# Diagnosis of ENT Disorders: You Make the Call

## A127 Audience Response Case Discussion

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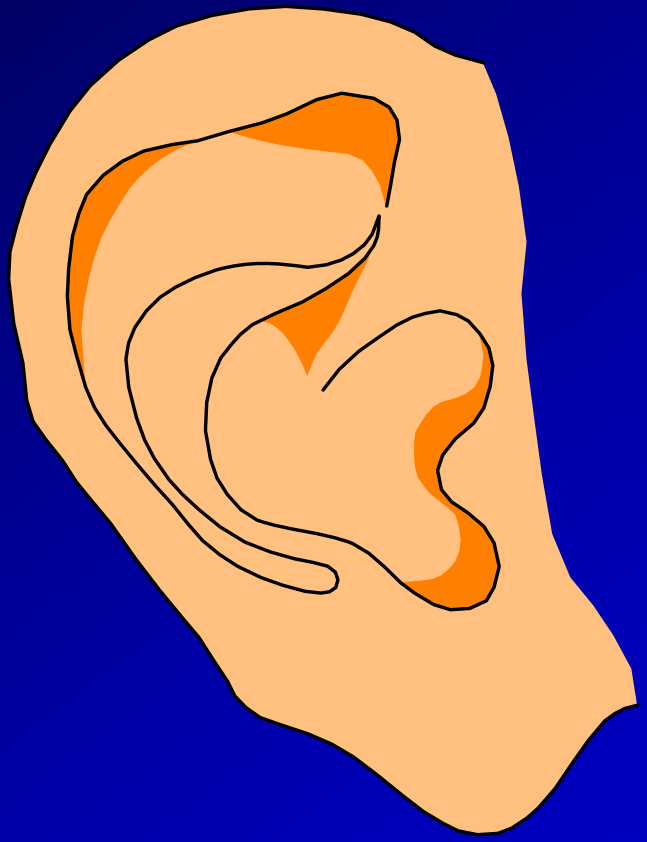
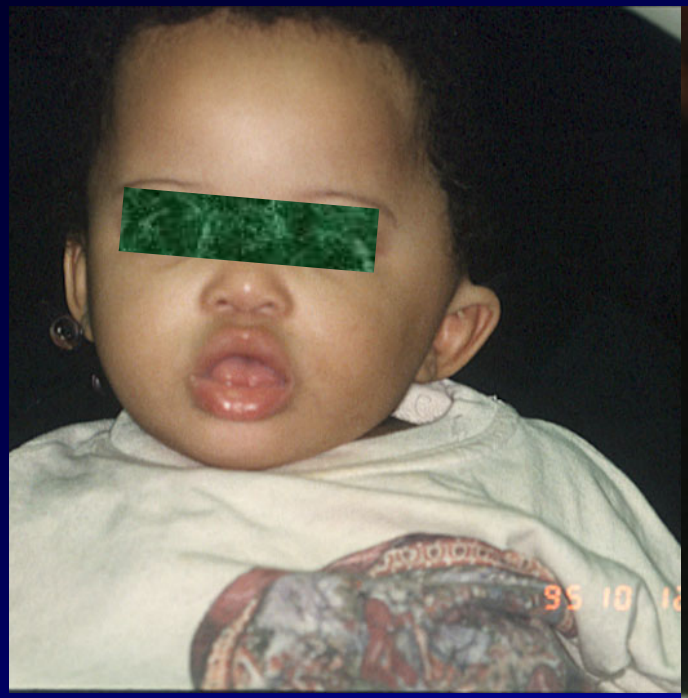
# Faculty Disclosure Information

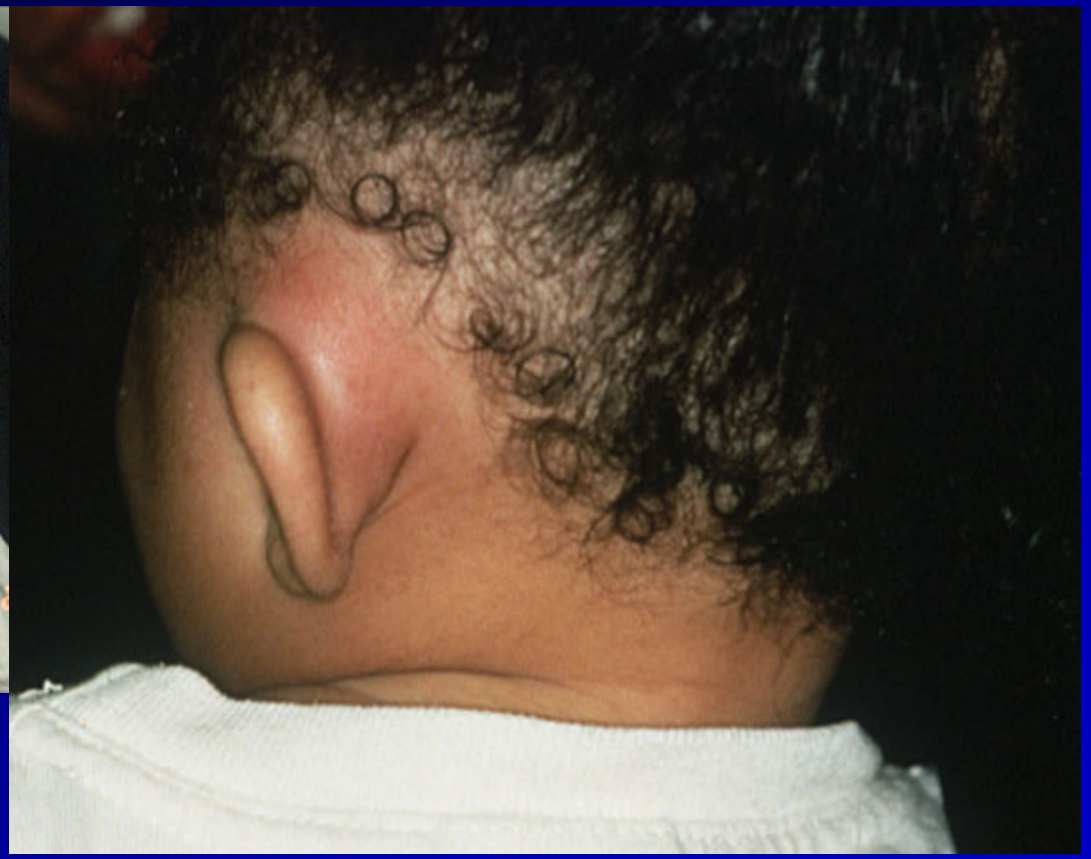
- In the past 12 months, we have not had significant financial interests or other relationships with the manufacturers of products that will be discussed in our presentation.

- This presentation will include discussion of pharmaceuticals which are not approved by the FDA or “off-label” uses
  - Medications to inhibit or treat
    - Scar formation
    - Recurrent respiratory papillomas
    - Otorrhea
    - Lymphangioma

# EARS



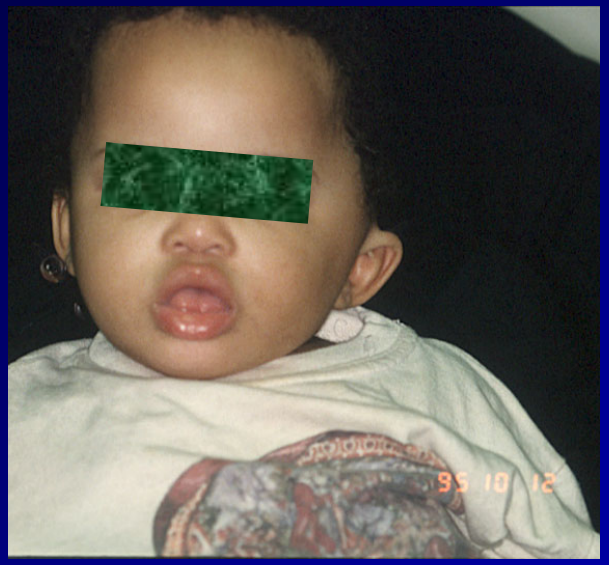


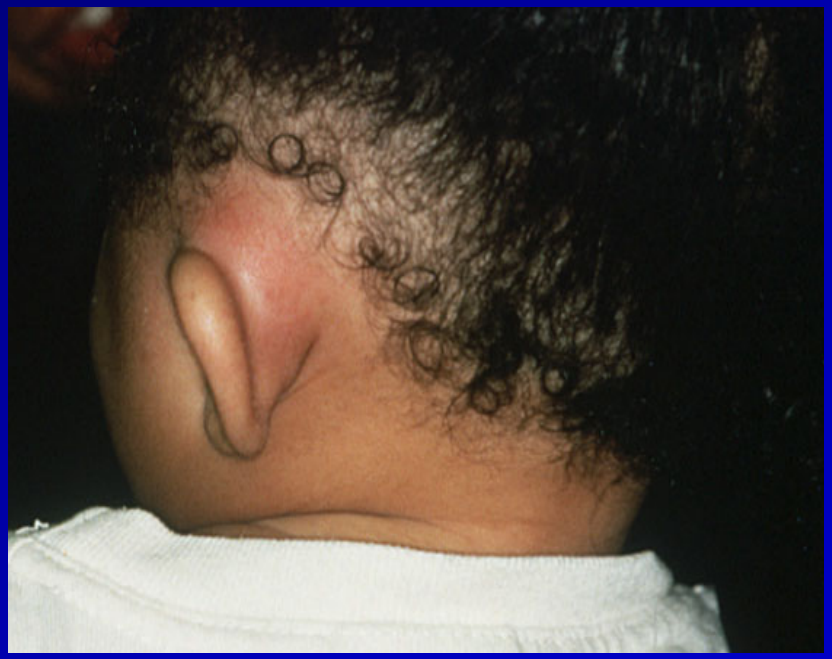


Family reports acute otitis media a couple of weeks ago, which seemed to have resolved. Otherwise she was well until this morning.

On examination, there is no tragal tenderness, canal edema or otorrhea.

# Acute Coalescent Mastoiditis



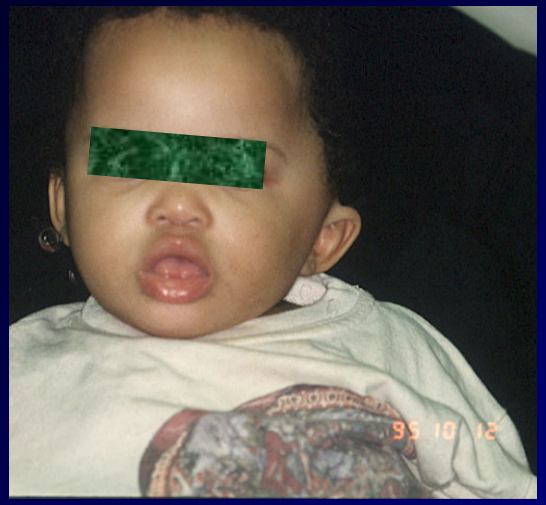


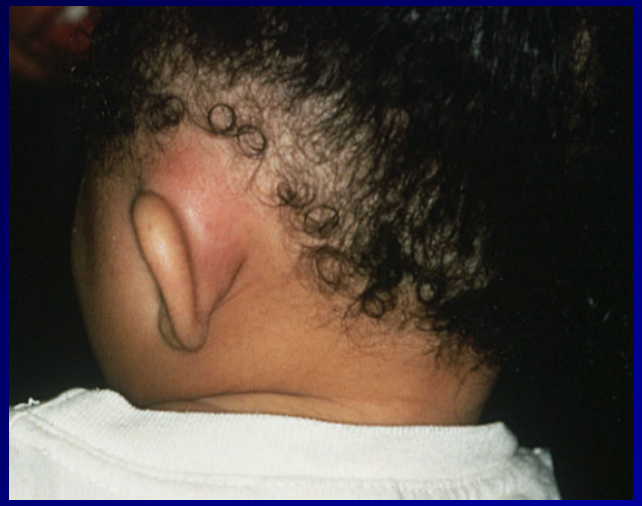
Notice:

Pinna is “down and out”

Effacement of post-auricular sulcus

Epicenter is over the mastoid antrum





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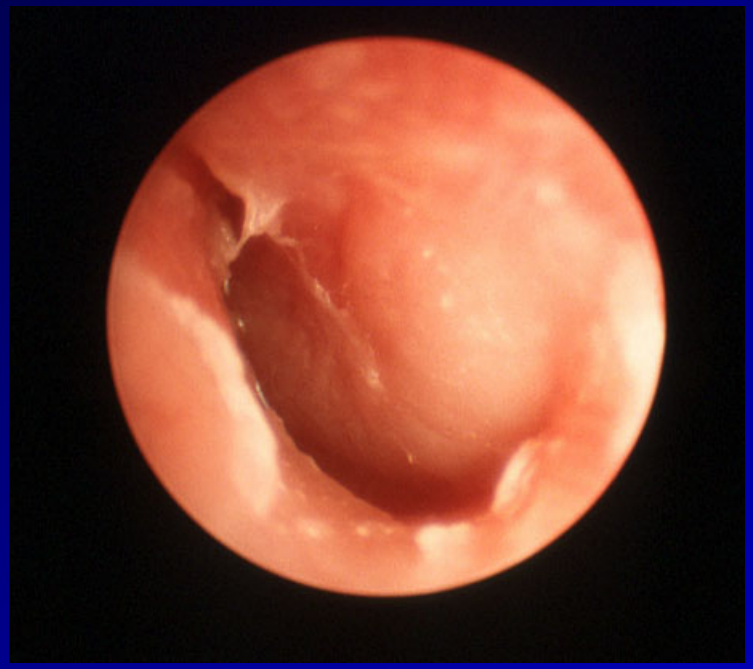
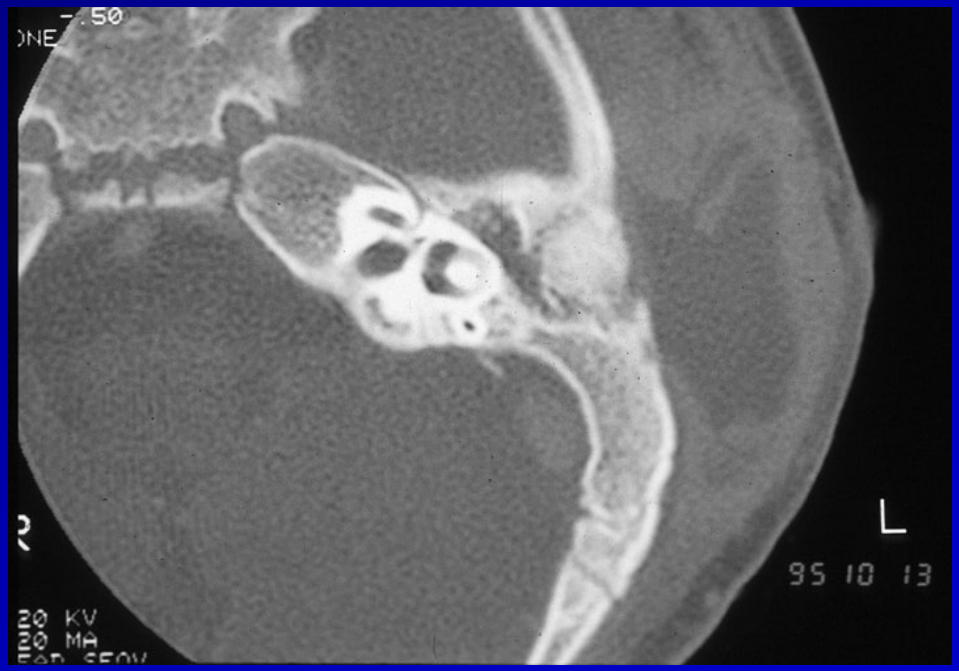
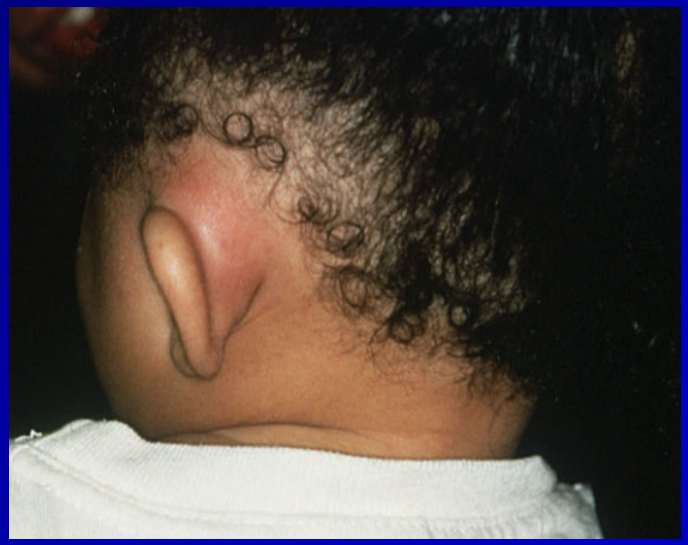




# Acute Coalescent Mastoiditis

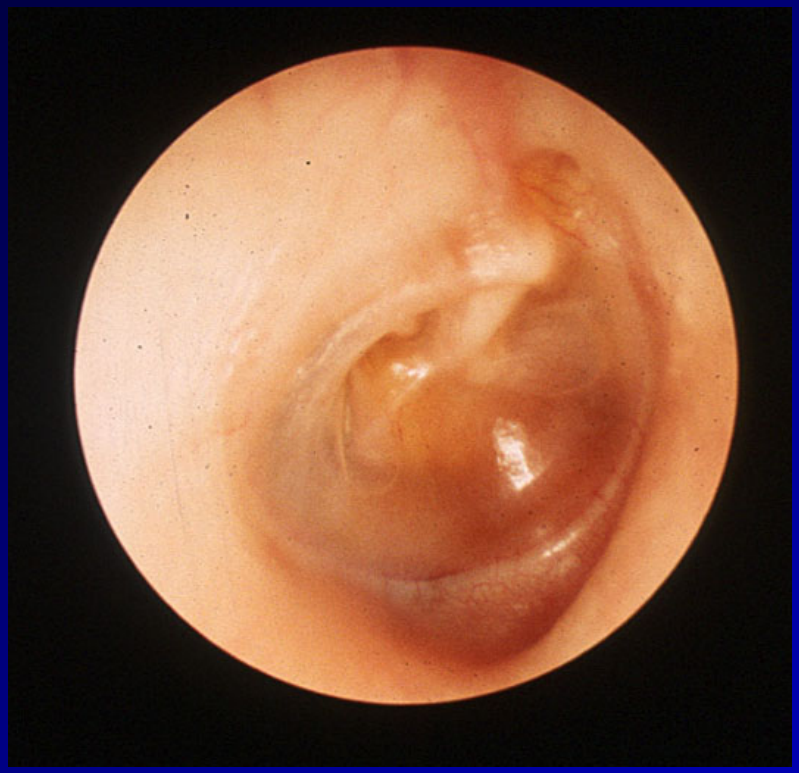


Diagnosis:  exam, CT scan

Treatment:

- intravenous antibiotics
- myringotomy +/- tube
  - or laser fenestration +/- tube
- +/- I&D of subperiosteal abscess
- +/- mastoidectomy
- ? steroids if facial nerve paralysis
- MRI if suspicious of intracranial complication

# Otitis Media with Effusion

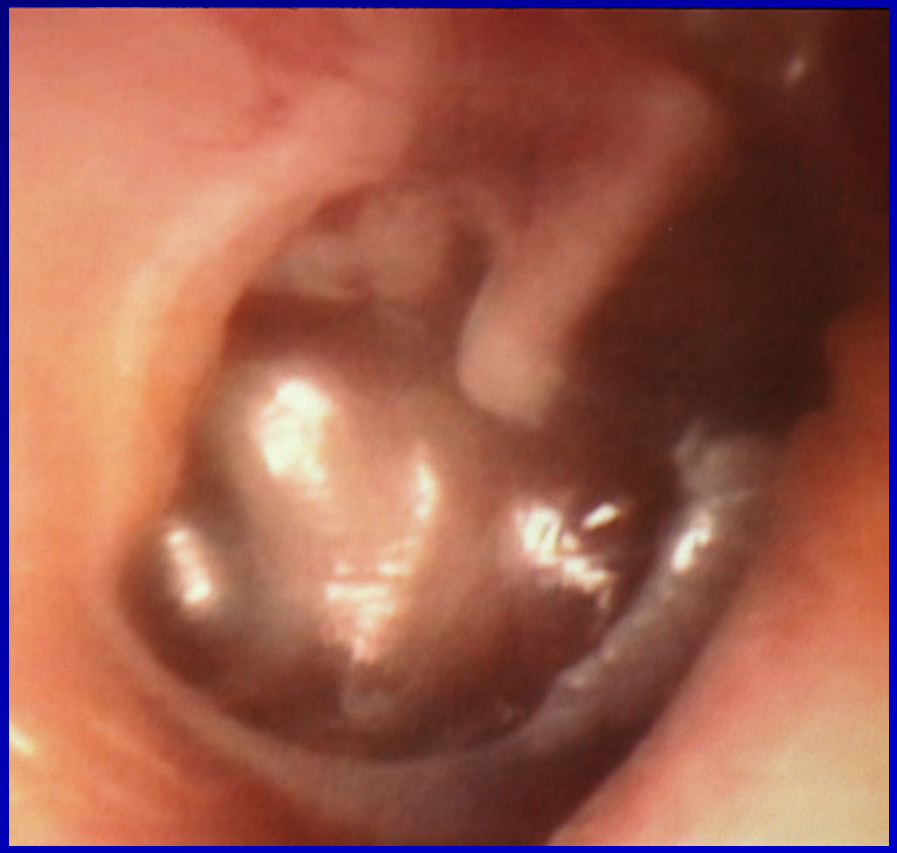


Can be symptomatic (pain or hearing loss) or can be a "Silent Effusion"

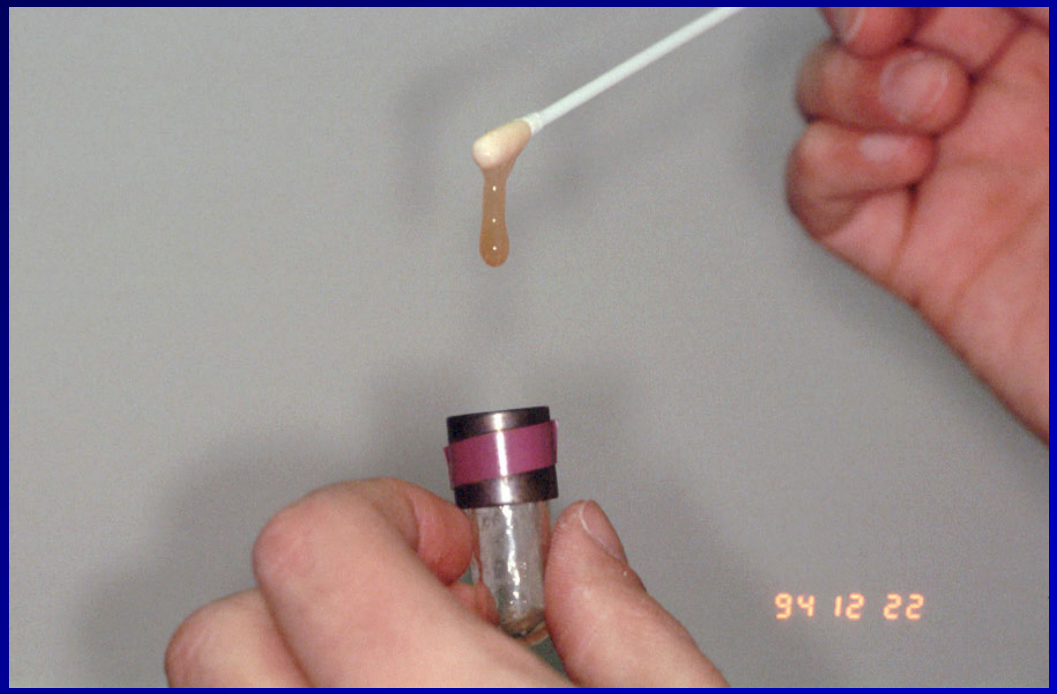
May cause hearing loss and, if severe, destruction of ossicles, without other symptoms.

# What condition is this?

1. Acute otitis media
2. Cholesteatoma
3. Chronic eustachian tube dysfunction
4. Tympanic membrane perforation



# Otitis Media with Effusion: "Glue Ear"

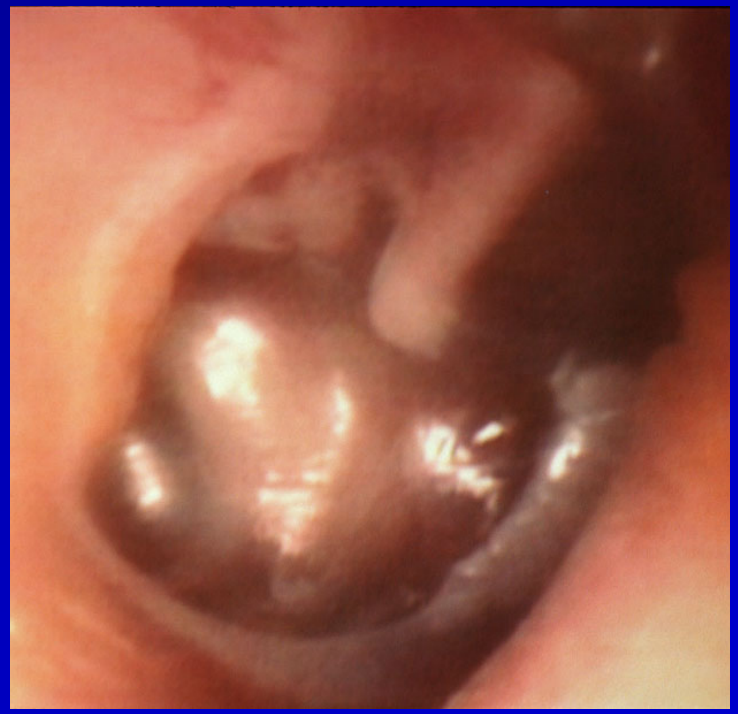


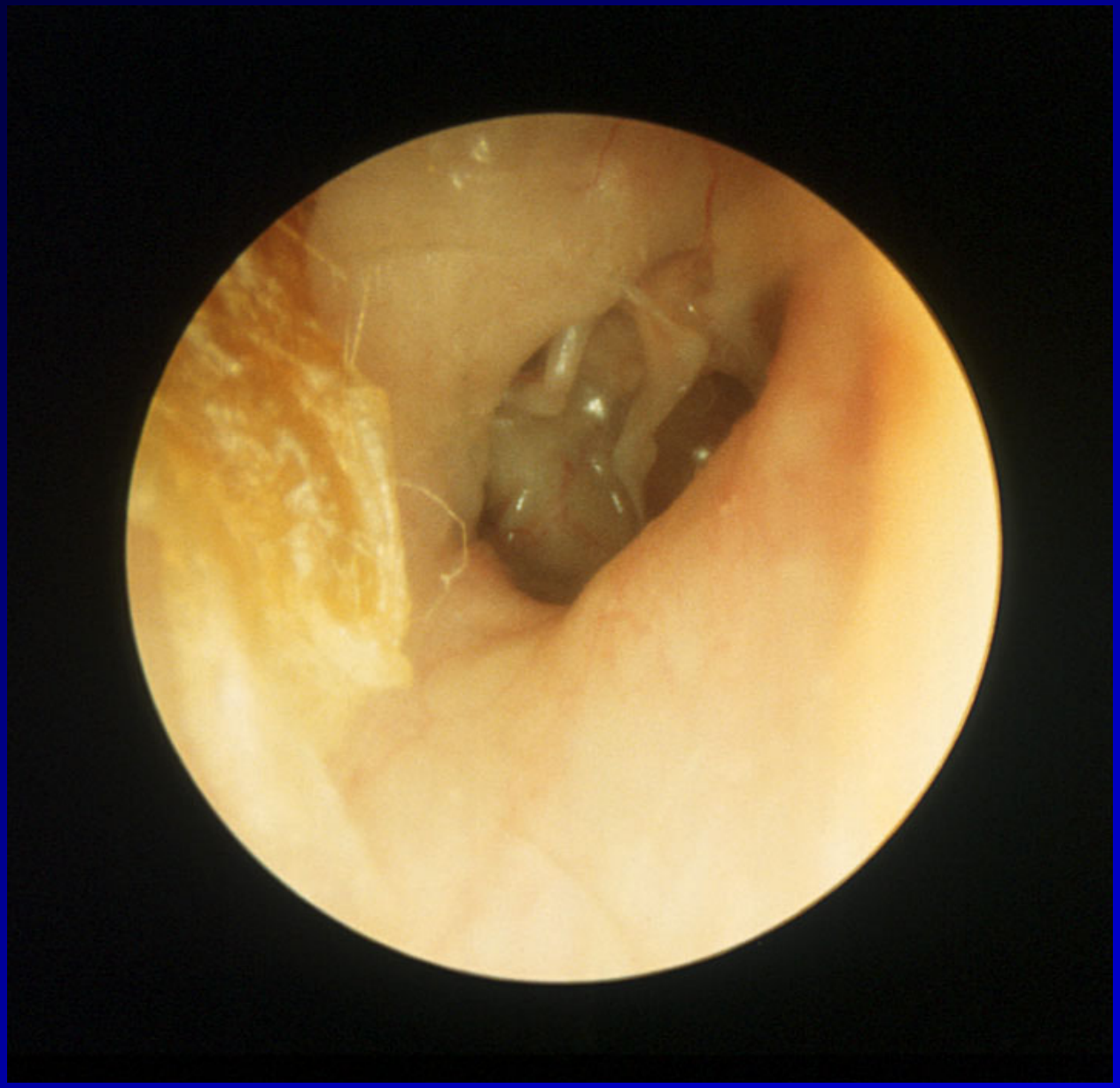

Despite tympanic membrane retraction, a thick middle ear effusion may be present.

