EARS, NOSE & THROAT

UMDNJ-SHRP Physician Assistant Program

Erich Vidal, MS, PA-C
Assistant Professor

UMDNJ PANCE/PANRE Review Course
I. Nose/Sinus

- Acute/Chronic Sinusitis
- Allergic Rhinitis
- Epistaxis
- Foreign Body
- Nasal Polyps
Acute Sinusitis

- **Etiology**
  - SWELLING of the nasal mucous MEMBRANE (i.e. viral/allergic rhinitis)
  - IMPAIRED mucociliary CLEARANCE
  - OBSTRUCTION of osteomeatal complex
  - ACCUMULATION of mucus
  - Secondary bacterial INFECTION
Acute Sinusitis

- Pathogens
  - USUAL otitis media suspects:
    - S. pneumoniae
    - H. influenzae
    - S. aureus & M. catarrhalis (less common)
Acute Sinusitis

- Clinical Findings
  - Symptoms > 1 WEEK (but < 4 weeks)
    - Examples:
      - Facial CONGESTION / fullness
      - Nasal DRAINAGE / discharge
      - Postnasal DRIP
      - Nasal OBSTRUCTION / blockage
      - FEVER
      - ↓ or absent sense of SMELL
  - UNILATERAL PAIN (i.e. toothache / over maxillary sinus)
  - CHANGE in SECRETIONS (watery / mucoid >>> purulent green / yellow)
Acute Sinusitis

- MAXILLARY Sinus
  - MOST commonly affected – largest/ostia superior
  - Pain/pressure over CHEEK

- Frontal Sinusitis
  - Pain / tenderness of FOREHEAD
Acute Sinusitis

- Imaging Studies
  - CLINICAL diagnosis...usually
  - Routine X-RAYS: more sensitive, but NOT recommended
    - Can be helpful if questionable
    - Hallmarks:
      - SOFT tissue DENSITY
      - WITHOUT bone DESTRUCTION
      - +/- AIR / FLUID levels
    - Not COST effective
Acute Sinusitis

- CT
  - MORE sensitive (to inflammation / bone destruction)...but NOT specific
  - May be helpful for endoscopic surgery (recurrent / chronic sinusitis)
  - May help for confirmation, rule out, or monitoring

- Sinusitis $\rightarrow$ *CLINICAL diagnosis*
Acute Sinusitis

- Treatment
  - NSAIDs: pain relief
  - DECONGESTANTS (oral and/or nasal) for symptomatic relief
    - (i.e. PO pseudoephedrine, nasal oxymetazoline or xylometazoline)
  - ANTIBIOTICS
    - BEST strategy (most cost effective):
      - ANTIBIOTIC treatment WITH clinical CRITERIA-based diagnosis

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Acute Sinusitis

- **Antibiotics**
  - **FIRST-line (7-10 days)**
    - Amoxicillin
    - TMP-SMZ (PCN allergic)
    - Doxycycline (PCN allergic)
  - **AFTER recent ABX use**
    - Levofloxacin
    - Amoxicillin-clavulanate
  - **SECOND-line (10 days) – if no improvement**
    - Amoxicillin-clavulanate (after 3 days of 1st line)
    - Moxifloxacin (after 3 days of 1st line)
Chronic Sinusitis

- Symptoms (> 3 MONTHS)
- DIFFERENT pathogens
  - Including gram negatives, S. aureus, anaerobes
  - LONGER antibiotic course (weeks)
    - Recommended: amoxicillin-clavulanate, cefuroxime, gaitifloxicin, moxifloxicin, or clindamycin
    - Culture-directed therapy recommended
- Surgery: If REFRACTORY to medical treatment
Allergic Rhinitis

“Hay Fever”

- SYMPTOMS like viral rhinitis
  - BUT usually PERSISTANT/SEASONALLY related

Etiology

- ALLERGENS
  - pollens (spring)
  - grasses (summer)
  - ragweed/mold (fall)
  - dust/mites/pet dander (year-round)
Allergic Rhinitis

- Clinical Findings
  - NASAL symptoms (runny nose)
  - EYE irritation (i.e. pruritus, erythema, tearing)
  - PALE or VIOLACEOUS mucosa
Allergic Rhinitis

