

Sick Call Screener Course

Head, Eyes, Ear, Nose, & Throat (HEENT) (2.1)



Enabling Objectives

- 1.7 Utilize the knowledge of head and neck anatomy while assessing a patient with a HEENT complaint
- 1.8 Utilize the knowledge of eye anatomy while assessing a patient with a HEENT complaint
- 1.9 Utilize the knowledge of eye physiology while assessing a patient with a HEENT complaint
- 1.10 Utilizing the knowledge of ears, nose and throat anatomy while assessing a patient with a HEENT complaint
- 1.11 Utilize the knowledge of ears, nose and throat physiology while assessing a patient with a HEENT complaint



Enabling Objectives (Cont.)

- 1.12 Obtain history from patients with common head, eye, ear, nose, and throat complaints
- 1.13 Perform a head, eye, ear, nose and throat examination
- 1.14 State signs and symptoms of common head, eye, ear, nose and throat disorders
- 1.15 State treatments for common head, eye, ear, nose and throat disorders
- 1.16 State Red Flag criteria



Introduction

 This lesson will improve your understanding of and your ability to perform examinations of the head, neck, eyes, ears, nose, mouth and throat

One of the most common examinations



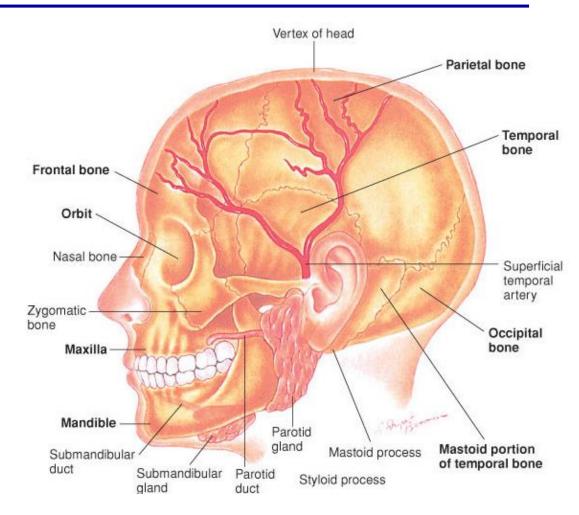
Anatomy of the Cranium

Seven Bones

Bony structures

Facial landmarks

Temporal artery

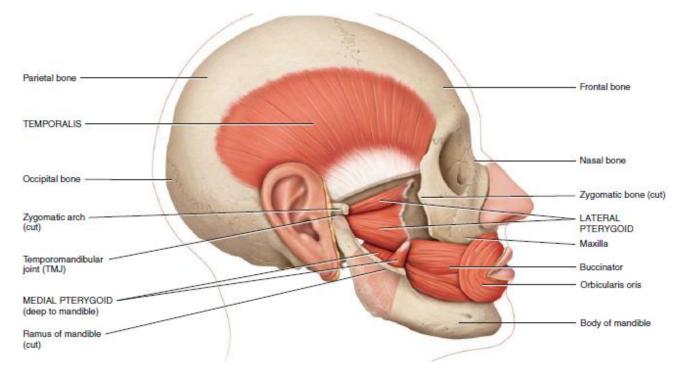


(From Bates' Guide to Physical Examination and History Taking – 12th Ed. 2017, Figure 7-2, www.StatRefl.com)



Anatomy of the Cranium (Cont.)

TMJ



 Muscles of mastication (Chewing)

(From Principles of Anatomy and Physiology, 14th Ed.)



Anatomy of the Neck

 Composed of cervical vertebrae, ligaments, sternocleidomastoid and trapezius muscles

Anterior triangle

Posterior triangle

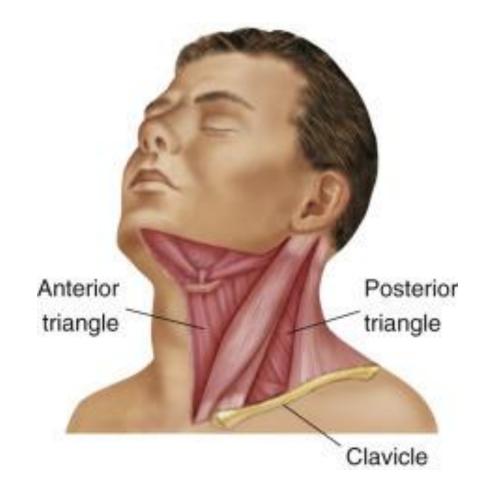
Thyroid

 $\mathbb{R}^3 \qquad \qquad 2.1-2-7$



Anterior Triangle

- Formed by the medial border of the sternocleidomastoid muscles, mandible, and the midline
- Contains hyoid bone, cricoid cartilage, trachea and anterior cervical lymph nodes



(From Seidel's Guide to Physical Examination 9th Ed., 2019, www.clinicalkey.com)



Posterior Triangle

 Formed by the trapezius and sternocleidomastoid muscles and the clavicle

Contains the posterior cervical lymph nodes

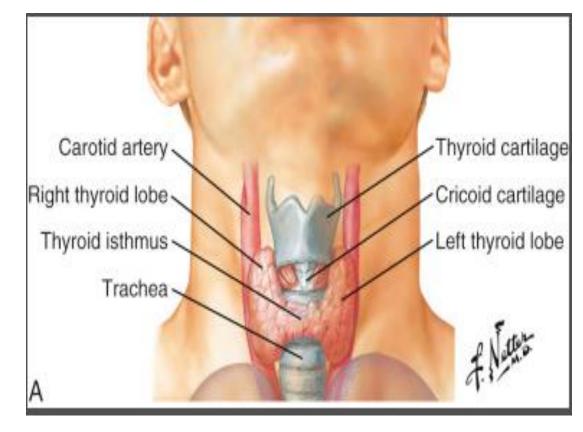
Posterior auricular Preauricular (mastoid nodes) nodes Parotid Occipital nodes Sternomastoid nodes Facial. External jugular Submandibular. Retropharyngeal (tonsilar) Submental Posterior cervical Sublingual spinal nerve chain Suprahyoid node Posterior superficial Thyrolinguofacial cervical chain Anterior deep and superficial cervical Supraclavicular nodes Internal jugular chain

(From Seidel's Guide to Physical Examination 9th Ed., 2019, www.clinicalkey.com)



