

Head and Neck Oncologic Surgery/Laryngology (HNL) Rotation

This rotation provides a comprehensive, mentored exposure to the care of patients in head and neck oncologic surgery (HN) and in laryngology. Attendings on these services are members of the faculty of the Division of Otolaryngology and Department of Internal Medicine at the University of Utah. Residents rotate on the HNL service for one month during R1, twice during the R2 year for a total of three months, twice during the R4 year for two months each, and once as an R5 for four months.

The HN service is overseen by two attendings and has a consistent volume of patients. It provides a critical portion of the surgical skills that need to be mastered as an otolaryngology resident. Additionally, the HN service is unique among otolaryngology subspecialties in that it often involves end-of-life issues and requires close collaboration with other services and systems including radiation oncology, social work, and hospice care.

The laryngology service includes surgery time and outpatient clinics dedicated to voice/speech and airway patients, the latter group often having significant co-morbidities. Dr. Mark Elstad, a pulmonologist, joins Dr. Marshall Smith for their combined airway clinic, which is held semi-monthly. Residents on the laryngology service also work closely with the speech-language pathologists at the Utah Voice Disorders Center. Many of the voice/speech patients have chronic problems and have been undergoing treatment for several years.

Didactic teaching on HNL is informal and structured around patients' outpatient and surgical visits and floor consults. Efforts will focus on the ability to understand the pathophysiology and scientific evidence to support good judgment in the diagnosis and treatment of common and rare problems in head and neck oncology and laryngology. HNL residents participate in the weekly Head and Neck Tumor Board conference. Additionally, HNL residents are required to participate in all formal didactic sessions at the University as otherwise outlined in this Handbook.

Goals and Objectives

The HNL rotation is run in accordance with the core competencies for otolaryngology residency program requirements. Residents are also expected to meet the general otolaryngology program goals and objectives for their training level.

The R1 will develop basic competency in the following areas by meeting these objectives:

Patient Care:

1. Effectively take a history, perform a physical exam, create a diagnosis, and form a treatment plan in an office or inpatient setting.
2. Take an active role in inpatient rounds and care of inpatients under close supervision of Faculty and senior residents.
3. Understand and demonstrate knowledge of various suturing techniques.
4. Perform dissection of soft tissue dissection in an atraumatic technique.
5. Become proficient in the following procedures: tracheostomy, fiberoptic and rigid office laryngoscopy, biopsy of lymph nodes, excision skin lesions, primary wound closure, and split thickness skin grafts.

6. Becoming familiar with operative laryngoscopy, bronchoscopy, and esophagoscopy.

Medical Knowledge:

1. Develop beginning-level understanding of disease processes in the HNL patient populations.
2. Learn to effectively evaluate the head and neck region.
3. Learn basics of head and neck anatomy and physiology.
4. Stage head and neck cancers according to the AJCC staging system.
5. Become familiar with head and neck imaging and normal imaging findings.

Practice-Based Learning and Improvement

1. Develop teaching and evaluation skills through working with medical students and assessing their performance.
2. Observe how attendings and senior residents educate patients and other healthcare professionals about otolaryngic disease, treatment, and prevention.

Interpersonal and Communication Skills

1. Develop communication skills when interacting with patients across the socioeconomic spectrum from self-pay cosmetic patients to uninsured trauma patients.
2. Gather patient data in preparation for morning rounds and learn to communicate this information effectively to the other residents, attendings, consulting medical services, and allied health professionals.
3. Develop skills for effective dictation and/or transcription of clinical notes.
4. Meet all requirements for timely completion of medical records.

Professionalism

1. Demonstrate compassion, integrity, and respect for others and for a diverse patient population.
2. Demonstrate responsiveness to patient needs that supersedes self-interest.
3. Show respect for patient privacy and autonomy.

Systems-Based Practice

1. Develop competency in delivering health care in different physical settings (outpatient clinic, inpatient rooms, OR, ER)
2. Demonstrate sound decision making to deliver cost-effective and safe patient care.
3. Present cases at monthly Morbidity and Mortality conference to develop skills necessary to identify system errors and suggestions for systemic change.

The goal of the R2 on the HNL rotation is to build upon skills obtained as an R1, including improving levels of competence in outpatient, inpatient, consultation, and surgical services and procedures. The R2 will develop basic competency in the following areas by meeting these objectives:

Patient Care:

1. Effectively and efficiently evaluate the head and neck region with emphasis on differential diagnosis and treatment plan and work towards being able to complete these tasks with a diminished level of oversight as determined by the attending faculty.
2. Know how to effectively evaluate various voice and airway disorders and discuss treatment options.
3. Develop basic surgical skills during minor procedures and progress towards performing as first assistant in major surgical cases or as primary surgeon in appropriate cases after competence has been determined by the attending.
4. Be expected to become competent in dealing with HNL patients and their families through development of interpersonal and communication skills.
5. Become proficient in fiberoptic and rigid office laryngoscopy, laryngostroboscopy, operative laryngoscopy, bronchoscopy, esophagoscopy, endoscopic treatment of stenosis, papilloma, foreign bodies, biopsy/excision of lymph nodes, adjacent tissue transfers, and split skin grafts.
6. Have a larger role in assisting with thyroidectomy, parotidectomy, and neck dissections.