- Treatment
  - OTC ANTIHISTAMINES
    - Brompheniramine, chlorpheniramine, clemastine
    - Loratadine, cetirizine
  - NEWER antihistamines
    - Fexofenadine (non-sedating)
    - Desloratadine (minimally sedating)
Allergic Rhinitis

- Antihistamine Nasal SPRAYS
  - i.e. levocabastine, azelastine (Astelin)
- “Tolerance”
Allergic Rhinitis

- * Intranasal CORTICOSTEROIDS *
  - May take 2 or more WEEKS to work
  - SHRINK nasal polyps
  - Examples
    - beclomethasone, flunisolide
    - mometasone furoate, fluticasone propionate
Allergic Rhinitis

- Others (examples)
  - LEUKOTRIENE receptor antagonists (i.e. montelukast)
  - Intranasal IPRATROPIUM bromide
  - Nasal SALINE irrigation
Epistaxis

- **Etiology (predisposing factors)**
  - Nasal TRAUMA
  - RHINITIS
  - ↓ HUMIDITY
  - HTN, nasal cocaine use, alcohol

- **Clinical Findings**
  - Most common: ANTERIOR (Kiesselbach plexus)
  - Only about 5% from POSTERIOR
Epistaxis

- **Treatment**
  - **Anterior**
    - Usually *DIRECT PRESSURE* to area *
  
  - **TOPICAL nasal DECONGESTANTS** (i.e. phenylephrine)
    - Cocaine – anesthetic / vasoconstrictor
      - Substitute topical decongestant (i.e. oxymetazoline) and a topical anesthetic (i.e. tetracaine)

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Epistaxis

- Treatment, continued
  - Cautery
  - Anterior PACKING (i.e. iodoform packing, foam, nasal balloons)
  - Posterior packing – more difficult
Foreign Body

- PEDS vs. adults
- Asymptomatic (WITNESSED)
- Symptomatic
  - UNILATERAL nasal DISCHARGE
  - BAD odor
  - Sneezing, bleeding, pain
- Treatment (REMOVAL)
  - Depending on COMPOSITION, POSITION, PRACTITIONER COMFORT, patient COMPLIANCE ?? → ENT
Nasal Polyps

- **Etiology**
  - ALLERGIC?
  - SYSTEMIC disease?

- **Clinical Findings**
  - PALE mucosal MASS
  - Nasal OBSTRUCTION
  - ↓ SMELL
Nasal Polyps

- **Treatment**
  - **TOPICAL nasal CORTICOSTEROIDS**
    - 1-3 MONTHS
  - **ORAL steroids (short course)**
    - Prednisone
  - **Surgical REMOVAL**
    - With failed medical management/large polyps
II. Mouth/Throat

- Acute Pharyngitis / Tonsillitis
- Aphthous Ulcers
- Dental Abscess
- Epiglottitis
- Laryngitis
- Neoplasm (Laryngeal SCC)
II. Mouth/Throat

- Oral Candidiasis
- Oral Herpes Simplex
- Oral Leukoplakia
- Peritonsillar abscess
- Parotitis
- Sialadenitis
Acute Pharyngitis / Tonsillitis

- General Points
  - Very COMMON
  - * GABHS * - Complications
  - ANTIBIOTIC resistance / cost

- CLINICAL Findings (suggesting GABHS)
  - FEVER
  - Tender ANTERIOR cervical ADENOPATHY
  - LACK of COUGH
  - Pharyngotonsillar EXUDATE
**Acute Pharyngitis / Tonsillitis**

- CLINICAL Findings, continued
  - ODYNOPHAGIA
  - “Scarlatiniform" RASH
    - Fine erythematous papular rash – SANDPAPER
  - Possible elevated WBC/left shift

- NOT suggestive of GABHS
  - Hoarseness, cough, coryza
  - Rhinorrhea, no exudate → viral
Acute Pharyngitis / Tonsillitis

- Possible Differential Diagnosis Item

  - MONOncleosis
    - Prominent ADENOPATHY
    - Tonsillar EXUDATE (white-purple)
    - YOUNG ADULT
    - ORGANOMEGALY (liver/spleen)
Acute Pharyngitis / Tonsillitis