Thyroid

- Largest endocrine gland in the body, producing two hormones:
 T3 and T4
- Butterfly in shape on each side of the trachea



Loevner, Laurie A, 2011(Modified from www.netterimages.com) www.clinicalkey.com

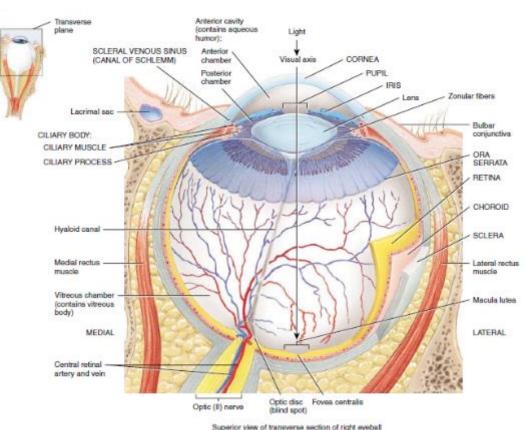


Anatomy of the Eye

General anatomy

Measures 2.5cm in diameter

- Contains three layers:
 - Fibrous tunic
 - Vascular tunic
 - Retina

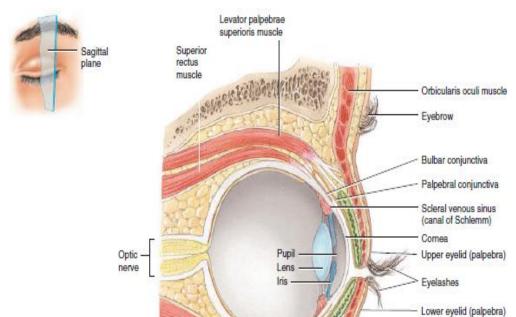


(From Principles of Anatomy and Physiology, 14^{th} Ed.)



Extrinsic Eye Muscles

- Superior Rectus
 - Oculomotor (CNIII)
- Inferior Rectus
 - Oculomotor (CNIII)
- Lateral Rectus
 - Abducens (CN VI)
- Medial Rectus
 - Oculomotor (CNIII)
- Superior Oblique
 - Trochlear (CN IV)
- Inferior Oblique
 - Oculomotor (CNIII)



(a) Sagittal section of eye and its accessory structures

(From Principles of Anatomy and Physiology, 14th Ed.)

Tarsal glands

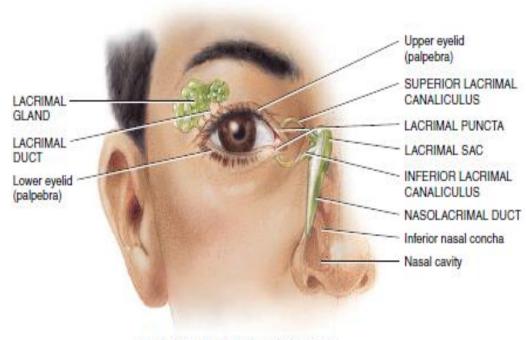
Inferior oblique muscle

Orbicularis oculi muscle



External Eye Functions

- Functions
 - Distribute tears
 - Limit light
 - Protect
- Eyelids
 - Levator palpebrae superioris
 - Occulomotor (CN III)
- Conjunctiva
- Lacrimal Glands



(b) Anterior view of the lacrimal apparatus

(From Principles of Anatomy and Physiology, 14th Ed.)



Internal Eye Functions

- Outer
 - Sclera
 - Cornea
- Middle or Uvea
 - Choroid
 - Ciliary body
 - Iris

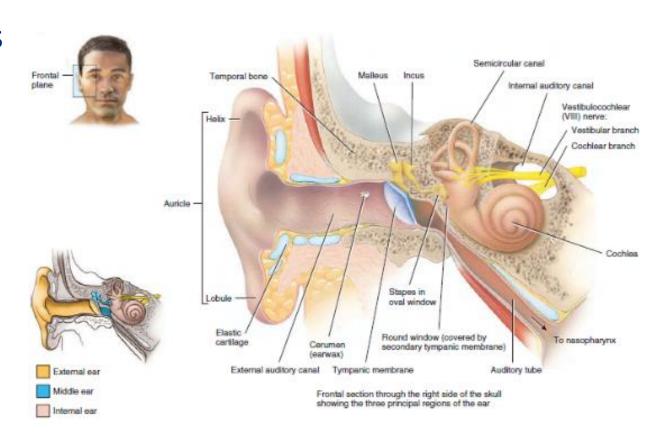
- Inner
 - Retina
 - Optic Disc and Optic Nerve (CN II)
 - Macula Lutea
 - Fovea Centralis
 - Rods
 - Cones



Anatomy of the Ear

Three regions

- External
- Middle
- Inner



(From Principles of Anatomy and Physiology, 14th Ed.)



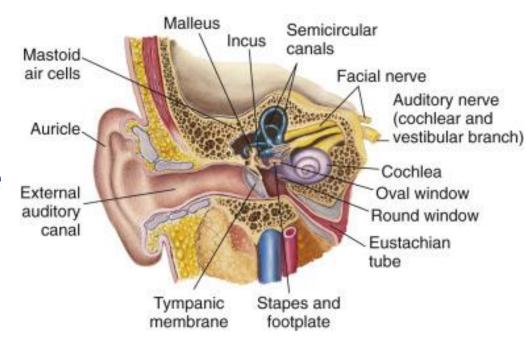
External Ear

Auricle

Auditory Canal

Tympanic Membrane

Mastoid



(From Seidel's Guide to Physical Examination 9th Ed., 2019, www.clinicalkey.com)