# Eustachian tube dysfunction

- Treatment considerations for this patient may include all of the following EXCEPT:

1. Treat nasal or nasopharyngeal obstruction
2. Remove adenoids
3. Place tympanostomy tube
4. Tympanoplasty
5. Watchful waiting





# What is the best diagnosis?

1. Tympanosclerosis
2. Tympanic membrane perforation
3. Cholesteatoma
4. Otitis media with effusion
5. Other

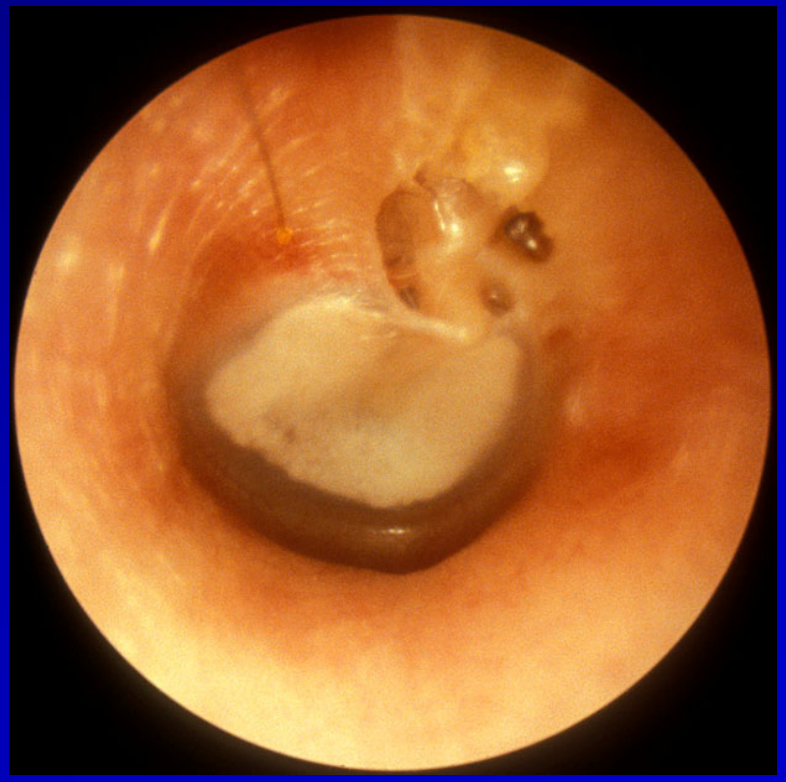
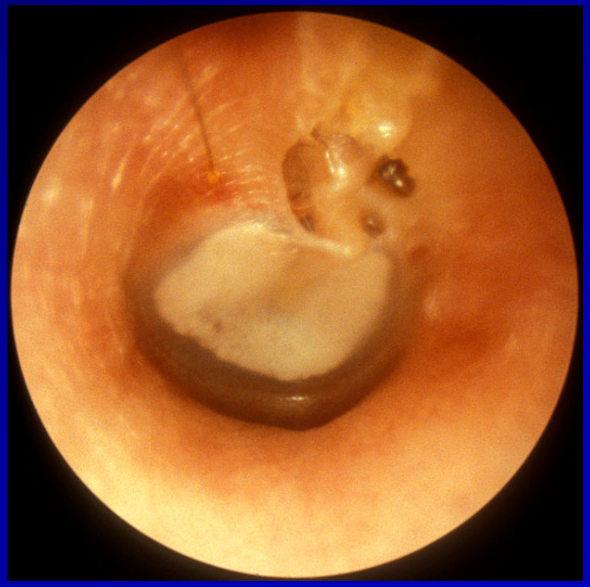


Image courtesy of Glenn Isaacson, MD

# What causes tympanosclerosis? (aka myringosclerosis)

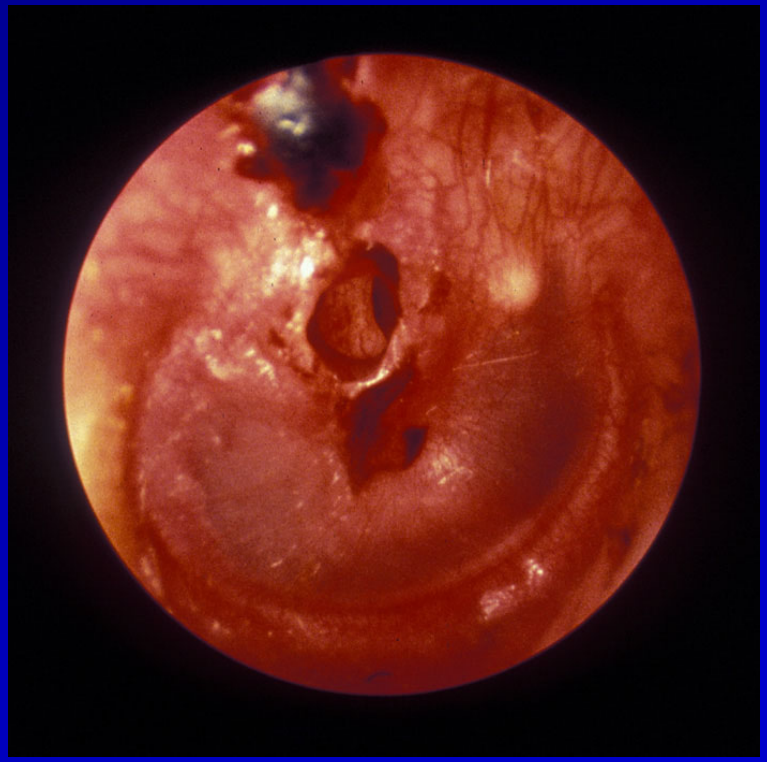


1. Tympanostomy tube
2. Chronic ear disease
3. Tympanic membrane perforation
4. Other

A 5 yo boy accidentally injured his right ear with a wooden matchstick. He had bloody otorrhea, otalgia, vertigo, nausea and an unsteady gait.

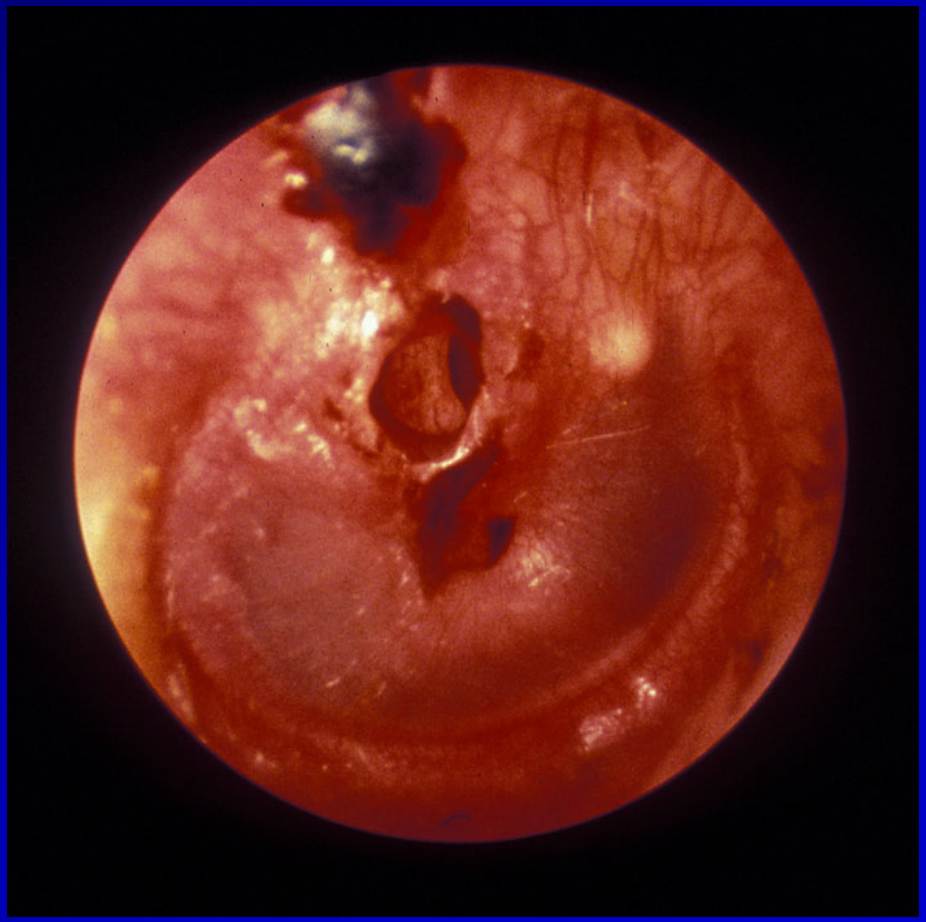
The best management is:

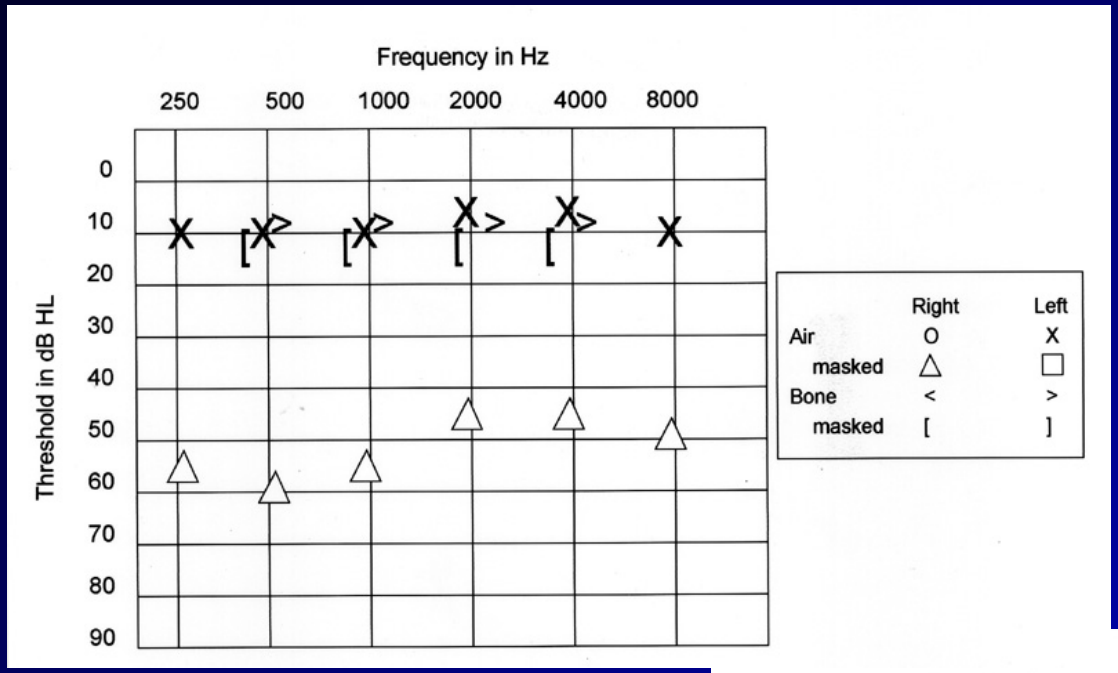
1. Ear drops, refer to ENT
2. Oral antibiotics, refer to ENT
3. Ear drops, oral antibiotics and refer to ENT
4. Urgent referral to ENT



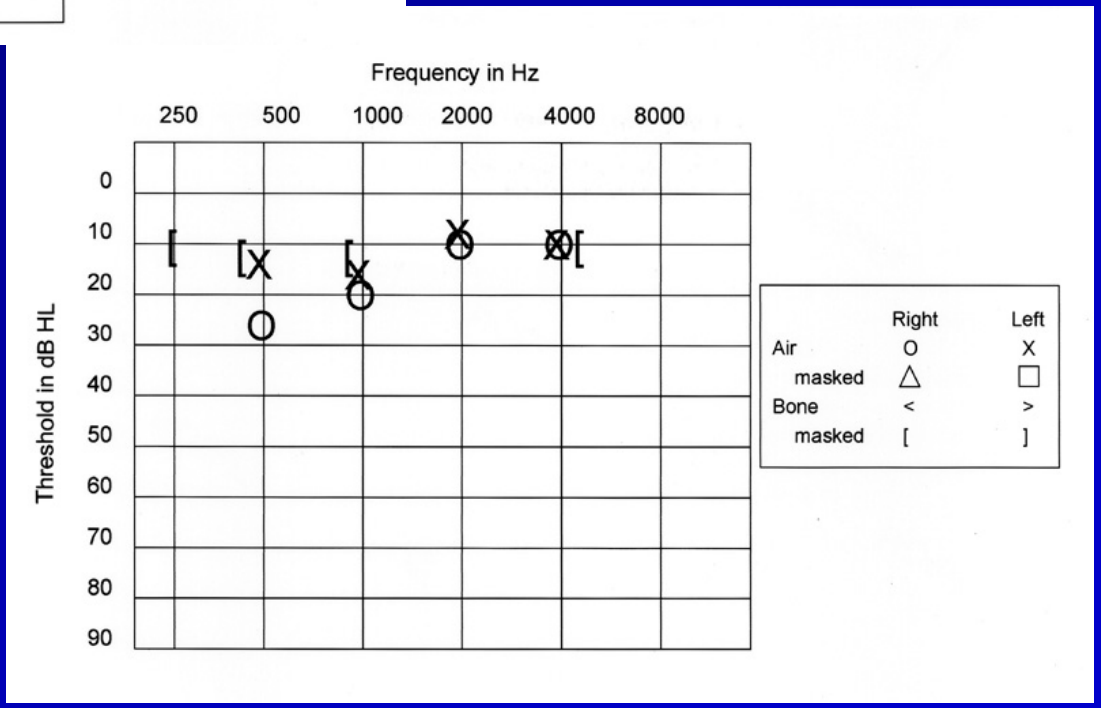
# Posterosuperior Tympanic Membrane Perforation

- Emergency if
  - Posterosuperior quadrant
  - Vertigo
  - Emesis
  - Ataxia
- Risk of
  - Inner ear damage
  - Sensorineural hearing loss






Pre-operative audiogram




Post-operative audiogram

# Otorrhea

The family of a 2 year old calls because he has thick white drainage in his ear canal.

He underwent placement of middle ear ventilation tubes about 6 months ago.

He is otherwise well, has not been swimming, and his family denies trauma.

# Does otorrhea mean that the middle ear ventilation tube is working?

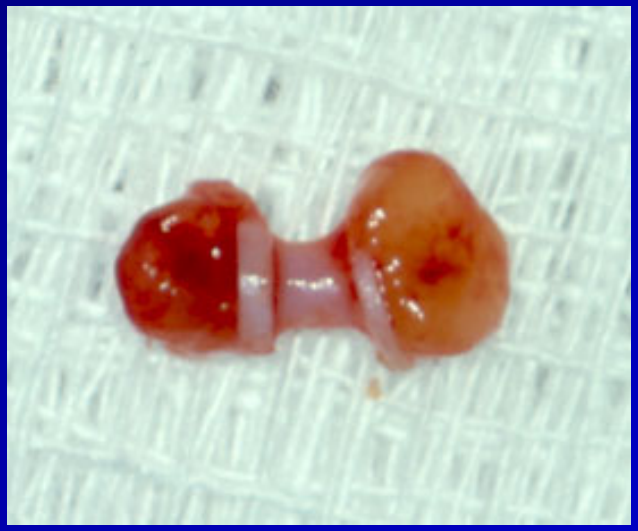
1. YES
2. NO

# Otorrhea

For uncomplicated tube otorrhea,
I recommend EAR DROPS:

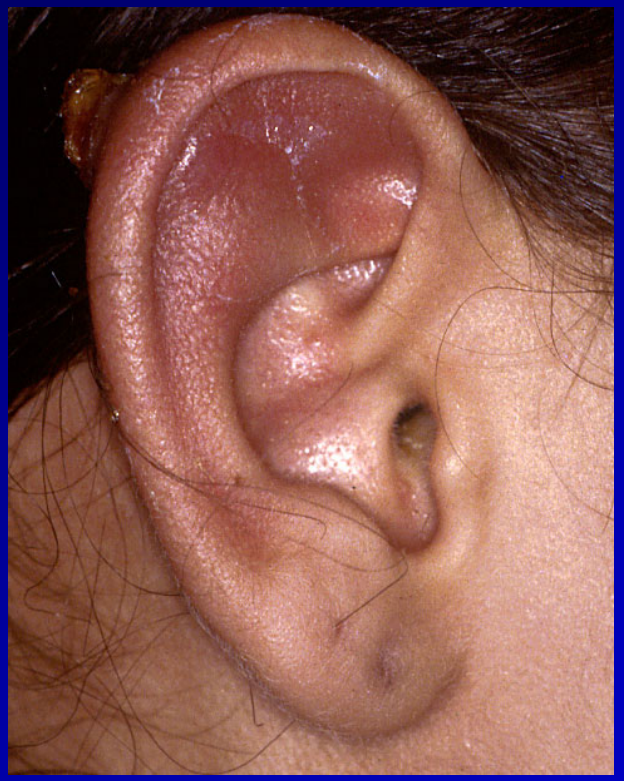
1. Never
2. Rarely
3. Occasionally
4. Usually
5. Always

# Treatment of Tube Otorrhea



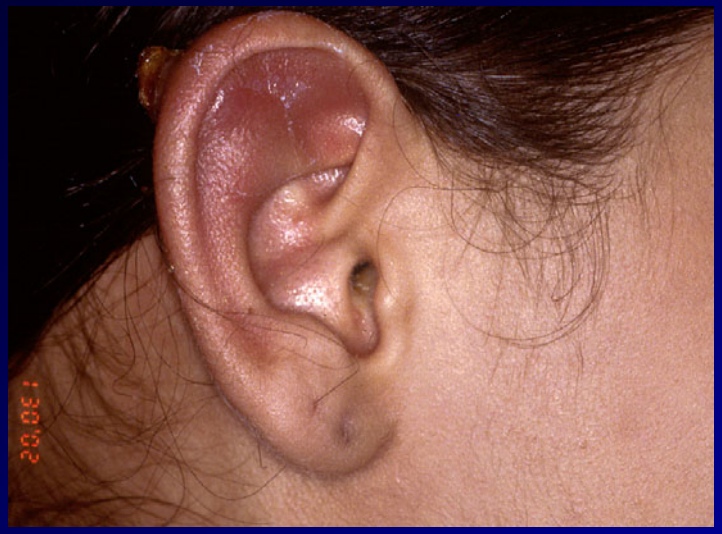
- EAR DROPS!
  - Antibiotic with steroid
- Aural toilet, remove granulation tissue; consider placing a wick
- Consider culture
- Consider oral antibiotic if other URI symptoms or treatment failure

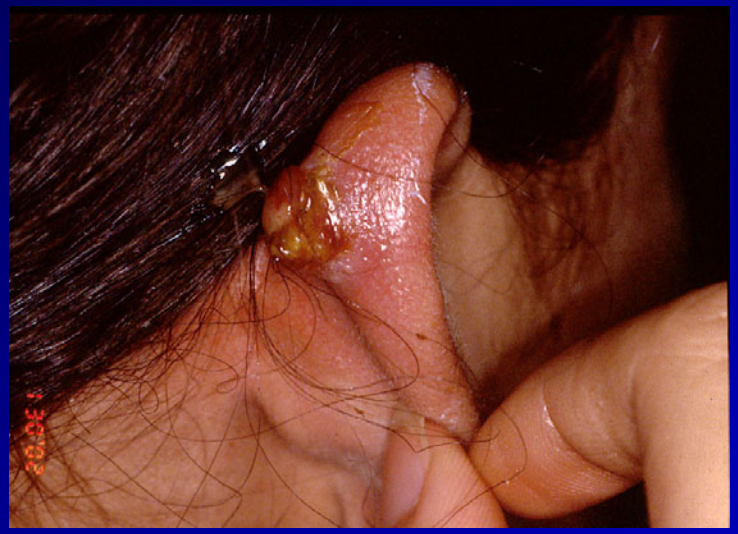
# Acute Perichondritis



- Often Pseudomonas, can be Staph., etc.
- Treatment:
  - IV Antibiotics
    - Cefepime (4th gen) active against Staph. and Pseudomonas
    - Ceftazidime, Imipenim (3rd gen) active against Pseudomonas, poor against Staph
  - Debridement

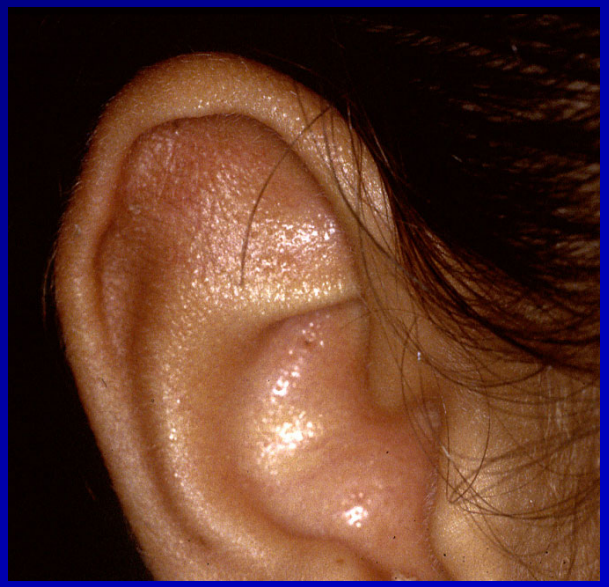
# Acute Perichondritis

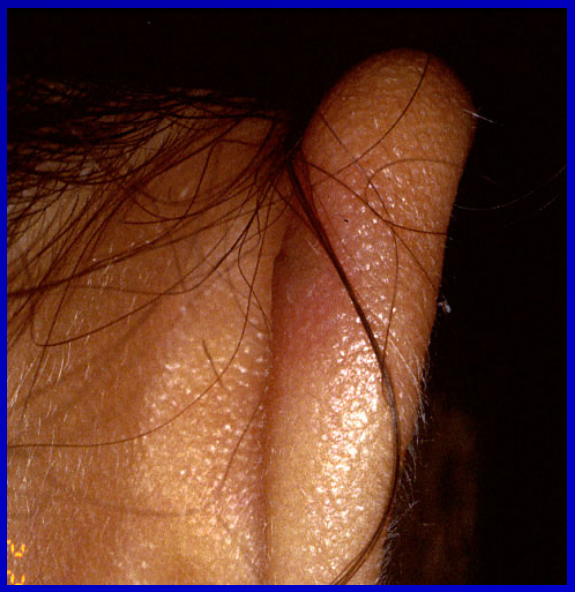


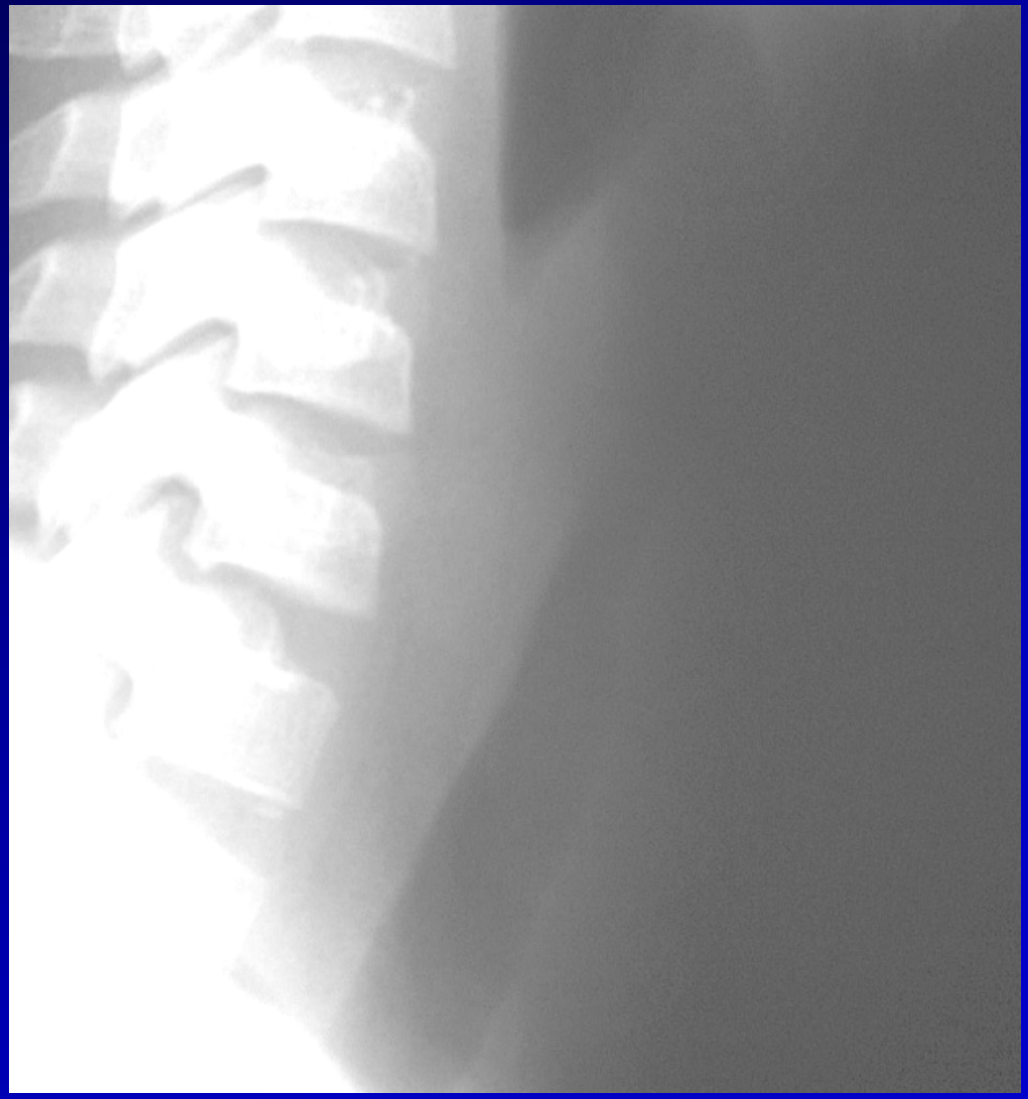


Before treatment

After treatment







# Relapsing Polychondritis

- Differential Diagnosis:
  - acute perichondritis
- Diagnosis: ≥ 3 of McAdam's criteria

# Relapsing Polychondritis

McAdam's criteria*: ≥3 of the following:

- recurrent bilateral auricular chondritis
- non-erosive inflammatory polyarthritis
- nasal cartilage chondritis
- ocular inflammation
- laryngotracheal chondritis
- vestibulocochlear inflammation

Tx: corticosteroids, cyclosporin (dapsone in adults)

*McAdam LP, O'Hanlan MA, Bluestone R, Pearson CM. Medicine 1976;55:193-215

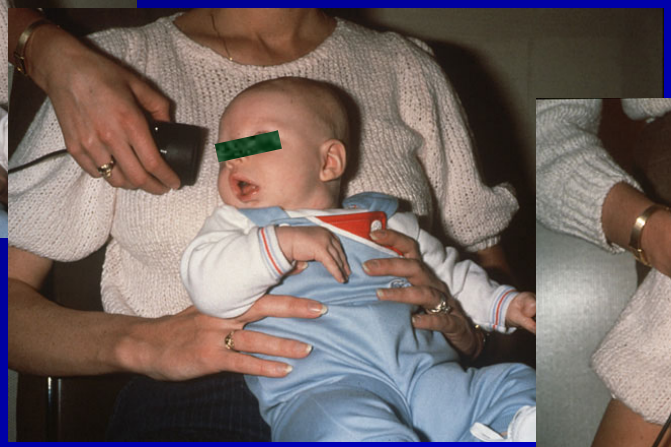
# Hearing Assessment

Given a skilled audiologist and a cooperative child, the best hearing test is

1. ABR / BEAR / AEBR
   (auditory evoked brainstem response)
2. OAE (otoacoustic emissions)
3. Behavioral audiogram

# Behavioral Hearing Assessment: Behavioral Observation Audiometry

- Ages • Birth - 4 months
- Response • eye widening, wakening, startle, quieting, head-turn



**Photos courtesy of Aly Lent**

# Behavioral Hearing Assessment: Visual Reinforcement Audiometry

Ages • 6 months - 2 years

Response • head-turn

Photo courtesy of Aly Lent

# Behavioral Hearing Assessment: Conditioned Play Audiometry

- Ages • 2 to 5 years
- Response • perform task
- Yield • full audiogram

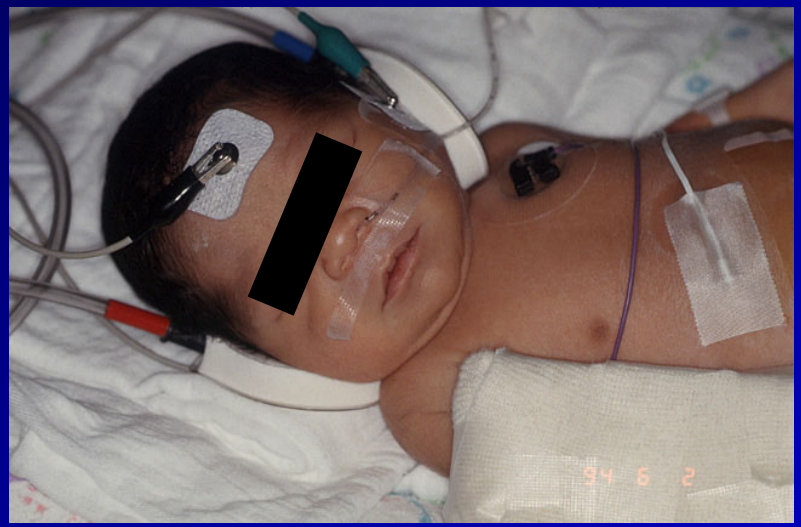
Photos courtesy of Aly Lent

# ABR
# (ABER, BEAR, etc.)

Auditory evoked brainstem response

Test for:

- Threshold
- Site of lesion



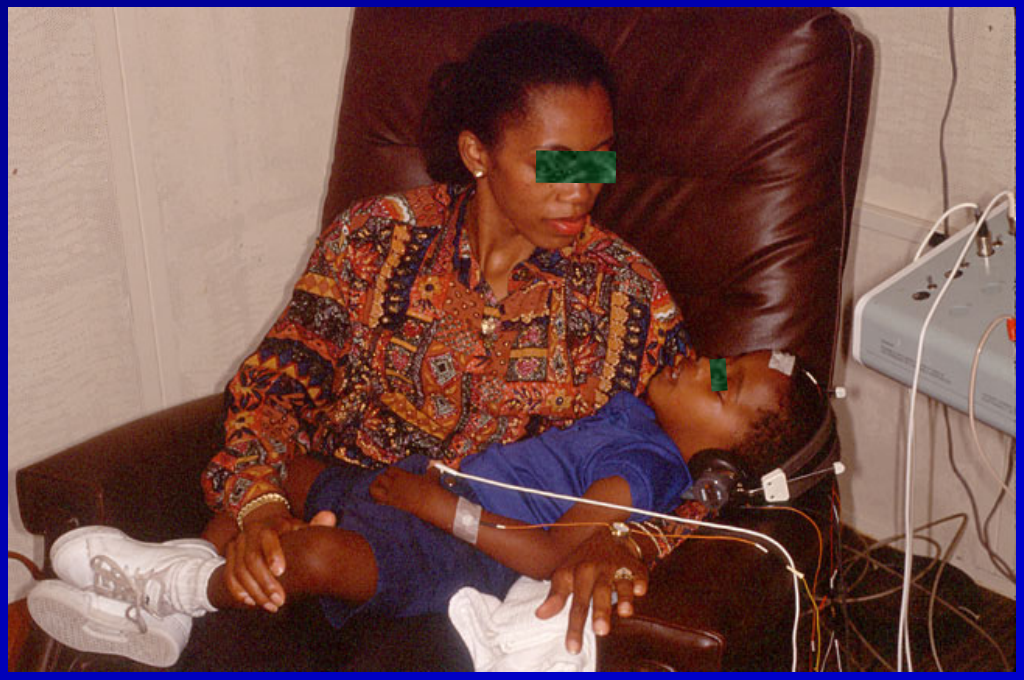
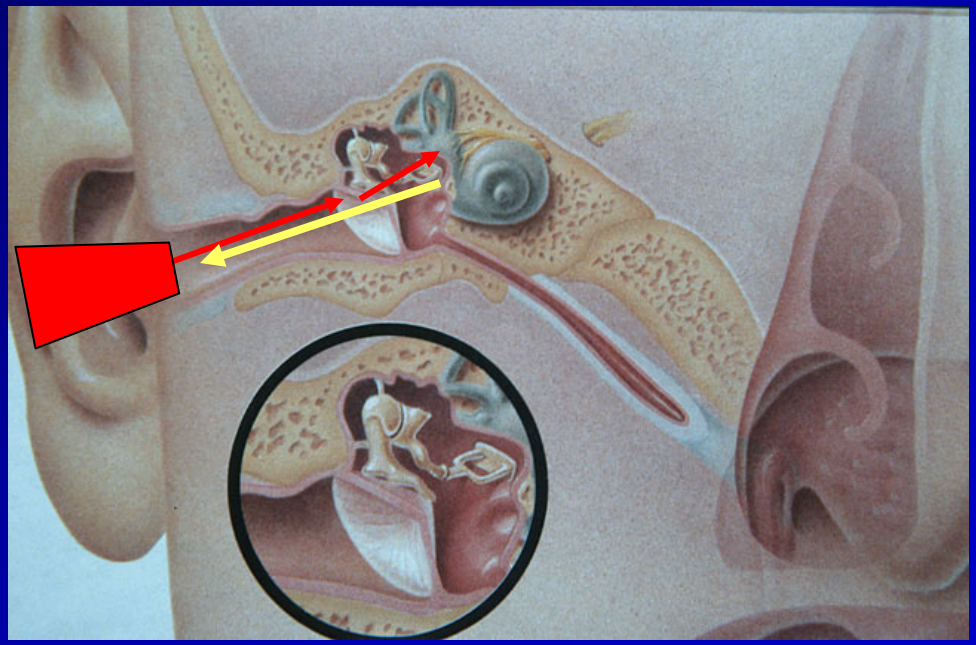


