


AMERICAN ACADEMY OF  
OTOLARYNGOLOGY  
HEAD AND NECK SURGERY  
FOUNDATION



Westin Convention Center  
Pittsburgh  
April 24-27, 2014

**Complete Head & Neck Exam**  
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**Complete Head & Neck Exam**

Financial Disclosure – no financial relationship related to this lecture.



Fourth Annual ENT for the PA-C | April 24-27, 2014 | Pittsburgh, PA

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**Complete Head & Neck Exam**  
Learning Objectives

- Use of proper **equipment**
- Discuss efficient and **thorough exam**
  - Systematic approach to H&N exam
- Anatomy - *Visual reference normal versus normal variants versus abnormal physical findings*
  - Head
  - Ears\*
  - Nose (Sinuses)\*
  - Mouth\*
  - Neck\* (Inflammatory, Neoplastic, & Congenital)
    - Lymph nodes
    - Thyroid gland\*
    - Neoplasms\*
- Exam pearls / general considerations

\*Foundation for additional lectures covered separately in program

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### Additional Resources

**The ENT Exam Video Series<sup>SM</sup>** depicts how to perform a thorough examination of the ear, oral cavity, face, nose, neck, nasopharynx, and larynx. Images and video of normal anatomy, normal variances, and common abnormalities have been added to enhance the learning experience.

- Episode 1: The Ear Exam
- Episode 2: The Oral Cavity and Neck Exam
- Episode 3: The Face and Nose Exam
- Episode 4: The Nasopharynx and Larynx Exam

<http://www.entnet.org/EducationAndResearch/The-ENT-EXAM.cfm>

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### Examination of the Head and Neck

- The head and neck exam is not a single, fixed sequence. There are infinite approaches and sequences. Find which works best for you!
- Repetitive, sequential and systematic approach is best to avoid missing a diagnosis!
- Don't be afraid/embarassed to ask patient about abnormalities.
- Different portions are included depending on the examiner and the situation.
- *Neurological exam will not be discussed.*
- *AAO-HNS Video Sequential Demonstration*



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### Equipment Needed

- An Otoscope
- Nasal Speculum
- Tongue Blades
- Cotton Tipped Applicators
  - Gauze



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## Equipment Needed

- Examination Gloves (latex/synthetic)
- Bright light (Head light / mirror)
  - Lacrimal Probe Dilator
    - Ruler
  - Fiberoptic endoscope



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## History

- A quick word about history....head & neck abnormalities may present at any age and the differential diagnosis is broad for both benign and malignant processes.
- Metastatic disease to the cervical lymph nodes is the most common type of cancer with 85% arising from an upper aerodigestive tract primary, 10% from infraclavicular tumors and 5% are unknown primaries.
- Key information like age, location, duration, personal habits and contributing factors are all an important part of a thorough head & neck exam because they let the examiner focus on areas of concern.

*Pain, infection, prior cancer, exposure to TB and animals*

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## History

- Duration
  - Days -  $\leq 7$  days = inflammatory
  - Years -  $\geq 7$  years = congenital
  - Weeks - Months = malignant
- Contributing Factors
  - Age
  - Hoarseness of Voice
  - Weight loss
  - Hemoptysis
  - Dysphagia / Odynophagia
  - Respiratory distress / Shortness of Breath
  - Halitosis
- Pain
  - Otalgia; very important sign, the vagus nerve has cutaneous intervention in ear and pharynx.
  - Odynophagia. Pain on swallowing may be a sign of possible throat cancer from lateral pharyngeal wall and tonsillar region.

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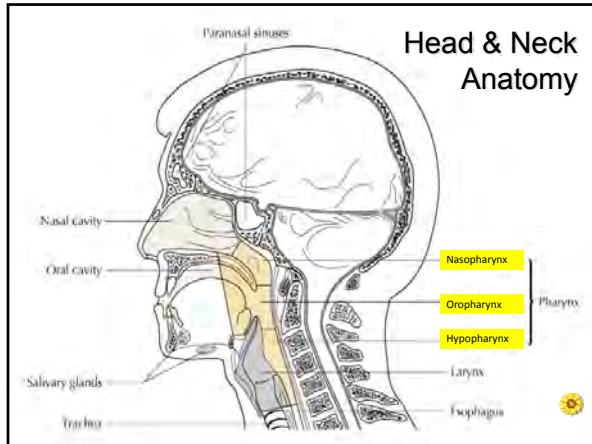
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### Examination of Head

- Look for scars, lumps, rashes, hair loss, or other lesions. *Measure all lesions!*
- Look for facial asymmetry, involuntary movements, or edema.
- Palpate to identify any areas of tenderness or deformity.
- Again, don't be afraid or embarrassed to touch patient and ask about abnormalities.