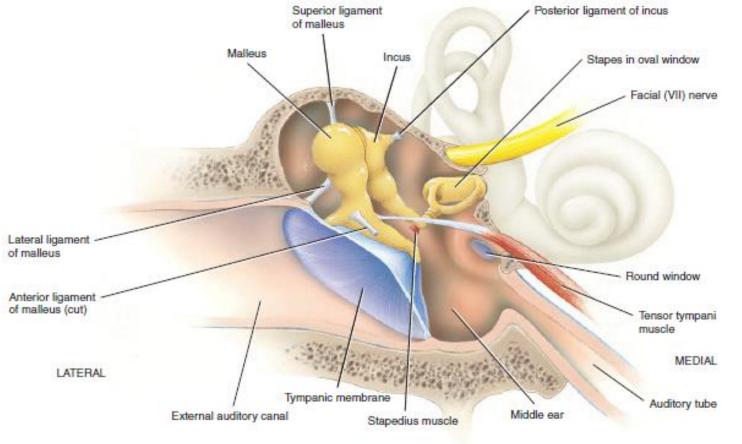


Middle Ear

Malleus

Incus

Stapes



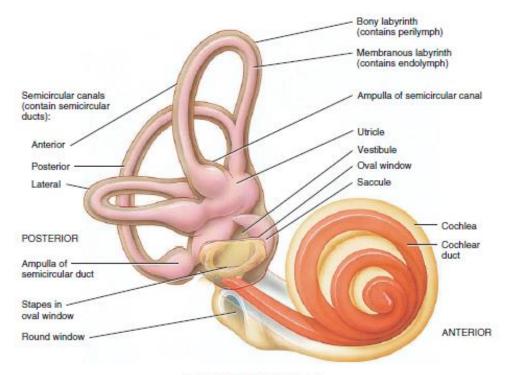
Frontal section showing location of auditory ossicles in the middle ear

(From Principles of Anatomy and Physiology, 14^{th} Ed.)



Internal Ear

- Bony Labyrinth
- Membranous Labyrinth
- Vestibule
- Cochlea
- Organ of Corti and Vestibulocochlear Nerve (CN VIII)

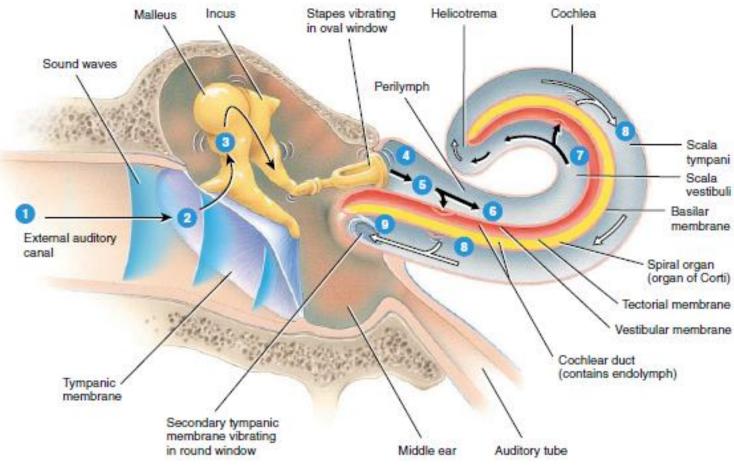


Components of right internal ear

(From Principles of Anatomy and Physiology, 14th Ed.)



Physiology of Hearing



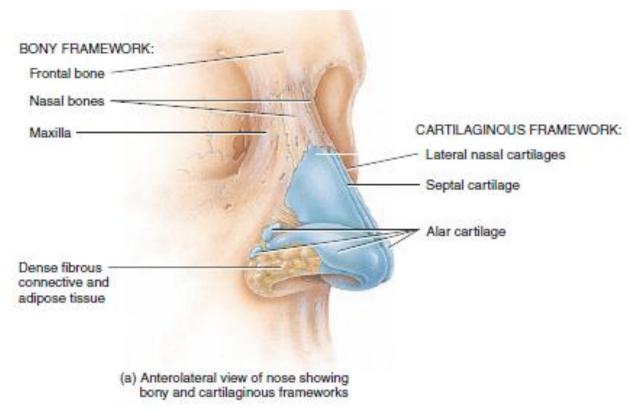
(From Principles of Anatomy and Physiology, 14^{th} Ed.)



Anatomy of the Nose

Specialized organ

- Cartilaginous framework
 - Septal
 - Lateral
 - Alar



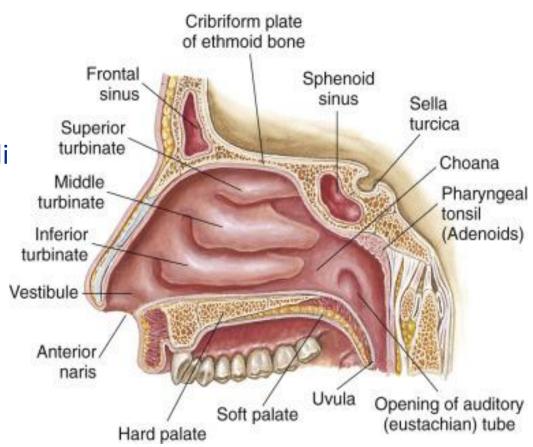
(From Seidel's Guide to Physical Examination 9th Ed., 2019, www.clinicalkey.com)



Interior Structure

Functions

- Warming, moistening and filtering incoming air
- Detecting olfactory stimuli
- Modifying speech vibrations
- Paranasal sinuses
- Upper 1/3 supported by bone
- Lower 2/3 of the nose supported by cartilage



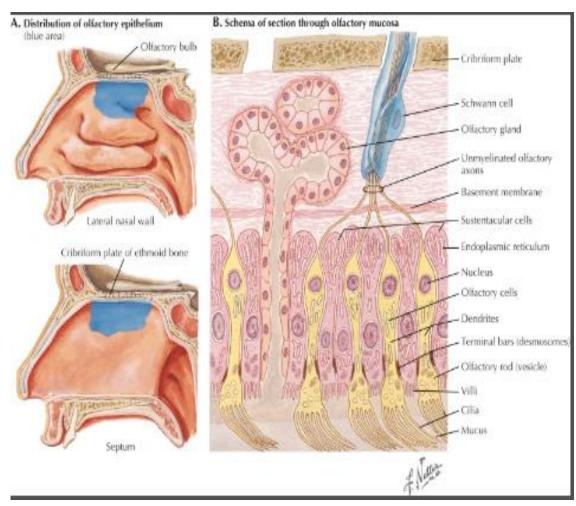
(From Seidel's Guide to Physical Examination 9th Ed., 2019, www.clinicalkey.com)



Nasal Physiology

 Olfactory epithelium

Olfactory
 sensations
 Olfactory Nerve
 (CN I)