Photo courtesy of Aly Lent

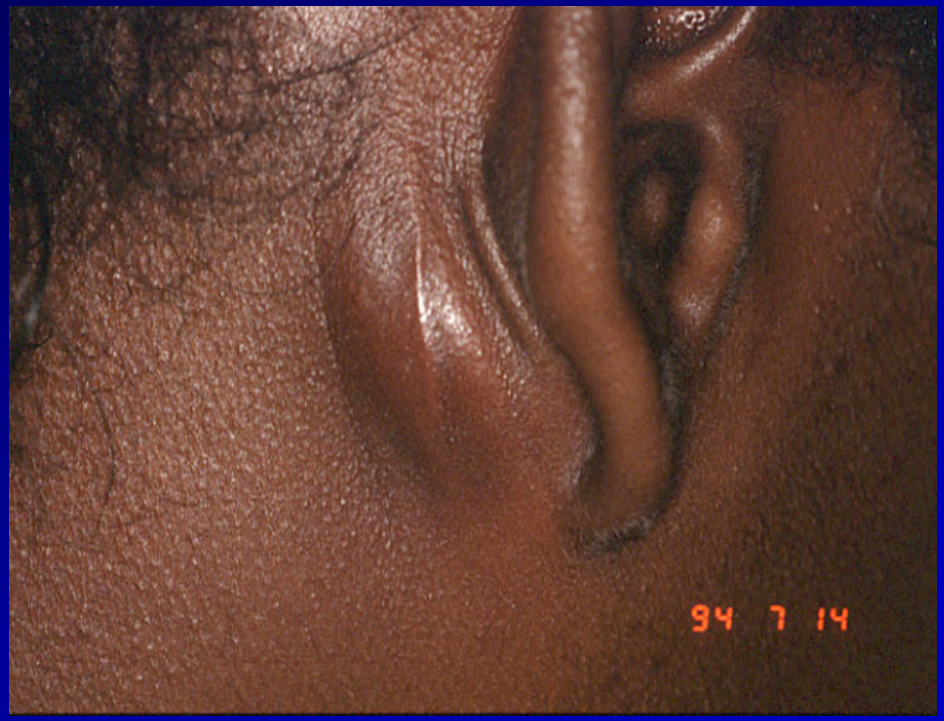
# Otoacoustic Emissions "OAEs"

- sounds generated in the cochlea, recorded by microphones in EAC
- "present" is normal



Schering handout

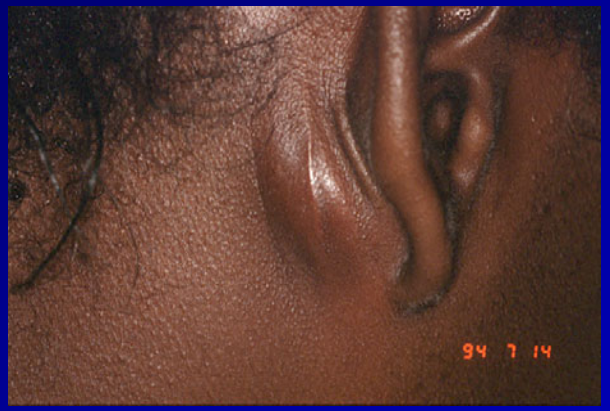
# 1st Branchial Cleft Cyst




Notice:

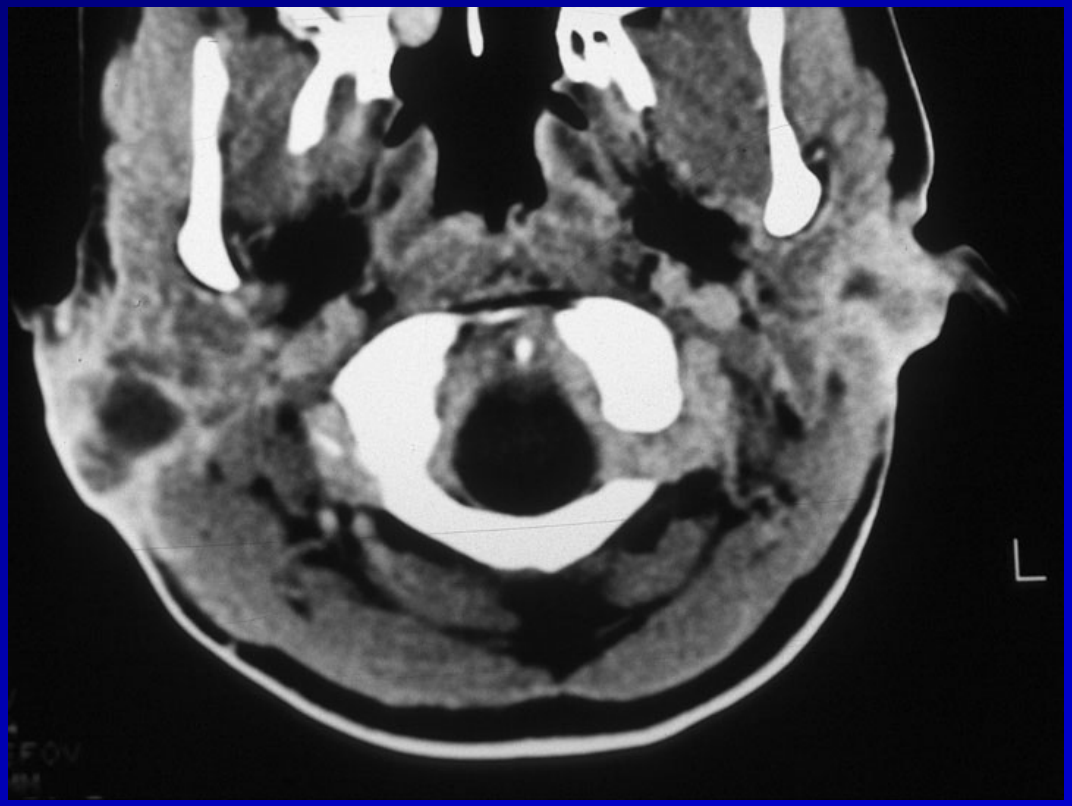
- location: inferior post-auricular sulcus
- evidence of recurrence

# 1st Branchial Cleft Cyst




Diagnosis:

- clinical
- CT
- ?U/S, ?MRI



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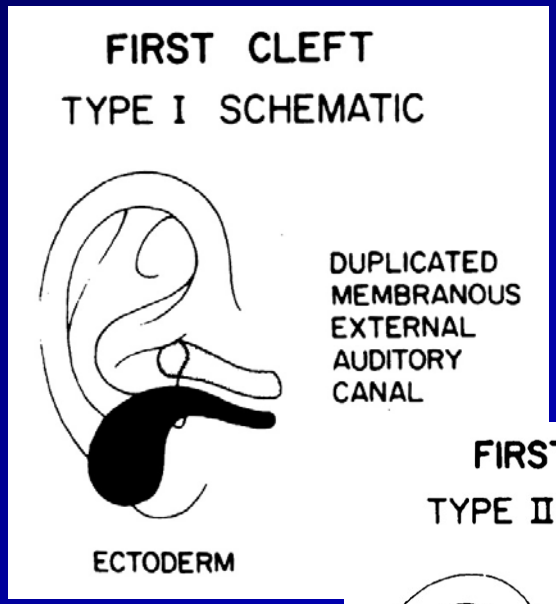
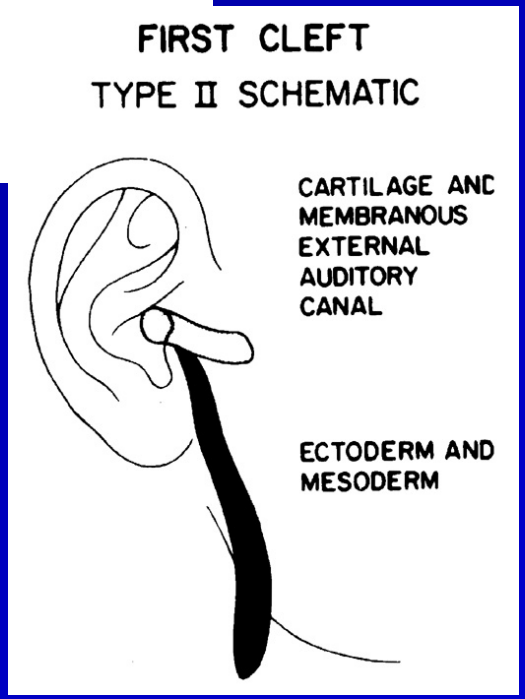
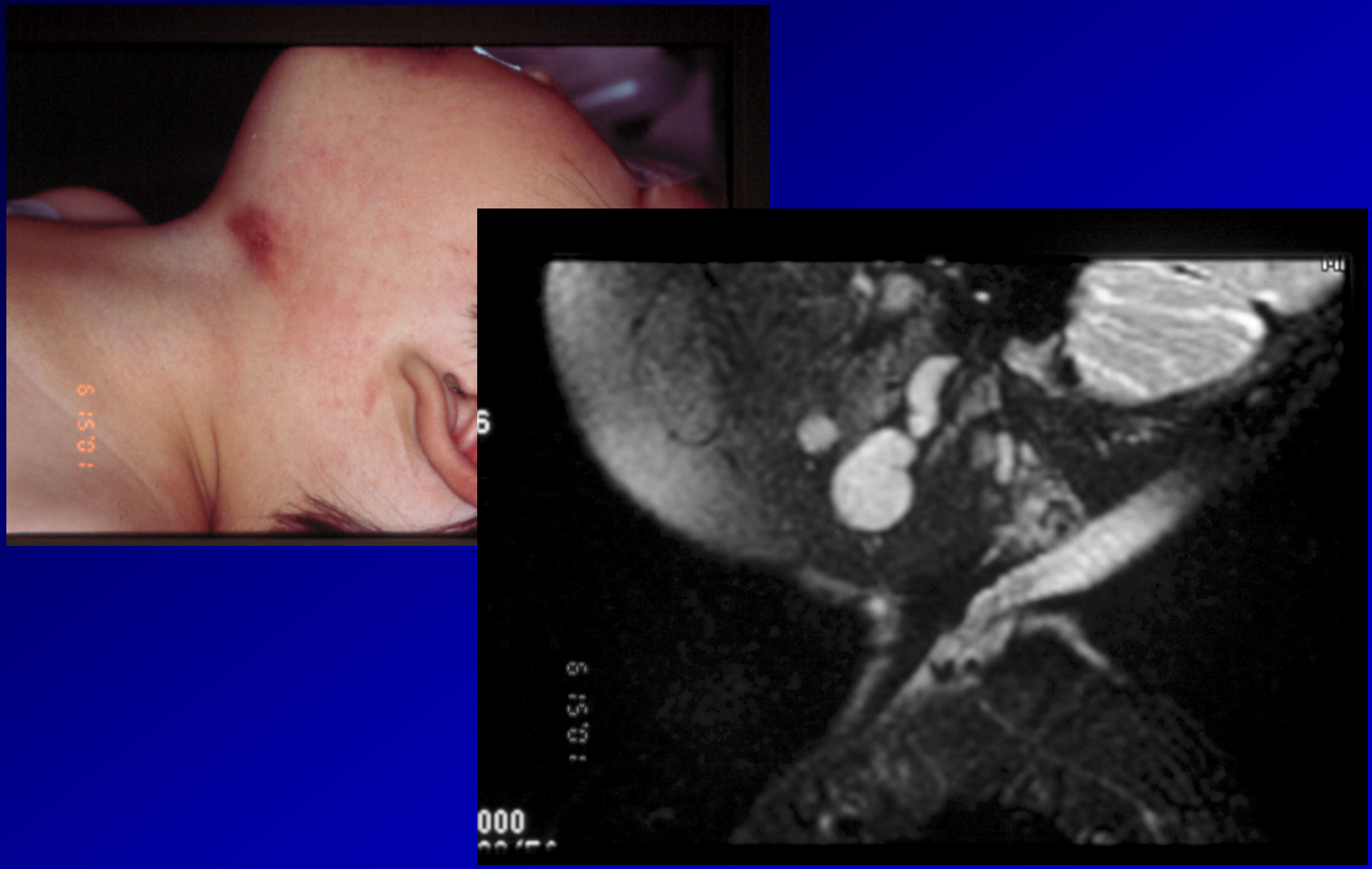



- Type I cyst is medial to the concha, often in post-auricular crease
- Type II may be found below the angle of the mandible, along the anterior border of SCM, superior to hyoid bone
- can cause otorrhea

**Diagnosis & Management of Congenital Head &Neck Masses SIPAC 1981 AAO-HNS**

# 1st Branchial Cleft Cyst



# 1st Branchial Cleft Cyst

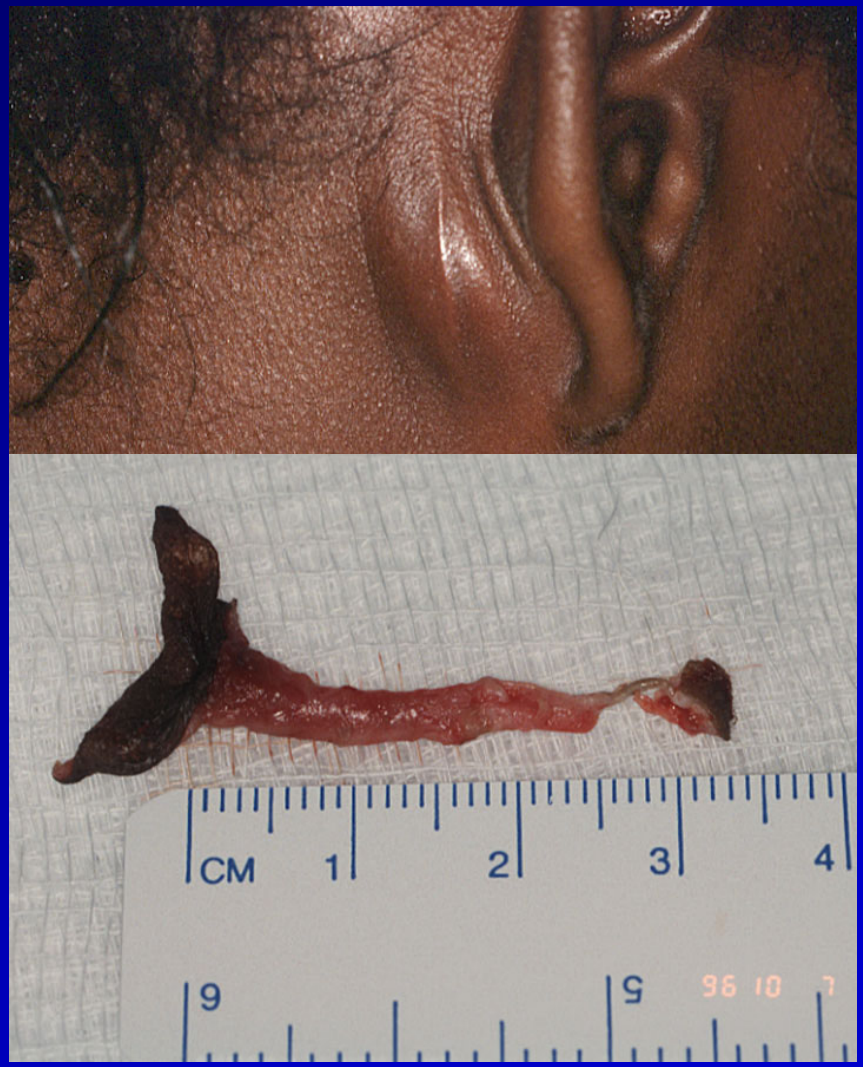
Treatment:

Acute:

- antibiotics
- avoid I&D

Definitive

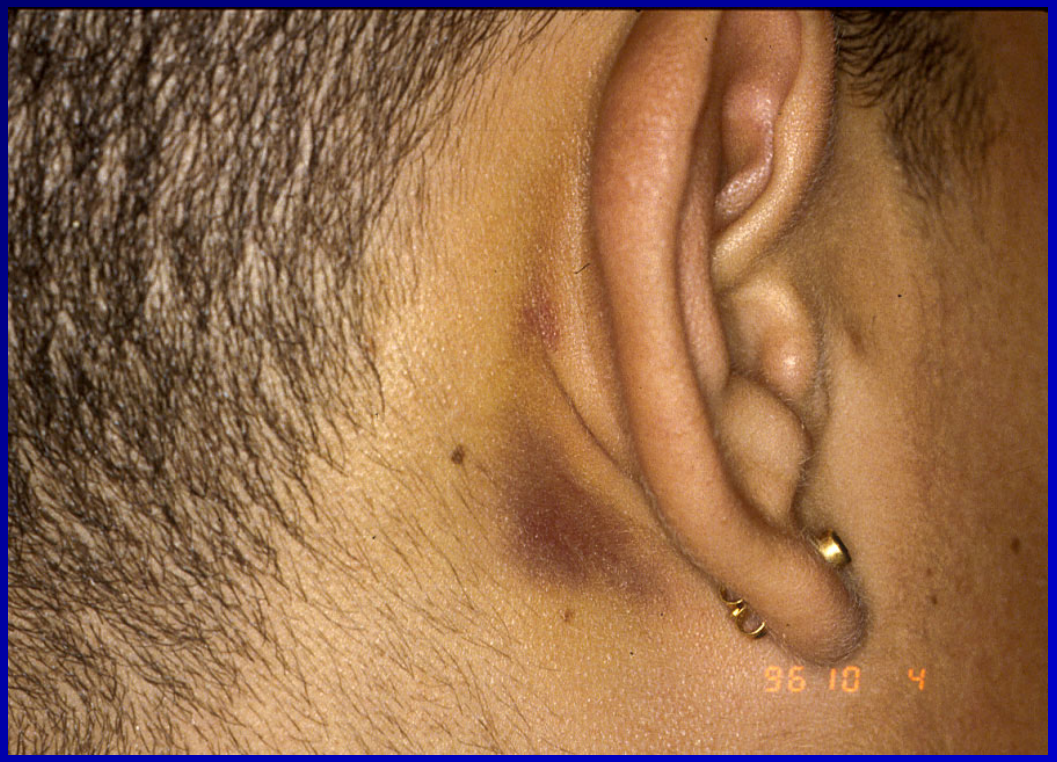
- excision after inflammation subsides but before involution occurs



# Temporal Bone Fracture

Notice: ecchymosis over mastoid tip

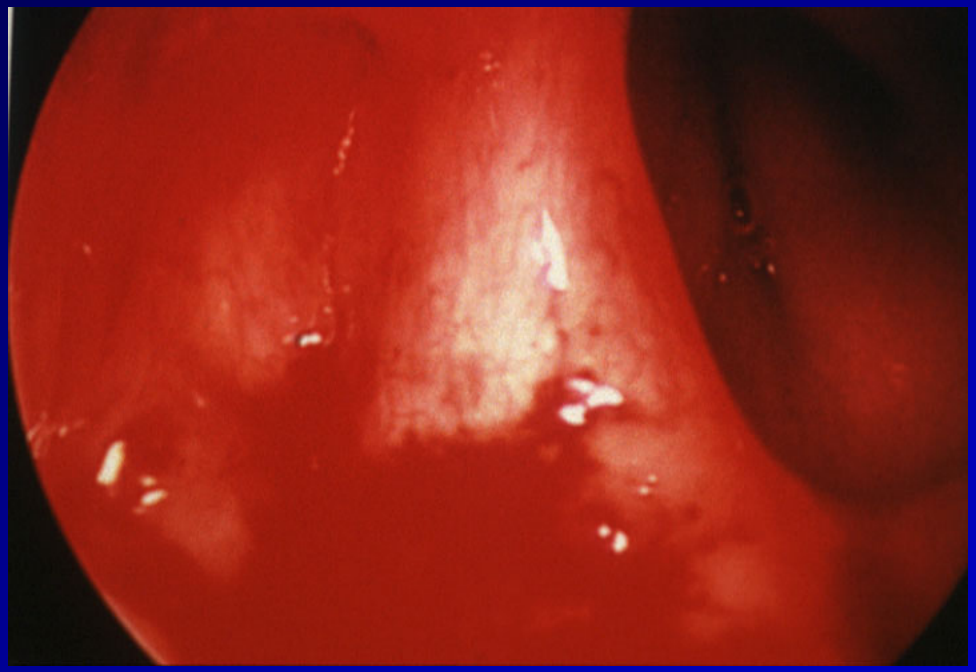
- Evaluate
  - Ear canal and tympanic membrane
  - Facial Nerve
  - Hearing
- Consider CT Scan

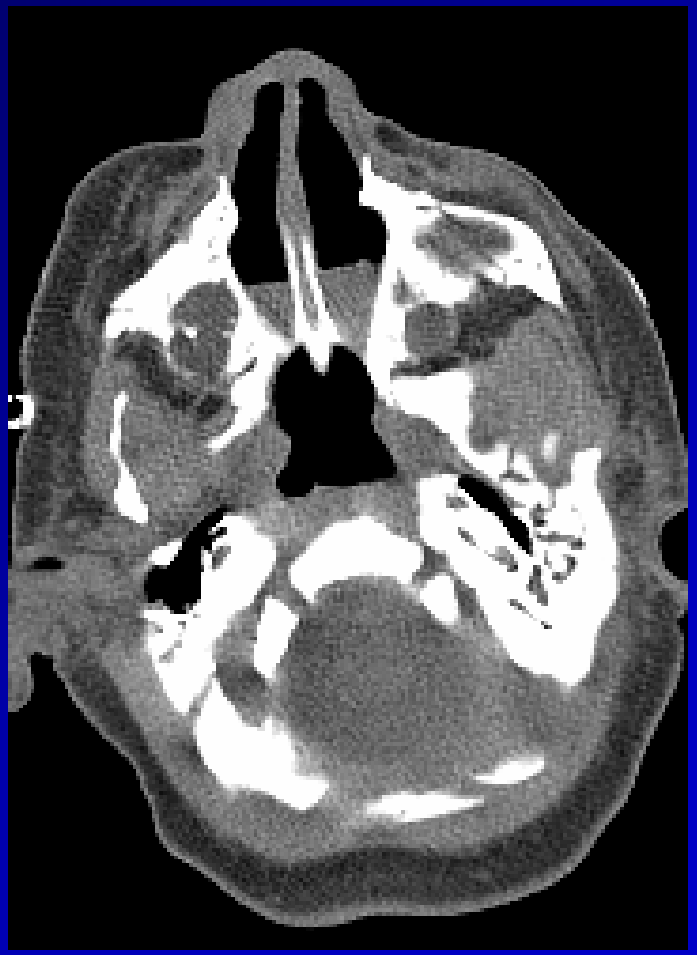


# NOSE

# Choanal Atresia

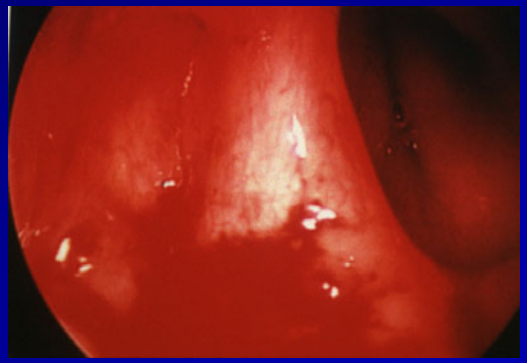
View of unilateral choanal atresia from nasopharynx





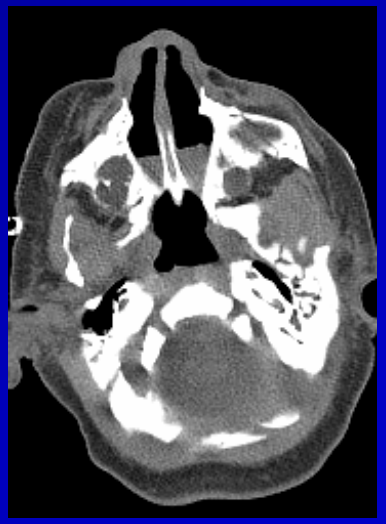
CT scan of bilateral choanal atresia

# Choanal Atresia



I assess for nasal patency by:

1. Passing a catheter through the nose
2. Listening for airflow at the nares
3. Using a cotton wisp to visualize airflow
4. Other



# Choanal Atresia

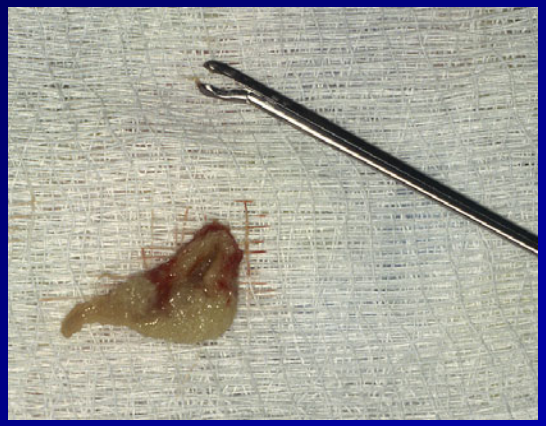
- If bilateral, in a neonate: medical emergency
- Open the mouth
- Intubate

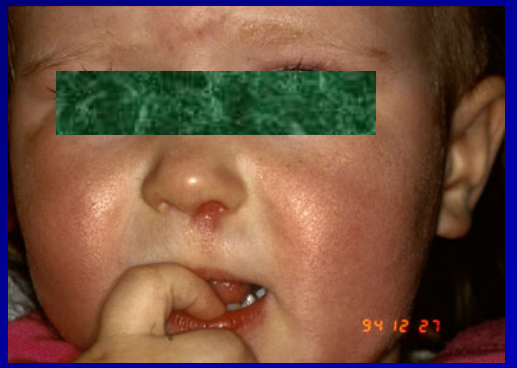

# Intranasal Foreign Body

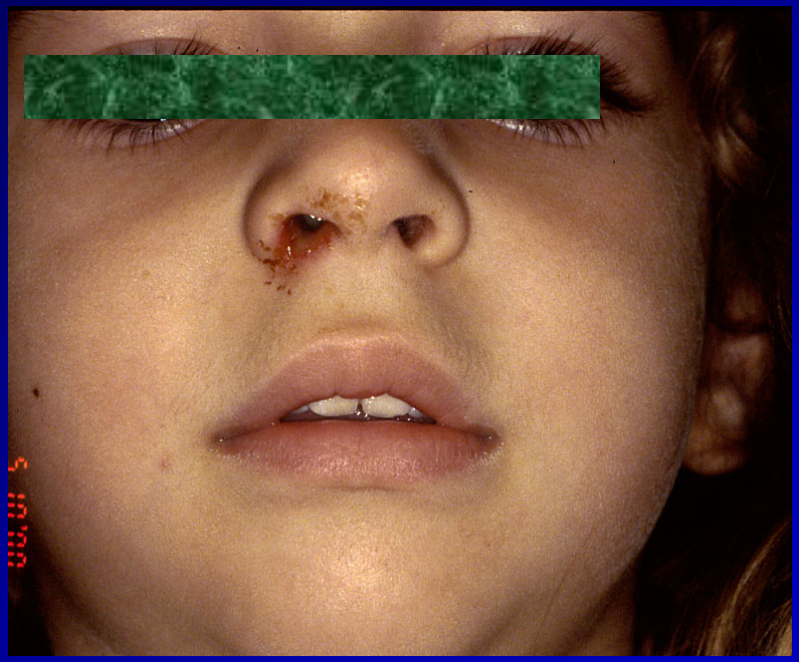
Notice:

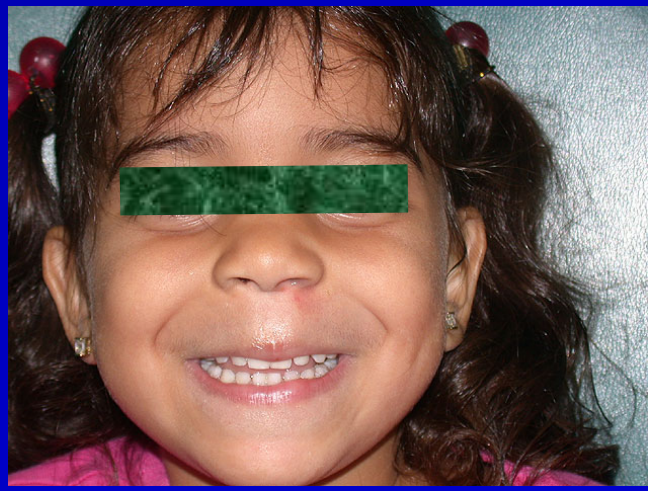
unilateral
excoriation

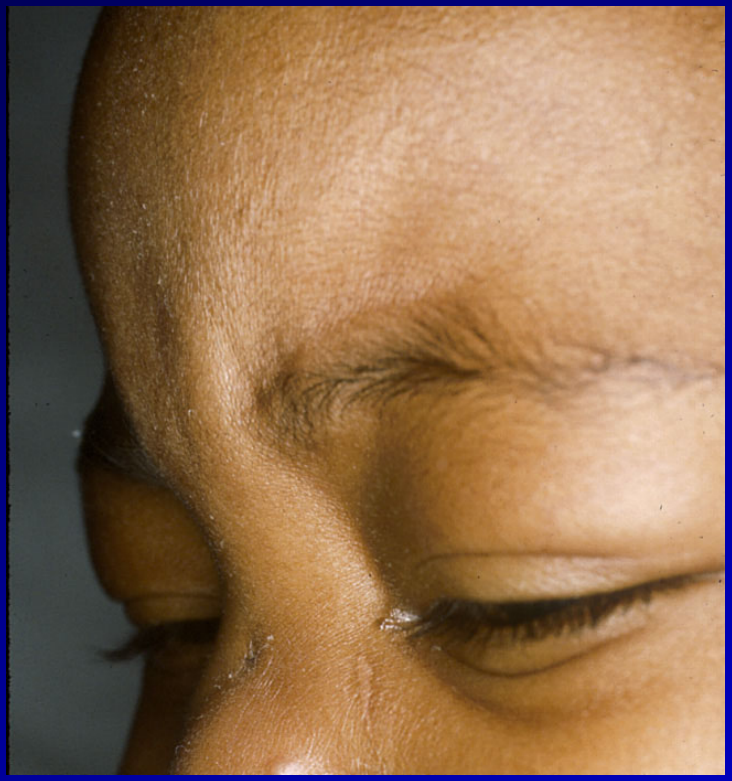
odor











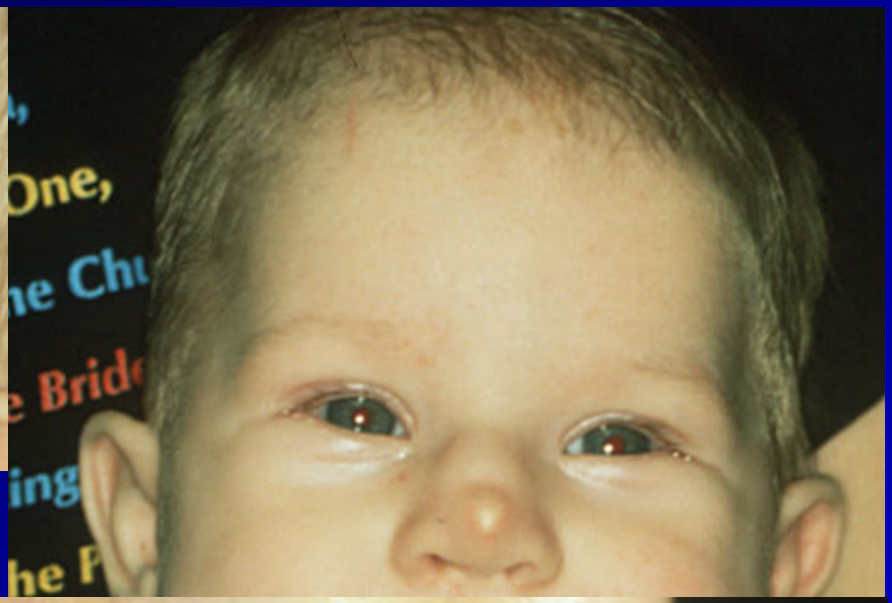
# Most likely diagnosis?