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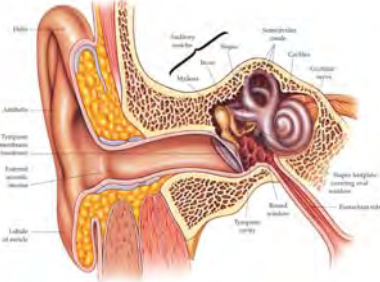
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### Examination of Ear



- Cerumen**
- Otitis Media**
- Otitis Externa**
- PE Tubes**
- Preauricular Skin Tag**
- Keloids**
- Preauricular Sinus Cyst**
- Perichondritis**
- Auricular Hematoma**
- TMJ**
- Unilateral Otitis Media**

\*"Ear, Nose & Throat" anatomical chart, Anatomical Chart Company, a division of Wolters Kluwer Health

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### Examination of Outer Ear



Atresia external auditory canal – congenital or acquired – ASK!

Preauricular skin tags are associated with permanent hearing loss in infants\*. Cosmetic and may be removed surgically.

Keloids are more common in darker skinned patients and result from hypertrophic scarring.

\*PEDIATRICS Vol. 122 No. 4 October 2008

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### Examination of Outer Ear



Pre-auricular Sinus

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### Examination of Outer Ear

Perichondritis – an infection of the skin and tissue surrounding the cartilage of the outer ear. Usually painful & sometimes caused by trauma

- MCC *Pseudomonas*
- TX Cephalosporin, or Fluroquinolone (I&D only if fluctuance)



Auricular Hematoma- associated with trauma. (cauliflower ear)  
MCC *Staph. Aureus, Pseudomonas*  
TX I/D, Cephalosporin, or Quinolone  
Trauma to ear lobe when an earring is torn free




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## Examination of Outer Ear

**Temporal Mandibular Joint Dysfunction (TMJ)** inflammation of the jaw joint that may present as an "ear ache" or "headache". This is a cycle of inflammation that causes referred pain to the ear and head. *Pain is reproducible with mouth opening and physical exam is otherwise normal without evidence of infection.*

**Symptoms may include:**

- Ear pain
- Jaw popping/ clicking
- Locking of the jaw or Trismus
- Temple/cheek pain worse chewing
- Frequent head/neck aches



**Treatment aimed at breaking the cycle of inflammation.**

- Nonsteroidal anti-inflammatories (NSAID)
- Mild muscle relaxants
- Decreased mastication – avoid gum chewing.
- Warm compress to jaw joint
- Relaxation and stress reduction

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## Examination of Middle Ear

Inspect and palpate the auricles and mastoid process for tenderness and deformity.

Pull the ear upwards and backwards to straighten the canal before inserting otoscope.

Insert the otoscope to a point just beyond the protective hairs in the ear canal. Use the largest speculum that will fit comfortably.

**Anchor** otoscope - hold the otoscope with your thumb and fingers so that your hand makes contact with the patient.




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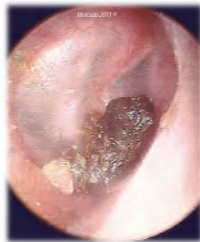
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## Examination of Middle Ear

- Inspect the ear canal and middle ear structures locating landmarks and noting any redness, drainage, or deformity.
- Insufflate the ear and watch for movement of the tympanic membrane (Valsalva).
- Visualize membrane and identify landmarks.
- Cerumen impaction** is sometimes mistaken for foreign bodies and even middle ear infections.
- Ears come in pairs... *I start with good ear and repeat for the other ear.*




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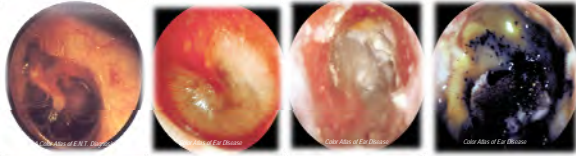
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### Examination of Middle Ear



Differentiate between Serous Otitis Media and Acute Otitis Media.  
Differentiate between Bacterial Otitis Externa and Fungal Otitis Externa.

