# Physical Examination of the Head and Neck

Hari Krishnakumar, MD[a], Zoe A. Walters, MD[a,b,*]

**KEYWORDS**

• Physical examination • Head • Neck • Nose • Ear • Oral cavity • Throat

**KEY POINTS**

- A comprehensive head and neck (H&N) examination should be employed by the hospitalist/internist via a structured and methodical technique to enhance diagnostic accuracy and facilitate early disease detection.
- Although the H&N examination should be performed in a systematic manner, patient history should direct particular attention toward portions of this examination.
- Certain equipment is required to perform a comprehensive H&N examination and should be available for use with every patient.

## INTRODUCTION

Otolaryngology, like medicine, has progressed throughout history. From home remedies and folk medicine to the surgical procedures performed today, a steady compendium of knowledge has been developed and passed on since the prehistoric age. The Ebers papyrus (1550 BC) from Ancient Egypt describes battle wounds to the temporal bone and deafness resulting from temporal bone fracture.[1] Without knowledge of ear anatomy, Greek philosopher Aristotle (300s BC) developed theories on the physiology of hearing and hearing loss, both acquired and congenital.[2] Dogmatic shifts took place in the 1300s and throughout the Renaissance period with the advent of cadaveric dissection. A stronger focus was devoted to studying anatomy and utilizing the physical examination to elucidate pathology.[3] French surgeon Guy de Chauliac, an advocate for evaluation and treatment based on anatomy, was purported to be the first to use an ear speculum for examination and removal of foreign bodies.[4] Over the next 700 y, advancements in knowledge of anatomy, pathophysiology, and examination techniques have culminated in the head and neck (H&N) examination performed today. Recommended equipment necessary to perform a comprehensive physical examination of the H&N is listed in **Table 1**.

[a] Department of Otolaryngology-Head and Neck Surgery, University Hospitals Cleveland Medical Center, Cleveland, OH, USA; [b] Department of Otolaryngology- Head and Neck Surgery, Louis Stokes Cleveland Veterans Affairs Medical Center, Cleveland, OH, USA
* Corresponding author. 960 Clague Road Suite 2470, Westlake, OH 44145.
*E-mail address:* Zoeannwalters@gmail.com

Med Clin N Am 110 (2026) 1–15
https://doi.org/10.1016/j.mcna.2025.05.015 **medical.theclinics.com**
0025-7125/26/Published by Elsevier Inc.

| Abbreviations | |
|---|---|
| H&N | head and neck |
| EAC | external acoustic canal |
| OE | otitis externa |
| AOM | acute otitis media |
| OME | otitis media with effusion |
| MOE | malignant otitis externa |
| CRS | chronic rhinosinusitis |
| CN | cranial nerve |

## EAR

Performing an adequate ear examination requires a thorough understanding of outer, middle, and inner ear anatomy. The outer ear includes the auricle and external acoustic canal (EAC) bounded medially by the tympanic membrane (TM). The middle ear is an aerated space that contains the ossicular chain (malleus, incus, and stapes) and is contiguous with the nasopharynx through the eustachian tube. The inner ear lies medial to the middle ear and consists of the auditory and vestibular apparatus, which include the cochlea and semicircular canals.[5]

### *Patient History*

A comprehensive otologic history includes the following:

- Hearing loss (onset, duration, and progression)
- Otalgia and its characteristics; consider the possibility of referred pain
- Otorrhea
- Tinnitus, can be pulsatile or non-pulsatile
- Vertigo
- Previous ear infections, surgeries, or trauma
- Occupational and recreational noise exposure
- Recent travel history
- Medication use, particularly ototoxic medications

### *Physical Examination of the External Ear*

A comprehensive ear examination starts with evaluation of the auricle and surrounding skin. On visual inspection of the skin, identify any abnormalities (erythema, edema, or discrete lesions) both in the concha, as well as the pre-auricular and post-auricular regions. Palpate areas of erythema or swelling to assess for warmth, tenderness, or fluctuance.[6] The differential diagnosis of outer ear pathologies includes infectious etiologies, such as acute otitis externa (OE), mastoiditis, or cellulitis. Cutaneous lesions have a broad differential that includes both benign and malignant dermatologic pathologies. The auricle should be examined for dysmorphic features and asymmetry,

**Table 1**
**Necessary equipment for the head and neck examination**

| |
|---|
| Nasal Speculum |
| Tongue Blade |
| Bright Penlight or Headlight |
| Otoscope + ear speculum |
| Frazier Suction (to clear nasal secretions, optional) |

as well as signs of trauma.[7] Battle's sign is ecchymosis over the mastoid bone and suggests a basilar skull fracture. More common external ear injuries include lacerations, avulsion injuries, and hematoma.[8] Auricular hematomas often occur in athletes, with the classic presentation being a boxer who receives a direct blow to the ear. Auricular cartilage microfractures cause blood to accumulate in the subperichondrial space, which left untreated, can cause cauliflower ear.[9] Prompt recognition and drainage of the hematoma can prevent the resulting deformity.