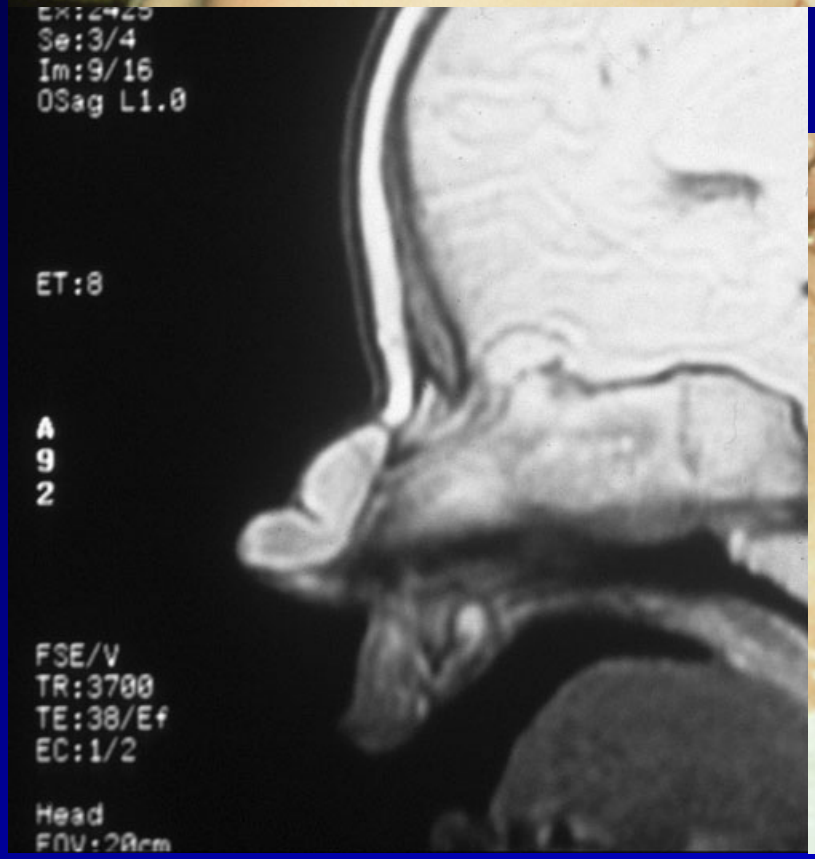
1. Glioma
2. Dermoid
3. Encephalocele
4. Insect bite
5. Foreign body
6. Other

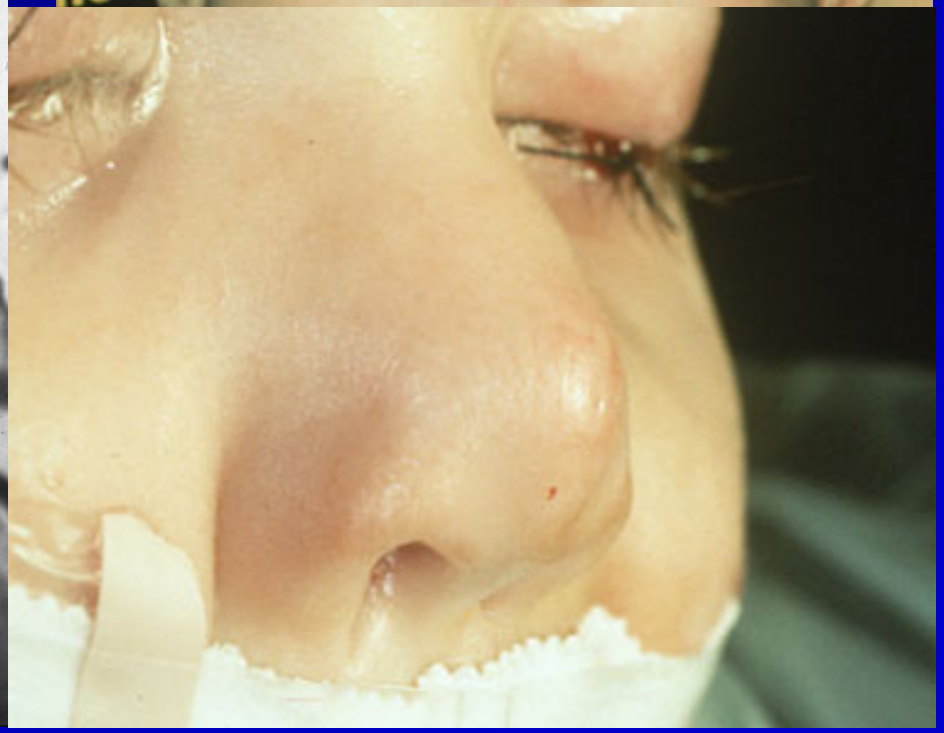
# Nasal Dermoid

Notice: midline nasal pit often with hair, sometimes has drainage

CT and/or MRI to evaluate possibility of intracranial extension for midline or near midline nasal lesions

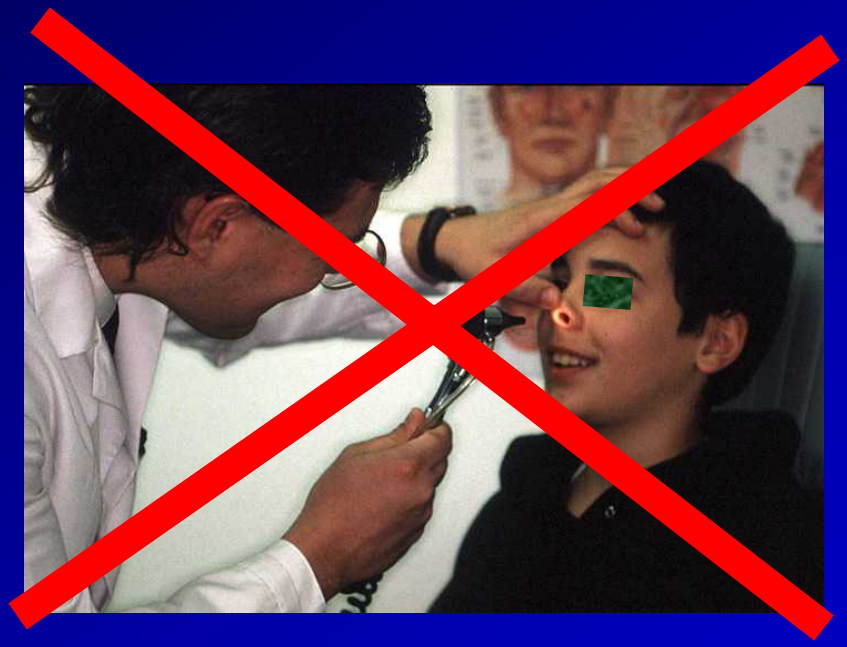


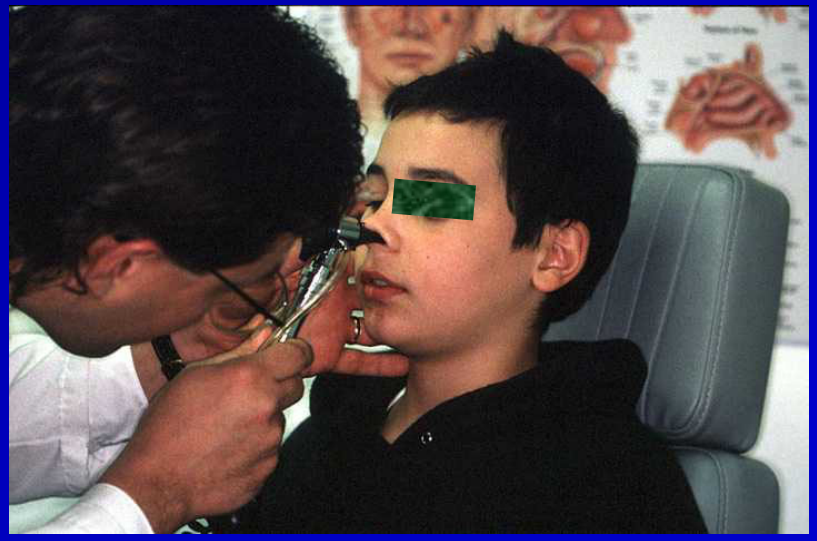

Se:3/4
Im:9/16
OSag L1.0
ET:8
A
9
2
FSE/V
TR:3700
TE:38/Ef
EC:1/2
Head



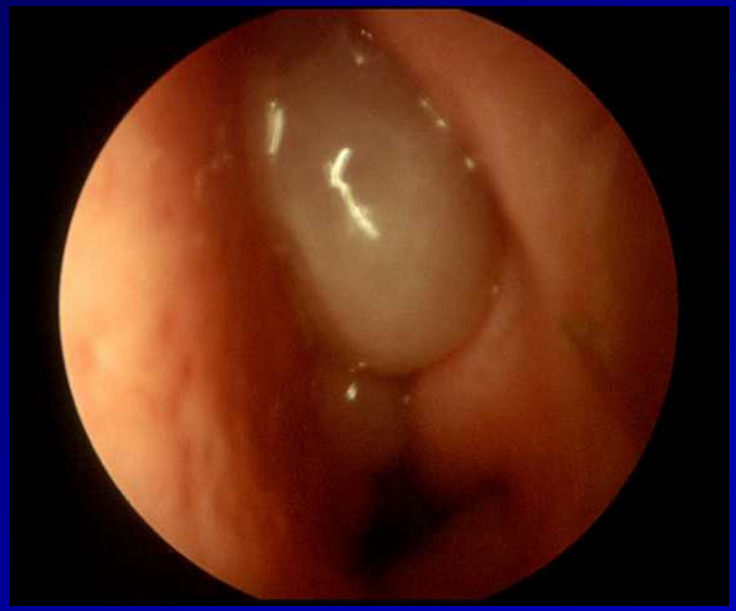
# EXAMINATION

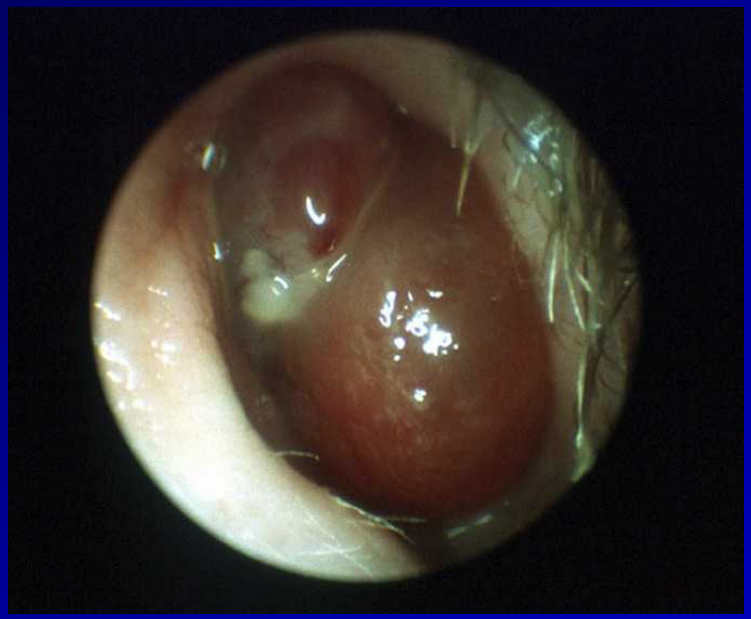
- anterior rhinoscopy
- nasal endoscopy

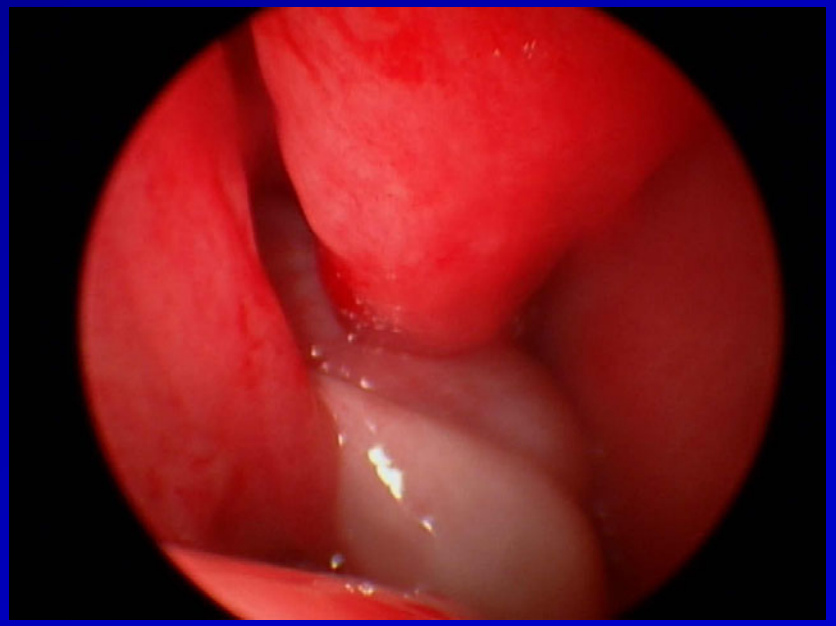




# Nasal polyps





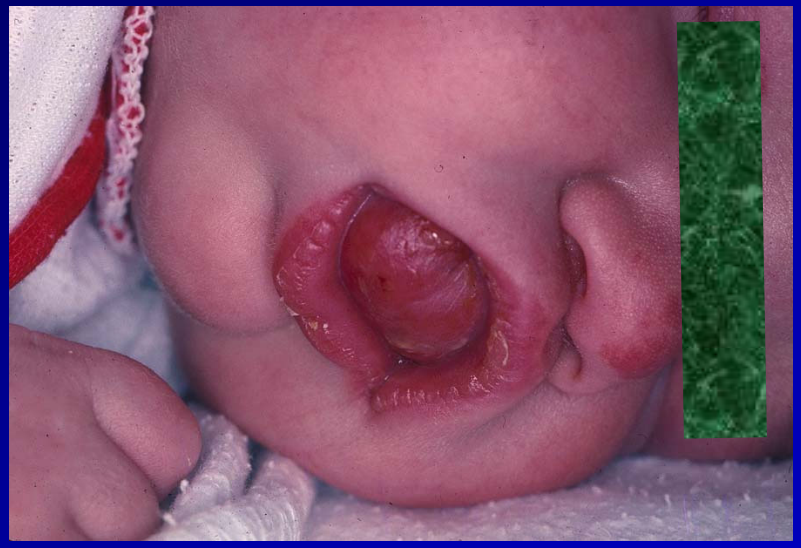


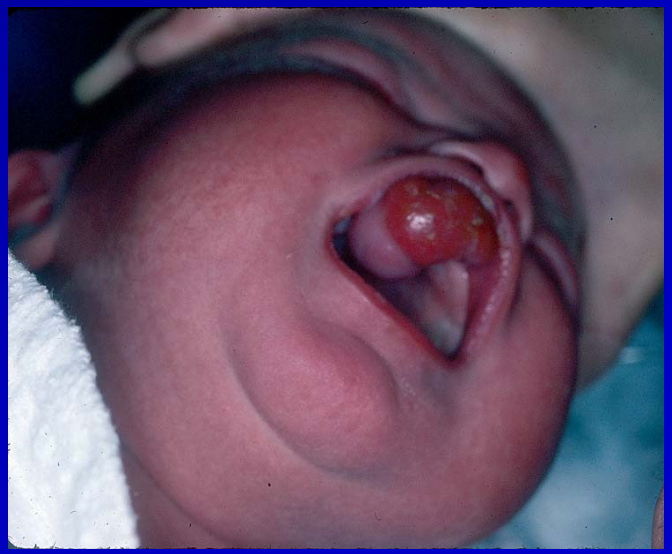
# ORAL CAVITY

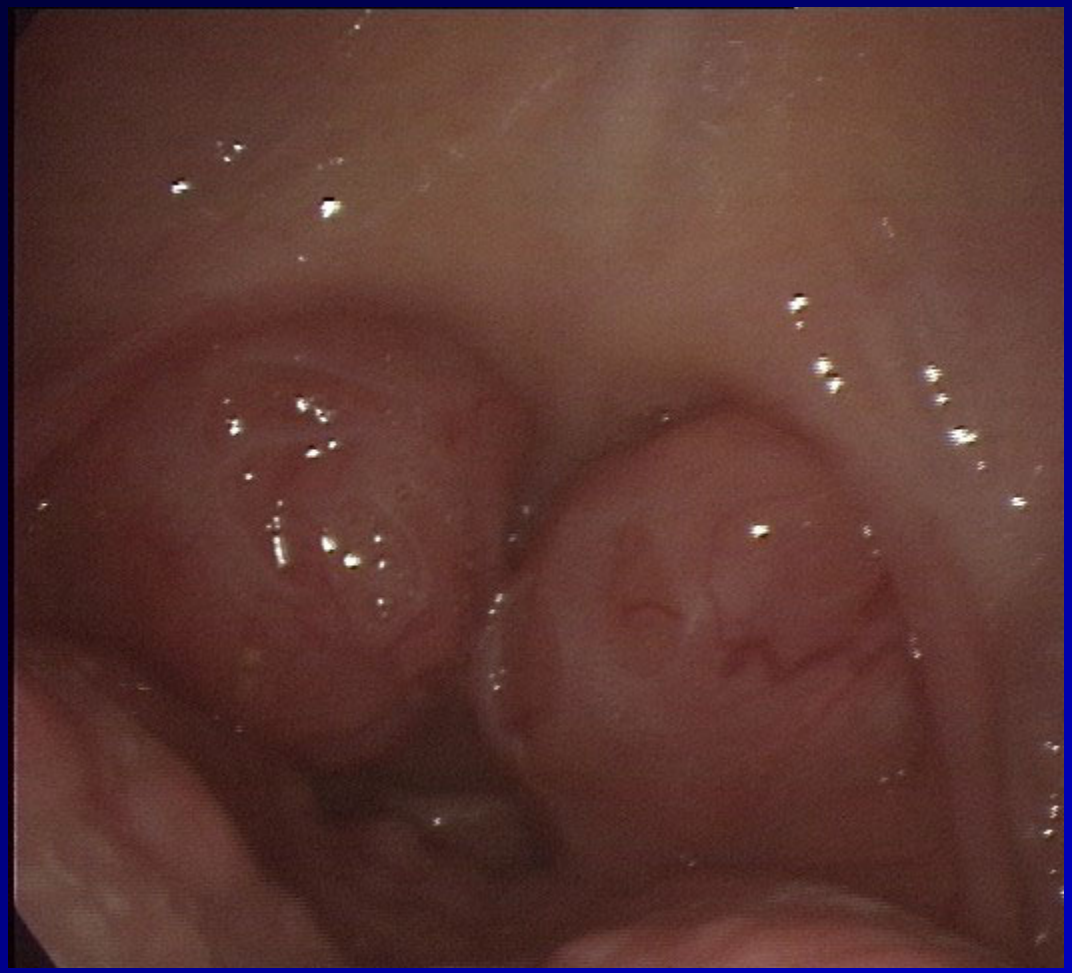
# Epulis

Treatment:

excision



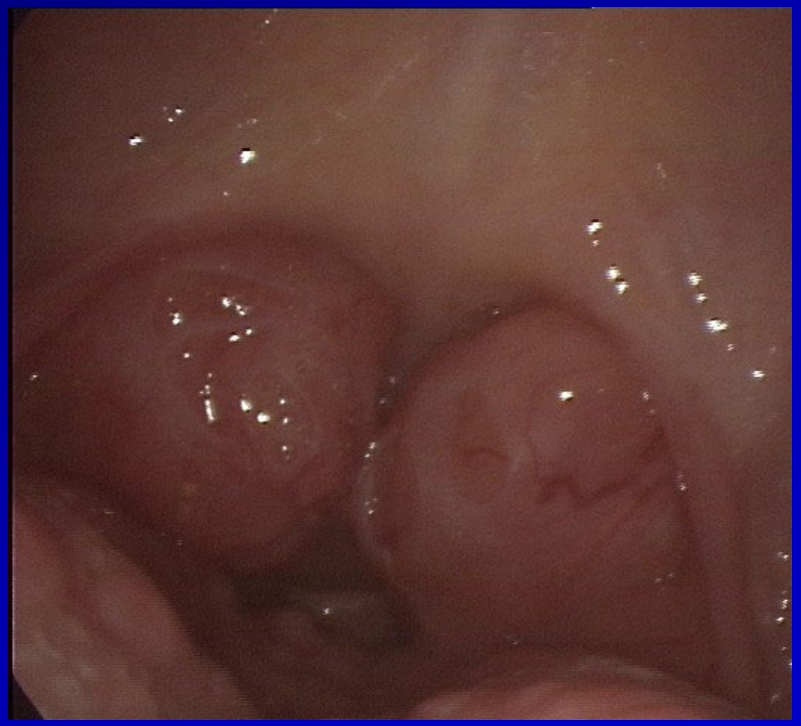




The family of a 7 year old girl complains of “swollen tonsils.” They report that she snores “a very little bit;” they deny apnea or increased work of breathing.

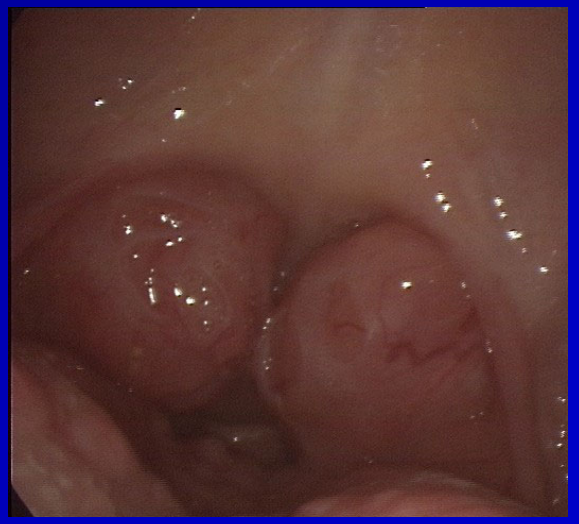
# “Swollen tonsils”

Sleep study demonstrated
an obstructive apnea
index of 2.6
(>1 is abnormal)
and mild hypoventilation



# In a child with OSA (obstructive sleep apnea) I am concerned about adverse neuro-cognitive or behavioral effects:

1. Always
2. Frequently
3. Occasionally
4. Rarely
5. Never



# Which of the following is NOT true?

In selected patients, adenotonsillectomy may alleviate / improve:

1. Enuresis
2. ADHD
3. Polyarteritis nodosa
4. PFAPA
5. Psoriasis (Palmoplantar pustolosis)
6. Reactive Airway disesae

# Which of the following IS true?

Adenotonsillectomy can contribute to?

1. Immune Deficiency
2. Asthma
3. Weight gain
4. Increased number of infections

# She complains of a sore throat; won't swallow; and has trismus

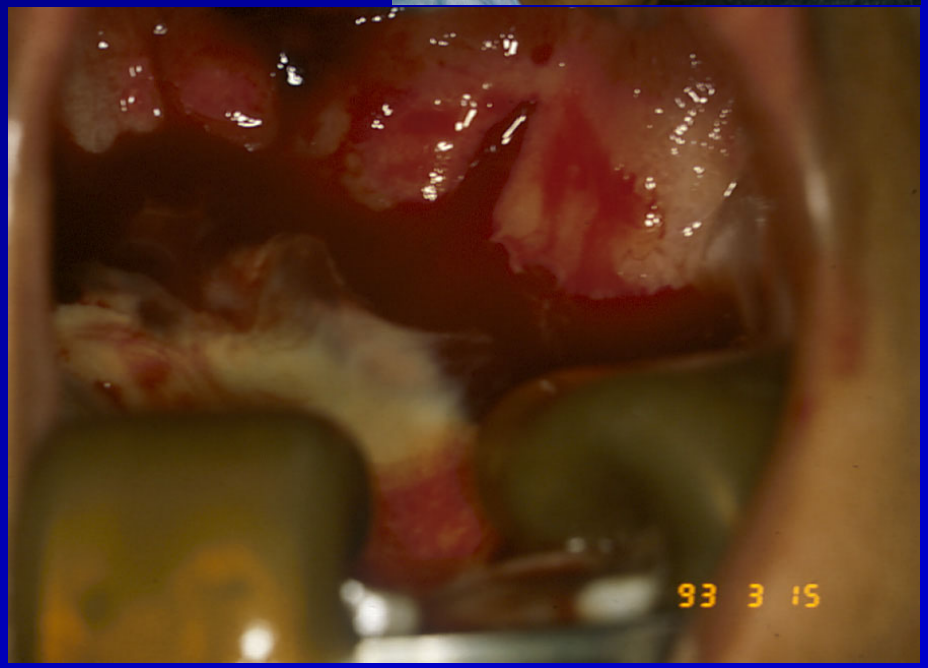
Most likely diagnosis?

1. Acute tonsillitis
2. Peritonsillar abscess
3. Retropharyngeal abscess

# Peri-Tonsillar Abscess

Treatment:

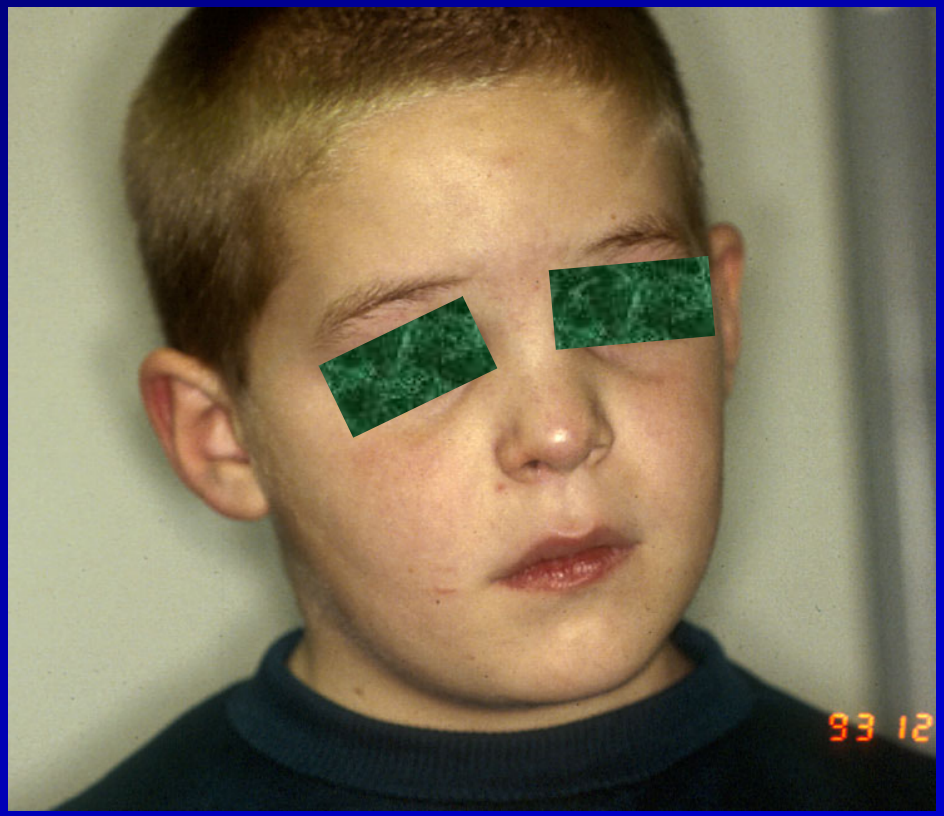
- antibiotics
- +/- I&D
- +/- tonsillectomy ("hot" or interval)

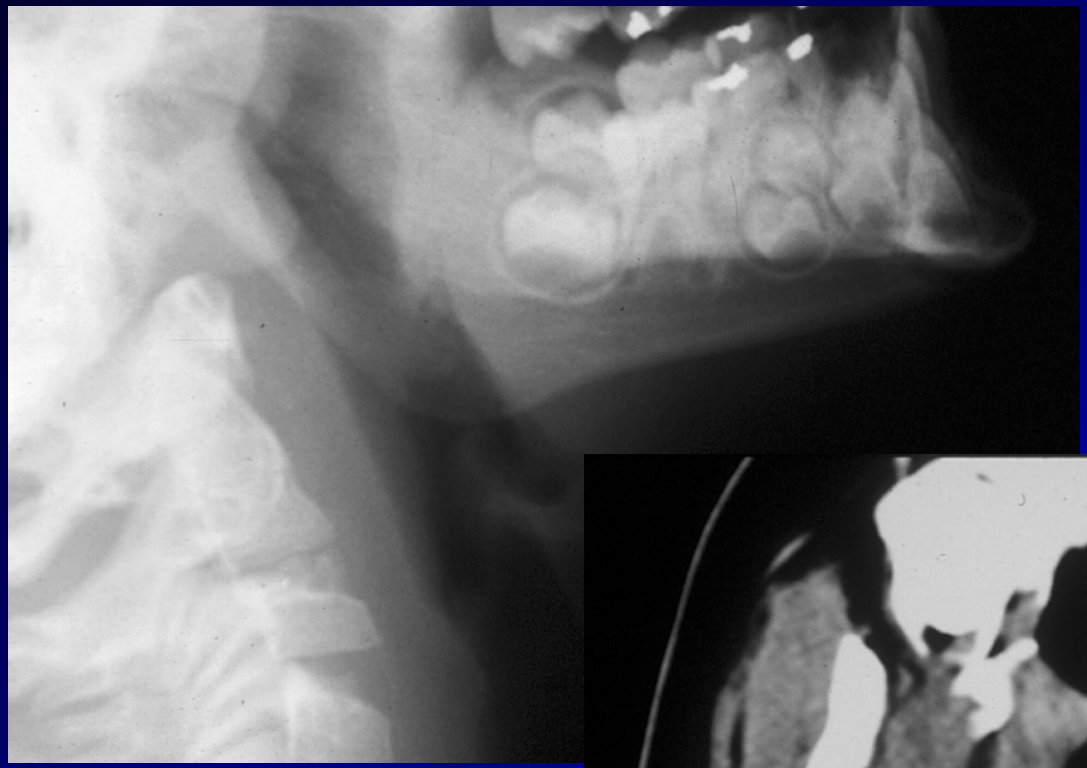


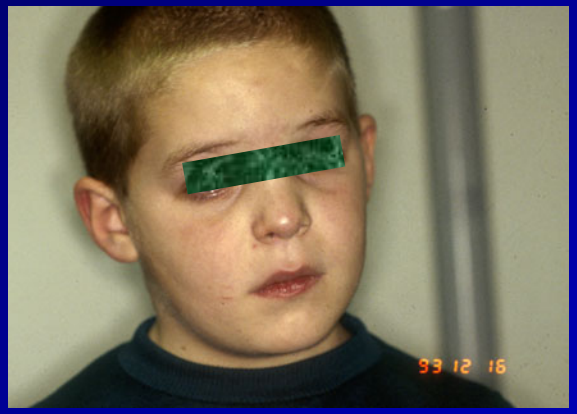
# New onset of neck pain and torticollis; poorly defined fullness in right neck; recent URI

Most likely diagnosis?