- Treatment (GABHS)
  - IM penicillin x 1 - OUCH
  - ORAL ANTIBIOTICS
    - Penicillin V
    - cefuroxime axetil
    - Erythromycin/azithromycin (PCN allergy)
Acute Pharyngitis / Tonsillitis

- Caveats
  - Treatment failures: use amoxicillin /clavulanate or same drug again
  - Appropriate antibiotic treatment to avoid COMPLICATIONS
    - (i.e. scarlet fever, glomerulonephritis, rheumatic myocarditis, local abscess formation)
Acute Pharyngitis / Tonsillitis

- Treatment, continued
  - Analgesics
  - Anti-inflammatory agents
    - (i.e. aspirin, acetaminophen)
  - Salt water gargles
  - Anesthetic gargles / lozenges
    - (i.e. viscous lidocaine)
Aphthous Ulcers

- “Canker sore” or ulcerative stomatitis
- Very COMMON

- Etiology
  - Human HERPESVIRUS 6?
Aphthous Ulcers

- Clinical Findings
  - NONKERATINIZED mucosa
  - Single OR multiple
  - PAINFUL
  - Round ULCERATION
    - Yellow-gray center surrounded with red halo
  - Usually RECURRENT, small (1-2 mm)
  - Painful stage: 7-10 days
  - Healing in 1-3 weeks
Aphthous Ulcers

- Lab / Diagnostic Studies
  - CLINICAL diagnosis
  - Unclear → biopsy

- Treatment
  - Topical / oral corticosteroids – symptomatic help
Dental Abscess

- **Definition**

- **Etiology**

- **Clinical Findings**
  - *PAIN*
    - Tooth is painful to move or bite with.
  - Localized SWELLING
Dental Abscess

- Treatment
  - DENTAL surgical intervention
    - I&D
  - Antibiotics
    - IV (i.e. penicillin, clindamycin, ampicillin-sulbactam)

- Complications
Epiglottitis

- “Supraglottitis”

- Etiology
  - Viral or bacterial

- Clinical Findings
  - Adults
    - RAPIDly developing SORE THROAT
    - Odynophagia out of proportion to exam
Epiglottitis

Other Signs /Symptoms
- 1-2 days worsening dysphagia, odynophagia, dyspnea
- Fever, tachycardia, cervical adenopathy
- Drooling, STRIDOR
- Patient POSITIONING
- Secretions
- Minimal or no cough
Epiglottitis

- Lab/Diagnostic Studies
  - Lateral NECK FILM
    - Enlarged epiglottis
      - "THUMBPRINT sign"
  - LARYNGOSCOPY
    - Swollen, red epiglottis
Epiglottitis

- Treatment
  - Hospitalization
  - IV antibiotics (examples)
    - Ceftizoxime, cefuroxime
  - Corticosteroids (i.e. dexamethasone)
  - Monitor airway
  - Intubation (< 10% adults)
    - For severe dyspnea, rapid course
Laryngitis

- General Points
  - HOARSENESS
  - Following URI ~ 1 week
  - Avoid singing, shouting

- Etiology
  - Usually viral
  - May get bacterial infection
Laryngitis

- Clinical Findings
  - * HOARSENESS *
  - Difficulty talking
  - Cough, odynophagia

- Treatment (CONSERVATIVE)
  - Rest, fluids
  - Antibiotics, if necessary
    - May reduce hoarseness and cough
  - Corticosteroids (i.e. performers)
Laryngeal SCC

- HOARSENESS (NEW; > 2 weeks) & SMOKER
- OTHER symptoms
  - PAIN, BLOOD, problems SWALLOWING
  - AIRWAY issues
- Dx: LARYNGOSCOPY (BX)
  - CT/MRI

- Treatment (early): RADIATION, surgery
- Advanced – chemotherapy/radiation, surgery
Oral Candidiasis