### *Otoscopy and Examination of the Ear Canal and Tympanic Membrane*

A complete evaluation of the EAC and middle ear requires an otoscope. The modern practice of otoscopy began in the late 1800s when German physician Friedrich Hoffman combined an ear speculum with a concave mirror containing a central aperture and lens.[10] This provided improved funneling of light from an external light source and magnification to better visualize the tympanic membrane (TM) and middle ear structures. German otologist Anton Freiherr von Troltsch popularized this form of otoscopy and described pathologies of various ear diseases, such as myringitis, acute otitis media (AOM) with and without perforation, and even temporal bone fractures. After the invention of the carbon filament electric light bulb by Thomas Edison in 1879, the limitations of needing reflected sunlight or an external light source for visualization of the TM were mitigated. Several otoscopes were made with miniaturized carbon filament light bulbs eventually culminating in the battery-powered illuminating otoscope displayed by the Welch Allyn Company in 1920.[11]

Proper examination of the ear can be limited by lack of provider confidence, patient discomfort, inadequate patient positioning or poor visualization due to suboptimal equipment/cerumen impaction.[12] Begin by selecting an appropriately sized ear speculum, aiming to select the largest speculum that can be comfortably placed into the patient's EAC. Hold the otoscope as one would a pencil between the thumb and index fingers with some part of the hand resting on the patient's cheek to offer stability and prevent iatrogenic injury to the EAC and TM.[13] Gently pull the auricle posteriorly and superiorly to straighten the EAC.

Place the speculum of the otoscope at the ear canal entrance and advance medially while examining the canal wall for signs of inflammation, infection, otorrhea, or cerumen impaction. Advance until the TM is visible with the goal being to appreciate at least 70% to 75%. If the view is obstructed with cerumen, the provider must remove the impacted cerumen to obtain an adequate examination. Cerumen can be removed with irrigation, cerumenolytics (hydrogen peroxide, acetic acid, docusate sodium, or sodium bicarbonate, typically in water-based solutions), or manual removal.[14] Otolaryngologists typically use a microscope for cerumen removal; however, this procedure can be performed with an operating otoscope, which allows the provider to pass instruments through the ear speculum while still visualizing the canal (**Fig. 1**).[15]

A normal TM (**Fig. 2**A,B) has a variable appearance from patient to patient. Typically, it should have a pearly gray appearance with some translucency, allowing for visualization of middle ear structures.[16] Abnormal features include erythema or yellowing of the membrane, bulging or retraction, a visible air-fluid level, and perforation.[17]

Diagnoses to consider during otoscopy include OE, AOM, otitis media with effusion (OME), and TM perforation. OE generally presents with pain on manipulation of the pinna and canal wall edema, erythema, and purulent otorrhea.[18] AOM, defined as infection in the middle ear space, presents with otalgia and is associated with a bulging, opaque, and erythematous TM on otoscopy. In contrast, OME often presents with muffled hearing and is associated with an air-fluid level or serous effusion