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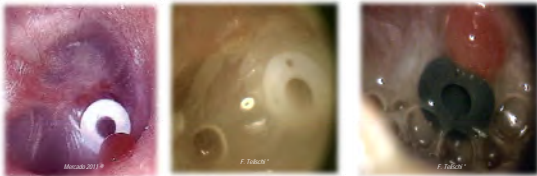
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### Examination of Middle Ear



Normal Pressure Equalization Tubes/Tympanostomy Tubes/Ventilation Tubes  
Otorrhea through a patent ventilation tube.

Otorrhea from granulation tissue

More on **Common Ear Problems**

\*Photo courtesy Dr. Fred Telischi, University of Miami, Ear Institute

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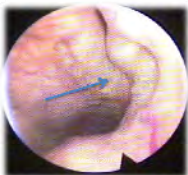
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### Unilateral Otitis Media



**Unilateral** Otitis Media in adults should raise suspicion of Nasopharyngeal mass blocking Eustachian Tube orifice which can cause unilateral middle ear effusion.

- 1.5:100,000 patients, more common in Asian and Alaskan people 20:100,000
- Top image normal Torus Tubarius
- Bottom image opening covered with mucosal tissue.



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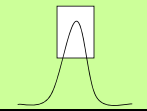
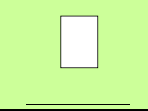
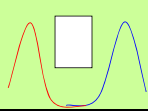
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### Examination of Middle Ear

Tympanometry Testing		
		
Normal Type "A"	Flat Type "B"	Negative/Positive Pressure Type "C"
A peaked tympanogram indicates normal tympanic function or that the tube is clogged or has been extruded with an intact TM.	A flat tympanogram with a small volume indicates a nonfunctioning tube with a middle ear effusion.	Negative pressure (red) suggests poor Eustachian tube function. Positive pressure (blue) is seen with Valsalva.

AAO and AAP recommend the use of tympanometry to confirm tympanic membrane mobility.

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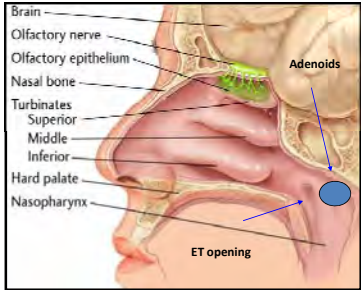
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### Examination of Nose

- Nasal Obstruction*
- Nasal Valve Collapse*
- Septal Deviation*
- Turbinate Hypertrophy*
- Septal Spur*
- Nasal Polyps*
- Adenoid Hypertrophy*
- Nasal Fracture*
- Sinusitis*



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### Examination of Nose

- Examine the nose using bright light and nasal speculum.
- Tilt the patient's head back slightly. Ask them to hold their breath for the next few seconds.
- Insert the nasal speculum into the nostril, avoiding contact with the septum.
- Inspect the visible nasal structures and note any swelling, redness, drainage, or deformity.
- Repeat for the other side.



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### Examination of Nasal Airway

- Nasal breathing can be influenced by the nasal valve, septum and turbinates.
- The examination of the nasal valve should be performed during inspiration.
- Nasal valve collapse occurs due to weakened nasal side walls.
- Septal Deviation, either congenital or acquired may also cause nasal obstruction.



Bilateral nasal valve collapse



Septal deviation

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### Examination of Nasal Airway



Turbinate hypertrophy



Septal spur

Fiberoptic Nasal endoscopy is an invaluable method to evaluate the upper airway.

Diagnostic Nasal Endoscopy Can Be Performed with Rigid (0 or 30 degree) or Flexible Endoscopes

Turbinate Hypertrophy –congenital, inflammatory (chemical or environmental)

Septal Spur – congenital or trauma

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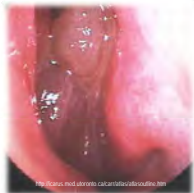
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### Examination of Nasal Airway



Nasal Polyps are secondary to chronic mucosal inflammation. Distinguish from turbinates.

- Treatment is aimed at eliminate cause, i.e, allergen/irritant.
- Oral/Topical steroids
- Surgical removal

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### Examination of Nasal Airway

Adenoids are described based on % of obstruction

- No obstruction
- Partial (percentage) obstruction
- Complete obstruction
- Lateral X-Ray
- Dental Mirror
- Endoscopic view of the nasopharynx showing adenoidal obstruction of the choana.