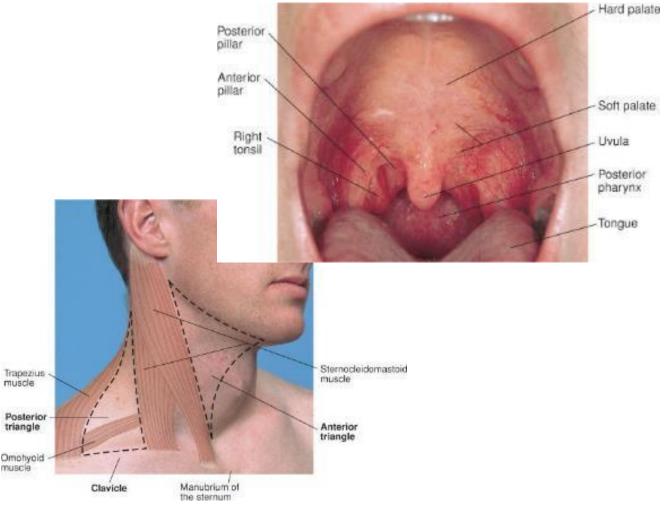


Netter's Neurology. Vytopil, Michal; Jones, H. Royden... Published January 1, 2012. Pages 52-56. © 2012.



Anatomy of the Mouth and Throat

- Buccal cavity
- Lips
- Hard palate
- Soft palate
- Uvula



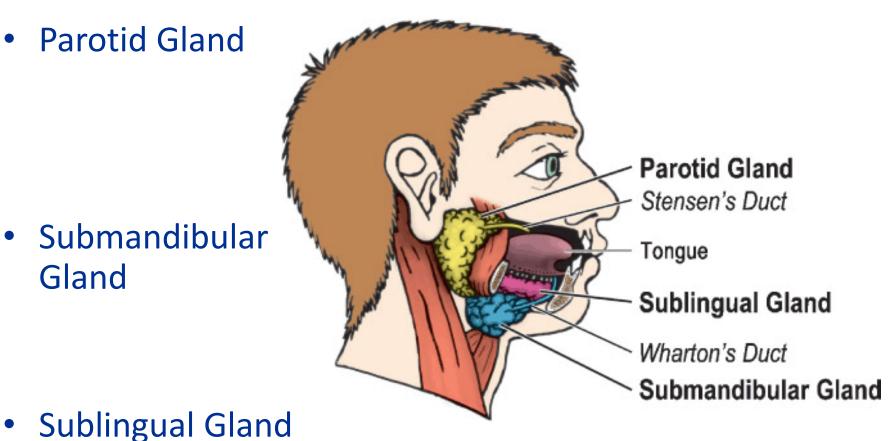
(From Bates' Guide to Physical Examination and History Taking, 12th Ed.)



Salivary Glands

Parotid Gland

 Submandibular Gland



STAT!Ref: Burket's Oral Medicine, 12th Ed. 2015, https://online.statref.com/

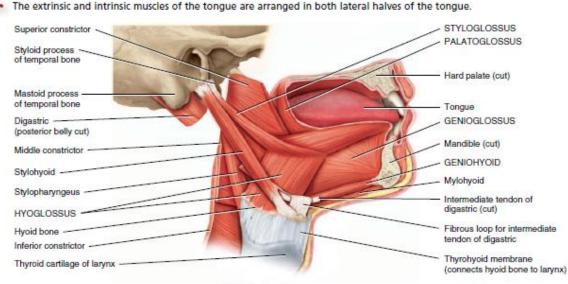
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2.1-2-24



Tongue Muscles

- Extrinsic
 - Hypoglossus
 - Genioglossus
 - Styloglossus
- Intrinsic
 - Longitudinalis Superior
 - Longitudinalis Inferior
 - Transversus Linguae
 - Verticalis Linguae



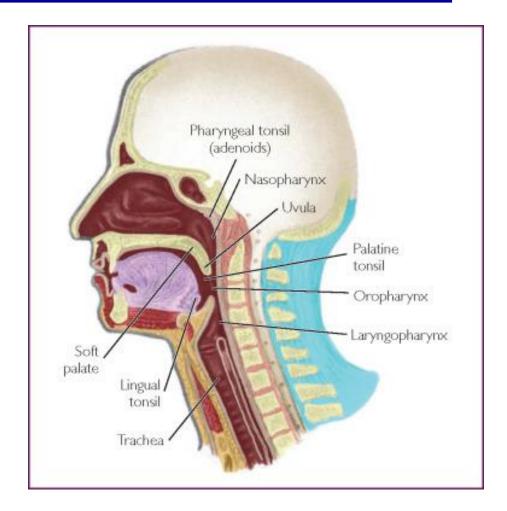
Right side deep view

(From Principles of Anatomy and Physiology, 14th Ed.)



Tonsils

- Pharyngeal Tonsil (Adenoid)
 - Posterior wall of nasopharynx
- Two Palatine Tonsils
 - Posterior of oral cavity on either side
- Two Lingual Tonsils
 - Base of tongue



(From Emergency and Trauma Care for Nurses and Paramedics 2nd Ed., 2016, www.clinicalkey.com)



Obtain a History

- Subjective
 - Chief Complaint (CC)
 - History of Present Illness (HPI)



• OLDCARTS = Onset, Location, Duration, Character, Aggravating, Relieves, Temporal Factors, Severity

(From Seidel's Guide to Physical Examination 9th Ed., 2019, www.clinicalkey.com)



Associated Symptoms Head and Neck

Head and Neck

- Head pain
- Headache
- Laceration
- Change in breathing pattern
- Blurred or double vision
- Discharge from the nose or ears
- Nausea

- Vomiting
- Incontinence
- Paralysis
- Loss of sensation
- Light headed
- Neck swelling
- Neck pain
- Fever



Associated Symptoms Eyes

Eye

- Pain
- Visual disturbances
- Redness
- Purulent discharge
- Crusting
- Mating of the eyelids
- Headaches

- Dizziness
- Tearing
- Itchiness
- Pressure
- Foreign body sensation
- Both eyes affected or just one



Associated Symptoms Ears

Ears

- Nausea
- Vomiting
- Tinnitus
- Hearing loss or change
- Headache
- Double vision
- Ear fullness

- Unsteadiness
- Pain
- Fever
- Discharge
- Itchiness
- Vertigo
- Association with diving or flying



Associated Symptoms Nose

Nose

- Sneezing
- Congestion
- Itching
- Sniffling
- Obstruction
- Mouth breathing
- Bad breath

- Sore throat
- Cough
- Snoring
- Sleep issues
- Bleeding
- Allergies
- Sinus pain or pressure