Medical Knowledge

1. Become proficient with work-up and staging head and neck cancers using the AJCC staging system.
2. Develop intermediate knowledge of disease processes in HNL patient populations.
3. Become proficient in knowledge of head and neck anatomy.

Practice-Based Learning and Improvement

1. Develop intermediate-level teaching and evaluation skills through working with interns and medical students and assessing their performance.
2. Observe how attendings and senior residents educate patients and other healthcare professionals about otolaryngic disease, treatment, and prevention.

Interpersonal and Communication Skills

1. Demonstrate communication skills when interacting with patients across the socioeconomic spectrum from self-pay cosmetic patients to uninsured trauma patients.
2. Gather patient data in preparation for morning rounds and learn to communicate this information effectively to the other residents, attendings, consulting medical services, and allied health professionals.
3. Continue to develop skills for effective dictation and/or transcription of clinical notes.
4. Meet all requirements for timely completion of medical records.

Professionalism

1. Demonstrate compassion, integrity, and respect for others and for a diverse patient population.
2. Demonstrate responsiveness to patient needs that supersedes self-interest.
3. Show respect for patient privacy and autonomy.

Systems-Based Practice

1. Develop greater autonomy in delivering health care in different physical settings (outpatient clinic, inpatient rooms, OR, ER).

2. Demonstrate sound decision making to deliver cost-effective and safe patient care.
3. Present cases at monthly Morbidity and Mortality conference to develop skills necessary to identify system errors and suggestions for systemic change.

The goal of the R4 is to continue to increase the level of competence in outpatient, inpatient, consultation, and surgical services and procedures beyond the level of the R2 as described above. The R4 will also work with medical students and R1/2 residents and will further develop teaching and evaluation skills. Completing performance evaluations of these trainees is mandatory. The R4 will be expected to transition from the knowledge base of anatomy and physiology of diseases to a complex understanding of treatment planning and counseling of patients and families. There should be more independent learning and be able to critique various treatment options. The R4 should be proficient at basic surgical techniques, and be able to assist and transition to performing more complex procedures

The R4 will:

1. Effectively evaluate patients in the outpatient and inpatient setting with history and physical exam as well as create a differential diagnosis and treatment plan with minor assistance from senior residents and attendings.
2. Be able to discuss advantages and disadvantages of various treatment options with progressively more independence.
3. Be not only proficient with the staging of head and neck cancer, but also be able to discuss treatment options, both surgical and non-surgical and reconstructive options.
4. Evaluate and discuss options of difficult airways as well as demonstrate surgical techniques to correct airway stenosis while being supervised.
5. Counsel patients and families regarding medical condition and treatment options.

The R4 is expected to become proficient in: office tracheoscopy and esophagoscopy, open laryngotracheal reconstructive procedures, laryngoplasty, laryngeal nerve dissection, cervical and thoracic lymphadenectomy, muscle myocutaneous/ fasciocutaneous head flaps, palate resection, lateral pharyngeal wall resection, parathyroidectomy, and thyroid lobectomy.

The goal of the R5 is to achieve mastery of the related anatomy and physiology, disease processes, disorders, and the medical, surgical, and behavioral treatments for HN and laryngology patients. The R5 should be able to discuss controversies in management of these patients. S/he should be well-acquainted with how other specialties interact with these patient populations and contribute to the management of health care.

The R5 will:

1. Be fully conversant with all diagnostic equipment and imaging modalities and when they should be used.
2. Be able to independently evaluate new patients and present them to the attending with an appropriate treatment plan.
3. Have a complete mastery of all in-office procedures and will be prepared to act as surgeon in most operations.

4. Work with medical students and R1/2/4 residents and will demonstrate mastery of teaching and evaluation skills. Completing performance evaluations of these trainees is mandatory.

The R5 will demonstrate proficiency in: office laryngeal injection techniques, endolaryngeal microsurgery, laryngotracheal reconstruction procedures, laryngoplasty, laryngeal reinnervation, total thyroidectomy, excision of parotid tumor, neck dissections, glossectomy, maxillectomy, and local and regional flap reconstruction of head and neck defects.

Clinical Practice Guidelines

Due to the frequent cancer diagnosis and intensive treatment plans, it is important that all patients following operating room procedures have appointments for outpatient follow up, including outpatient procedures. Otherwise, follow-ups may be missed and there will be a delay in delivering malignant diagnosis, removing sutures, etc.

The postoperative protocols for the various procedures performed on the HNL are found below:

Total Thyroid

- PACU
 - o Stat dose of calcium carb 1000mg in PACU
 - o Stat labs: PTH, iCal, serum Ca²⁺
- Floor
 - o Calcium Carb 1000mg PO t.i.d
 - o Calcium labs: iCal and serum Ca²⁺ at 0400 and 1400.
- The next day
 - o Check if PTH, Ca²⁺ labs are back in AM.
 - o JP comes out the next day unless something looks amok with the neck or incision.
 - o Check voice.
- Discharge
 - o Appointment for 1-2 weeks post-op (must have appointment prior to leaving hospital).
 - o Calcium Taper (Hunt/Buchmann): CaCarb 1000mg PO t.i.d x 1 week, b.i.d x 1 week, daily x 1 week, then stop.
 - o Thyroid hormone
 - Most get Cytomel 25mcg PO b.i.d
 - Some get Synthroid (depends on attending): 1.7mcg/kg and round to whatever dose is available.