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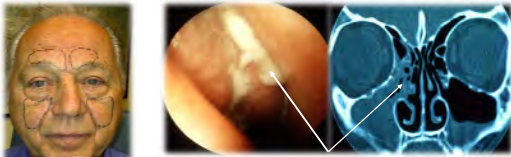
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### Sinus/Headaches

- Diagnosis made by history and physical NOT diagnostic test.
- Differential diagnosis depends on Location and Duration of symptoms.
- Modifying/contributing factors.
- Plain x-rays (waters views) good initial screening to confirm diagnosis.
- CT Scan sinus coronal views– gold standard.
- Culture & Sensitivity – only **AFTER** empiric therapy FAILS.
- ENT – advantage of direct visualization via Fiberoptic endoscopy.



More on Sinus Disease Panel

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### Examination of Mouth

- Oral Malocclusion*
- Gingivitis / Dental Abnormalities*
- Fissured Tongue*
- Ankyloglossia*
- Geographic Tongue*
- Hairy Tongue*
- Glossitis*
- Salivary Gland Disease*
- Torus*
- Ranula*
- Oral Ulceration / Leukoplakia*
- Papiloma*
- Bifid Uvula*
- Cleft Lip/Palate*
- Tonsillar Hypertrophy*




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### Examination of Mouth

Use a tongue blade and a bright light source to inspect inside of mouth. Make special note of tonsil size, buccal folds, lateral tongue, floor of mouth and dentition.

If abnormalities are discovered, use a gloved finger to palpate the anterior structures and floor of the mouth.

Inspect the posterior oropharynx by depressing the tongue and asking the patient to say "Ah." Note any tonsillar enlargement, redness, or discharge.

Ranula - A benign Mucocele occurring in floor of mouth.



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### Examination of Mouth

- Palpate base of tongue.
  - Tongue is anchored to floor of oral cavity posteriorly, and by frenulum anteriorly
  - Dorsal surface covered by thick mucosa that supports the filiform papillae.
  - Lingual tonsillar tissue
- Pay special attention to the lateral borders of the tongue.
- Use a piece of gauze to hold tongue while you inspect lateral borders



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### Examination of Mouth

Tonsillar Hypertrophy - Enlarged tonsils that obstruct airway

- Gag reflex may make tonsils appear larger -
- Panting without use of a tongue blade can relax posterior pharynx and provide better visualization especially in children.



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### Examination of Mouth

Tonsils are subjectively graded on a scale from 0 to 4, 4 being the largest, 0 - Not visible

- 1 - <25% of transverse oropharyngeal space
- 2 - 25 to 49% of transverse oropharyngeal space
- 3 - 50 to 74% of transverse oropharyngeal space
- 4 - >75% of transverse oropharyngeal space




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### Examination of Mouth

*Tonsillitis – Asymmetry – Concretion*

#### Tonsillitis

- *Streptococcus pyogenes* (group A beta-hemolytic)
- *Streptococcus pneumoniae*
- *M. catarrhalis*
- *Staphylococcus aureus* \* Most common pathogen

**Asymmetry** should raise suspicion of malignancy

**Tonsillar concretions** may cause halitosis




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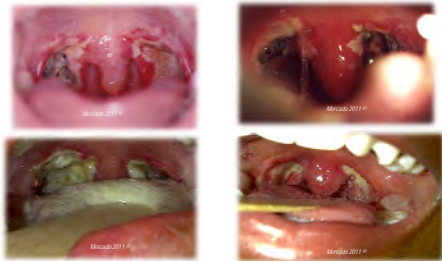
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### Examination of Mouth



#### Post-Op Tonsillectomy

Normal grey and white eschar over tonsillar fossa (7-10 days).




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## Examination of Mouth

Torus palatini -bony hard midline palatal swelling

Torus mandibularis: bony hard lesions arising from the inner aspect of the mandible.

Neither requires TX unless they interfere with dentures.




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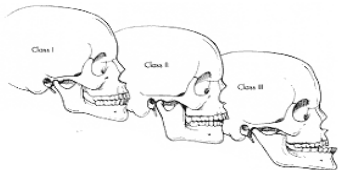
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## Examination of Mouth



Oral Malocclusion-  
Definitions of the normal and abnormal bite.