1. Acute tonsillitis
2. Peritonsillar abscess
3. Retropharyngeal abscess



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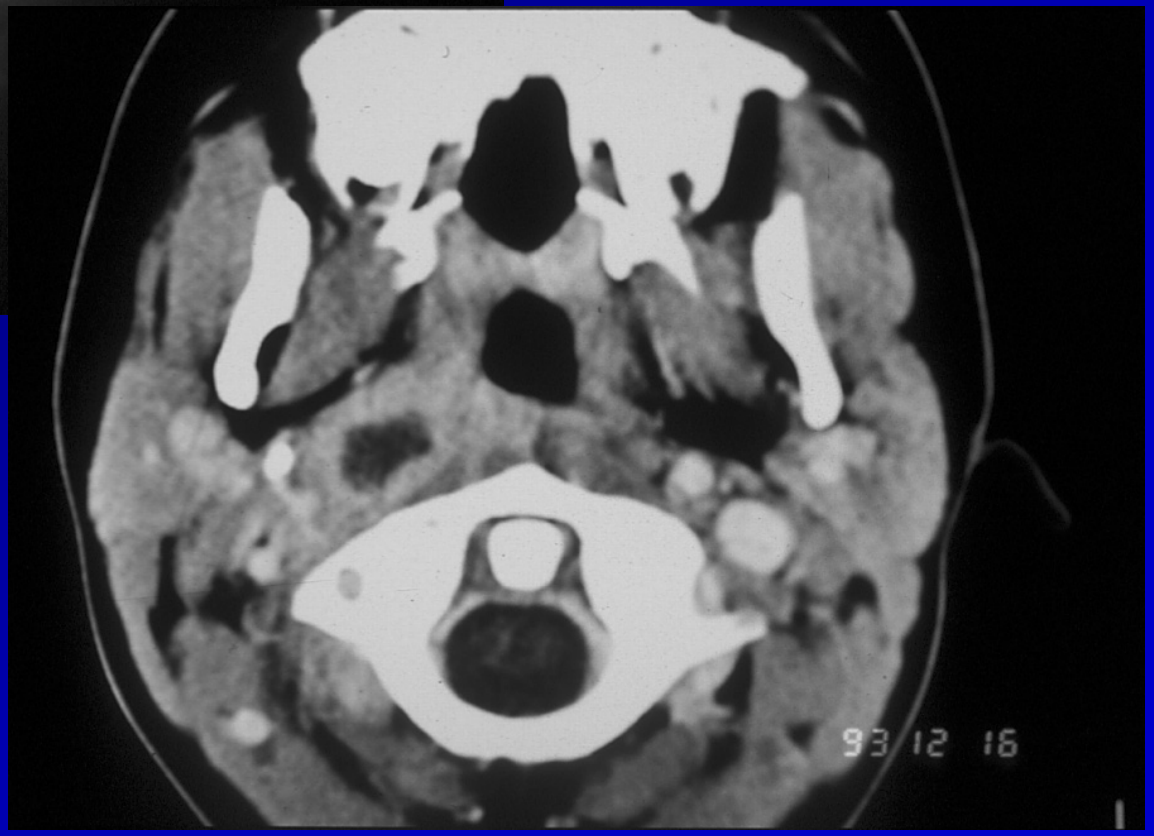
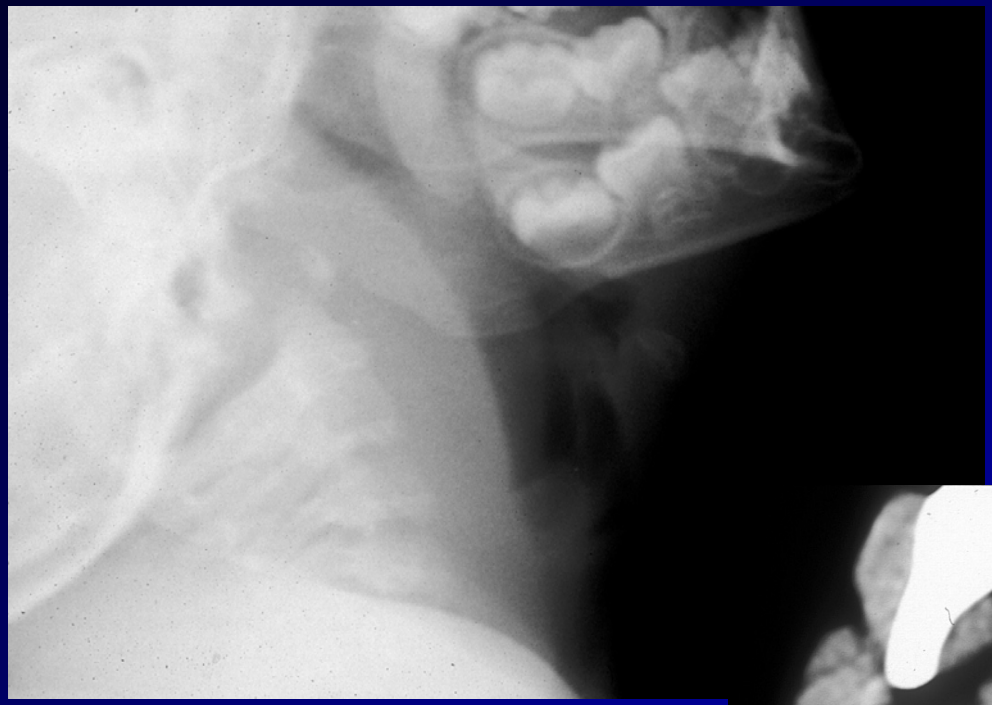
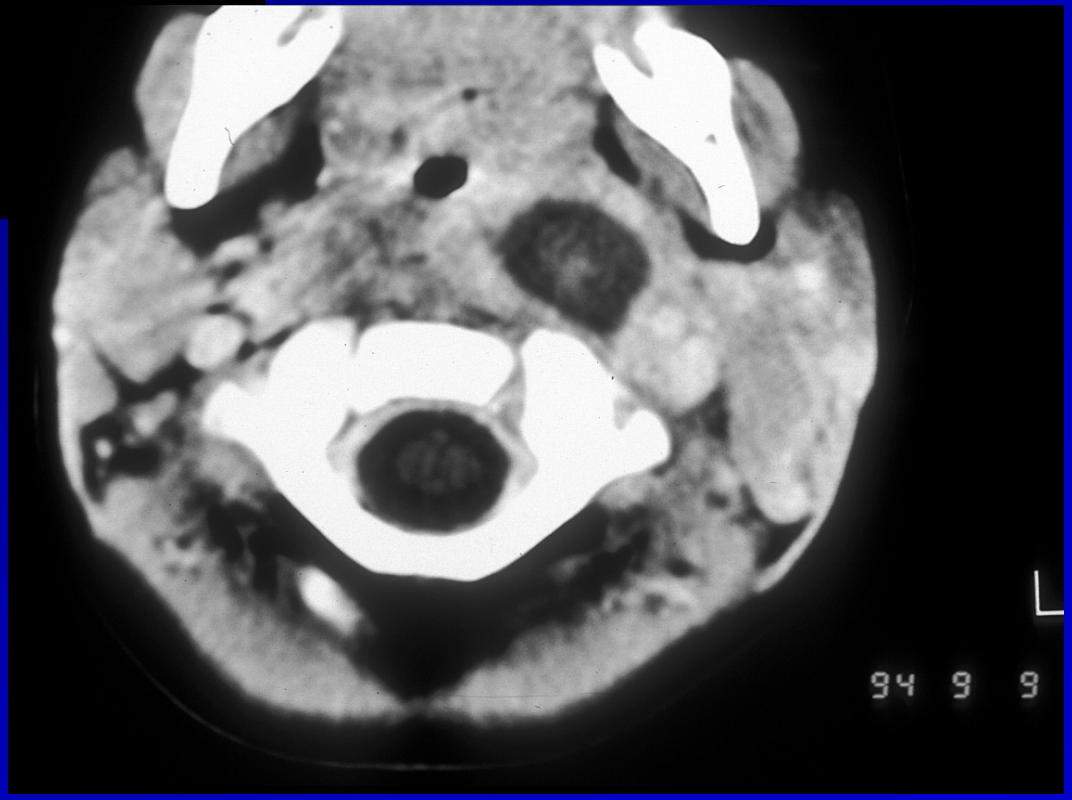

93 12 16




L
94 9 9

# Retropharyngeal Abscess/ Parapharyngeal Abscess

Evaluation:

- Lateral neck radiograph
- Neck CT with contrast

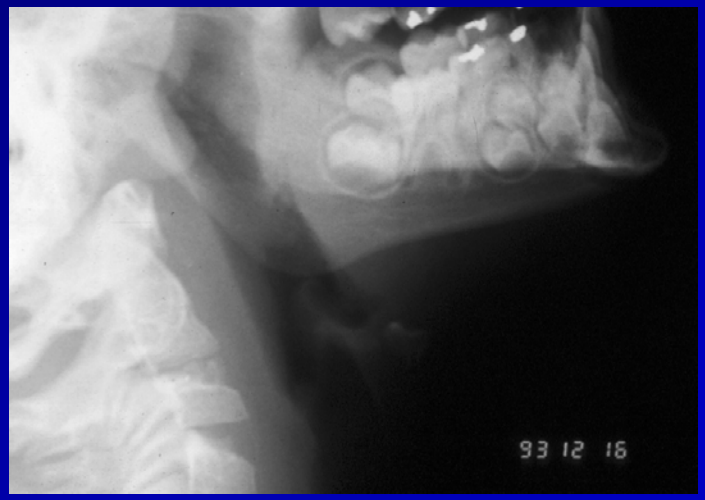
Group A strep, Staph

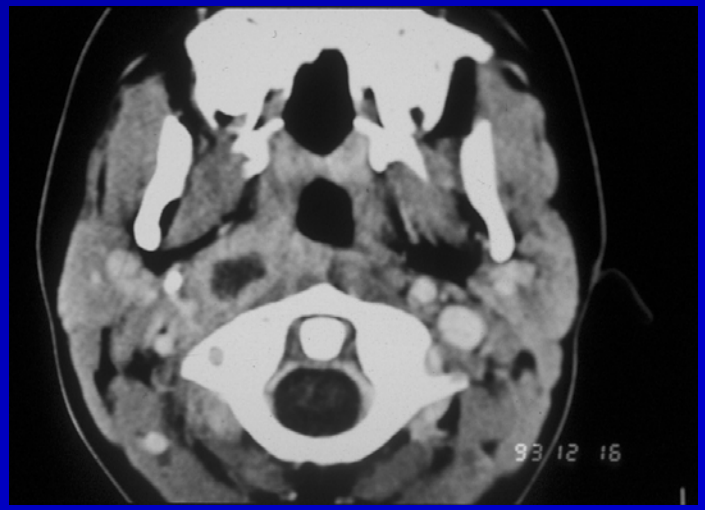
Treatment:

- intravenous antibiotics
- ?steroids
- +/- transoral I & D

Risks:

- Airway obstruction
- Mediastinal extension



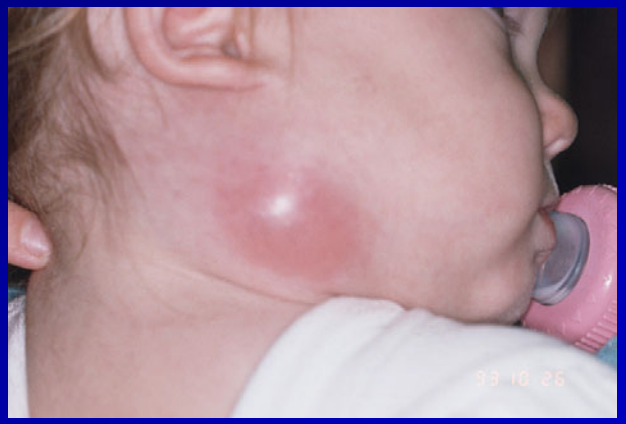



# FACE

# Non-tuberculous Mycobacteria (atypical mycobacteria)

Diagnosis:

- Clinical, generally indolent
- PPD weakly (+)
- Microbiology can be difficult to confirm with stains or cultures
- Histology may be supportive



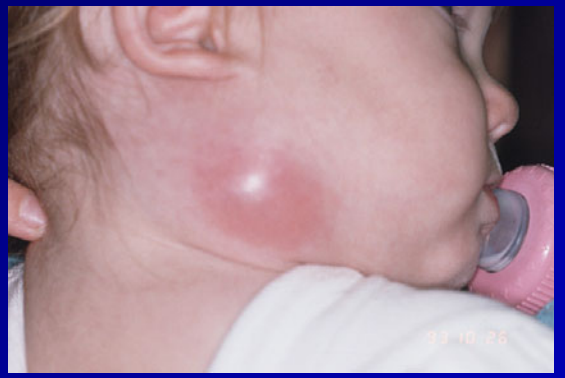
# Non-tuberculous mycobacteria (Atypical Mycobacteria)

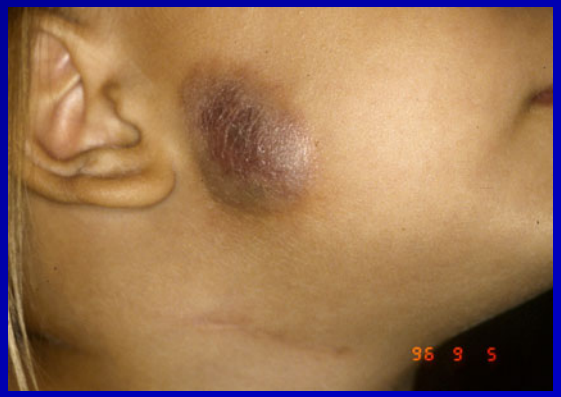
Notice:

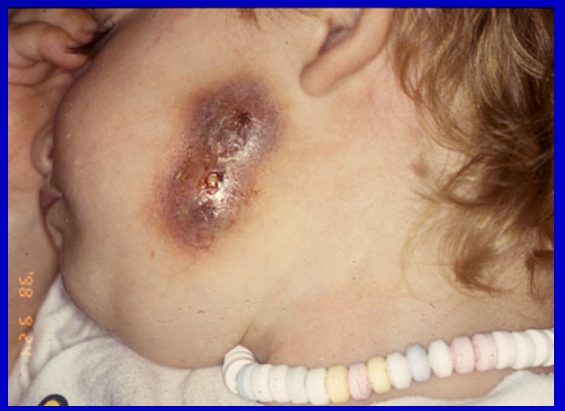
- location: angle or body of mandible
- age: toddlers
- color: purple
- number:  sometimes multiple

DDx:

- other adenopathy, including cat scratch



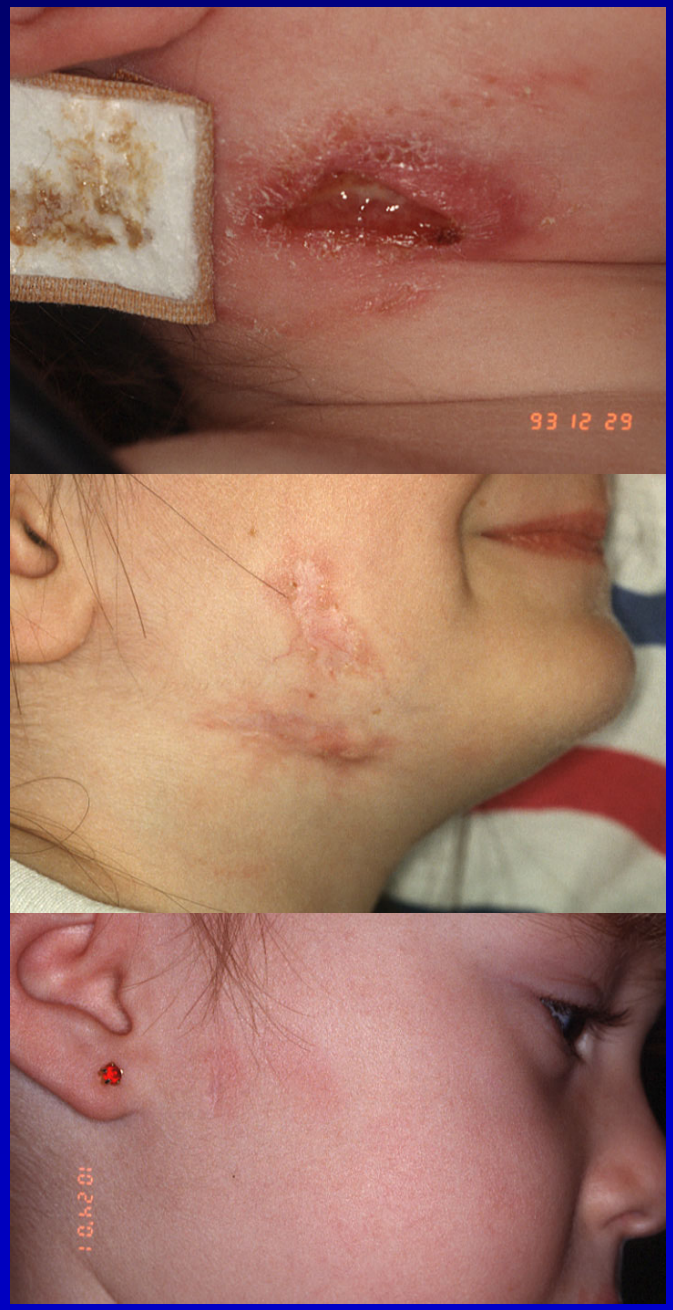




# Non-TB Mycobacteria

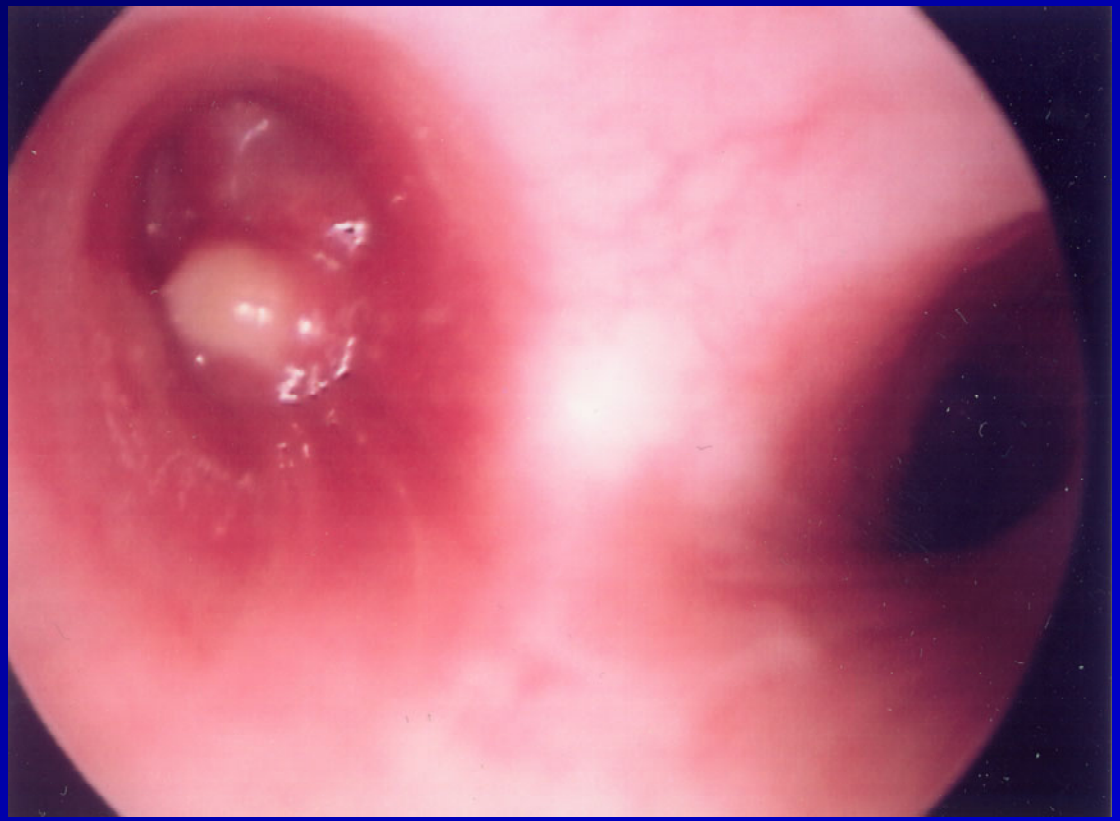
Treatment:

- Medical: usually at least 2:
  - Macrolides
  - Flouroquinolones
  - Rifamycins
  - Ethambutol
- Surgical
  - I&D contraindicated
  - Excision
  - Serial curettage
- Combined Medical/Surgical



# Endobronchial Non-TB Mycobacteria

- 10 month old presented with new onset unilateral wheezing



# SINUSES

# Is it sinusitis?

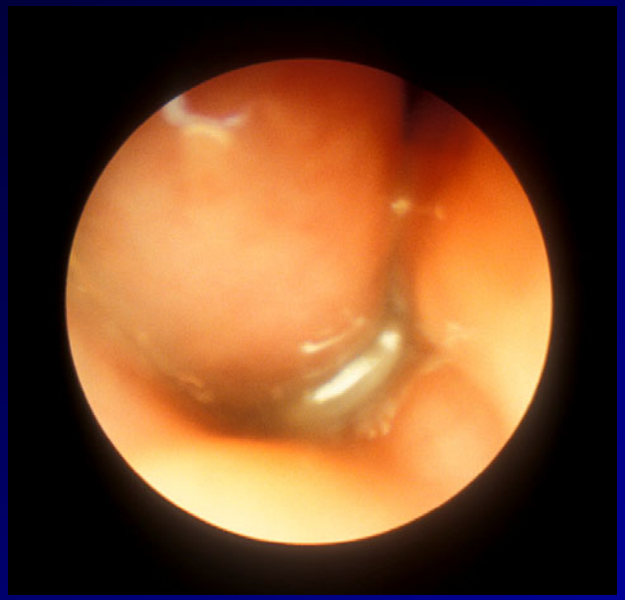
- A 7 year old boy has had purulent rhinorrhea for 10 days, not improving; with day and nighttime coughing. He has not taken an antibiotic.

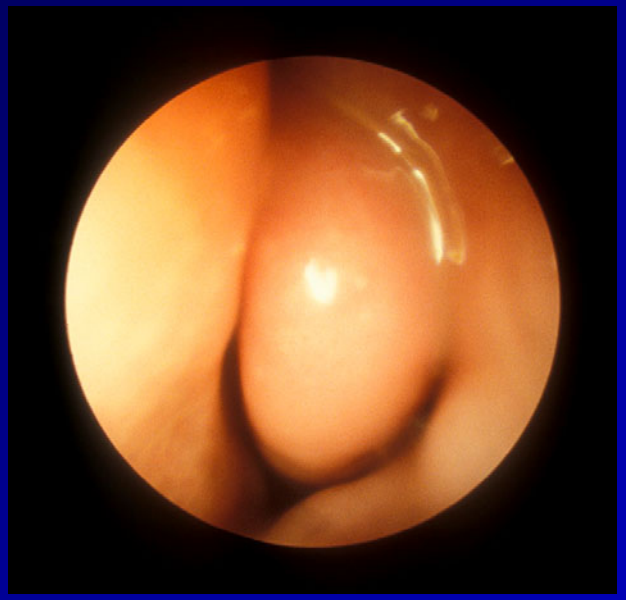
Is it sinusitis?

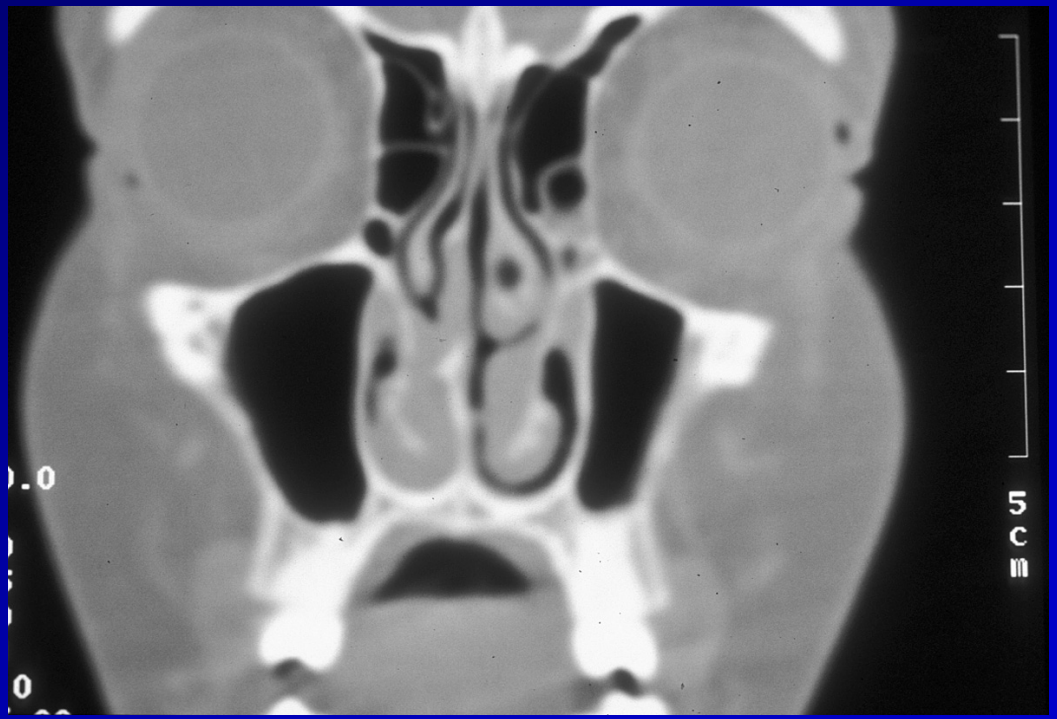
1. Yes
2. Not sure
3. No

# In the clinical context of URI, the best indicator of sinusitis is?

1. Character of the rhinorrhea
2. Low-grade fever
3. Duration of symptoms
4. Headache
5. Purulent rhinorrhea in the middle meatus






.0
0
5 cm

# SINUSITIS DEFINITIONS

- Sinusitis remains a difficult [clinical] diagnosis to confirm, even for experienced specialists.