Associated Symptoms Mouth and Throat

Mouth and Throat

- Tooth pain
- Difficulty swallowing
- Difficulty speaking or hoarse voice
- Fever
- Swollen tonsils
- Post nasal drip

- Cough
- Runny nose
- Inhalation of smoke or irritants
- Gastroesophageal reflux
- Drooling
- Feeling of obstruction



Remedies Tried

- Head and Neck
- Eyes
- Ears
- Nose



Mouth and Throat



Preceding Events

- Head and Neck
- Eyes
- Ears
- Nose



Mouth and Throat

(U.S. Army photo by Staff Sgt. Gene Arnold, 14th Public Affairs Detachment) (Released)



Past Medical and Surgical History

Head and Neck

Mouth and Throat

Eyes

Medications

Ears

 Allergies to food, environment, and medications

Nose



Family and Social History

Family History

Head and Neck

Eyes

Ears

Social History

Tobacco

Alcohol

Travel

Environmental Hazards



Review of Systems

- Constitutional
 - Fever, chills, night sweats, weight gain/loss, fatigue, malaise
- Respiratory
 - Cough, sputum, wheezing, dyspnea, hemoptysis,
 TB exposure, shortness of breath, asthma
- Cardiovascular
 - Hypertension, chest pain, palpitations, murmur, orthopnea, exercise intolerance



Review of Systems (Cont.)

Endocrine

 Diabetes, heat or cold intolerance, sweating, frequent urination, excessive thirst, change in appetite, decreased libido

Neurological

 Numbness, tingling, paresthesia, dizziness, paralysis, visual disturbances, seizures, gait, coordination, syncope, tremors, speech problems, taste disturbances



Head Exam

- Hair
- Scalp
- Skull
- Face
- Skin



(From Seidel's Guide to Physical Examination 9th Ed., 2019, www.clinicalkey.com)



Neck Exam

- Inspect
 - Symmetry
 - JVD
 - ROM
 - CN XI
- Palpate
 - Midline position
 - Pravertebral muscles
 - Spinous process
 - Evaluate the thyroid
 - Lymph nodes



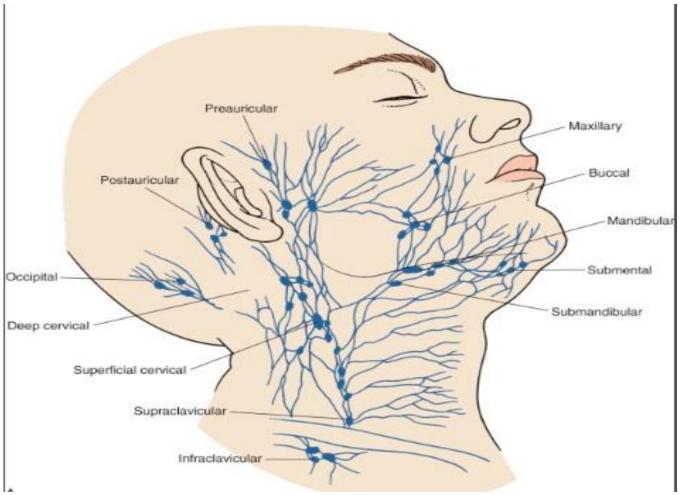




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Lymph Nodes



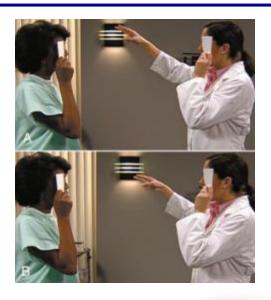
Contemporary Oral and Maxillofacial Surgery. Ellis, Edward... Published January 1, 2014. Pages 422-447. © 2014.

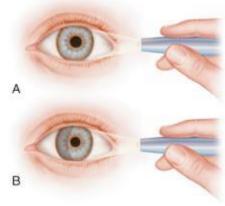


Eye Exam

- Visual Acuity
- Abnormalities

- Examine
- Extraocular Movements
- Test for Convergence

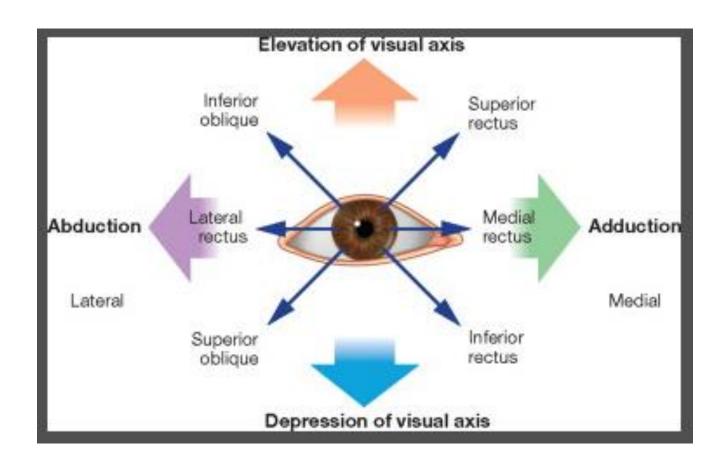




(From Seidel's Guide to Physical Examination 9th Ed., 2019, www.clinicalkey.com)



EOMI



Sobotta Atlas of Human Anatomy, Vol. 3. Paulsen, F.... Published January 1, 2013. Pages 97-132. © 2013



Ear Exam

- Inspect the external ear
- Inspect the auditory canal
- Palpate
- Otoscopic Exam
- Abnormalities
- Assess gross hearing
- Cerumen impaction





(From Seidel's Guide to Physical Examination 9th Ed., 2019, www.clinicalkey.com)



Tympanic Membrane

Otitis Media



Normal TM



Minor Emergencies. Buttaravoli, Philip, MD FACEP; Leffler, Stephen M., MD FACEP... Published January 1, 2012. Pages 142-144. © 2012

Macleod's Clinical Examination. Wilson, Janet; Nicol, Fiona... Published January 1, 2013. Pages 297-314. © 2013



Cerumen Impaction



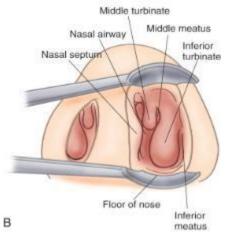
Cerumen removal. Christopher H. Hashikawa.. Published September 24, 2017