Completion Thyroid

- PACU
 - o Stat labs: iCal, serum Ca²⁺
- Floor
 - o Nothing, unless problems with above calcium labs.
 - o If stat Ca²⁺ are low, treat patient like Total Thyroid (above)

- The next day
 - If they have a drain, it comes out unless abnormal neck swelling and/or output.
- Discharge
 - Appointment for 1-3 weeks post-op (must have appointment prior to leaving hospital).
 - Thyroid hormone
 - Most get Cytomel 0.25mcg PO b.i.d
 - Some get Synthroid (depends on attending): 1.7mcg/kg and round to whatever dose is available.

Parathyroid

- Most of these patients go home. If they stay, they get a Calcium in the AM.

Neck Dissection

- PACU
 - Check cranial nerves that could've been injured.
- Floor
 - Antibiotics x 24 hrs – Unasyn 3mg q6h works. If allergic, give Clindamycin.
- The next day
 - Check JP output – no set amount to pull; just ask your senior.
 - Check cranial nerves that could've been injured
- Discharge
 - Appointment for 2-3 weeks post-op

Flaps

- PACU
 - Check cranial nerves that could've been injured
 - Check dopplers
 - Stat CXR: Lungs if in airway, Abdomen if placed an NG
- In the HICU
 - ASA/SQH – all get started and stay on these
 - Antibiotics x 24 hours – Unasyn 3mg q6h, or Clindamycin if allergic.
 - Flap checks q1h x 24 hrs, then q2h x the next 24.
- POD #1
 - D/C a-line, D/C foley
 - Take down trach cuff
 - Verify feeding tube placement and start feeds: Promote with fiber at 60cc/hr. If diabetic, Glucerna at the same rate.
 - IV + PO total of 100cc/hr
 - PT order to get patient OOB to chair
 - Change activity in PowerChart to 'OOB to chair'
- POD #2
 - Change to bolus tube feeds
 - Change activity to 'Up with assistance'
 - If fibula, toe touch weight bearing with walker

- POD #3
 - If able, transfer to floor.
 - Get trach change supplies to bedside for the next day: 4 CSF, 2-0 silk suture, small instrument tray, 1% lidocaine.
 - Take off tegaderm to skin graft donor site and allow to air dry. Can put Vitamin A/D ointment on wound if needed.
 - Start anticipating discharge: Talk to case management, social work, etc. and start paperwork (anticipate trach supplies, SNF, tube feeding, etc.)
- POD #4
 - Change trach to 4 CSF.
 - See if patient can tolerated capping. If not, keep checking daily.
 - Get dressing supplies for donor site change the next day.
 - Leg: Adaptek, Kerlex, Ace, and the same boot as before.
 - Arm: Adaptek, Kerlex.
- POD #5
 - Change the arm or leg dressing.
 - If fibular, full weight bearing status.
- POD #6
 - Nothing scheduled.
 - Order swallow if needed
- POD #7
 - Swallow study if indicated and NOT radiated
 - If trach capped overnight, decannulate and place dressing. Show patient how to press down on stoma when talking.
- POD #14
 - Swallow study if IS radiated (and still in hospital)
- Discharge
 - ASA x 30 days
 - Pain meds
 - Stool softener
 - If needed:
 - Tube feeds
 - Oxygen
 - Home health/Nursing for dressing changes
 - Home health for labs: ex: TSH, Pre-albumin to monitor nutrition.
 - Appointment depends
 - If all okay, do 2-3 weeks (Rare...)
 - If still needs swallow, schedule with speech therapy (Paradis or Cindy)
 - If needs wound care and lives around here: 1 week
 - If needs wound care and lives far away: 2 weeks.

Total Laryngectomy

- Same as above with flap. If not flap, HIMU x1 day.
- Feeds through TEP foley catheter
- Switch TEP foley catheter from side to side of the stoma each day
- Humidified air/bacitracin for stoma with frequent decrusting

- Avoid lary tube unless suprastomal swelling leads to stomal obstruction

Cricotracheal Sleeve Resection

- to SICU for 12-24 hour post-operative airway observation
- POD 1
 - transfer to IMCU if stable
 - Upto chair
 - d/c artline and foley
 - start clear liquid diet
- POD 2
 - transfer to floor
 - possible d/c penrose drain
 - soft diet
- POD 4-5
 - flexible laryngo/tracheoscopy with Dr. Smith
 - if trach, perform trach change during scope
 - order cervical collar for discharge
- Discharge
 - usually day 5-7 depending on +/- trach and airway
 - will need hard cervical collar
 - followup in 1-2 weeks

Please see attached Modified Barium Swallow appendix for protocol for Dr. Kendall's patients with dysphagia.