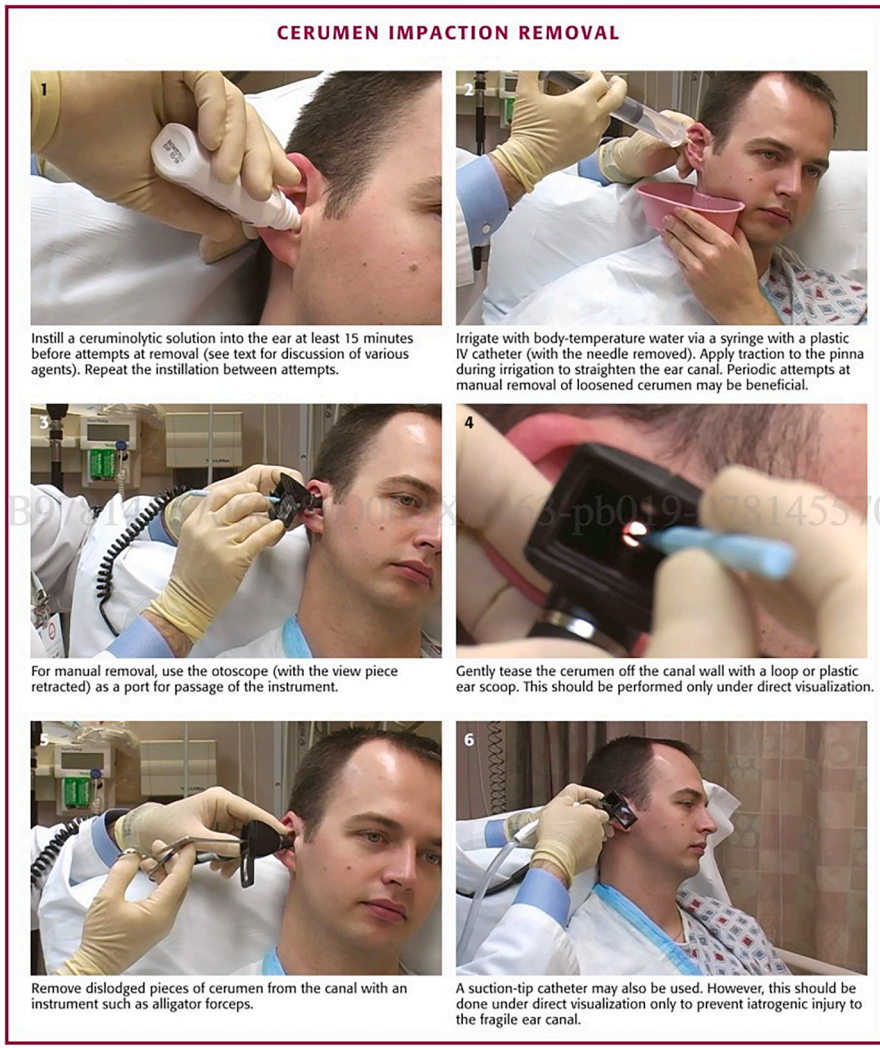


**Fig. 1.** Cerumen impaction removal through an operating otoscope. (*From* Roberts and Hedges' Clinical Procedures in Emergency Medicine and Acute Care, Seventh Edition, Figure 63.19, Elsevier 2019.)

behind the TM, but the TM itself is not bulging or erythematous. Malignant otitis externa (MOE) is a more serious infection of the external canal that is associated with diabetics and immunocompromised patients. The hallmark finding of MOE is granulation tissue at the bony-cartilaginous junction of the EAC (the midpoint of the canal).[19] Classically, pain may be out of proportion to the examination findings. Lastly, a TM perforation can occur secondary to infection, surgery, or trauma. Presenting signs and symptoms associated with TM perforation include otorrhea, blood in the EAC, otalgia, hearing loss, and tinnitus. A perforation appears dark in relation to the surrounding TM due to light reflecting off the intact TM, while being unable to reflect off the area of defect.

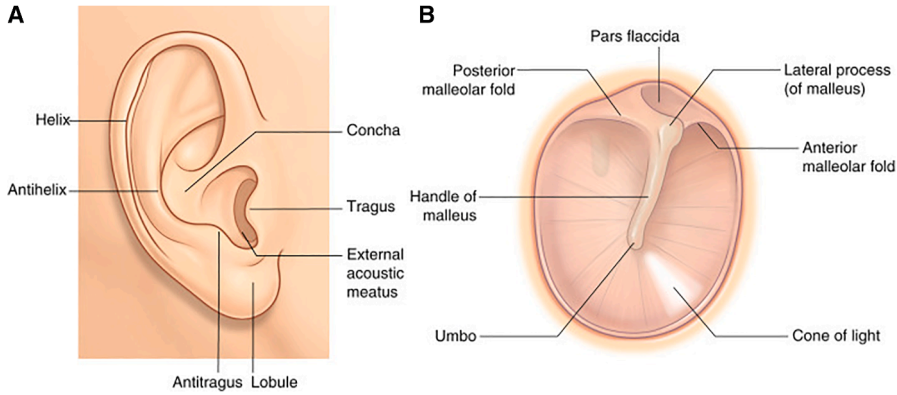


**Fig. 2.** The auricle (*A*) and tympanic membrane (*B*). The cone of light is visible when examined with an otoscope. (*From* Drake RL, Mitchell AWM, Vogl AW. Gray's Anatomy for Students, 5th Edition. Elsevier; 2024.)

## NOSE

The external nose is structurally divided into the nasal bones cephalically and the nasal cartilages caudally. The nasal cartilages are further divided into the paired upper and lower lateral cartilages, which fuse medially with septal cartilage to form the internal and external nasal valves, respectively.[20] The internal nose is divided into 2 cavities (right and left) separated by the nasal septum. The nasal cavity has 2 primary functional components: (1) the respiratory region, which warms, humidifies, and filters inspired air and (2) the olfactory region, which traps and binds inhaled odorants that stimulate neurons of the olfactory bulb to aid in olfaction.[21] Each nasal cavity is bordered by and communicates with air-filled paranasal sinuses, including the frontal, ethmoid, maxillary, and sphenoid sinuses.

### *Patient History*

It is important to elicit a history of previous nasal or sinus surgeries, allergies, and facial trauma. A comprehensive rhinologic history also includes the following:

The 4 cardinal symptoms of chronic rhinosinusitis (CRS)

- Nasal obstruction/congestion—laterality, partial versus complete, persistent or intermittent, and seasonal variation, triggers
- Rhinorrhea/postnasal drip—anterior or posterior, quality (clear, mucoid, or purulent), duration, associated cough, or globus sensation
- Facial pain or pressure—location, duration, exacerbating or relieving factors
- Hyposmia or anosmia—gradual versus sudden onset, association with infections, trauma, or neurologic conditions
  - Sneezing—frequency, triggers, and other allergic symptoms
  - Epistaxis—frequency, severity, laterality, precipitating factors, and anticoagulation
  - Headache—location, duration, and light or sound sensitivity
  - Snoring and sleep disturbances—nocturnal breathing issues, witnessed apneas, and daytime somnolence

### *External Nasal Examination*

Begin by inspecting the external nose. This is particularly relevant in patients presenting with nasal trauma. The external examination provides information about the structural

stability of the nasal bones and nasal cartilages. Note any signs of nasal deviation or asymmetry, swelling, skin changes, or other external deformities. Palpation of the nose and midface can reveal crepitus, tenderness, nasal bone displacement, and fractures of adjacent structures, including orbital, midface, LeFort, or mandibular fractures.[22]

### *Internal Nasal Examination and Anterior Rhinoscopy*

Begin by inspecting the nares with a mobile light source. Initial visual inspection is best done by assessing the nose from a basal view, in which the head is slightly angled superiorly, and the examiner subtly elevates the nasal tip with the thumb of their nondominant hand. This view allows evaluation of the patency of the nares and gives clues to potential pathologies.