Nasal Exam

- Inspection
 - Inflammation
 - Contour/Shape
 - Nasal Mucosa
 - Deviation, Masses,
 and Perforations
- Nasal patency
- Palpate the sinuses





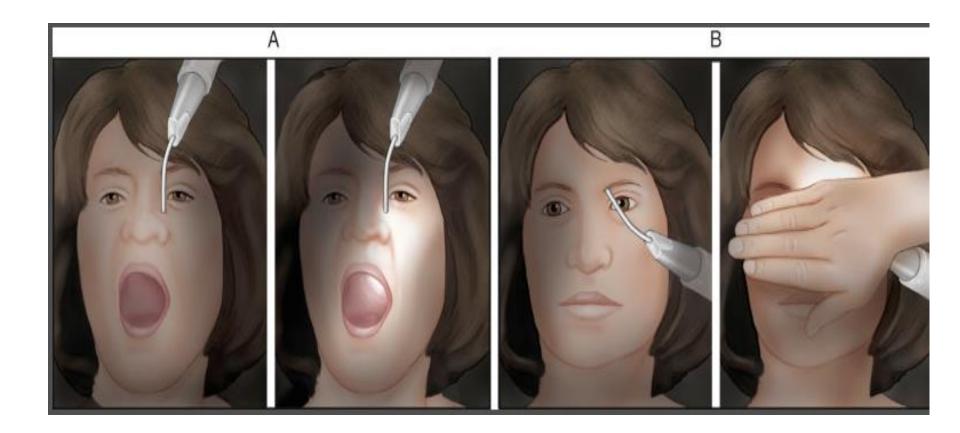




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Transillumination





Mouth and Throat Exam

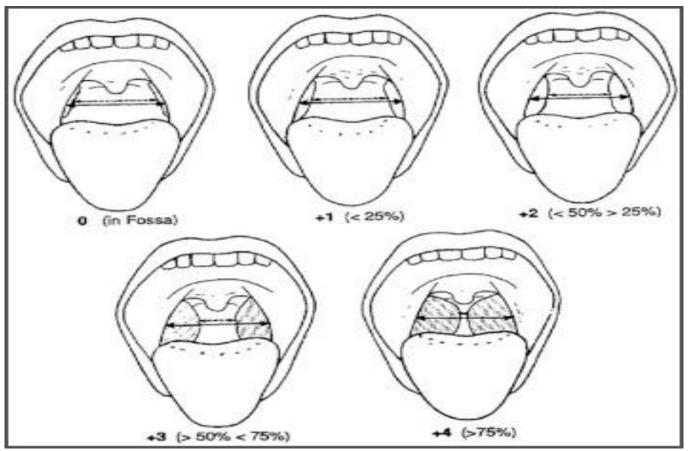
- Inspection
 - Lips
 - Gums & Teeth
 - Tongue and Buccal Mucosa
 - Throat
 - Tonsils



(From Perry, A.G., Potter, P.A., Ostendorf, W.R. [2018]. *Clinical nursing skills & techniques* [9th ed.]. St. Louis: Elsevier.)



Tonsils





Headache

- Description
- Risk Factors
- A C D Total Total
- General Prevention
- Clinical Presentation
- Differential Diagnosis
- Diagnostic Testing

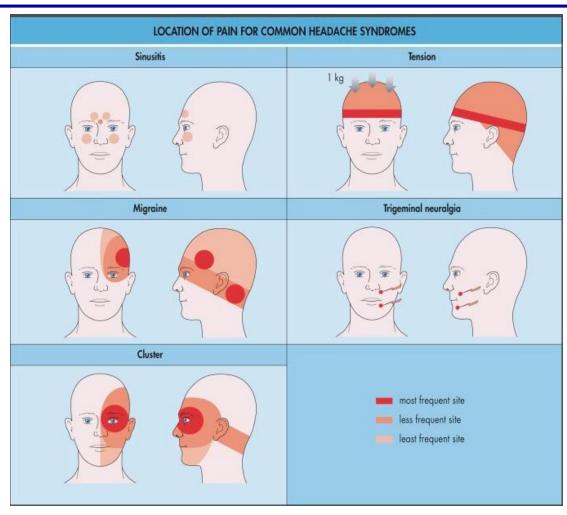
Manual Therapy. Mohamadi, Marzieh; Ghanbari, Ali; Rahimi jaberi, Abbas... Published October 1, 2012. Volume 17, Issue 5. Pages 456-458. © 2012.



Headache (Cont.)

Treatment

- Disposition
- Referral



Ophthalmology. Weinstein, Joel M.; Wang, Michelle Y.... Published January 1, 2014. Pages 969-975.e1. © 2014.



Orbital Cellulitis

Description

Risk Factors

General Prevention



STAT!Ref: Merck Manual Professional Version, https://online.statref.com/

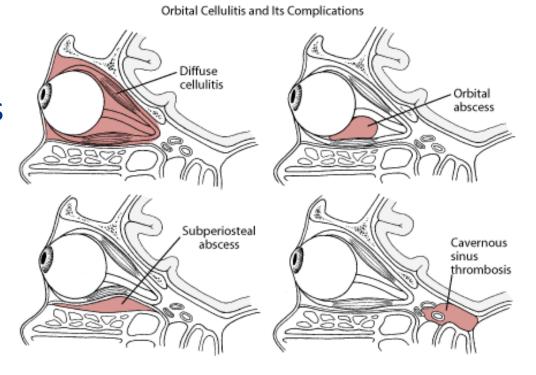


Orbital Cellulitis Diagnosis

Diagnosis

Differential Diagnosis

Diagnostic Tests



STAT!Ref: Merck Manual Professional Version, https://online.statref.com/



Orbital Cellulitis Tests

Frequent eye exam

Treatment

Referral



STAT!Ref: Clinical Checklist, Lab Advisor & Drugpoints System, https://online.statref.com/



Blepharitis

Description

Clinical Presentation



(From Seidel's Guide to Physical Examination 9th Ed., 2019, www.clinicalkey.com)



Blepharitis (Cont.)

Differential Diagnosis

Laboratory Tests





Blepharitis (Cont.)

Treatment

- Disposition
- Referral



STAT!Ref: Clinical Checklist, Lab Advisor & Drugpoints System, https://online.statref.com/



Hordeolum

Description

Clinical Presentation

Differential Diagnosis





Hordeolum (Cont.)