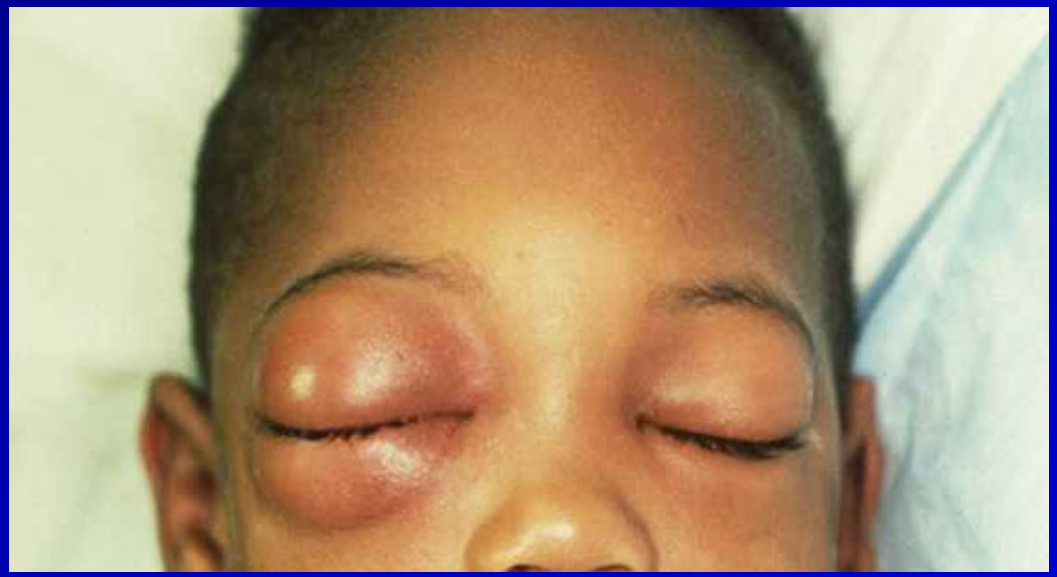
  Annals ORL Oct. 1995

- The diagnosis of acute bacterial sinusitis is based on clinical criteria in children who present with upper respiratory symptoms that are either persistent or severe (strong recommendation based on limited scientific evidence and strong consensus of the panel)

  AAP Clinical Practice Guideline:
  Management of Sinusitis 2001

# At this point, the best radiologic study is?

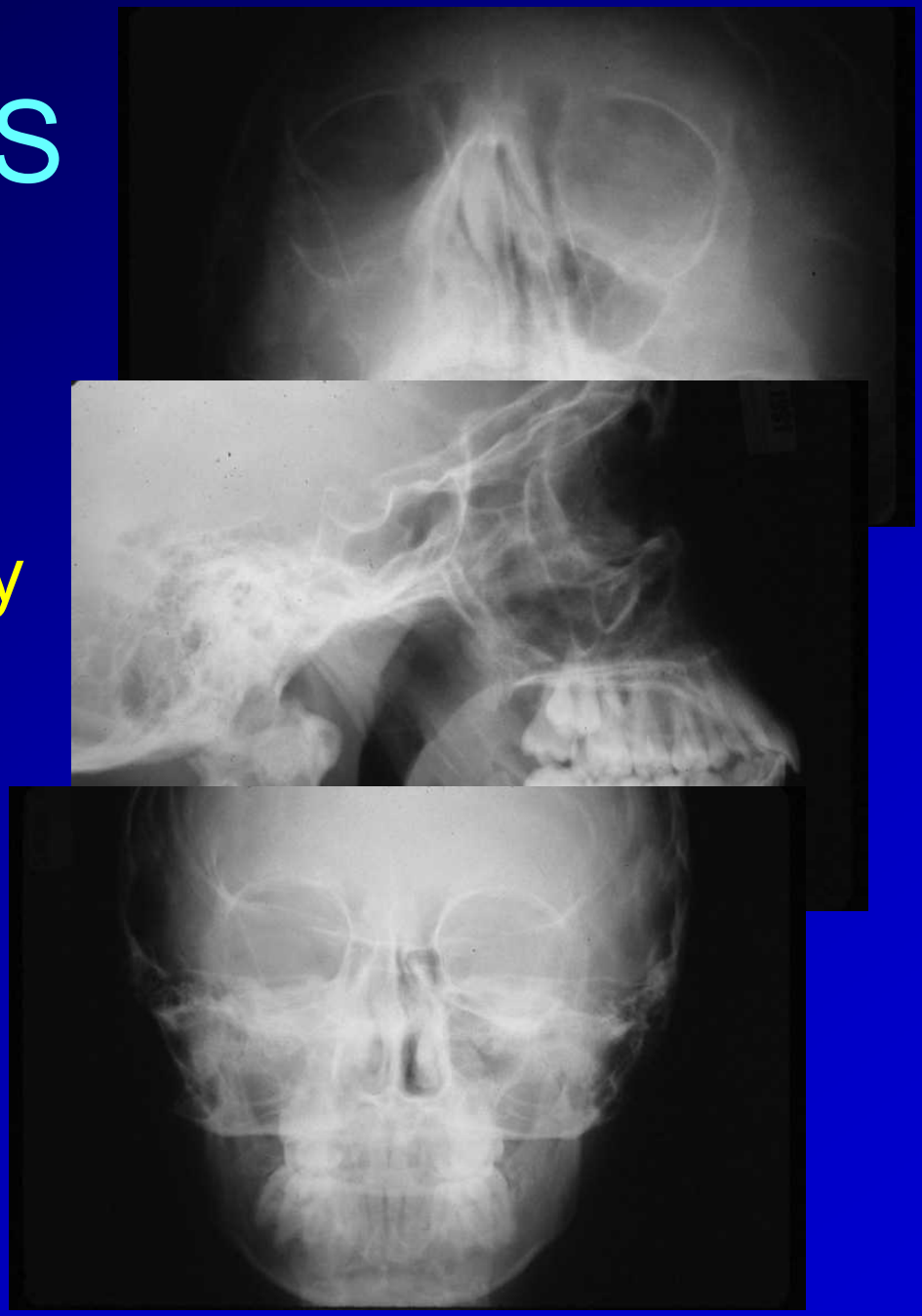
1. Plain Xrays (“sinus series”)
2. CT scan
3. MRI
4. UltraSound
5. Other



# RADIOGRAPHS

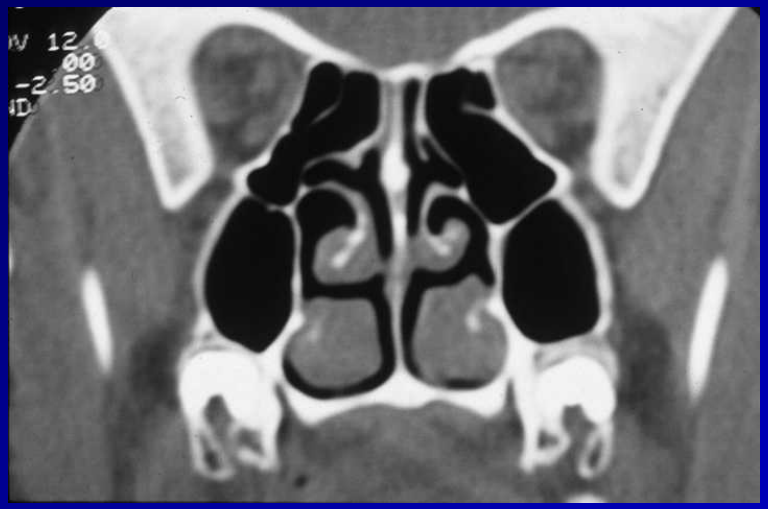
NOT USUALLY USEFUL:

- plain sinus radiography
- tomography
- ultrasonography
- MRI

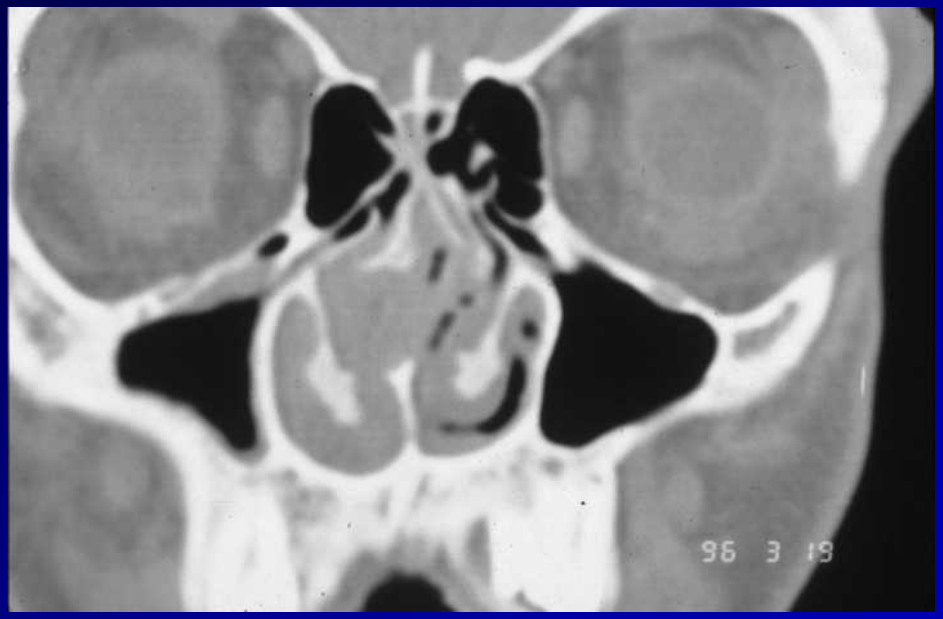


# RADIOGRAPHS

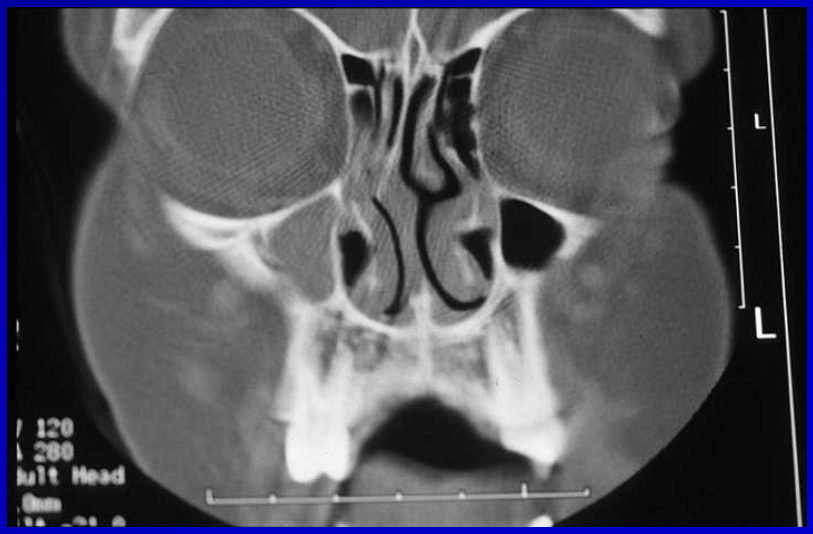
## USEFUL: CT scans



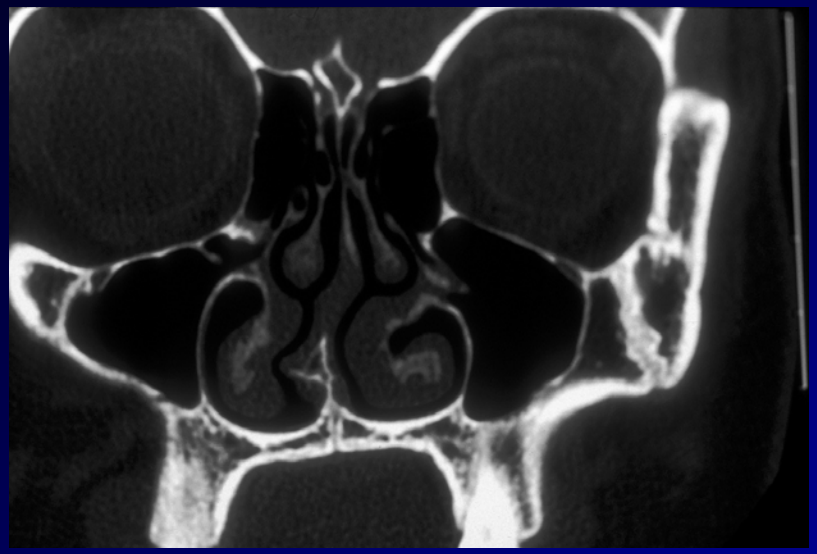
(known allergic rhinitis)



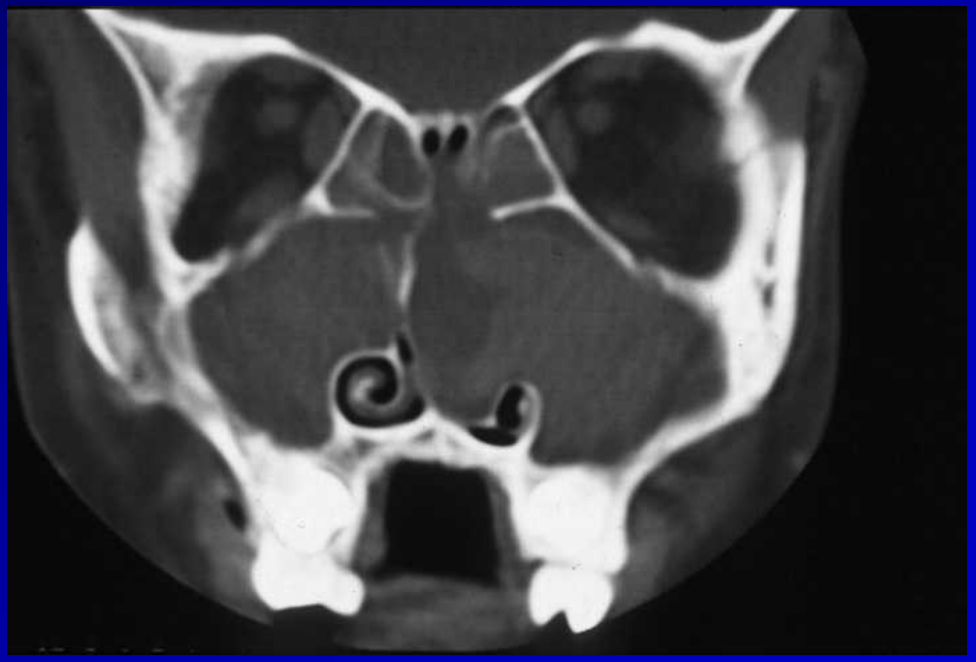

Nasal polyps without sinusitis



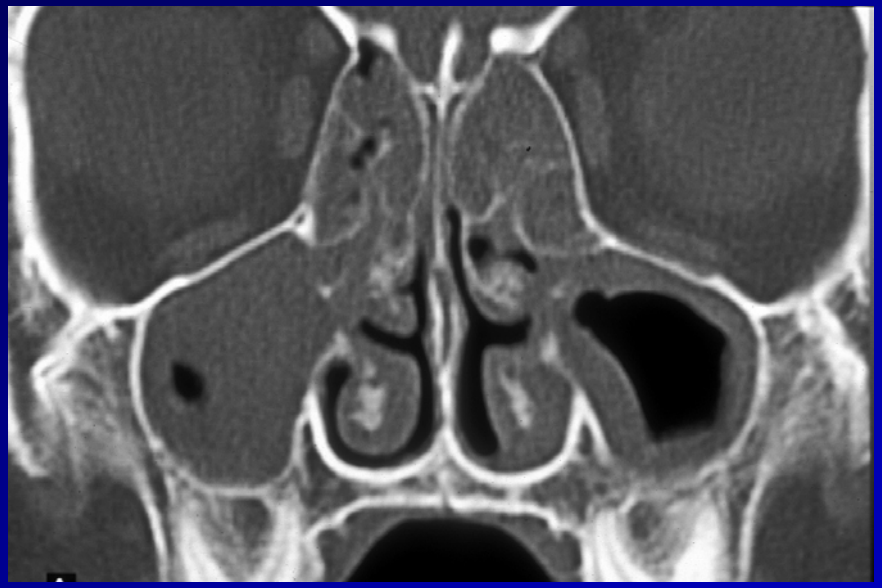

Unilateral sinusitis with nasal septal deviation



Nasal congestion without sinusitis

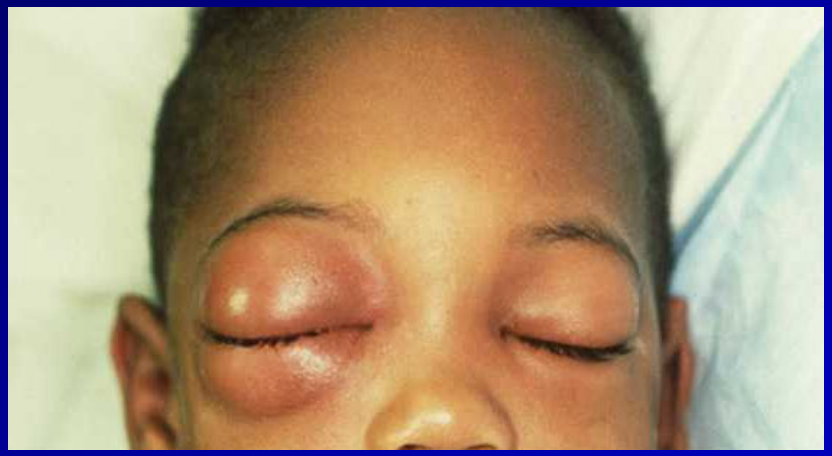


Nasal polyps with cystic fibrosis



Chronic sinusitis

# Orbital Complications of Acute Sinusitis



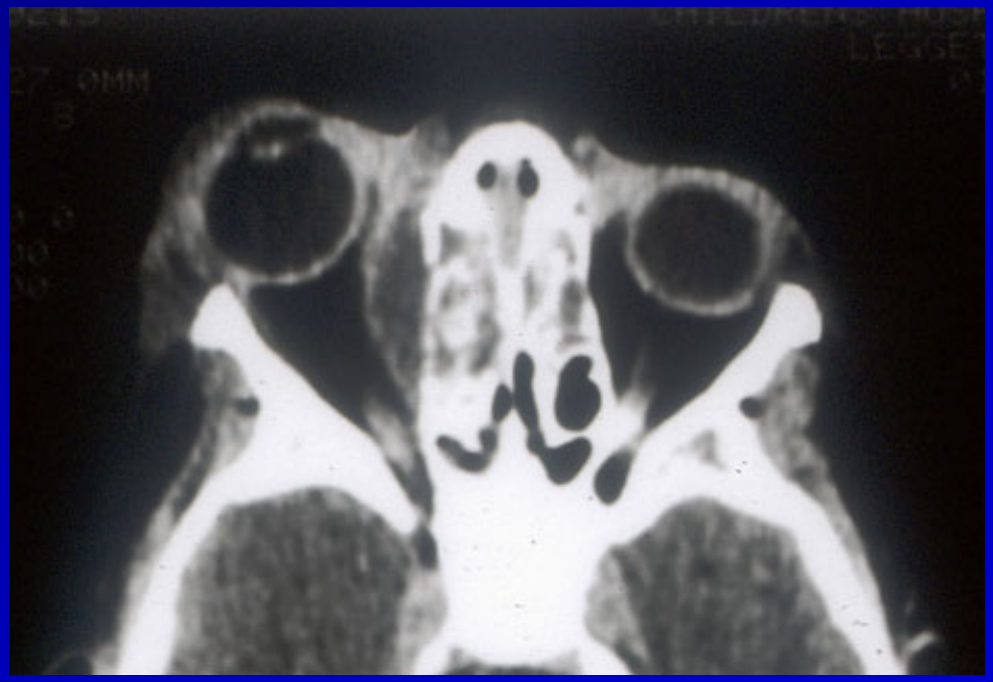
Consult ENT, Ophtho

CT Scan

- axial AND coronal
- WITH contrast
- ?format for image guided sinus surgery

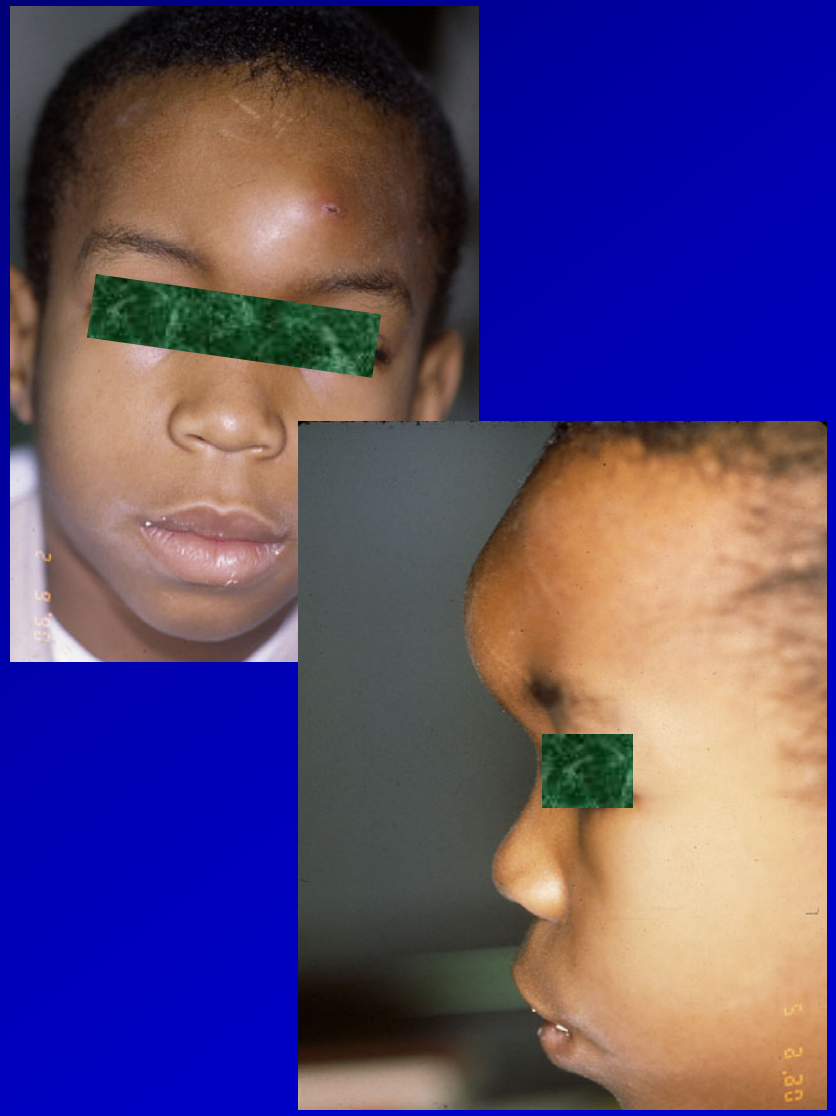
Treatment

- IV antibiotics
- close observation
- +/- open or endoscopic drainage

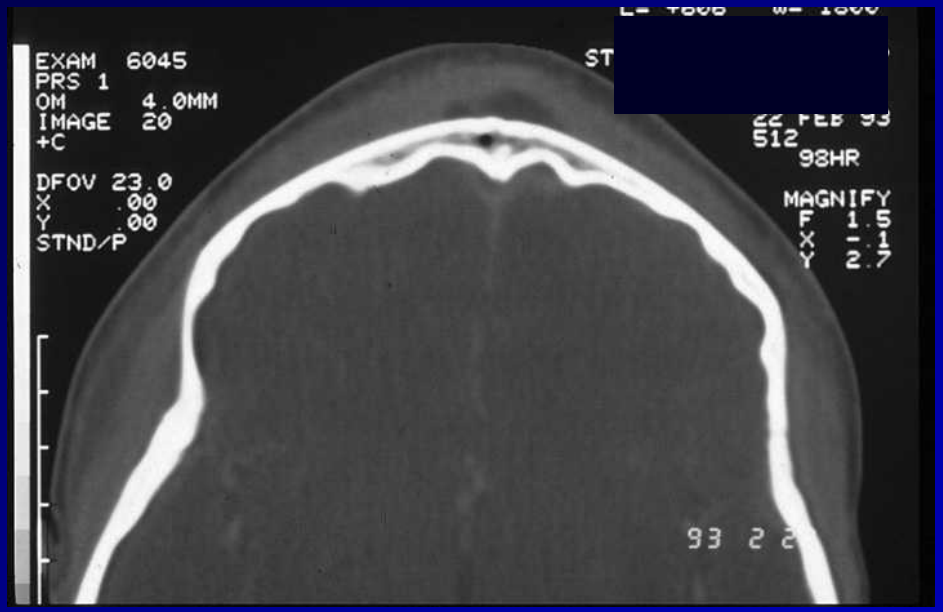


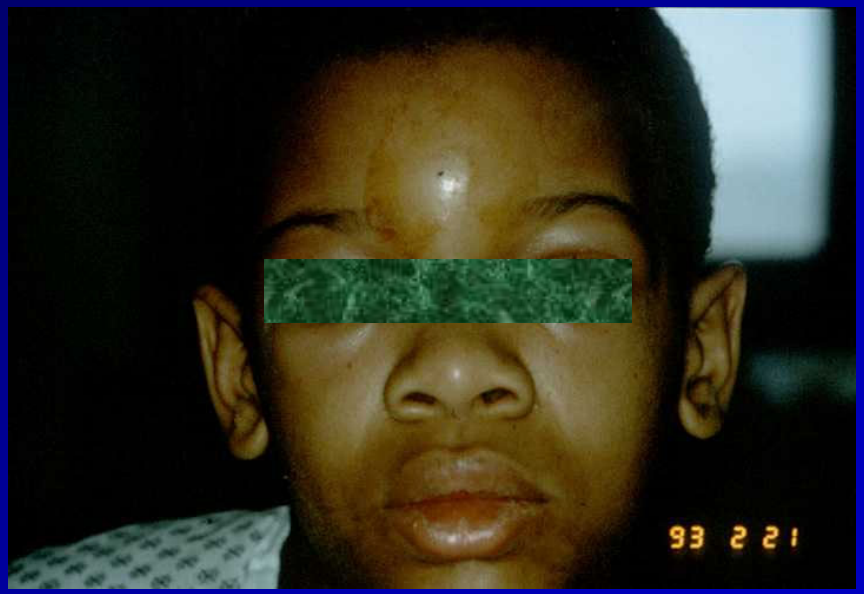
# Intracranial Complications of Acute Sinusitis

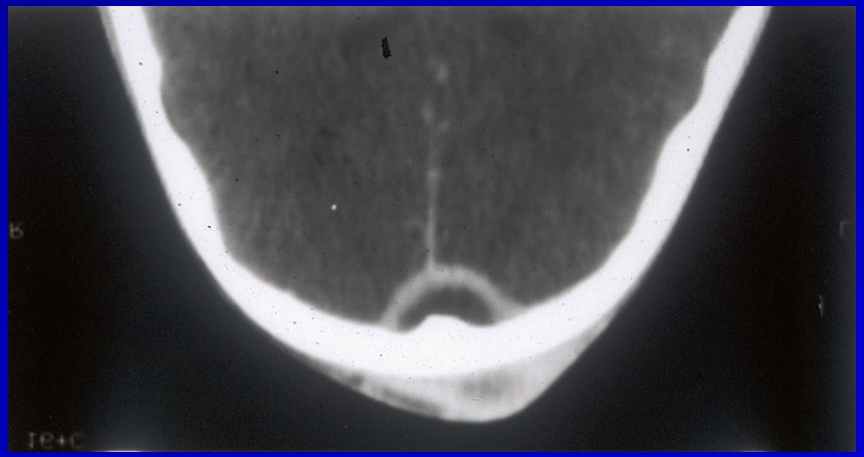
- **Location:**
  - **forehead a/o orbit, adjacent to frontal sinus**
- **age: adolescent**
- **sex:  male**
- **possible mental status changes, seizures, neurologic deficits**