It is difficult to examine the entire nasal cavity and nasopharynx without invasive diagnostic tools, such as rigid or flexible nasal endoscopy; however, anterior rhinoscopy allows for a limited evaluation of anterior structures of the nasal cavity (caudal septum, inferior turbinate, nasal floor, and occasionally the middle turbinate). Anterior rhinoscopy offers significant utility within the in-office or bedside setting, as it allows clinicians to obtain objective examination findings that delineate various nasal pathologies without having to resort to more invasive testing or referral to a specialist.

The tools needed for anterior rhinoscopy include a nasal speculum, penlight or headlight, and Frazier suction device to suction blood or mucus (optional). Nasal specula have been in use for millennia, with the first documented prototypes being from ancient Hindu texts in the 6th century BC. Modern versions rely on a similar U-shaped or Y-shaped design.[23] If a nasal speculum is not readily available at your facility, using an otoscope for anterior rhinoscopy has similar sensitivity and specificity in evaluating nasal symptoms.[24]

Introduce the speculum into the nasal vestibule with the blades closed. Angle the speculum slightly laterally to ensure that the speculum is not abrading the nasal septum and advance into the nasal cavity. Gently open the speculum. With the head in a neutral position, the examiner should be able to see the inferior turbinate laterally and the septum medially (**Fig. 3**A,B).

When examining the septum, take note of any deviation or spurs (deformities of the septum that create an airway obstruction). Septal deviation is the most common cause of nasal obstruction.[25] Other findings to note include prominent vasculature or evidence of recent bleeding, dryness/crusting of the mucosa, septal perforation, and septal hematoma in patients presenting with trauma. When examining the inferior turbinate, take note of its size, as well as the color and character of the turbinate mucosa. Inferior turbinate hypertrophy is the 2nd most common cause of nasal obstruction and can be due to allergies or inflammatory changes. The color and character of turbinate mucosa offer clues into the general health of the nasal cavity; pale and boggy mucosa with a 'blueish tint' is associated with allergic rhinitis (**Fig. 4**), while erythematous mucosa tends to be associated with non-allergic rhinitis.

Lastly, when examining the middle turbinate and middle meatus, mucus can frequently be seen, particularly in patients presenting with symptoms of sinusitis, rhinorrhea or post-nasal drip. Take note of the color and character of mucus if present. Clear, watery mucus is typically associated with allergies or upper respiratory infection. Green or yellow mucus can be associated with infection (bacterial or viral) or mucus stasis, secondary to functional obstruction or a foreign body. Mucopurulent drainage (**Fig. 5**) is thick, white mucus classically associated with CRS.[26] In cases of severe nasal polyposis, anterior rhinoscopy may identify polyps. Polyps can be difficult to differentiate from normal tissue; however, they are generally mobile with a

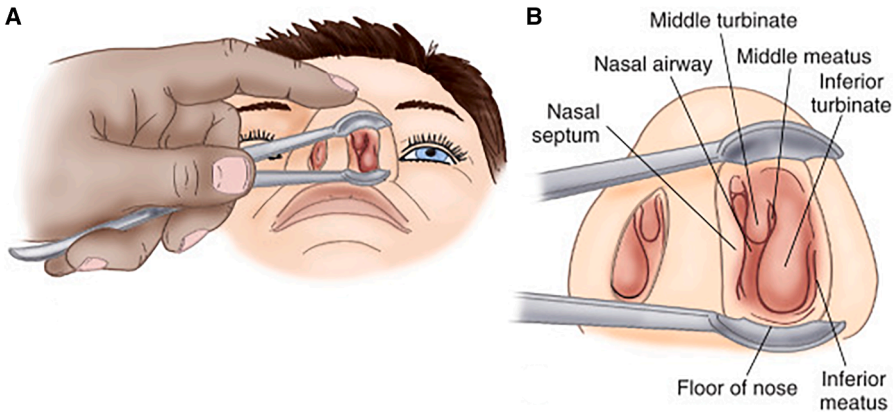


**Fig. 3.** (*A*) Inspecting the nasal cavity with a nasal speculum. (*B*) View of the nasal mucosa and important anatomic structures on anterior rhinoscopy. (*From* Seidel and colleagues, 2006.)

smooth, gray, and semi-translucent appearance. Polyps most commonly originate from the middle meatus on physical examination.[27]

## ORAL CAVITY AND OROPHARYNX

The oral cavity and oropharynx are integral in speech, swallowing, and respiration. Disorders of these regions can range in severity from benign inflammatory conditions to life-threatening malignancies and range in acuity from slow growing lesions to acute bleeding with airway compromise. A thorough physical examination of the oral cavity and oropharynx is essential for detecting infections, neoplasms, manifestations of systemic disorders, and structural abnormalities.