Laboratory Tests

Treatment

- Disposition
- Referral



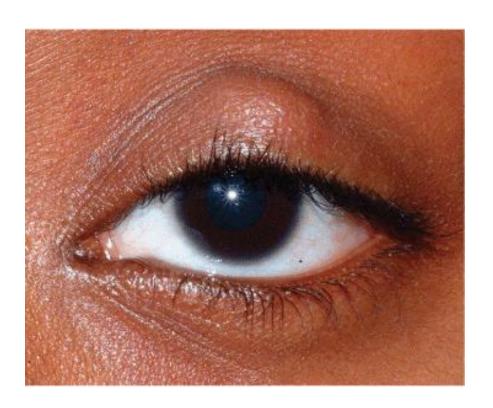
STAT!Ref: Clinical Checklist, Lab Advisor & Drugpoints System, https://online.statref.com/



Chalazion

Description

Clinical Presentation



STAT!Ref: The Wills Eye Manual: Office and Emergency Room Diagnosis and Treatment of Eye Disease 7th Ed., https://online.statref.com/



Chalazion (Cont.)

Differential Diagnosis

Workup

Treatment

Referral



STAT!Ref: Clinical Checklist, Lab Advisor & Drugpoints System, https://online.statref.com/



Conjunctivitis

Description

Clinical Presentation

Red Flag Criteria



(From Seidel's Guide to Physical Examination 9th Ed., 2019, www.clinicalkey.com)

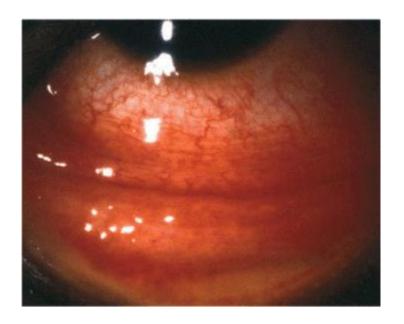


Conjunctivitis (Cont.)

Differential Diagnosis

Workup

Laboratory Tests



STAT!Ref: The Wills Eye Manual: Office and Emergency Room Diagnosis and Treatment of Eye Disease 7th Ed., https://online.statref.com/



Conjunctivitis (Cont.)

Treatment

- Disposition
- Referral



STAT!Ref: Clinical Checklist, Lab Advisor & Drugpoints System, https://online.statref.com/



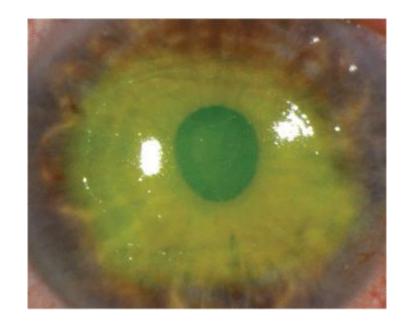
Corneal Abrasions

Description

Clinical Presentation

Red Flag Criteria

Differential Diagnosis



STAT!Ref: The Wills Eye Manual: Office and Emergency Room Diagnosis and Treatment of Eye Disease 7th Ed., https://online.statref.com/



Corneal Abrasions (Cont.)

Workup

Treatment

Disposition

Referral



STAT!Ref: Clinical Checklist, Lab Advisor & Drugpoints System, https://online.statref.com/



Retinal Detachment

Description

Risk Factors

Clinical Presentation



STAT!Ref: The Wills Eye Manual: Office and Emergency Room Diagnosis and Treatment of Eye Disease 7th Ed., https://online.statref.com/



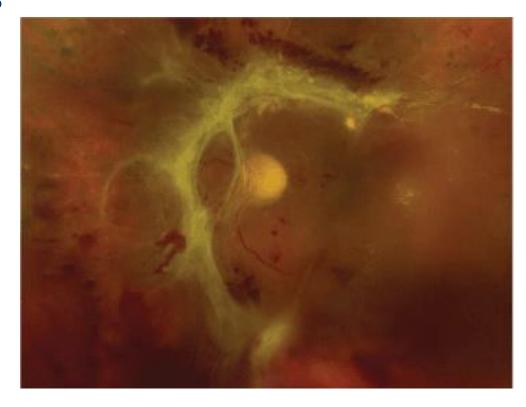
Retinal Detachment (Cont.)

Differential Diagnosis

Workup

Laboratory Tests

Imaging Studies



STAT!Ref: The Wills Eye Manual: Office and Emergency Room Diagnosis and Treatment of Eye Disease 7th Ed., https://online.statref.com/



Retinal Detachment (Cont.)

Treatment

Disposition

Referral



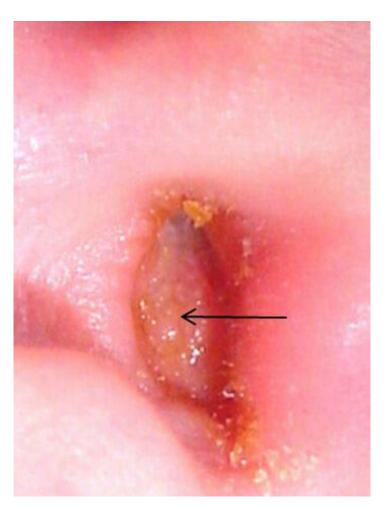
STAT!Ref: The Wills Eye Manual: Office and Emergency Room Diagnosis and Treatment of Eye Disease 7th Ed., https://online.statref.com/



Otitis Externa

Description

Clinical Presentation



STAT!Ref: Merck Manual Professional Version, https://online.statref.com/



Otitis Externa (Cont.)

Differential Diagnosis

Workup

Laboratory Tests



(Seidel's Guide to Physical Examination, 9th Ed., 2019, www.clinicalkey.com)



Otitis Externa (Cont.)

Treatment

Disposition

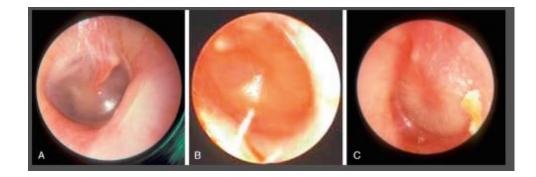
Referral





Otitis Media

Description



Clinical Presentation

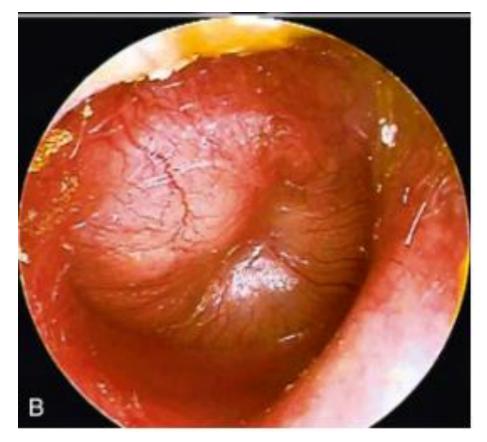


Otitis Media (Cont.)

