observe. Through the Milton J. Dance Center they will gain a greater awareness of rehabilitation issues of the H&N patient, working with Drs. John Saunders, Joseph Califano, Patrick Ha, Ray Blanco, and Carole Fakhry in the outpatient setting.

GBMC/JHH OTO4 Facial Plastics (3 months)
This rotation has evolved to provide a concentrated exposure to cosmetic and reconstructive tissues of the face, head and neck. These procedures take place at GBMC, JHH, and ambulatory surgical centers within the JHH system and with which we have special agreements. The resident is provided an experience in the full range of plastic and reconstructive procedures of the aging face, congenital facial reconstruction, rhinoplasty, auriculoplasty and microtia repair, facial resurfacing, wound repair and reconstruction, and micro vascular free tissue transfer. Experience in using digital imaging for patient education and surgical planning is provided. Patient counseling and surgical planning are emphasized during the rotation, as is the evaluation of the psychosocial and emotional status of the patient. By the end of the rotation, residents should display a comprehensive understanding of aesthetic principals of the human face, soft tissue handling scar and flap physiology, wound healing, and microvascular technique. They should be able to plan and describe such simple procedures as revision of an unfavorable facial scar, rotation and advancement flaps, skin and composite grafts, common pedicled and microvascular free flaps, uncomplicated rhinoplasty, blepharoplasty and rhytidectomy. Residents also receive “hands on” teaching in the cadaver.

JHH Sinus/Laryngeal OTO4 (3 months)
This hybrid rotation provides concentrated and comprehensive training experiences in the medical and surgical management of diseases of the upper airway, nose and paranasal sinuses. The OTO4 resident will have one-on-one interaction with faculty in the clinic and operating room, and will be given increasing responsibility in decision-making and surgical autonomy based on observed progress. In addition to competency in core operative techniques, significant emphasis will be placed on the development of

competency in clinic-based procedures such as per-operative sinus cavity debridement and instrumentation of the larynx for electromyographic testing, Botox injection and fold medialization. Participation in the management of complex airway cases due to traumatic, neoplastic or inflammatory etiologies forms the core skill set for subsequent leadership in the management of the difficult airway as chief resident.

JHBMC OTO4 (3 months)
The Hopkins Bayview site is a busy general OHNS practice dominated by patients in managed care and medical assistance. It offers an opportunity for residents to develop independence in the evaluation and management of the wide variety of common conditions encompassed by the specialty under the careful oversight of a full-time faculty. Residents gain an appreciation of the challenge of delivering quality care within a setting of cost containment. The case mix includes some head and neck and advanced otological conditions, but is dominated by infectious, inflammatory and traumatic problems. The proximity of the asthma and allergy center provides exposure to applied research endeavors in rhinologic disorders as well as training in otolaryngologic aspects of allergic disease.

Fifth year residency training (OTO5)
During this year, the residents rotate through four services at the Chief Resident and master skills necessary to practice independently.

The chief resident (OTO5) has two and three-quarter years of direct patient care experience if he/she spent 6 months in the laboratory, and two and one-quarter years if he/she spent 2 years in the laboratory. The emphasis for further learning is to focus on in-depth study of multi-disciplinary disease management, achievement of competency and better in all key indicator procedures and beyond, and the identification and management of complications. The foundation of basic knowledge of anatomy, pathology and disease processes of the ear, nose/paranasal sinses, throat and head and neck, is enhanced by the major teaching responsibilities of the chief resident. These responsibilities impact junior residents and medical students. They also play a central role in the quality improvement/assurance and safety mission of the department as discussants in the discussion of Morbidity and Mortality conference. They lead the analysis of system errors under the guidance of the quality improvement officer. Their pivotal role systems based practice also includes significant leadership responsibilities in the multidisciplinary airway team. As the OTO5 resident gains further patient care and leadership experience, he/she is allowed to progress in responsibility to one of supervised independence. Again, the supervising faculty member is always involved in the care of every patient and has ultimate responsibility. In the outpatient clinic, the OTO5 is allowed to formulate diagnostic workups and treatment plans. The OTO5 resident has a leadership role in overseeing inpatient and emergency room consults and is intimately involved with the development of a diagnostic and management plan with the junior residents. Concurrent with this is the ability to make decisions regarding the care of in-patients on the OHNS service, emphasizing close communication with the responsible faculty member. In the OR, the OTO5 resident is allowed to progress as primary surgeon on all procedures once they have sufficient experience and skill. They

are responsible for taking both the junior residents and medical student assistants through mastered basic surgical procedures.