### *Patient History*

The history for patients presenting with oral cavity or oropharyngeal pathology must include any changes to speech, swallowing function, and respiration, as well as a

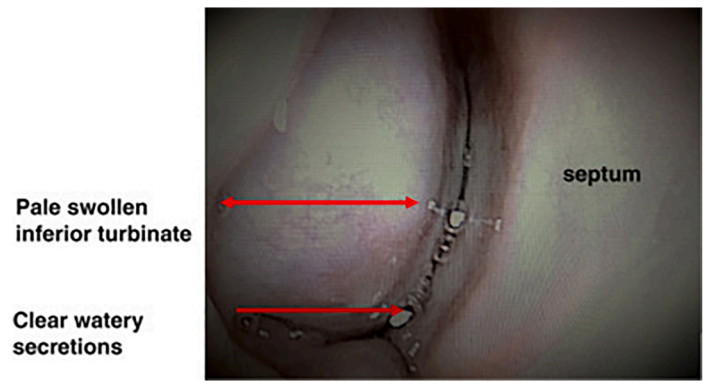


**Fig. 4.** Physical examination findings in allergic rhinitis. Anterior rhinoscopy confirms rhinitis with a pale, swollen inferior turbinate causing nasal congestion. Abundant clear watery secretions are visible. (Harsha H Kariyawasam, Giuseppina Rotiroti, Allergic Rhinitis, Editor (s): Sam M Janes, Encyclopedia of Respiratory Medicine, 2nd Edition, Academic Press, 2022.)

**Fig. 5.** Purulent drainage from the left middle meatus as seen on anterior rhinoscopy. (Lee Goldman, MD and Andrew I. Schafer, MDGoldman-Cecil Medicine, 2-Volume Set, Edition 26, Elsevier, 2019.)

review of patients' dental hygiene. Additionally, a social history is important as smoking, alcohol, chewing tobacco, and betel quid are all risk factors for H&N cancer.[28]

- General symptoms:
  - Painful lumps or lesions in the mouth or throat
  - Odynophagia
  - Dysphagia
  - Dysphonia (vocal roughness, breathiness, weakness, and strain)
  - Dryness of mouth or excessive salivation
  - Unexplained weight loss or fatigue
- Dental or gingival symptoms:
  - Bleeding from the gums
  - Change in color or texture of mucosa, gingiva, or tongue
  - Tooth pain or difficulty opening the mouth
- Social history
  - Tobacco use history (including chewing tobacco)
  - Alcohol use history
  - Prior radiation history
  - Prior exposure to human papilloma virus (HPV) (particularly important for oropharyngeal cancers)

### *Oral Cavity and Oropharyngeal Examination*

The primary screening tool for oral cavity cancer is a comprehensive physical examination. The subsites of the oral cavity (**Fig. 6**) include the lips, oral tongue (anterior two-thirds), hard palate, buccal mucosa, upper and lower alveolar ridges, floor of mouth, and retromolar trigone. An evaluation of the oral cavity includes inspection of the mucosa at each of these subsites for any abnormalities, including discoloration (leukoplakia or erythroplakia) and ulceration. When performing this examination, the patient should be positioned at or below the eye level of the examiner, typically in a

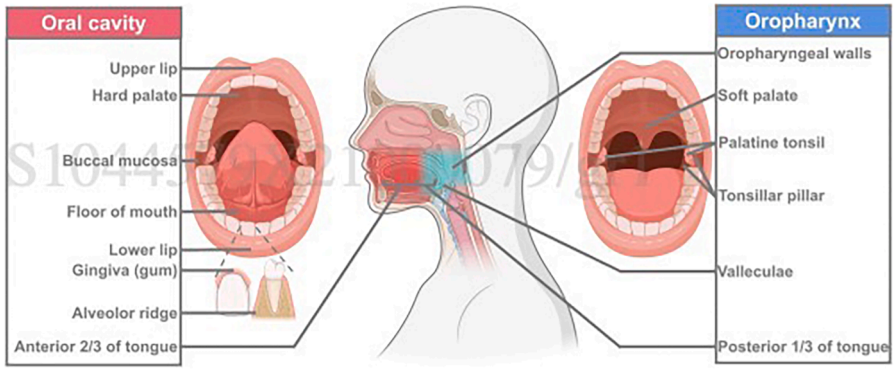


**Fig. 6.** Subsites of the oral cavity and oropharynx. (Leanne L. Leung et al., Profiling of extracellular vesicles in oral cancer, from transcriptomics to proteomics, Seminars in Cancer Biology, 74, 2021, 3-23, https://doi.org/10.1016/j.semcancer.2021.01.002.)

seated position. A headlight is preferred as it allows for visualization in addition to bimanual palpation of the oral cavity structures. The patient is asked to first extend the tongue and then move it toward each quadrant of the mouth to examine the entirety of the tongue surface. The cheek is retracted with a tongue blade or gloved finger to place this mucosa on tension and improve visualization. Any abnormalities or painful lesions subsites should be palpated to evaluate for nodularity, firmness, or submucosal extension.