# Intracranial Complications of Acute Sinusitis

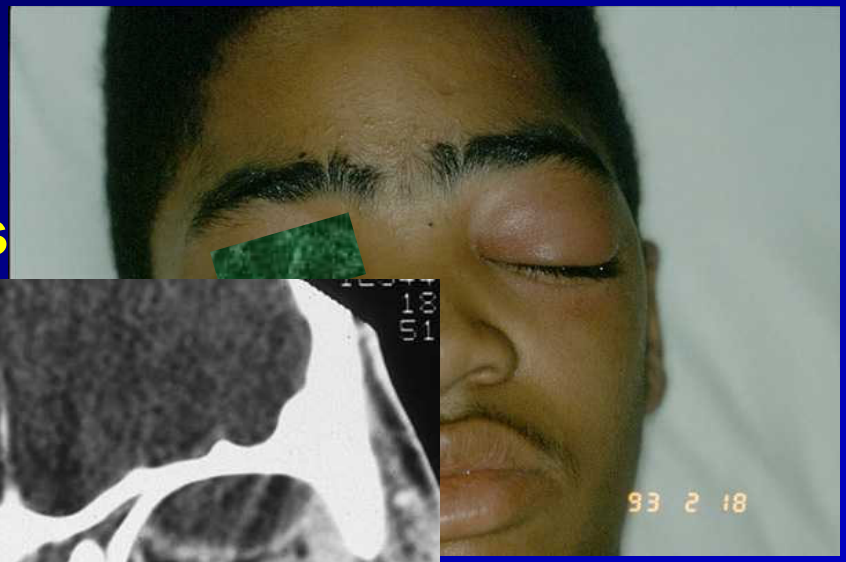


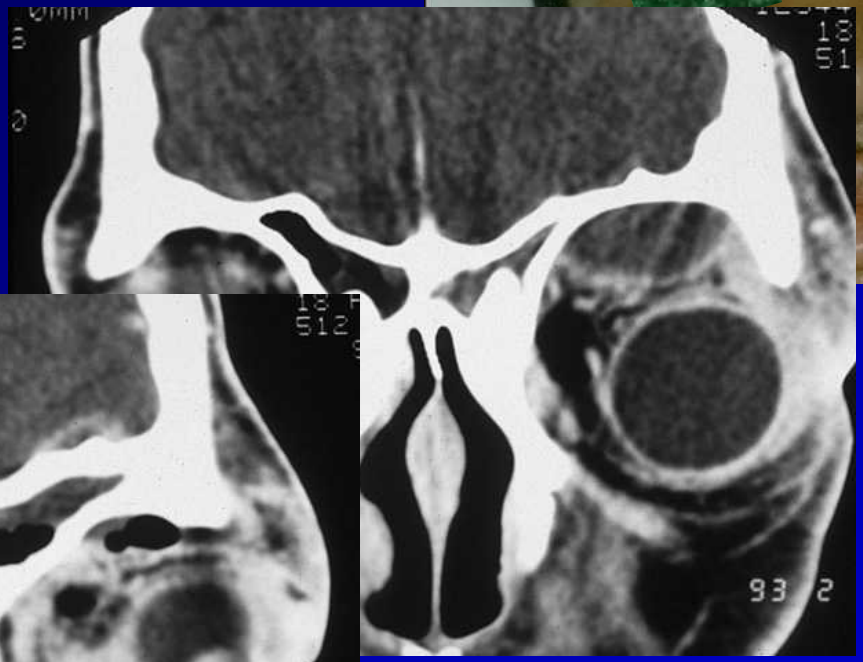



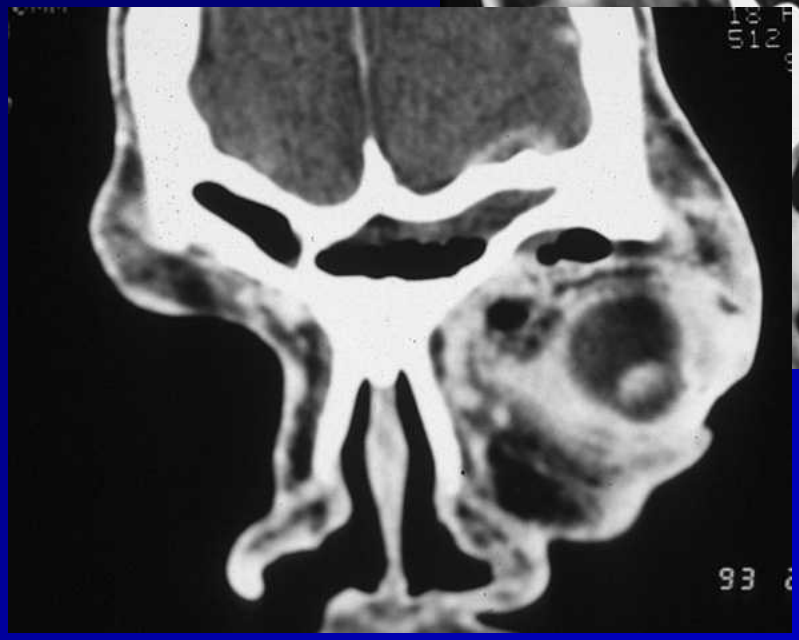



# Intracranial Complications of Acute Sinusitis

**Orbital subperiosteal abscess**



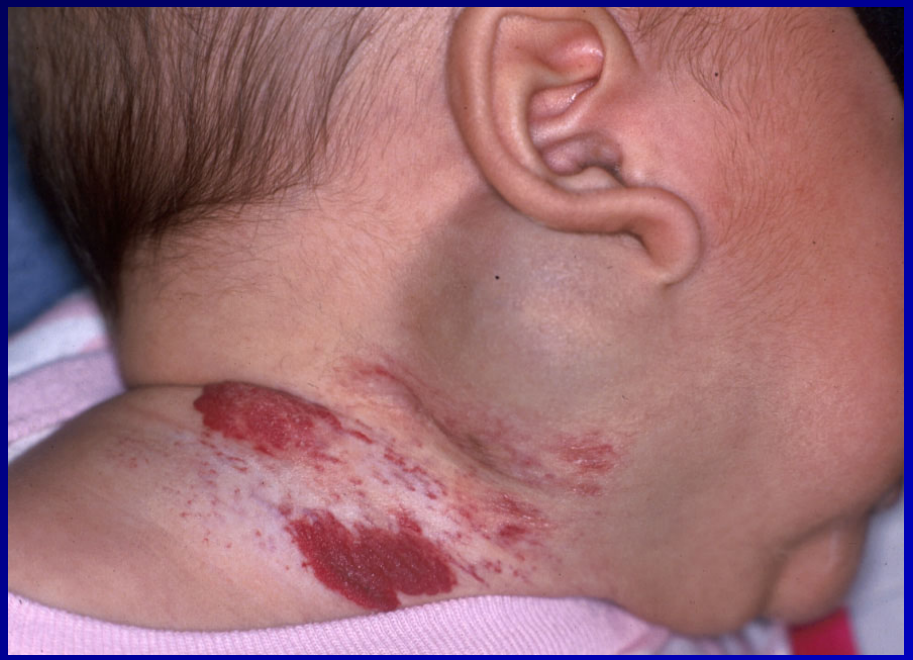



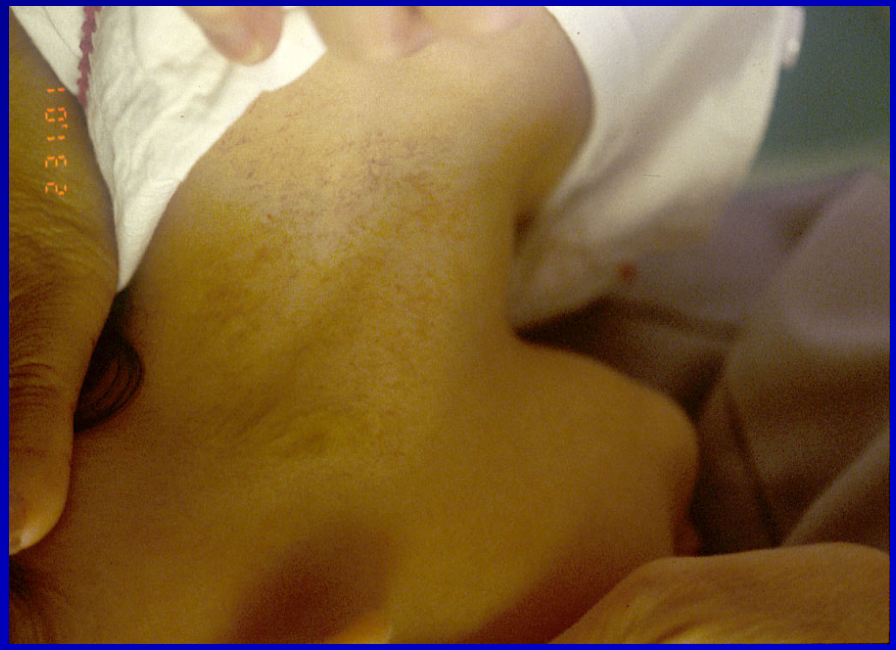

**Epidural abscess**

# NECK

# Hemangioma

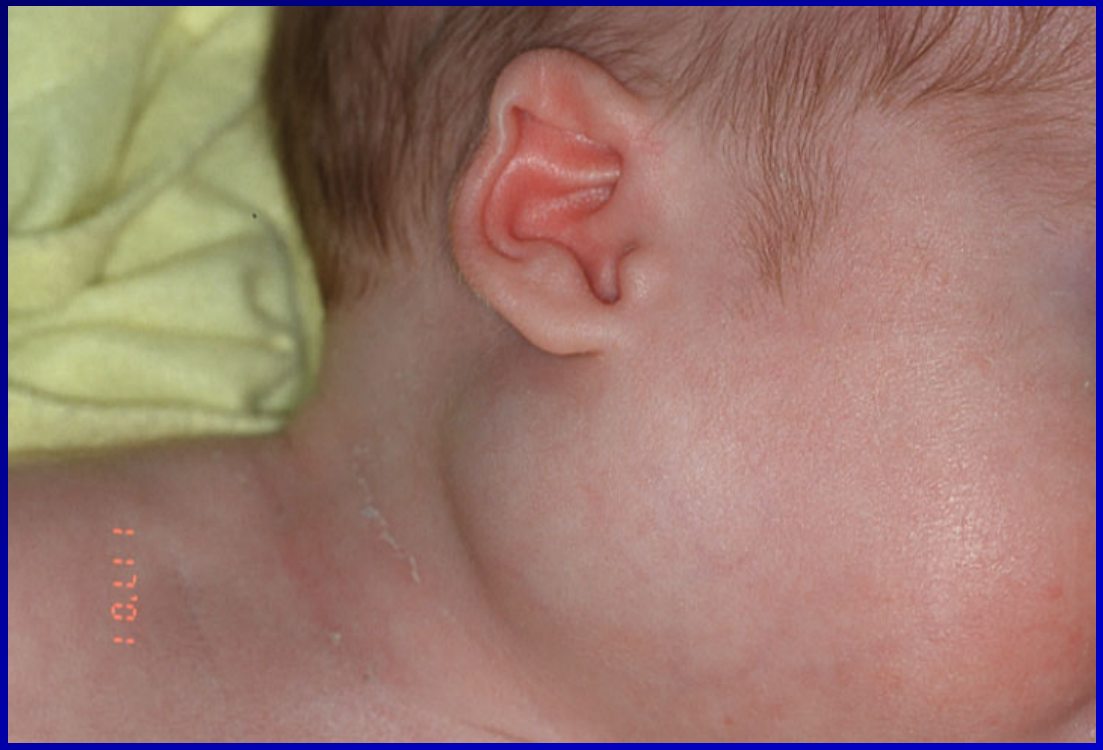
## Natural progression





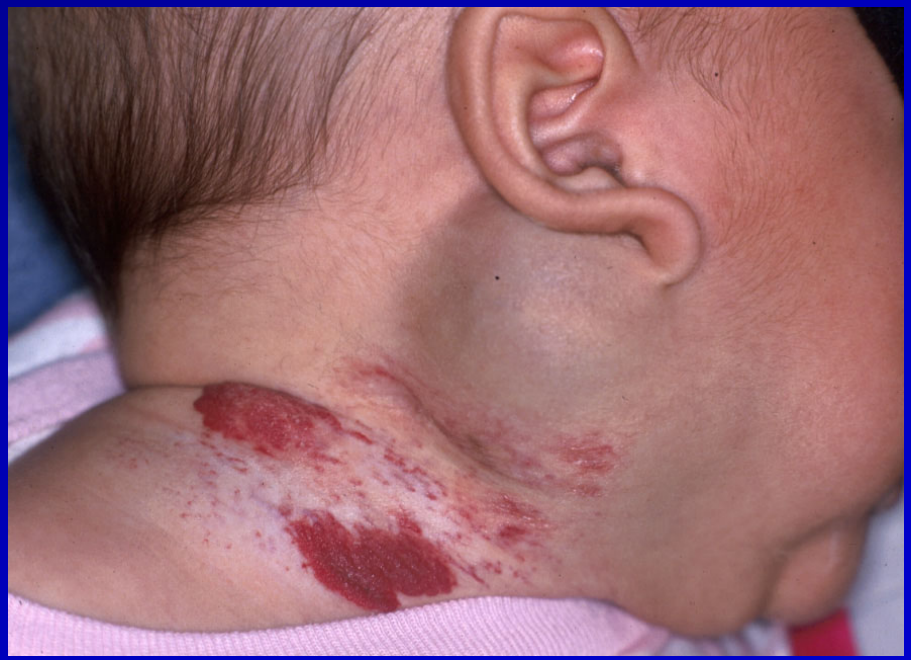
# Hemangioma

- Present within few weeks of birth
- Most common parotid neoplasm in children
- Superficial (red), deep (blue) or compound



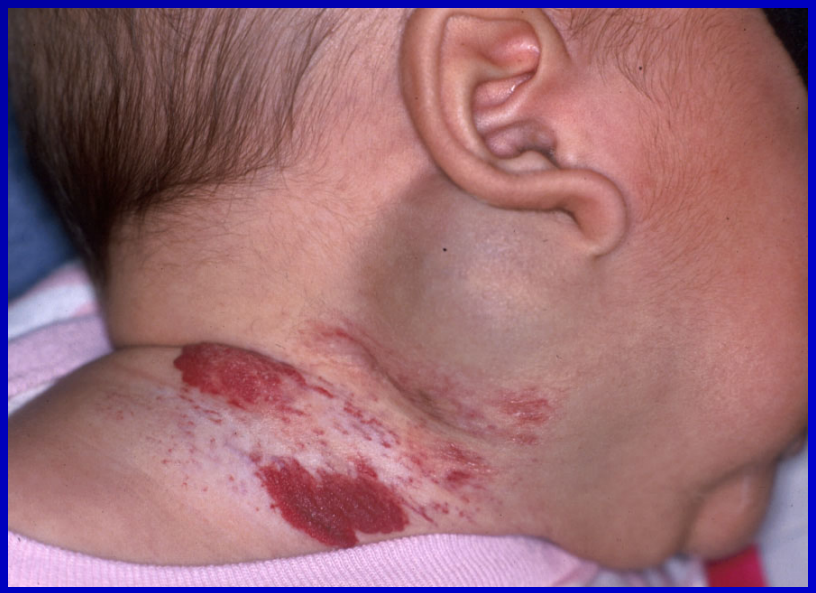
# Hemangioma

- Rapid growth for weeks to months
- Transition from proliferation to involution by age 1, complete by 5-6 years old
- Evaluation:
  - MRI, high flow lesion, bright T2, flow voids T1 and T2
  - CT scan with contrast

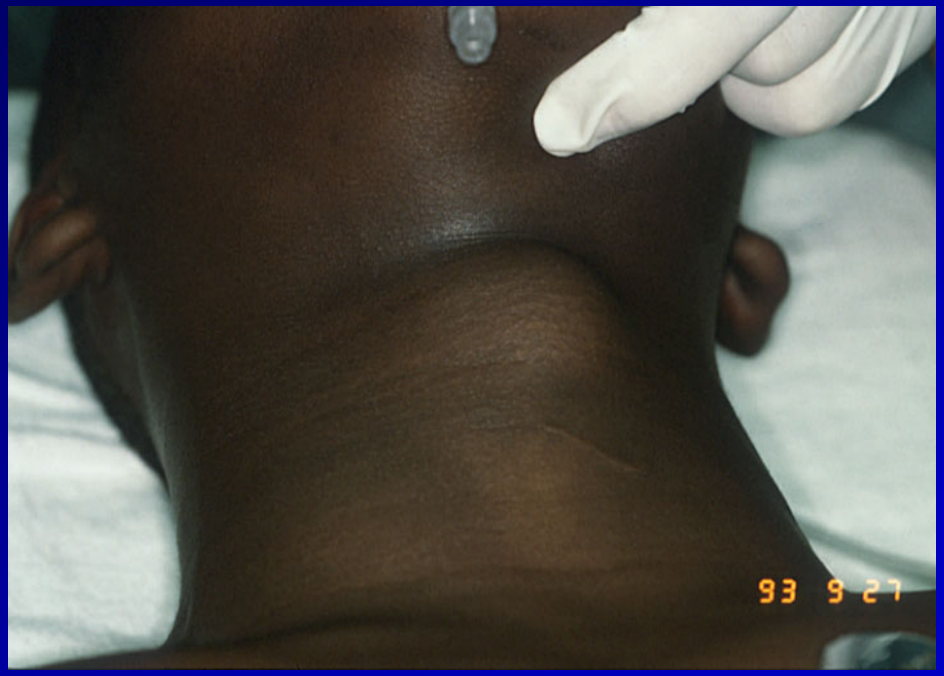


# Hemangioma

- Complications: Ulceration, airway obstruction, high-output cardiac failure, ophthalmic, Kasabach-Merritt
- Treatment options: Steroids, interferon, laser
- Corrective surgery for residual disease , vital structures



# Thyroglossal duct cyst




Notice:

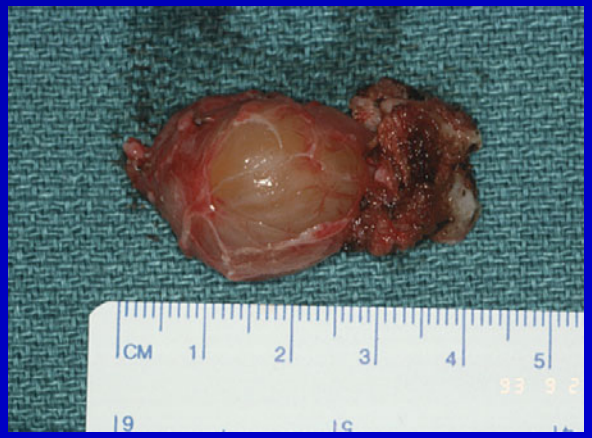
- Midline upper neck
- Moves with tongue protrusion or swallowing

Evaluation:

- Ultrasound of neck to confirm normal thyroid anatomy
- +/- thyroid function tests or scan

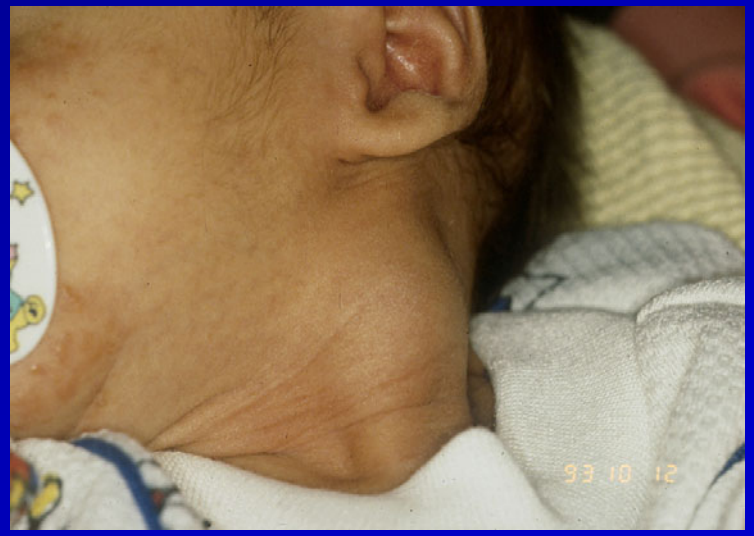
Treatment:

- Excision



# Congenital Torticollis

- aka
  - Sternocleidomastoid tumor of Infancy
  - Fibromatosis Colli
- Notice:
  - Within SCM
  - present at birth or within weeks
- Fibrosis of SCM muscle
- Evaluation: ultrasound
- Treatment:
  - Physical Therapy
  - Uncommonly, muscle release to avoid hemifacial asymmetry

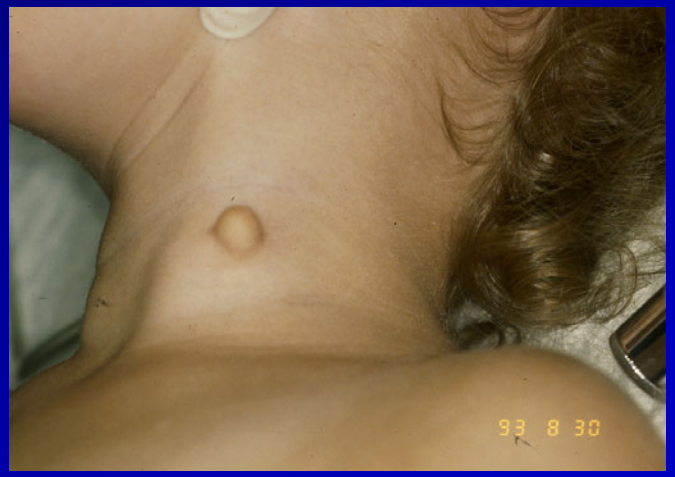


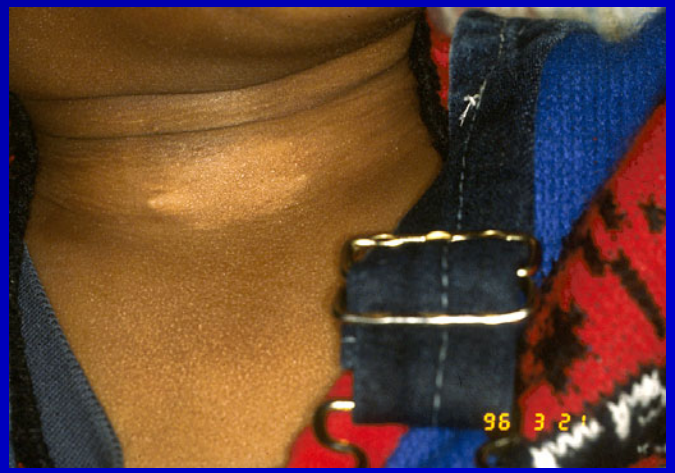
# Branchial Vestige

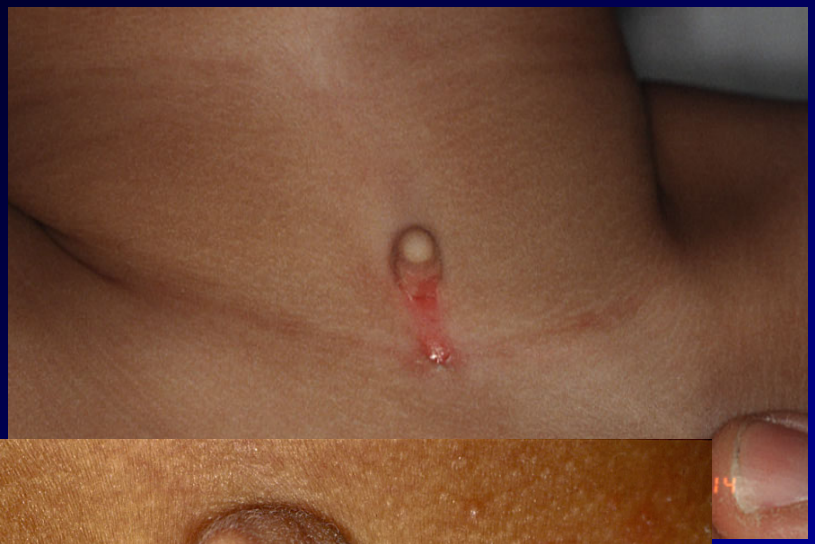
Notice:

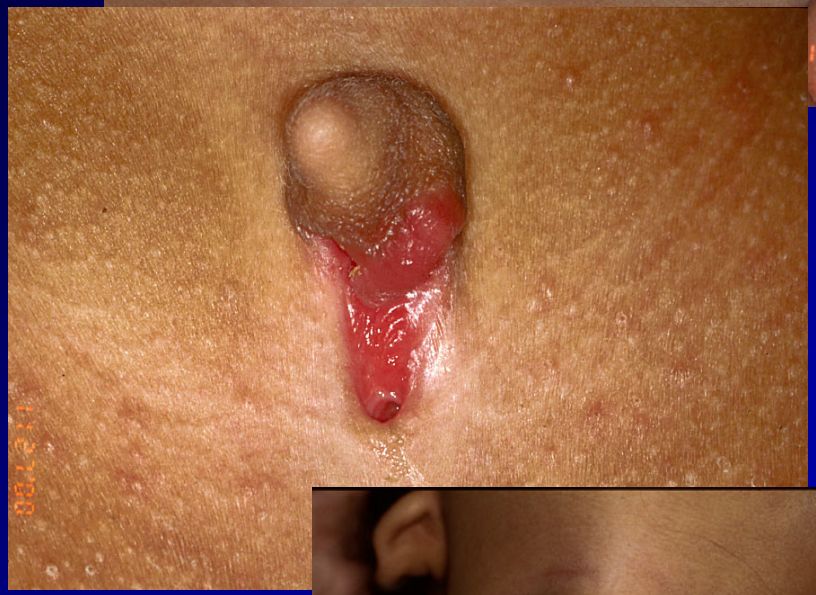
- +/- skin tag
- Involving or anterior to SCM

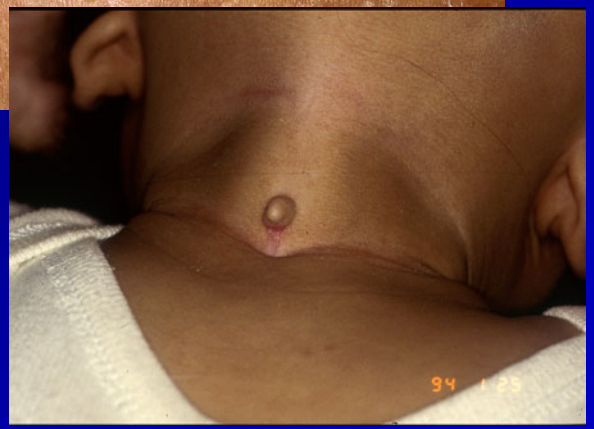
May extend into SCM





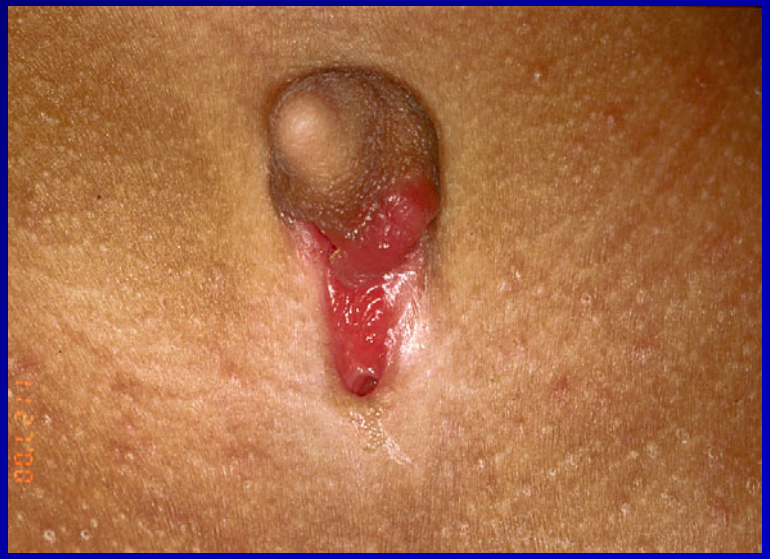




# Neck Masses

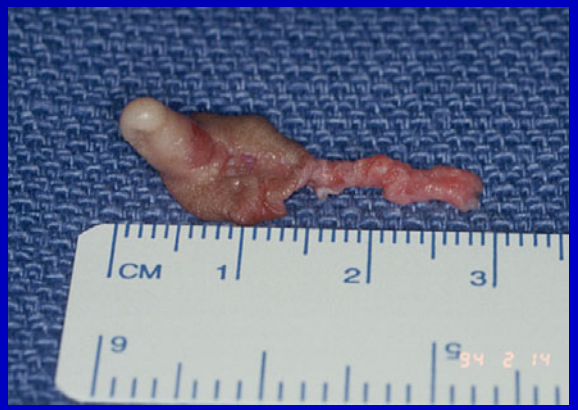
1. Midline Cervical Defect
2. Branchial Cleft Cyst
3. Lymphangioma
4. Retropharyngeal Abscess
5. Infectious Mono

# Midline Cervical Defect



Notice:

- Midline
- 3 components:
  - skin tag
  - sinus with mucosal lining
  - Vertical, non-epithelialized strip
- Rarely, linear bands extend from mandible to sternum

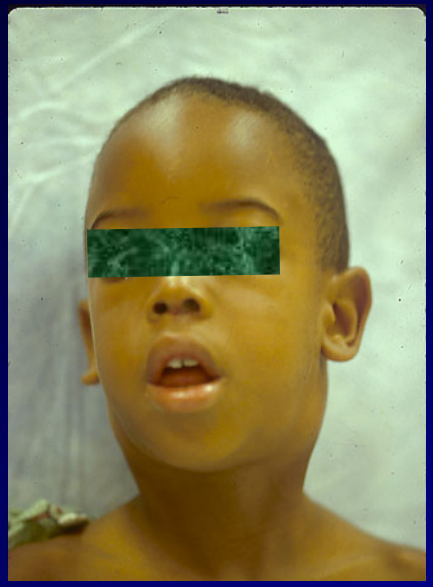


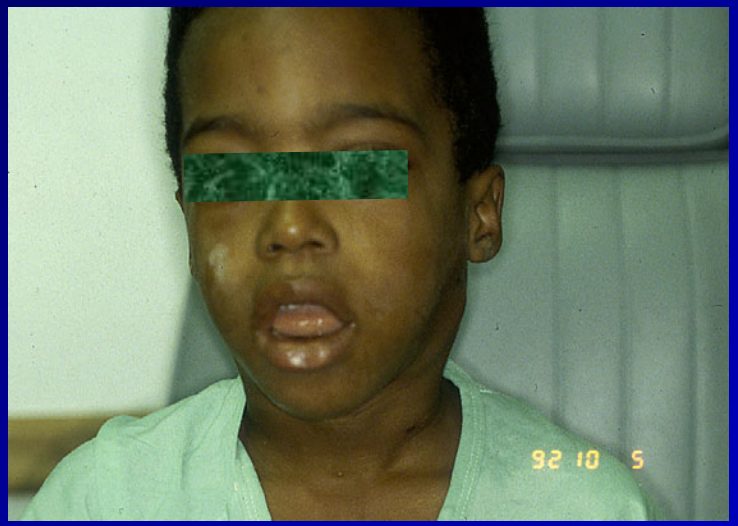

Etiology unknown, F > M

Treatment:

- Excision

# Neck Masses





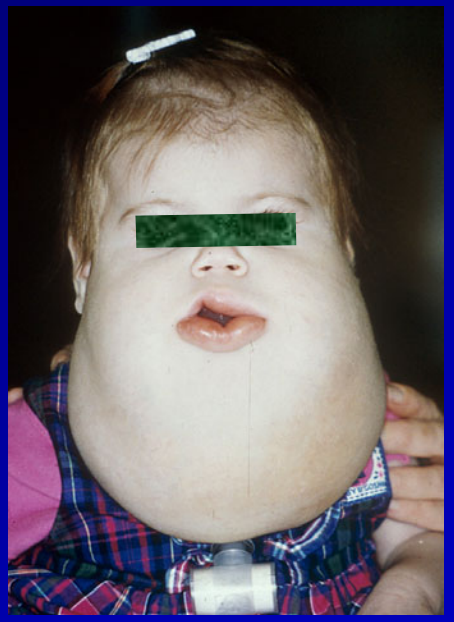

1. Branchial Cleft Cyst
2. Lymphangioma
3. Retropharyngeal Abscess
4. Infectious Mono

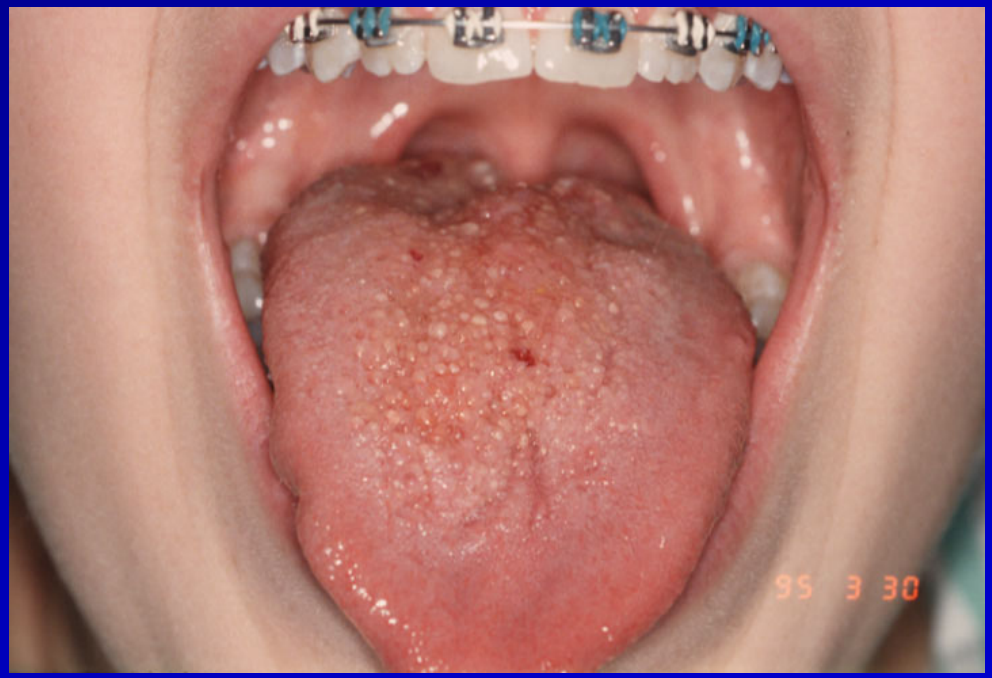
# Infectious Mononucleosis

- Notice:
  - Mouth breathing, massive cervical adenopathy
  - Exudative tonsillitis, adenotonsillar hypertrophy
- Testing:
  - Mono spot, EBV titers, CBC: atypical lymphocytes
- Differential Diagnosis:
  - lymphoma, other viral illnesses
- Treatment:
  - supportive, steroids, maintain airway, antibiotics for superinfection

# Lymphangioma

- aka Cystic hygroma
- Variable location
- Notice:
  - large, soft, non-discolored mass
  - “frogs eggs” on dorsal tongue
- Treatment
  - Excision
  - Sclerosis
  - None