- “Thrush”
- PAINFUL, CREAMY-WHITE over RED
- Can be RUBBED-OFF
- Stem: DENTURES, SICKLY, POOR ORAL, DM, ↓ IMMUNITY, ABX

- CLINICAL dx
- HIV?
Oral Candidiasis

- Treatment
  - FLUCONAZOLE (Diflucan®)
  - KETOCONAZOLE (Nizoral®)
  - Clotrimazole troches (Mycelex®)
  - Nystatin (Mycostatin®)
Oral Herpes Simplex

“Cold” or “Fever sores”

Etiology

- **HSV-1**
  - 85% of adults
  - Acquired in childhood

- **HSV-2**
  - 25% of population
  - Acquired by sexual contact

- Oral (HSV-1?) vs. genital (HSV-2?)
Oral Herpes Simplex

- **General Points**
  - RECURRENT, self-limited episodes
  - After minor infections, trauma, stress, or sun exposure

- **CLINICAL Findings**
  - Burning, stinging
  - Small, GROUPED VESICLES
    - Anywhere, most often on vermillion border
  - Last 1 week
Oral Herpes Simplex

- Treatment
  - Immunocompetent
    - None
  - Systemic Agents (for 7-10 days)
    - acyclovir, valacyclovir, famciclovir
  - Most recurrent – mild (no treatment)

- Topical antivirals (generally not helpful)
  - Use only for approved indications
    - (i.e. 5% acyclovir ointment)
Oral Leukoplakia

- **Etiology**
  - Usually CHRONIC IRRITATION
  - Some either dysplasia or early squamous cell CA
  - ALCOHOL / TOBACCO major risk factors for SCC

- **CLINICAL Findings**
  - WHITE lesion
  - CANNOT be scraped off (unlike oral candidiasis)
  - Usually small, but can reach several cm
Oral Leukoplakia

- **Lab/Diagnostic Studies**
  - Any erythroplakia or enlarging = BIOPSY/cytologic exam (scraping)

- **Treatment**
  - Referral (i.e. ENT)
  - Benign/minimally dysplastic
    - Close follow-up OR elective excision
  - Premalignant/moderate dysplasia
    - Removal
  - Antioxidants/retinoids helpful?
    - Chemoprevention/regression
    - No approved therapies for reversing/stabilizing
Peritonsillar Abscess

- **General Points**
  - Common deep-space infection of head and neck
  - Infection penetrates tonsillar capsule
  - RISK factors
    - Chronic tonsillitis, multiple oral antibiotic trials, previous episode

- **Etiology**
  - Cultures
    - usually mixed (aerobic/anaerobic flora)
Peritonsillar Abscess

- CLINICAL Findings
  - SEVERE sore throat and odynophagia
  - TRISMUS
  - Abnormal MUFFLED voice
  - Inflammation of tonsil and nearby tissues
  - MEDIAL DEVIATION of soft palate
Peritonsillar Abscess

- Lab/Diagnostic Studies
  - (CT/ultrasound)
  - Needle aspiration is fine

- Treatment (some controversy)
  - Needle aspiration
  - I&D
  - Tonsillectomy
Peritonsillar Abscess

- Treatment, continued (all are effective)
  - Some I&D, then continue with IV antibiotics
  - Others aspirate only, monitor as outpatient
  - Can also consider immediate tonsillectomy
    - To drain abscess / prevent recurrence
Parotitis

- **Definition**
  - Inflammation of the PAROTID gland

- **Differential Diagnosis (VARIED)**
  - Parotid duct calculi, tumors, cysts, bacterial infection
  - Systemic disease (i.e. sarcoidosis, cirrhosis)
  - Mumps
  - Drug reaction, viruses
Parotitis

- Mumps
  - Etiology
    - Paramyxovirus
    - Usually pediatric cases (most often in spring)
    - Spread by respiratory droplets

- Clinical Findings
  - Painful swelling of salivary glands (usually parotid)
  - Can affect other tissues (i.e. testes, pancreas)
Sialadenitis

- **Definition**
  - Inflammation of a SALIVARY gland
  - Varied causes

- **Acute BACTERIAL Sialadenitis**
  - **Etiology**  
    - With dehydration or chronic illness (i.e. Sjogren’s syndrome)
    - Ductal OBSTRUCTION (usually by mucus plug) then salivary STASIS and secondary INFECTION
Sialadenitis