Much of the oropharynx can be visualized with the assistance of a tongue blade. Subsites of the oropharynx (see **Fig. 6**) include the base of tongue (posterior one-third), palatine tonsils, soft palate and uvula, and the pharyngeal walls. Similar to the oral cavity, visual inspection of each of these subsites should be performed first. The tongue will often need to be compressed downwards with a tongue blade. Asking the patient to say "aah" will contract the soft palate and uvula for improved visualization of the pharyngeal walls. Deviation of the uvula at rest may suggest a space-occupying lesion, for example, peritonsillar abscess or mass. Dynamic deviation of the uvula to one side may suggest a neurologic weakness, such as a vagal nerve injury. The size of the tonsils may be graded on a scale of 0 to 4, with 0 indicating absent tonsils and 4 indicating "kissing" tonsils (**Fig. 7**).[29]

Flexible fiberoptic or indirect laryngoscopy with use of a dental mirror permits examination of structures that cannot be adequately visualized on the standard H&N examination. Any patients complaining of persistent dysphonia, odynophagia, dysphagia, or a new neck mass should be promptly referred to an otolaryngologist to complete this portion of the examination.

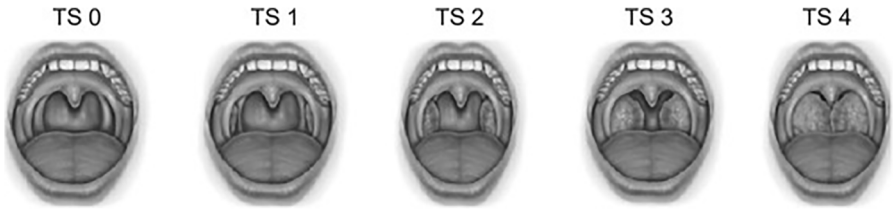


**Fig. 7.** Grading tonsil size. (Friedman M, Ibrahim H, Bass L. Clinical Staging for Sleep-Disordered Breathing. Otolaryngology–Head and Neck Surgery. 2002;127(1):13-21. https://doi.org/10.1067/mhn.2002.126477.)

## NECK AND SALIVARY GLANDS

Palpation of the neck and major salivary glands should be performed on every patient. A complex system of roughly 300 lymph nodes is responsible for the lymphatic drainage of the upper aerodigestive tract, which occurs in a relatively predictable pattern. This pattern of drainage is beyond the scope of this article; however, it should be noted that palpable neck masses in adults should be considered pathologic until proven otherwise. Lymph nodes that feel fixed to surrounding tissues or are significantly enlarged should prompt imaging (typically computed tomography [CT] of the neck with contrast) and urgent referral to an otolaryngologist.

### *Patient History*

History begins by inquiring about prior surgeries or traumatic injuries, a personal/family history of malignancy, and any functional changes, such as reduced neck range-of-motion or development of dry mouth. Prior radiation therapy to the head or neck should be noted as specific post-radiation changes are common, including skin thickening, fibrosis, muscle atrophy, and xerostomia.[30] A history of H&N cancer should raise the level of concern if any enlarged lymph nodes are palpated, while a recent viral illness may provide an explanation if bilateral, tender lymphadenopathy is appreciated. Commonly, neck masses are identified first by the patient and brought to the attention of the provider. When this occurs, care should be taken to ensure that a comprehensive examination of the neck is performed to avoid missing concurrent abnormalities.

### *Physical Examination of the Neck*

The neck examination begins with inspection of the overlying skin to look for any scars, lesions, skin changes, or asymmetry. Depending on the patient's body habitus, enlarged lymph nodes or masses may be initially appreciated on visual inspection alone. The patient should be asked to swallow while the examiner observes upward movement of the thyroid gland. The thyroid gland should be systematically palpated, assessing the right and left lobes, as well as the isthmus. This can be done from an anterior or posterior approach (**Fig. 8**A – B) and the gland's size, presence of discrete nodules, and tenderness should be noted. Generally, the thyroid is difficult to palpate in the absence of prominent nodules or a goiter. Palpate the trachea and thyroid cartilage to check for airway deviation. The carotid pulse should be palpated bilaterally,

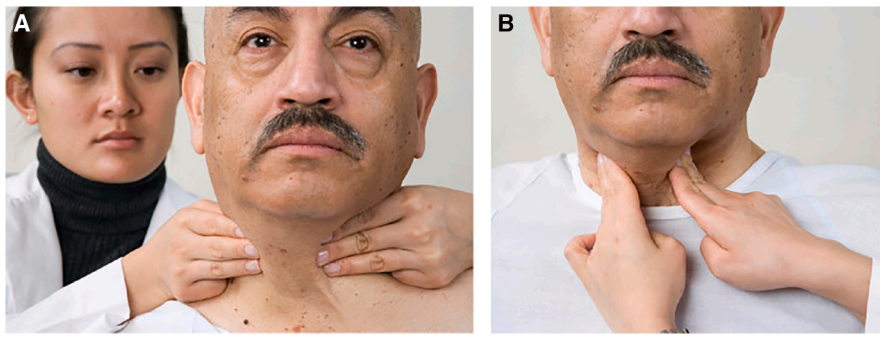


**Fig. 8.** Palpation of the thyroid gland. You can see that the examiner is displacing the gland toward the midline with the left hand while palpating the gland with the right hand. (*A*) Posterior approach. (*B*) Anterior approach. (Susan Fickertt Wilson, Jean Foret Giddens, Health Assessment for Nursing Practice, 8th Edition, Elsevier, 2025.)

taking care not to compress both sides simultaneously to avoid compromising cerebral circulation. Finally, the anterior, lateral, and posterior neck should be palpated for lymphadenopathy, tenderness, or masses, systematically assessing each cervical lymph node chain (Fig. 9). Normal lymph nodes should be small (<1 cm), mobile, and nontender. This methodic approach ensures that abnormalities are detected early and properly evaluated via imaging or specialist referral.