**Class I:** normal

**Class II:** lower teeth too far behind upper teeth; usually associated with a recessed lower jaw (micrognathia).

**Class III:** lower teeth in front of upper teeth; usually associated with a recessed upper or protrusive lower jaw.




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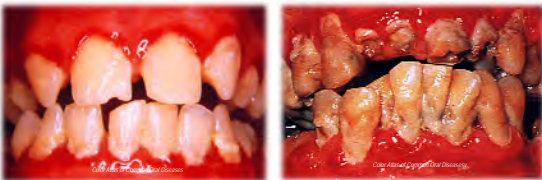
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## Examination of Teeth



Teeth and gums 32 adult teeth: 4 incisors, 2 canines, 4 premolars, 6 molars in each jaw.

Gingiva attach to the alveolar tissue and normally cover the root and neck of each tooth.

Gingivitis -Mild vs. Chronic. Remove dentures and partials

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## Examination of Teeth

### Periodontal Disease/ Abscess

Cervical Cellulitis- **Lateral** neck edema secondary to dental abscess in lower molars

Ludwig's Angina-**Midline** "woody" tenderness

MCC *Staph. aureus*, *Strep. pyogenes* TX  
Removal of tooth, I & D Clindamycin or Unasyn IV




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## Examination of Mouth



The incidence of **bifid uvula** in the general population has been reported as 1 in 76 individuals

Consider submucous cleft palate. Total Adenoidectomy is contraindicated because of **velopharyngeal insufficiency**

Partial adenoidectomy recommended because leaves a midline mass of adenoid tissue for velopharyngeal closure (closing the nasopharyngeal space).



Over time, patients with submucous clefts who have not undergone adenoid removal, can develop **hypernasality** as the natural process of involution (atrophy) of the adenoid mass occurs. Where this does not occur over time, the palate has adapted to the gradual change in the architecture of the pharynx. By contrast, a dramatic change in the diameter of the pharynx with adenoidectomy does not permit the shorter submucous cleft palate to adapt.

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## Examination of Mouth



**Ankyloglossia** (tongue ties) –Short lingual frenulum Interferes with speech when the tongue cannot be fully extended to the lower lip or touch the palate.

**Short Labial Frenulum** attaches to the center of the upper lip and between the upper two front teeth. This can cause a large gap and gum recession by pulling the gums off the bone. A labial frenectomy removes the labial frenulum. Orthodontic patients often have this procedure done to assist with closing a front tooth gap.

TX Frenulectomy or Lingual Lysis

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### Examination of Mouth



*Fissured tongue* - benign condition in which tongue appears "cracked" Common in Down's Syndrome No TX  
Stomatitis – viral inflammation, chemo therapy agents

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### Examination of Mouth



- *Benign inflammatory glossitis* (Geographic Tongue) benign condition thought to be exacerbated by stress, Nutritional deficiency, or Heredity.
- Pattern CHANGES
- No TX

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### Examination of Mouth



"Black" Hairy Tongue - TX Vigorous brushing with abrasive toothpaste and sometimes topical antifungals helps

"White" Hairy Tongue - Abnormal elongation of filiform papillae secondary to increased keratin deposits. Males>Females

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### Examination of Mouth



**Hand-Foot-Mouth Disease** - MCC *Coxsackie A virus* Oral lesions coalesce to form large eroded areas SX include LAD, malaise, fever DX viral cultures & classic palm and sole vascular lesions TX Healing begins in 10 days

**Pemphigus vulgaris** -vesiculobullous disease, Weeping bulla considered autoimmune d/o involving IgG reaction, Oral lesions usually precede skin involvement. Affects 30-50 y/o, males=females .Jews, Mediterranean.

**Nikolsky's Sign** – light lateral pressure applied to a bulla, will cause it to enlarge by extension. TX Steroids

**Aphthous ulcers** -usually solitary lesions, painful best treated with Kenalog in Orabase

More on **Oral Lesions**

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### Examination of Mouth



**Oral Leukoplakia** – clinical term used to describe patches of white patches (keratosis). Found on the mucous membranes of the oral cavity, tongue and other areas of the GI tract and urinary tract. Leukoplakia is **NOT** a specific disease entity, but a diagnosis of exclusion! Sometimes described as precancerous and often associated with smoking.