- Acute Bacterial Sialadenitis, continued
  - SWELLING
  - WORSE with MEALS
  - PAIN and REDNESS of DUCT opening (PUS)

- Lab / Diagnostic Studies
  - Should culture
  - *S. aureus* (MOST COMMON)
  - U/S or CT if no improvement
    - possible abscess, ductal stricture, stone, or tumor
Sialadenitis

- **Treatment**
  - **ANTIBIOTICS**
    - IV (i.e. nafcillin) to oral with improvement
  - ↑ Salivary FLOW
    - (i.e. hydration, warm compresses, sialagogues, massage of gland)
Sialadenitis

- Salivary gland ENLARGEMENT
  - OTHER causes
    - Systemic: i.e. Sjogren’s disease, sarcoidosis
    - Metabolic: i.e. alcoholism, DM, vitamin deficiencies
    - Drugs: i.e. iodine, thioureas
    - Tumor: 80% of salivary gland tumors in parotid
      - 80% benign in adults
III. Ear Disorders

- Acoustic Neuroma
- Barotrauma
- Cerumen Impaction
- Cholesteatoma
- Hearing Impairment
- Mastoiditis
III. Ear Disorders

- Meniere’s disease
- Labyrinthitis
- Tympanic membrane perforation
- Vertigo
- (Otitis media/externa)
Acoustic Neuroma

- UNILATERAL (usually)
- BENIGN
- UNILATERAL hearing LOSS
- ↓ speech DISCRIMINATION
- CONTINUOUS dysequilibrium
- Dx: MRI
- Tx: DEPENDS
  - Observation
  - Microsurgery
  - Radiotherapy
Barotrauma

- **Definition**
  - Injury caused by CHANGES in ATMOSPHERIC pressure between a potentially closed space and the surrounding area

- **Etiology**
  - Eustachian TUBE DYSFUNCTION
    - (i.e. congenital narrowness or acquired mucosal edema)

- **Clinical Findings**
  - Ear PAIN / HEARING LOSS
Barotrauma

- Treatment
  - Decongestants
  - Autoinflation
  - Myringotomy (immediate relief)
    - Making a small eardrum perforation
    - For severe otalgia and hearing loss
Barotrauma

- Patient Education Points
  - Swallow, yawn, autoinflate during decent
  - Systemic decongestants
    - (i.e. pseudoephedrine)
    - Take several hours before arrival
  - Topical decongestants
    - (i.e. phenylephrine nasal spray)
    - 1 hour before arrival
Barotrauma

- Diving
  - More barometric stress vs. flying
  - Avoid diving with URI or nasal allergy episodes
  - Tympanic membrane perforation
    - ABSOLUTE contraindication to diving
Cerumen Impaction

- Cerumen: “EARWAX”
  - Serves a protective function
    - Acidic pH inhibits bacteria

- Etiology
  - Usually SELF-induced
    - (i.e. cotton swab inside ear canal)
  - More common in ELDERLY
    - Age-related changes
      - More coarse, large hairs in ear
      - Cerumen gland atrophy leads to drier wax
Cerumen Impaction

- **CLINICAL Findings**
  - Sudden or gradual HEARING LOSS (uni- or bilateral)
  - Otoscope: OBSTRUCTION of canal by cerumen

- **Treatment**
  - **REMOVAL**
    - Detergent ear drops (i.e. 3% hydrogen peroxide)
    - Mechanical (i.e. curette)
    - Suction or irrigation (i.e. 50/50 mix of peroxide and WARM water)
Cholesteatoma

- Etiology: EUSTACHIAN tube DYSFUNCTION
  - (-) middle ear PRESSURE
  - TM deformation → SAC → FILLS up → INFECTION
  - EAT through BONE

- Exam: upper RETRACTION / PERFORATION with KERATIN / GRANULATION tissue

- Tx: SURGERY
Hearing Impairment

- CONDUCTIVE
  - Problem of external or middle ear (affects sound traveling to inner ear)

  - Causes
    - Obstruction: (cerumen impaction)
    - Mass loading: (middle ear infection)
    - Stiffness: (otosclerosis)
    - Discontinuity (ossicular disruption)