### *Physical Examination of the Salivary Glands*

There are 3 paired major salivary glands—the submandibular, sublingual, and parotid glands (Fig. 10). The submandibular and parotid glands can be best examined by palpation and observation of salivary flow during palpation of the gland. The parotid gland resides in the cheek overlying the lateral surface of the mandibular ramus, just behind the masseter muscle.[31] Secretions from this gland are carried into the oral cavity via Stenson's duct, which drains opposite the upper second molar. Importantly, the facial nerve runs through this gland, and any facial asymmetry or weakness should prompt close examination of the parotid glands.

The submandibular glands reside under the inferior border of the body of the mandible and can be best appreciated via bimanual palpation with one hand on the neck under the jaw and the other on the floor of mouth. Wharton's duct transmits

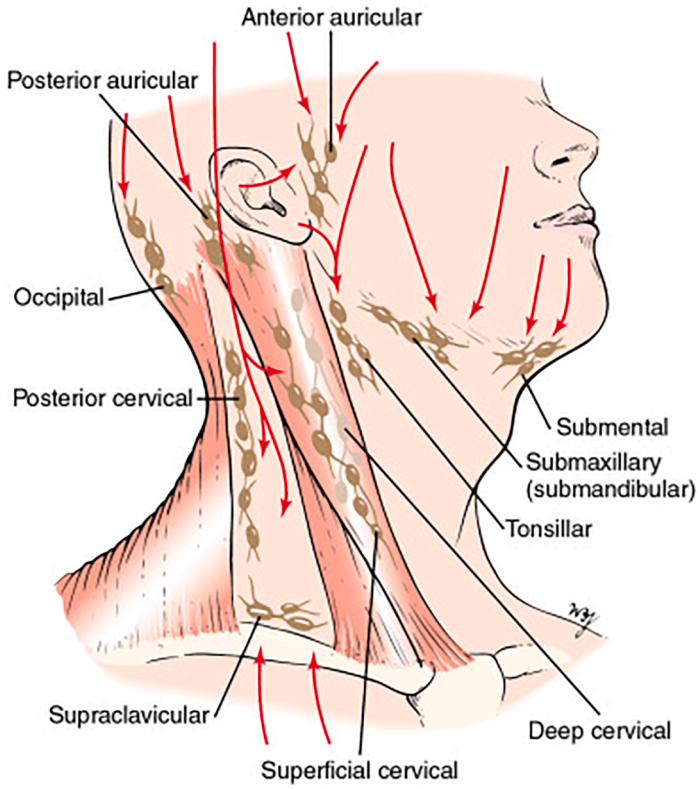


**Fig. 9.** Lymph nodes of the neck. *Arrows* denote the typical route of lymphatic drainage. (Mark H. Swartz, Swartz Textbook of Physical Diagnosis: History and Examination, 9th Edition, Elsevier, 2025.)

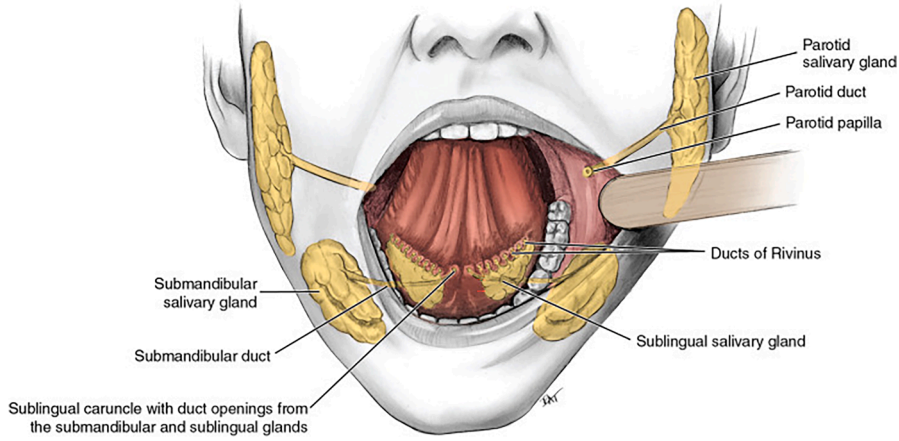


**Fig. 10.** The 3 paired major salivary glands. (Margaret J. Fehrenbach, Susan W. Herring, Illustrated Anatomy of the Head and Neck, 6th Edition, 2020, Saunders.)

saliva from the submandibular gland and empties in a paramedian position on either side of the lingual frenulum under the tongue. Salivary stones are more commonly seen in the submandibular gland due to its dependent location and increased mucoid content of the saliva.[31]

Excreted saliva from both the submandibular and parotid glands should be clear and thin without visible particulate matter. Salivary flow can be stimulated by massaging the gland of interest in a posterior to anterior direction along the course of the duct while visualizing the opening within the oral cavity. It can be helpful to first dry the surrounding mucosa around the duct opening with gauze. Failure to excrete saliva on palpation of the gland should raise concern for salivary stones, dehydration, or reduced production of saliva as in certain autoimmune diseases.