**Differential Diagnosis** may include candidiasis, lichen planus or malignancy. MCC Squamous cell carcinoma, accounting for 90%

95% of cases pts >40 y/o Most common site- lateral borders of tongue  
TX depends on TNM Staging (XRT, Chemo, Surgery)

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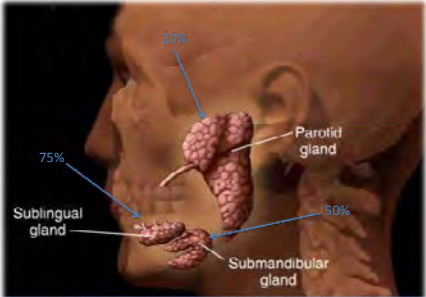
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### Salivary Glands



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## Examination of Salivary Glands

Two paired salivary ducts enter the oral cavity

- Wharton's ducts, from the submandibular glands, open on each side of the tongue's frenulum
- Stensen's ducts, from the parotid glands, open onto the buccal mucosa across from the second molar of the upper jaw.
- The sublingual gland drains through a number of smaller, not readily visible ducts (Ducts of Rivinus).

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## Examination of Salivary Glands

**Sialadenitis** - Inflammation of the salivary glands from nonspecific bacterial infection or blocked excretory ducts. MCC *Staph aureus*. TX cephalosporin. Dilation, sialogouges

- The parotid is the most commonly affected gland with invasion of bacteria from the oral cavity.

More on **Salivary Gland Disease**

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## Examination of Salivary Glands

- **Sialolithiasis** – Formation of salivary stones
- Submandibular (92%)
- Parotid (6%)
- Minor (2%)
  - High mucin content, Alkaline pH, high concentration organic matter and Ca and salts
  - Anatomy of Wharton's duct
- TX dilatation or surgical marsupialization.



One of most common causes of salivary dysfunction

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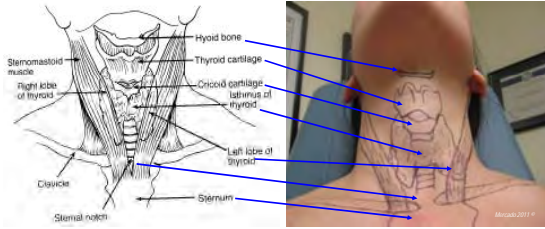
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## Examination of Neck




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## Examination of Neck

- Although frequently benign, a cervical mass is the presenting symptom in 12 to 15% of patients with head & neck cancer.
- Majority of neck masses in patients over 40 years of age are malignant.
- Metastatic disease to the cervical lymph nodes is the most common type of cancer with 85% arising from an upper aerodigestive tract primary, 10% from infraclavicular tumors and 5% are unknown primaries.
- Differential diagnosis of neck abnormalities is based on **location, duration** and **modifying factors** and include *Congenital, Inflammatory, and Neoplastic* etiologies
- Location
  - Triangles of Neck – anterior and posterior neck triangles.
  - Neck Level description of anatomic location level I-VII

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## Examination of Neck



- Anterior Triangle:** Bordered by mandibles and SCM
- **Anterior Cervical** (both superficial and deep): Nodes that lie both on top of and beneath the sternocleidomastoid muscles (SCM) on either side of the neck, from the angle of the jaw to the top of the clavicle. They can be easily identified by asking the patient to turn their head into your hand while you provide resistance.
  - **Drainage:** The internal structures of the throat as well as part of the posterior pharynx, tonsils, and thyroid gland.
- Posterior Triangle:** Bordered by anterior margin of trapezius, posterior margin of the SCM, and superior margin of the clavicle.
- **Posterior Cervical:** Extend in a line posterior to the SCMs but in front of the trapezius, from the level of the mastoid bone to the clavicle.
  - **Drainage:** The skin on the back of the head. Also frequently enlarged during upper respiratory infections (e.g. mononucleosis).

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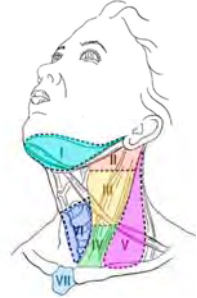
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## Examination of Neck

- **Level I:** Contains the nodes of the submental and submandibular triangles, defined inferiorly by the diaphragmatic muscles.
- **Level II:** Contains the upper jugular nodes from the base of skull to hyoid bone.
- **Level III:** Contains the middle jugular nodes from the hyoid bone to the inferior edge of the cricoid cartilage.
- **Level IV:** Contains the low jugular nodes from the cricoid cartilage to the clavicle.
- **Level V:** Contains the nodes of the posterior triangle that is bounded anteriorly by the sternocleidomastoid muscle and posteriorly by the trapezius.
- **Level VI:** Contains the nodes of the anterior central compartment from the hyoid bone to the manubrium with lateral boundaries being the carotid arteries
- **Level VII:** Contains the superior mediastinal nodes from the level of the superior edge of the manubrium to the innominate vein.