  - In adults, usually from cerumen impaction or URI (auditory tube dysfunction)
  - Persistent conductive loss (i.e. from chronic ear infection, trauma or otosclerosis)

  - Generally correctable with medical and/or surgical tx
Hearing Impairment

- **SENSORY**
  - Cochlear deterioration
    - Hair cell loss from the organ of Corti
  - Gradual, progressive mostly high frequency loss with AGING
  - OTHER common CAUSES
    - Noise
    - Head trauma
    - Systemic disease (i.e. DM)
  - Not correctable, but may be prevented/stabilized
    - Exception: sudden hearing loss - corticosteroids
Hearing Impairment

- Neural
  - LEAST COMMON cause
  - Lesions of nerve, neural pathway or CNS processing center
    - (i.e. acoustic neuroma, MS, cerebrovascular disease)
Hearing Impairment

Lab / Diagnostic Studies

- Physical EXAM
  - To whisper, spoken voice, or shout
  - Tuning forks (512-Hz) – conductive vs. sensorineural

- AUDIOMETRY
  - Thresholds
    - Normal hearing: 0-20 dB (soft whisper)
    - Mild loss: 20-40 dB (soft spoken voice)
    - Moderate loss: 40-60 dB (normal spoken voice)
    - Severe loss: 60-80 dB (loud spoken voice)
    - Profound loss: 80 dB (shout)
  - Speech discrimination testing
    - Clarity of hearing often lost with sensorineural problems
    - Normal: 90-100% correct
Mastoiditis

- **Etiology**
  - Usually AFTER acute OTITIS media that was inadequately treated

- **Clinical Findings**
  - POSTAURICULAR PAIN, erythema
  - FEVER

- **Lab / Diagnostic Studies**
  - X-ray
    - COALESCEENCE of mastoid air cells
      - From destruction of bony septa
  - CT
    - Imaging study of choice
Mastoiditis

- Treatment
  - Initially IV antibiotics (i.e. ceftriaxone)
  - Myringotomy: for culture / drainage
  - Surgical drainage (mastoidectomy)
    - With medical treatment failure
Vertigo

- **Definition**
  - SENSATION of MOTION
    - When there is none, or exaggerated sense of motion
  - Symptom of VESTIBULAR disease
  - “Tumbling, falling, ground rolling”
Vertigo

- PERIPHERAL Vestibulopathy
  - Usually sudden onset
  - Often with nausea / vomiting
  - Tinnitus & hearing loss
  - Horizontal nystagmus

- CENTRAL Origin
  - More gradual progression
  - Vertical nystagmus
  - MRI helpful
Vertigo

- **Clinical Findings**
  - Assess Romberg, gait, nystagmus
  - Nylen-Barany (Dix-Hallpike) maneuvers

- **Lab/Diagnostic Studies**
  - (i.e. audiologic testing, CT, MRI)
  - Indicated with persistent vertigo / suspected CNS disease

- **Symptomatic Treatment**
  - (i.e. meclizine, scopolamine)

- **Varied Differential**
  - (i.e. diplopia, cerebral lesion, seizure, systemic disease, drugs, alcohol)
Meniere’s Disease

Endolymphatic hydrops

Clinical Findings
1. VERTIGO
   ▪ REPEATED episodes (usually about 20 minutes-several hours)
2. HEARING LOSS
   ▪ Fluctuating, worse in lower ranges, progressive
   ▪ Usually UNILATERAL
3. TINNITUS
   ▪ Low pitched, “blowing”
4. Aural PRESSURE
Meniere’s Disease

- **Etiology**
  - Increased volume of endolymph (fluid)
  - Exact pathogenesis unknown

- **Clinical Findings**
  - **ACUTE episode**
    - Horizontal and / or rotary NYSTAGMUS
    - HEARING LOSS (may be mild)
    - Audiometry
      - Low-frequency pure tone loss
      - +/- impaired speech discrimination, increased sensitivity to loud sounds
Meniere’s Disease

- **Treatment**
  - Goal: lower endolymphatic pressure
    - Low salt diet (< 2 grams / day)
    - Diuretics (i.e. HCTZ, acetazolamide)
  - Meclizine or scopolamine for acute episodes
  - Surgery: if persistent, disabling, drug-resistant