Differential Diagnosis

Workup

Labs and Imaging



(Seidel's Guide to Physical Examination, 9th Ed., 2019, www.clinicalkey.com)



Otitis Media (Cont.)

Treatment

Red Flags

Disposition

Referral





Perforated Tympanic Membrane

Description

Risk Factors



(Seidel's Guide to Physical Examination, 9th Ed., 2019, www.clinicalkey.com)



Perforated Tympanic Membrane (Cont.)

Diagnosis

Diagnostic Tests

Differential Diagnosis



Perforated Tympanic Membrane (Cont.)

Treatment

Additional Therapies

Surgery





Tinnitus

Description

Risk Factors

Clinical Presentation



Tinnitus (Cont.)

Differential Diagnosis

Workup

Laboratory Tests

Imaging Studies



Tinnitus (Cont.)

Treatment

Disposition

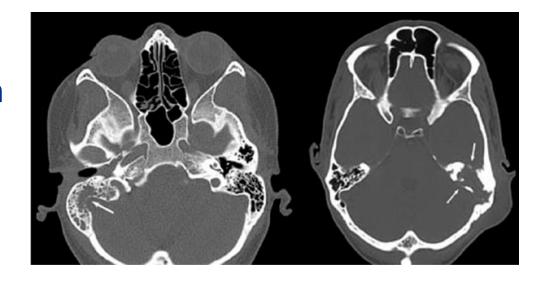




Mastoiditis

Description

Clinical Presentation



STAT!Ref: Ballenger's Otorhinolaryngology Head and Neck Surgery - 18th Ed. (2016), Figure 18-3, https://online.statref.com/



Mastoiditis (Cont.)

Differential Diagnosis

Workup

Laboratory Tests

Imaging Studies



Mastoiditis (Cont.)

Treatment

Disposition

Referral

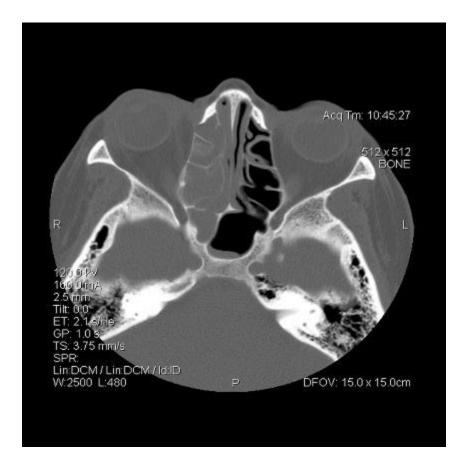




Sinusitis

Description

Clinical Presentation



STAT!Ref: Merck Manual Professional Version, https://online.statref.com/



Sinusitis (Cont.)

Differential Diagnosis

Workup

Laboratory Tests

Imaging Studies



Sinusitis (Cont.)

Treatment

- Complications
- Referral





Allergic Rhinitis

Description

Clinical Presentation



Allergic Rhinitis (Cont.)

Differential Diagnosis

Workup

Laboratory Tests

Imaging Studies



Allergic Rhinitis (Cont.)

Treatment

Disposition

Referral





Nonallergic Rhinitis

Description

Clinical Presentation



Nonallergic Rhinitis (Cont.)

Differential Diagnosis

Workup

Laboratory Tests

Imaging Studies



Nonallergic Rhinitis (Cont.)

- Treatment
- Disposition

Referral





Acute Pharyngitis

Description

- Clinical Presentation
 - Viral Pharyngitis
 - Bacterial Pharyngitis
 - Red Flags



(From Infectious Disease Clinics of North America, Vol.21, Issue 2, Figure 1, www.clinicalkey.com)



Acute Pharyngitis (Cont.)

Differential Diagnosis

Workup

Laboratory Tests

Imaging Studies





Acute Pharyngitis (Cont.)

Treatment

Referral

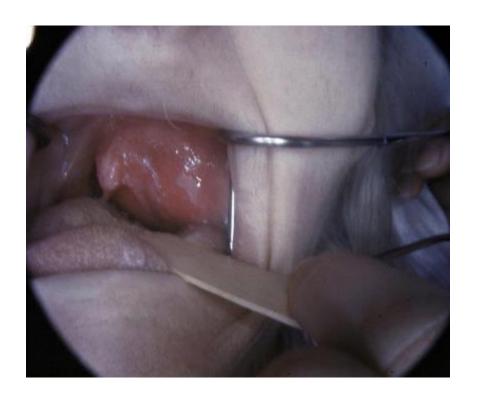




Peritonsillar Abscess

Description

Clinical Presentation





Peritonsillar Abscess (Cont.)

Differential Diagnosis

Workup

Laboratory Tests

Imaging Studies



Peritonsillar Abscess (Cont.)

Treatment

- Disposition
- Referral





Summary and Review

- 1.7 Utilize the knowledge of head and neck anatomy while assessing a patient with a HEENT complaint
- 1.8 Utilize the knowledge of eye anatomy while assessing a patient with a HEENT complaint
- 1.9 Utilize the knowledge of eye physiology while assessing a patient with a HEENT complaint
- 1.10 Utilizing the knowledge of ears, nose and throat anatomy while assessing a patient with a HEENT complaint
- 1.11 Utilize the knowledge of ears, nose and throat physiology while assessing a patient with a HEENT complaint



Summary and Review (Cont.)

- 1.12 Obtain history from patients with common head, eye, ear, nose, and throat complaints
- 1.13 Perform a head, eye, ear, nose and throat examination
- 1.14 State signs and symptoms of common head, eye, ear, nose and throat disorders
- 1.15 State treatments for common head, eye, ear, nose and throat disorders
- 1.16 State Red Flag criteria



Questions





Application

HEENT System Job Sheet, SCSC 2.1-3

Performance Test 2