### *Cranial Nerve Examination*

A focused cranial nerve (CN) examination provides clues to H&N pathologies. CN I is responsible for olfaction and is largely evaluated through patient report. Acute anosmia can be secondary to a post-viral sequela; however, chronic anosmia can raise concerns for CRS or more sinister pathologies, such as anterior skull base tumors. Deficits in CN II and the nerves of extraocular movement (CN III, IV, and VI) cause visual field defects, ophthalmoplegia, or diplopia. When patients present with these defects and have concomitant sinus or orbital symptoms, prompt imaging is warranted to evaluate for advanced sinus disease or space-occupying lesions.

CN V provides sensory innervation to the face, while CN VII provides motor innervation to the face. While isolated unilateral numbness or facial weakness has a broad differential, malignancy must always be considered. Acute unilateral facial weakness is most commonly from Bell's Palsy;[32] however, chronic, progressive facial nerve weakness warrants imaging and Ear, Nose, and Throat (ENT) referral to rule out a malignancy. Of note, iatrogenic facial nerve weakness can be seen after ENT surgery (eg, parotidectomy).[33] CN VIII deficits manifest as hearing loss and/or vertigo. While most forms of hearing loss and vertigo are due to inner ear pathology, retrocochlear pathology involving CN VIII should always be considered in patients with asymmetric sensorineural hearing loss. This is best evaluated with MRI.

CN IX and X are involved in speech and swallow mechanisms and deficits are associated with dysphagia and dysphonia. Any new or progressive dysphonia lasting longer than 2 w should be evaluated with laryngoscopy to evaluate for structural lesions or impaired vocal cord mobility. Patients presenting with any sort of neck mass and dysphonia/dysphagia should be evaluated for malignancy.[34] Weakness of CN XI or XII is often secondary to iatrogenic injury after neck dissections or surgeries involving the floor of mouth/submandibular space, respectively. In patients without prior neck surgery, deficits of CN XI and XII should raise concern for skull base or parapharyngeal space malignancy, particularly when associated with other lower CN deficits.[35]

## VOICE AND AIRWAY

Assessment of the voice and airway is a critical component of the H&N examination, particularly in the acute care setting. Stridor is a high-pitched breath sound, often monophasic but occasionally biphasic, caused by upper airway narrowing/obstruction. Inspiratory stridor is indicative of supraglottic airway obstruction, such as epiglottitis, laryngomalacia, or a supraglottic mass. Biphasic stridor is indicative of glottic or subglottic obstruction, as can be seen in bilateral vocal fold paralysis or subglottic stenosis. Expiratory stridor is uncommon but may be seen in tracheal stenosis or an airway foreign body.[36] Stridor coupled with increased work of breathing is suggestive of impending airway compromise. Increased work of breathing is indicated by intercostal retractions, tripod posturing, or use of accessory neck muscles and nasal flaring. In such patients, securing the airway should be the immediate priority.

In patients with a more subacute presentation, evaluating vocal quality can provide helpful information. A breathy voice is indicative of incomplete closure of the vocal cords during phonation, known as glottic insufficiency, and can be due to a unilateral vocal fold paralysis; whereas a rough or strained voice can be secondary to a variety of glottic lesions, irritation or inflammation.[32] Lastly, a “hot-potato” voice describes thick, muffled speech indicative of oropharyngeal swelling. This is commonly seen in patients presenting with peritonsillar abscess or supraglottitis.[37] This should prompt thorough examination of the oral cavity and oropharynx along with obtaining imaging and/or ENT consultation for flexible laryngoscopy.

## SUMMARY

Performing a comprehensive physical examination of the H&N is within the scope of a hospitalist/internist. While a patient’s history should guide attention to subsites of the H&N, a systematic approach is essential to ensure all critical structures are thoroughly evaluated. Utilizing an otoscope, nasal speculum, tongue blade, and bright penlight or headlight is essential for adequate examination. Pursuing a thorough and methodic H&N examination results in improved diagnostic accuracy, early disease detection, and optimal patient-care.

## CLINICS CARE POINTS

- If a nasal speculum is not readily available at your facility, using an otoscope for anterior rhinoscopy has similar sensitivity and specificity in evaluating nasal symptoms.
- When an inpatient develops hearing loss, it may be due to OME as a result of nasogastric tubes or nasopharyngeal inflammation; it is easily diagnosed on otoscopy by air-fluid level or serous fluid behind the tympanic membrane. The tympanic membrane itself is not bulging or erythematous.

- Any patient with a singular voice, swallow, or a respiratory symptom should be asked about all 3 symptoms in detail. These 3 functions are intimately associated and any 1 dysfunction should prompt evaluation of the other 2.
- Unilateral CN deficits are suggestive of a structural lesion or traumatic injury.
- A breathy voice is indicative of incomplete closure of the vocal cords during phonation and can be due to a unilateral vocal fold paralysis.

## DISCLOSURES

The authors have nothing to disclose.

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