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## Examination of Neck

- Inspect the neck for asymmetry, scars, or other lesions.
- Identify anatomic landmarks.
- Bimanual palpation is essential to evaluate floor of mouth, base of tongue and submandibular gland




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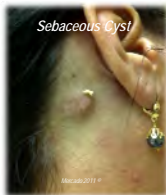
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## Inflammatory Neck Masses

Inflammatory neck masses usually present with erythema, induration, and tenderness. Most common inflammatory neck lesion is *lymphadenitis* secondary to *Staphylococcus* or *Streptococcus*.  
**Cat Scratch Disease** – MCC *Bartonella*. Localized skin lesions w/ LAD. TX macrolide (Biaxin).  
**Mononucleosis** – MCC Epstein-Barr Virus. Generalized LAD, fatigue, fever, splenomegaly.  
**Scrofula** – tuberculosis of the neck, or more precisely, a *cervical tuberculosis lymphadenopathy*. Common in immunocompromised patients. About 95% of the scrofula cases in adults are caused by *Mycobacterium tuberculosis*




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## Neoplastic Neck Masses



- **Neoplastic lesions** may be either primary or metastatic lesions.
- Skin cancer and melanoma of scalp often metastasize to parotid.
- Although the primary site for most tumors which metastasize to the cervical lymph nodes are upper aerodigestive, tumors like testicular, lung, breast, and gastrointestinal may also metastasize to neck.

More on [Head & Neck Surgical Techniques](#)

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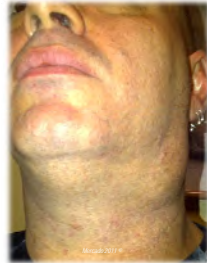
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## Congenital Neck Masses

**Brachial Cleft Cyst** are usually first noticed in the pediatric population, but sometimes are not diagnosed or do not become apparent until adulthood.

- They originate when the pharyngobranchial ducts fail to obliterate during early development. They usually present when they become swollen after a cold or other upper respiratory infection.
- They are characteristically fluctuant and have a cystic feel.
- The most common source is the second branchial cleft. These cysts tend to be just anterior to the sternocleidomastoid muscle.
- Definitive treatment is excision.




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## Congenital Neck Masses



**Thyroglossal duct cysts** remnant tissue left as the thyroid gland descends from the floor of the pharynx, which later becomes the base of the tongue.

Occurs between 4 1/2 and 6 weeks of development. This tract travels either superficial to, through or just deep to the hyoid and reaches the foramen caecum.

These cysts often present after an upper respiratory infection and may not present until the patient is in **young adulthood**.

Midline round soft (sometimes fluctuant) masses at the level of the hyoid or below.

They rise with tongue protrusion.

Treatment is excision of cyst and with the tract (Sistrunk Procedure) and removal of the center portion of the hyoid bone to reduce recurrence.

This operation is best performed after any acute infection has resolved.

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## Lymph Nodes

Lymph nodes are most readily palpable when fighting infections. Infections can either originate from the organs that they drain or primarily within the lymph node itself, referred to as **lymphadenitis**. Infected lymph nodes tend to be: Firm, tender, enlarged and warm. Inflammation can spread to the overlying skin, causing it to appear reddened. If an infection remains untreated, the node may become necrotic, resulting in abscess formation.

Following infection, lymph nodes occasionally remain permanently enlarged, though they should be non-tender, small (less than 1 cm), have a rubbery consistency and none of the characteristics described above or below. It is common, for example, to find small, palpable nodes in the submandibular/tonsillar region of an otherwise healthy individual. This likely represents sequelae of past pharyngitis or dental infections.

Systematically palpate with the pads of your index and middle fingers for the various lymph node groups.

The **deep cervical** chain of lymph nodes lies below the sternomastoid and are difficult to palpate. Hook fingers under the anterior edge of the SCM and have patient bend neck **toward** the side you are examining. Move the muscle backward and palpate for the deep nodes underneath.