JHH H&N OTO5 (3 months)
This rotation will complete the training required to master the evaluation and management of neoplastic diseases of the head and neck. At the completion of the rotation, residents should be facile in the evaluation, work-up, treatment planning and surgical management of the common neoplasms encountered by the head and neck surgeon, as well as inflammatory, congenital, degenerative, and traumatic conditions affecting the neck, paranasal sinuses, skin of the head, face and neck, and the upper aerodigestive tract. Residents must be able to independently complete a focused yet comprehensive history and physical examination, select and interpret appropriate laboratory and radiographic studies, prepare a differential diagnosis and plan of action for the confirmation diagnosis and management of the condition. They should be able to recognize the common histologic presentations of head and neck neoplasms, and be able to interpret CT scans and MRI's of the head and neck. In the operating room, residents should be able to act as surgeon in the broad range of procedures including but not limited to: neck dissection, laryngectomy, composite resection, pedicled myocutaneous flap reconstruction, neck exploration, thyroidectomy and parotidectomy. They will demonstrate expertise in the endoscopic mapping of tumors and the knowledge needed to select candidates for complex surgical procedures such as partial laryngeal resection. The most successful residents will be able to lead a junior resident through these cases as a teaching assistant. On the wards, the chief resident will act as team leader, overseeing the management of inpatients post-operatively. He/ she will be able to recognize and manage postoperative complications and routine progression through the immediate recovery period. In the clinic, the chief resident will develop the ability to fully explain to patients their condition, the treatment options, and obtained informed consent. He/she will be able to make and carry out a plan for post-treatment surveillance.

JHH Otology/Neurotology OTO5
This rotation is the culmination of training in otology and neurotology in the Hopkins training program. Chief residents are expected to demonstrate full competency in the evaluation, work-up, and management including surgical intervention of patient with disorders of the ear, temporal bone, hearing and balance. The resident must demonstrate the capability to elicit a focused and comprehensive history, perform a complete physical examination including "bedside" evaluation of hearing and vestibular function. Order and interpret audiometric and vestibular test, as well as pertinent laboratory and radiographic evaluations. In the operating room, he/she should demonstrate skill in performing complete mastoidectomy including facial recess approach with surgical exposure of the labyrinth and intratemporal facial nerve, tympanoplasty including reconstruction of the ossicular chain, cochlear implantation, temporal bone resection, and the approach to the internal auditory canal. On the wards the resident should be capable of recognizing and managing common complications such as cerebrospinal fluid leak, as well as the evaluation and management of emergent conditions such as sudden hearing loss and facial paralysis.

GBMC Head and Neck Oncology OTO5
Similar to the other chief resident rotations at JHH, this rotation is an opportunity to test leadership and teaching potential, as well as master clinical and surgical experience and skill. The chief resident works with Drs. John Saunders, Joseph Califano, Patrick Ha, Ray Blanco, and Carole Fakhry of Johns Hopkins Head and Neck Surgery at GBMC in the operating room and in the outpatient setting. He/she will have the opportunity to perform numerous advanced level head and neck cases. The Chief Resident leads a team of 3 other residents on the inpatient service, bearing a great deal of responsibility for the care of patients admitted both to the resident and the private service.

GBMC Resident Clinic OTO5
During this rotation, the chief resident oversees the resident otolaryngology clinic at GBMC and coordinates care of patients seen at the clinic. Operative case coverage includes those cases arising from the Resident clinic but may also extend to other advanced level head and neck, otologic, and rhinologic cases. At the end of this rotation and others of the chief year, the resident should be ready to enter a successful practice of OHNS. The rotation offers a final opportunity to observe and learn from numerous different organizations and styles of private practice as demonstrated by the faculty.

OTO5+ Advanced Training in OHNS Subspecialties
Residents in the two year research track must receive an additional six months of clinical training at the completion of the chief resident year to fulfill RRC and ABO requirements. This is a senior level experience at the primary institution of the program. The rotation is designed to provide flexibility in subspecialty content in order to best match the academic interest of the trainee. In many cases this experience will be extended to include a period of fellowship training. The faculty will develop specific goals and objectives for each trainee according to the focus selected. Participation in resident education including surgical courses and supervision of junior residents in basic procedures is also included.