- **General Points**
  - Vertigo resolves as hearing loss worsens
  - Majority (middle-aged) stabilize
Labyrinthitis

- VERTIGO
  - ACUTE onset, CONTINUOUS, usually severe
  - Several DAYS to a WEEK
  - With hearing loss, tinnitus
  - Recovery period (several weeks)
    - Rapid head movements → vertigo

- Etiology
  - ??? - Often AFTER URI

- Treatment
  - Meclizine (short-term), antibiotics (if febrile/bacterial infection symptoms), bed rest
Tympanic Membrane Perforation

- **Etiology**
  - **TRAUMA**
    - direct / penetrating
  - **PRESSURE CHANGES**
    - water / air (barotrauma, blast injuries)
  - **CHRONIC OTITIS media**
  - **IATROGENIC**
    - (i.e. foreign body removal)
Tympanic Membrane Perforation

- **Clinical Findings**
  - **SUDDEN** ear pain, vertigo, tinnitus, hearing change  
    *(AFTER SPECIFIC event)*
  - Otoscopy: slit-shaped TEAR or larger irregular DEFECT
  - Marginal vs. central
    - First is less common, extends more to TM edge
Tympanic Membrane Perforation

- Treatment
  - Antibiotics
    - NOT helpful UNLESS caused by OTITIS media
  - NO topical STEROIDS (impede closure)
  - Refer to ENT
    - For follow-up / possible repair
  - Most heal spontaneously (80%)
References

- Bates’ Guide to Physical Examination and History Taking, 10th edition
- Cecil Textbook of Medicine
- Current Medicine (2012)
A patient presents with nasal congestion and yellowish drainage x 10 days. On exam, he is afebrile but is tender over the cheek. Which of the following is the most likely diagnosis?

1. acute sinusitis
2. allergic rhinitis
3. chronic sinusitis
4. viral rhinitis

Diagram showing:
- acute sinusitis: 94%
- allergic rhinitis: 1%
- chronic sinusitis: 4%
- viral rhinitis: 0%
An otherwise healthy patient presents with nasal congestion and yellowish drainage x 10 days. On exam, he is afebrile but is tender over the cheek. Which of the following diagnostic tests is indicated at this time?

1. CT
2. MRI
3. X-ray
4. none of the above
A patient presents with nasal congestion and yellowish drainage x 10 days. On exam, he is afebrile but is tender over the cheek. He is allergic to penicillin. Which of the following is the best initial treatment?

1. amoxicillin-clavulanate
2. levofloxacin
3. moxifloxacin
4. trimethoprim-sulfamethoxazole

72%
13%
12%
3%
A 42-year old truck driver presents complaining of runny nose and itchy/watery eyes. On exam, his nasal mucosa appear pale. For the most likely diagnosis, which of the following is the best treatment?

1. OTC antihistamine  
2. intranasal corticosteroid  
3. leukotriene antagonist  
4. intranasal cromolyn

- OTC antihistamine
- intranasal corticosteroid  
- leukotriene antagonist  
- intranasal cromolyn
A 11-year old female presents with fever, sore throat, and painful swallowing, but denies any other cold/URI symptoms. On exam, she has a erythematous pharynx with exudate, and tender anterior cervical adenopathy. Which of the following is the most likely diagnosis?

1. diphtheria
2. mononucleosis
3. peritonsillar abscess
4. strep pharyngitis

[Diagram showing percentages: diphtheria 94%, mononucleosis 6%, peritonsillar abscess 0%, strep pharyngitis 0%]
A 24-year old lifeguard presents complaining of burning/stinging on his upper lip x 2 days. He is otherwise healthy. On exam, you find small, grouped vesicles on the vermillion border. For the most likely diagnosis, which of the following is the most appropriate treatment?

1. elective excision
2. systemic acyclovir
3. topical antiviral
4. none of the above

54%
A patient presents complaining of sudden ear pain and change in hearing after using a cotton swab in the ear canal. For the most likely diagnosis, which of the following is correct?

1. Topical antibiotics are indicated.
2. Most cases resolve spontaneously.
3. Topical steroids should be used.
4. none of the above