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## Lymph Nodes

- Malignancies may also involve the lymph nodes, either primarily (e.g. lymphoma) or as a site of metastasis. In either case, these nodes are generally: Firm, non-tender, matted (i.e. stuck to each other), fixed (i.e. not freely mobile but rather stuck down to underlying tissue), and increase in size over time.
- Diffuse, bilateral involvement suggests a systemic malignancy (e.g. lymphoma) while those limited to a specific anatomic region are more likely associated with a local problem. Enlargement of nodes located only on the right side of the neck in the anterior cervical chain, for example, would be consistent with a squamous cell carcinoma, frequently associated with an intra-oral primary cancer.
- Knowledge of which nodes drain specific areas will help you search efficiently. Note the size and location of any palpable nodes and whether they were soft or hard, non-tender or tender, and mobile or fixed.

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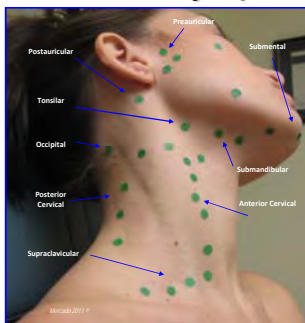
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## Lymph Nodes



1. Preauricular - In front of the ear
2. Postauricular - Behind the ear
3. Tonsillar - At the angle of the jaw Drainage: The tonsillar and posterior pharyngeal regions.
4. Occipital - At the base of the skull
5. Posterior Cervical side and back of neck above and behind SCM Drainage: The skin on the back of the head. Also frequently enlarged during upper respiratory infections (e.g. mononucleosis).
6. Supraclavicular - In the angle of the sternomastoid and the clavicle Drainage: Part of the thoracic cavity, abdomen.
7. Submental - Under the jaw in the midline Drainage: The teeth and intra-oral cavity.
8. Submandibular - Under the jaw on the side Drainage: The structures in the floor of the mouth.
9. Anterior Cervical (both superficial and deep): Nodes that lie both on top of and beneath the SCM on either side of the neck, from the angle of the jaw to the top of the clavicle.




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## Thyroid Gland

The thyroid gland is shaped like a two-inch bow tie and is located in the front of the neck and below the larynx. It is the largest gland in the neck. Its main function is to secrete key hormones that regulate metabolism and other functions such as body heat and bone growth.

It is estimated that 13 million Americans have a disorder of the thyroid. Women are eight times more likely than men to develop a disorder.

Tumors in the thyroid gland are usually benign, but can still cause serious health problems. Benign or malignant, thyroid tumors are often best treated with surgery. Malignant tumors are usually curable when caught early.

[More on Head & Neck Surgical Techniques](#)

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## Thyroid Gland

- Palpate from behind, identify the **cricoid cartilage** with the fingers of both hands.
- Move downward two or three tracheal rings while palpating for the isthmus, then move laterally from the midline while palpating for the lobes of the thyroid.
- When patient swallows, the gland is felt beneath your fingers while the larynx rises and falls. Note the size, symmetry, and position of the lobes, as well as the presence of any nodules. The normal gland is often not palpable.
- If the gland feels firm, is it attached to the adjacent structures (i.e. fixed to underlying tissue... consistent with malignancy) or freely mobile (i.e. moves up and down with swallowing)?
- If there is concern of malignancy, a careful lymph node exam (described above) is important as this is the most common site of spread.



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## Summary

### Examination of the Head and Neck

- The head and neck exam is not a single, fixed sequence. There are infinite approaches and sequences. Find which works best for you!
- Repetitive, sequential and systematic approach is best to avoid missing a diagnosis!
- Don't be afraid/embarrassed to ask patient about abnormalities.
- Complete all portions of exam before moving on.
- Knowledge of anatomy and a good history will narrow differential diagnosis.

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Differential Diagnosis Head & Neck			
Congenital	Neoplastic Malignant	Neoplastic Benign	Inflammatory
Brachial Cleft Cyst	Metastasis	Hemangioma	Lymphadenitis
Dermoid Cyst	Thyroid	Goiter	Deep Neck Abscess
Thyroglossal Duct Cyst	Lymphoma	Lymphangioma	Cat Scratch Disease
Laryngocele	Salivary Gland Tumor	Salivary Gland Tumor	TB/ Scrofula
Ectopic Thyroid Tissue		Lipoma	Sarcoidosis
			Sialadentitis

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## Thank You



American Academy of Otolaryngology Head & Neck Surgery (AAO)  
[www.entnet.org](http://www.entnet.org)



Society of Physician Assistants in Otorhinolaryngology – Head & Neck Surgery (SPA-OHNS)  
**Scholarship**  
[www.entpa.org](http://www.entpa.org)

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No animals or models were harmed in the making of this presentation



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***Diagnosis @ a Glance***



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