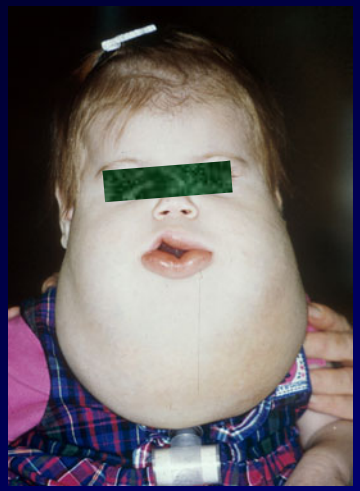


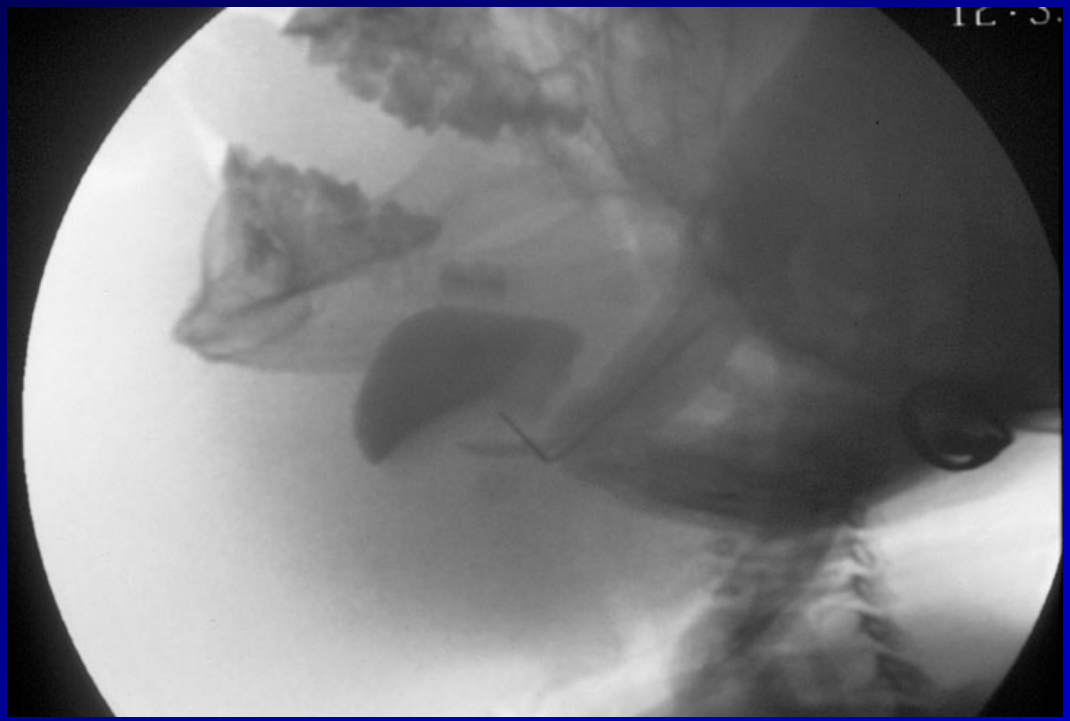


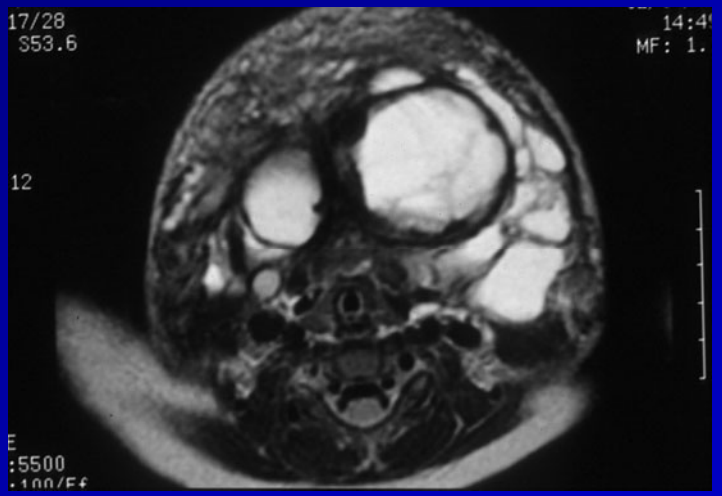
# Lymphangioma

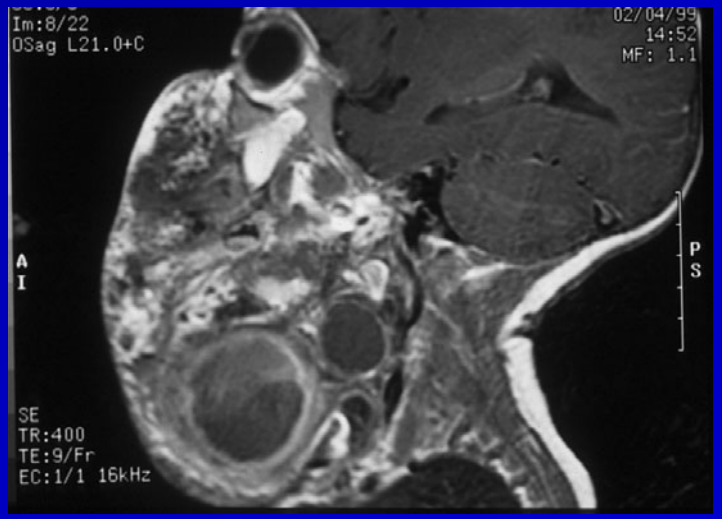
## Sclerosis with OK-432 (Picibanil)

(not FDA approved)

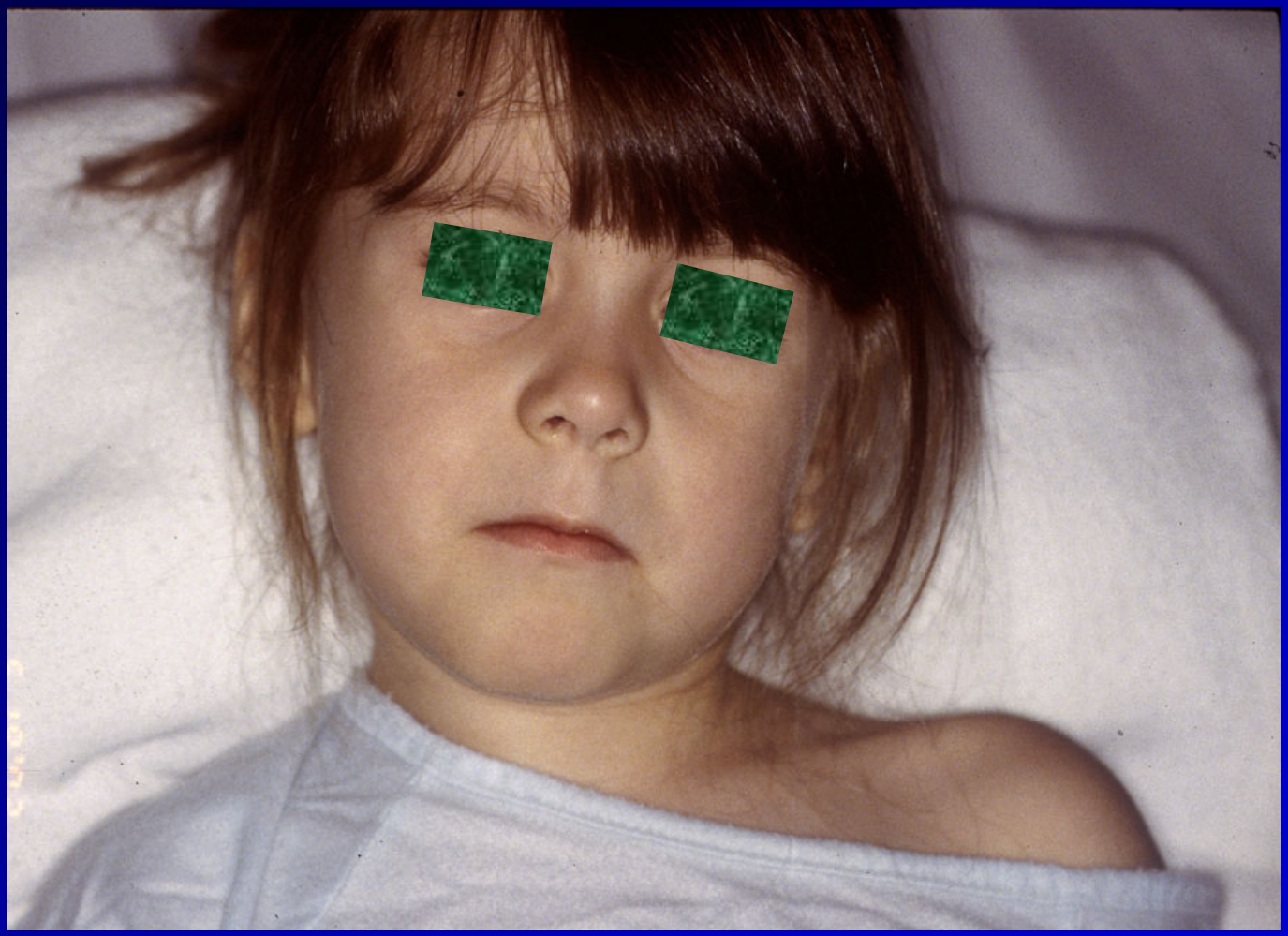






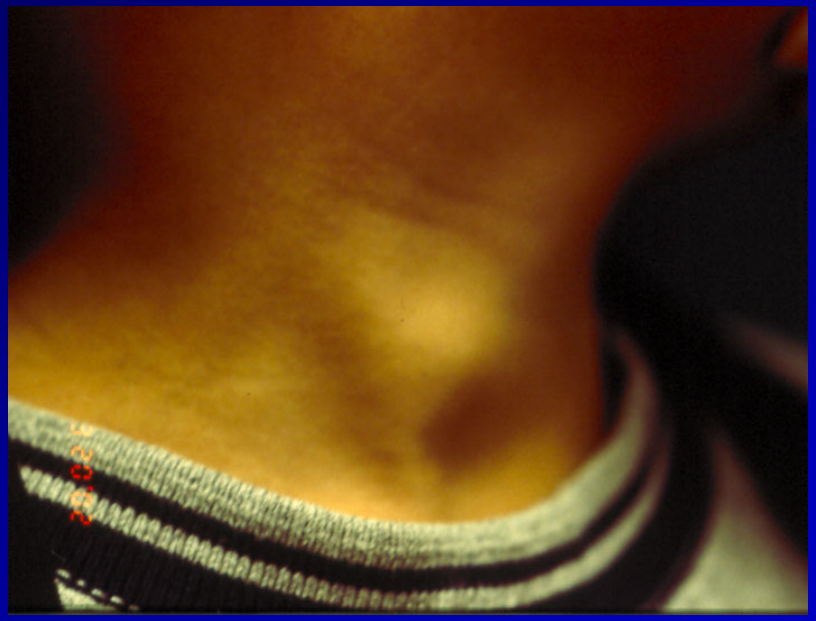



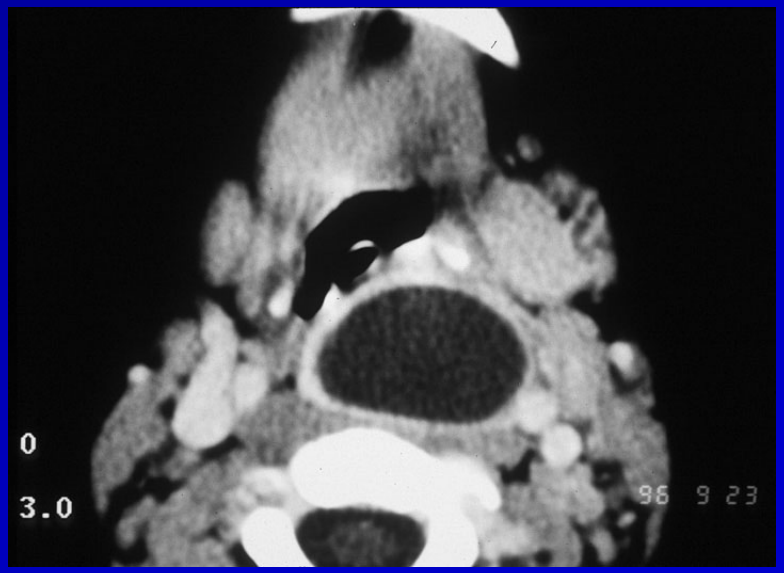
# Retropharyngeal Abscess

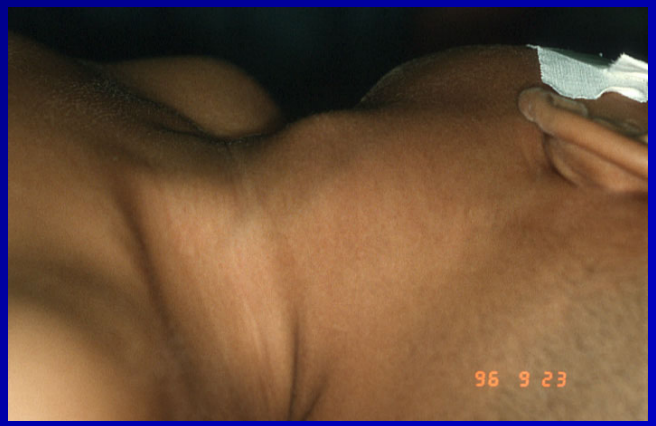


# Branchial Cleft Cyst

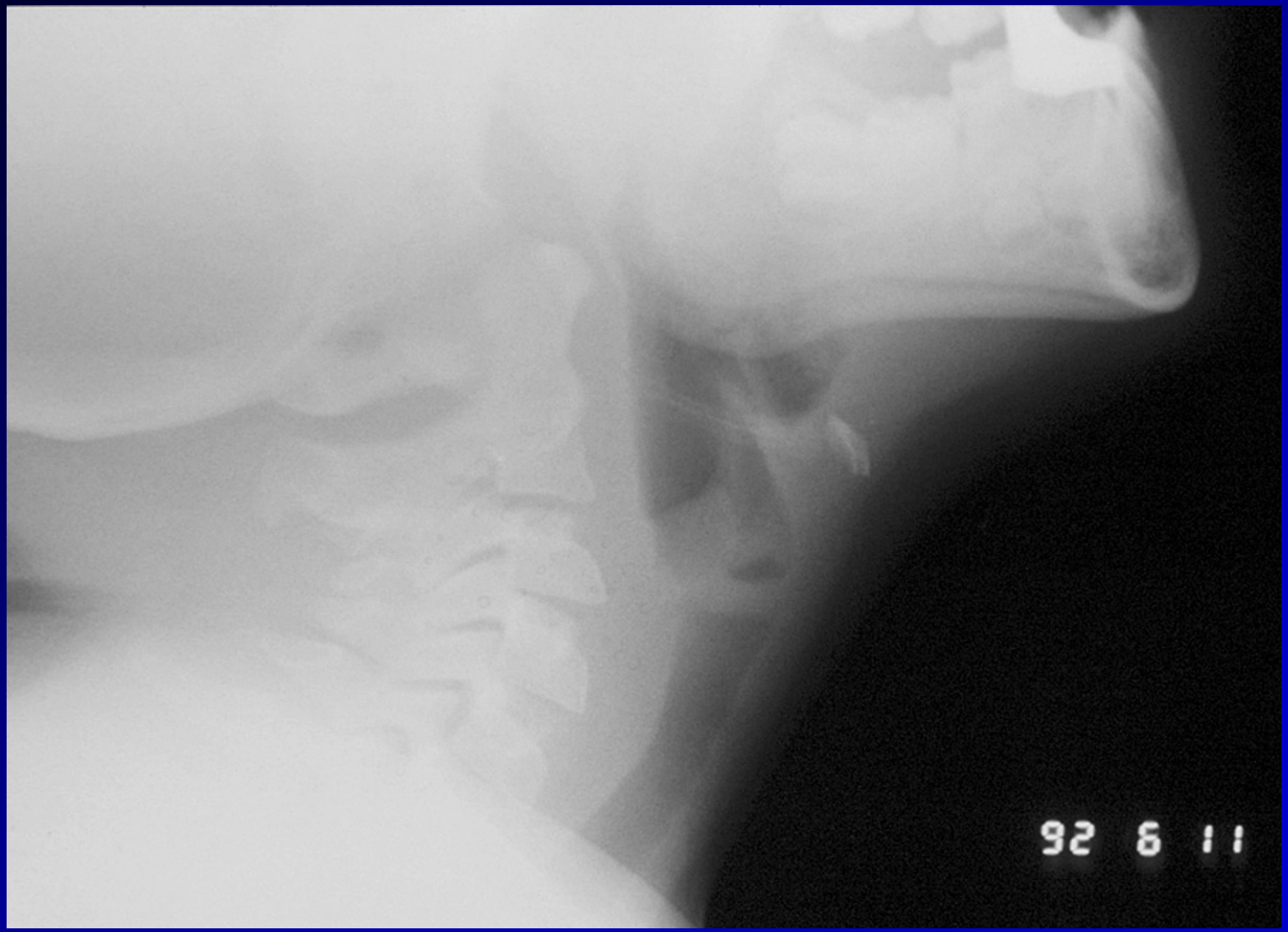
- Anterior to SCM
- 2nd BCC most common; 4th rarest
- Differential diagnosis:
  - Other congenital mass
  - Infectious
  - Malignant
  - other



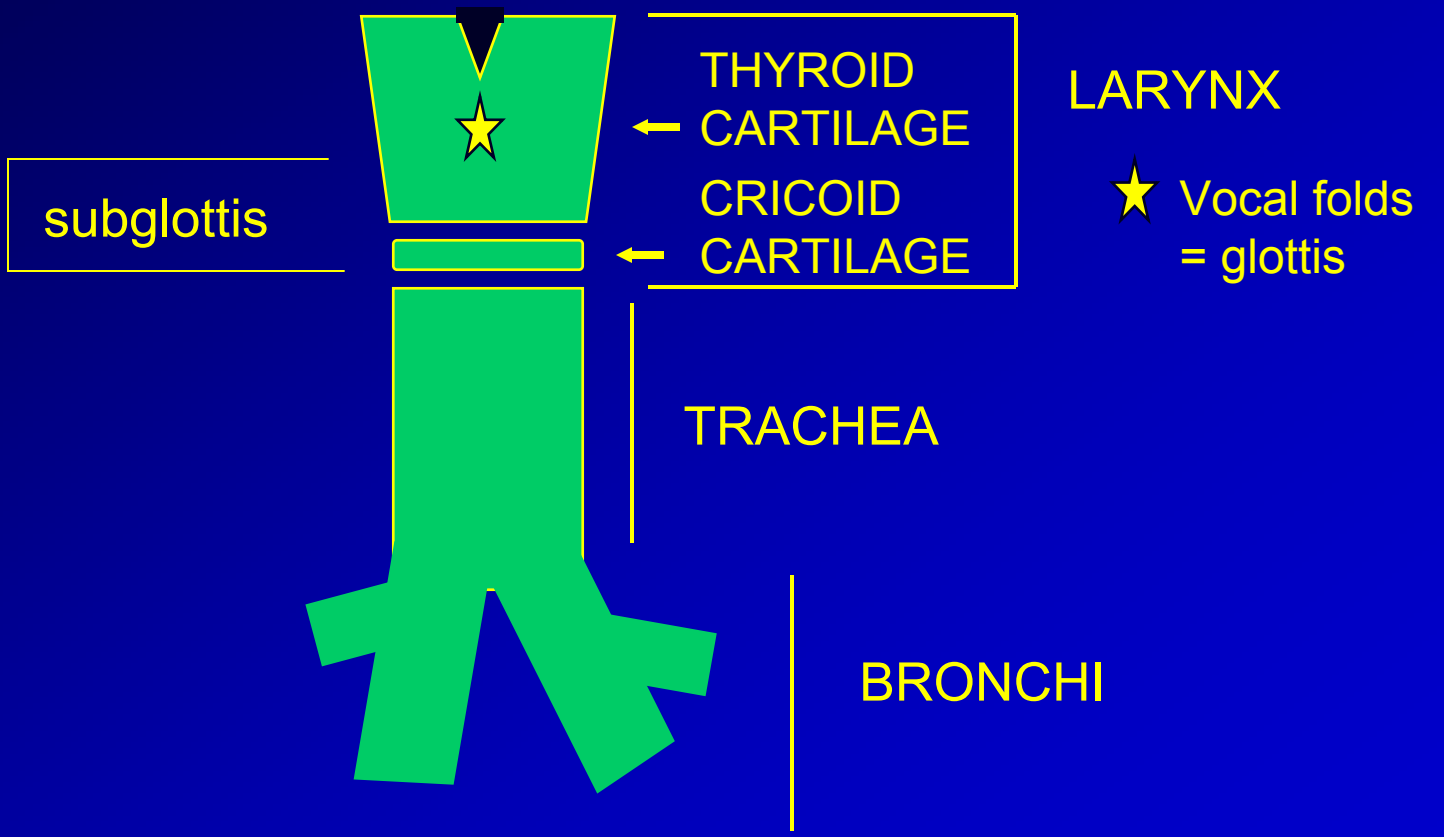


# LARYNX, TRACHEA, BRONCHI; ESOPHAGUS

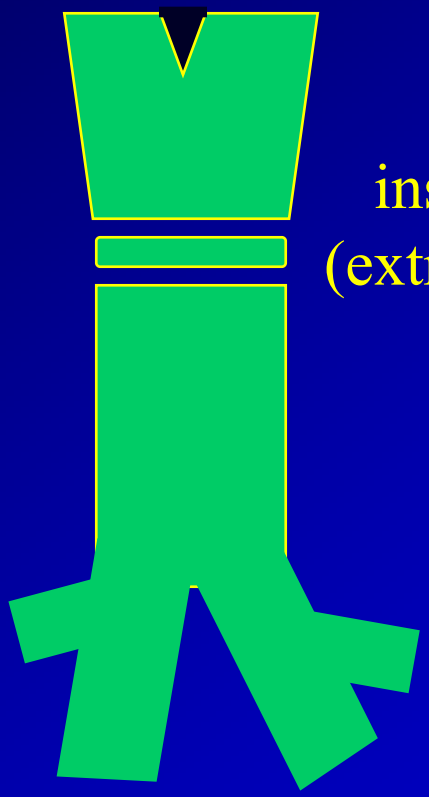

92 6 11

# Diagram of airway anatomy



# Stridor Qualities

high pitched
(can be low pitched)



inspiratory
(extrathoracic)

low pitched

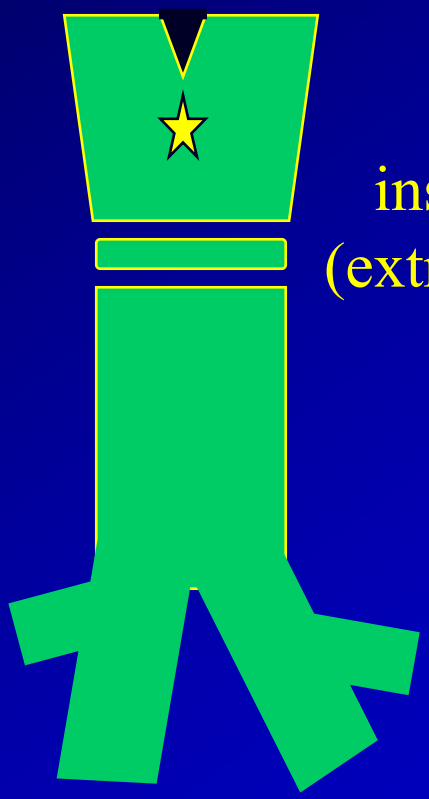
high pitched

expiratory
(intrathoracic)

# Stridor Qualities

★ hoarseness

high pitched
(can be low pitched)



inspiratory
(extrathoracic)

low pitched

high pitched

expiratory
(intrathoracic)

# Otolaryngology
# Airway Evaluation

HISTORY

PHYSICAL EXAMINATION

PLAIN RADIOGRAPHS

ENDOSCOPY (FOL a/o DL,B)

SPECIALIZED RADIOGRAPHS

# Organizing the Airway Evaluation: 3 Layers

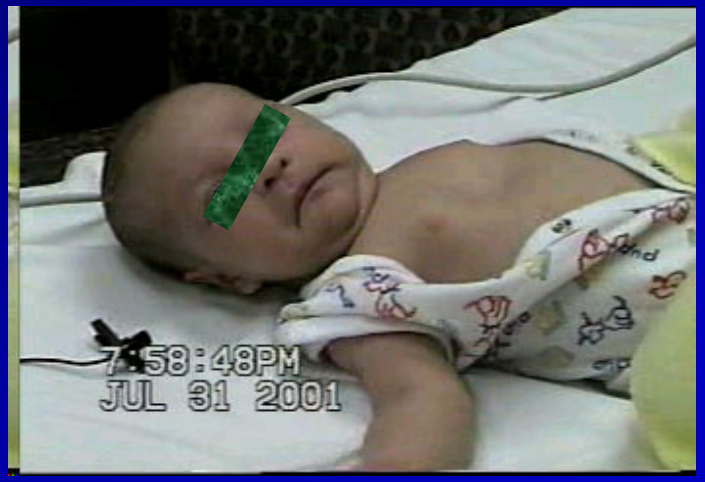
Basic algorithm

How much is enough?

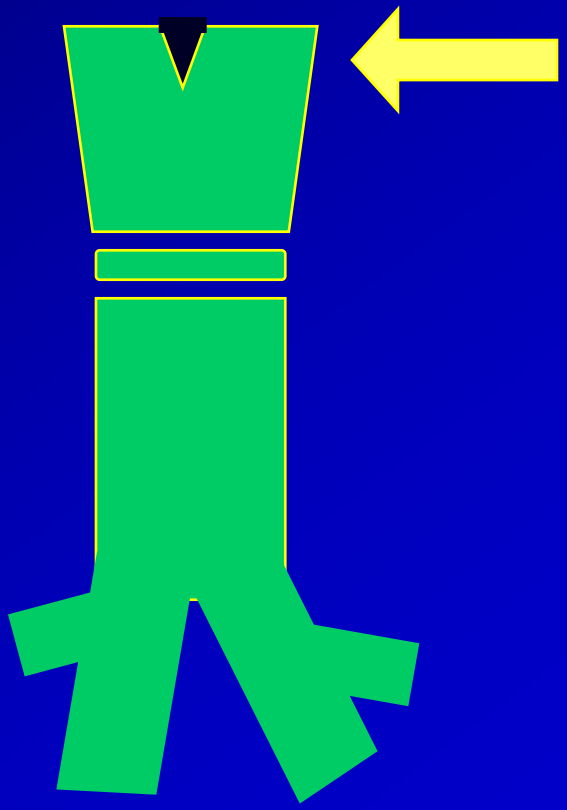
How urgently to proceed?

# Most likely diagnosis is?

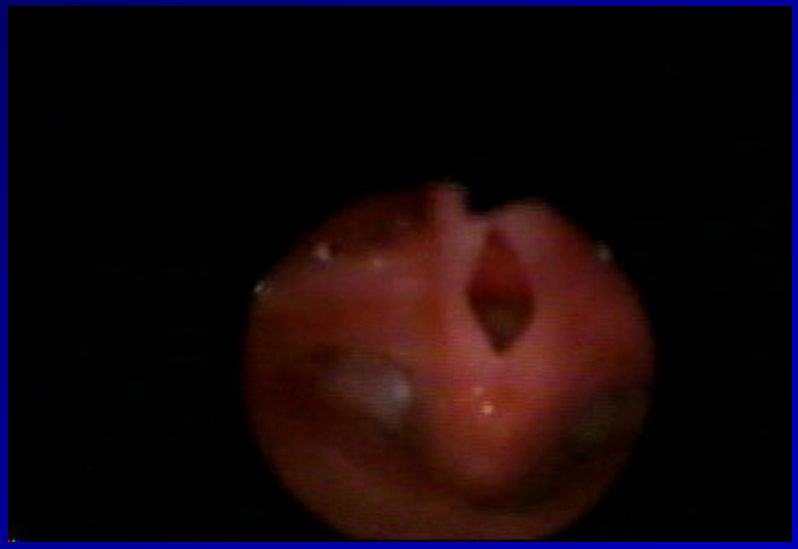
1. Croup
2. Vascular ring
3. Laryngomalacia
4. Subglottic stenosis
5. Aspirated foreign body
6. Other



# Laryngomalacia



# Laryngomalacia



Notice

- inspiratory stridor
  - high pitched in infants
  - “vibratory”

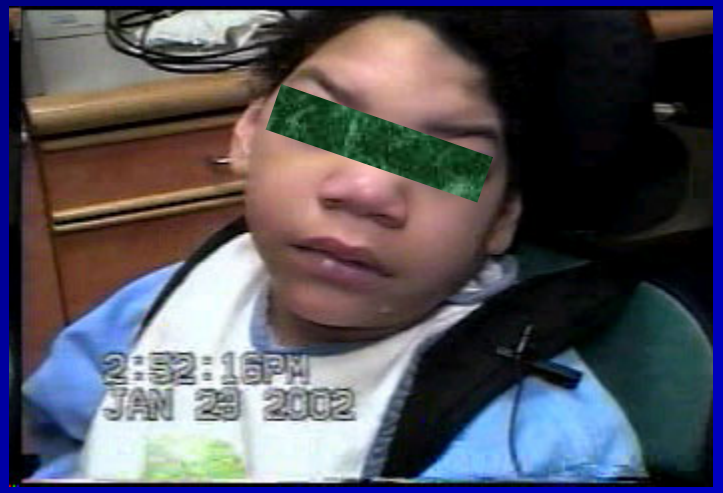
Most common congenital laryngeal anomaly

Management

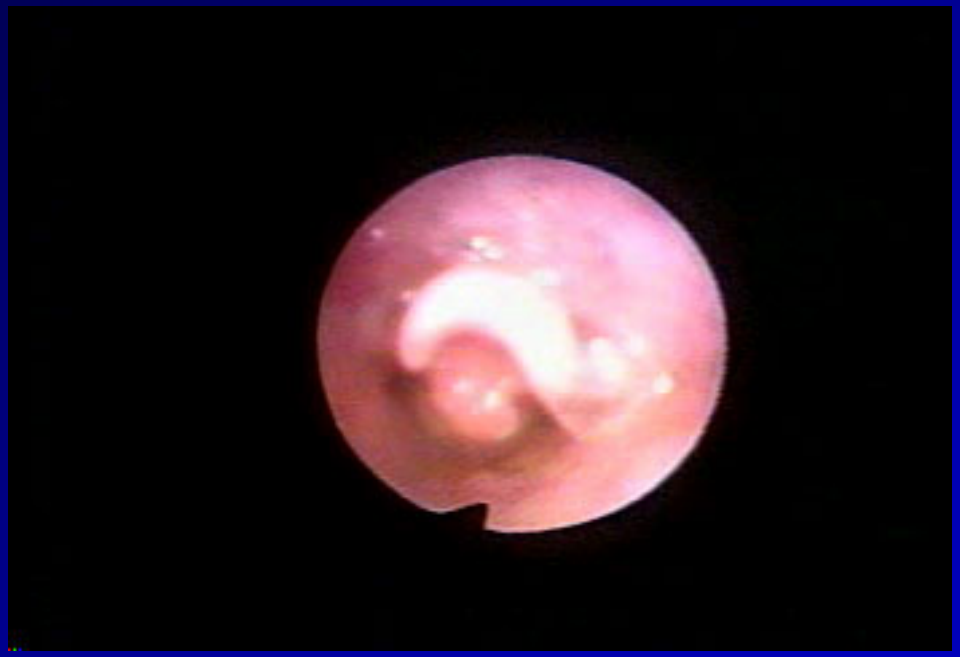
- Usually expectant, treat GERD
- If severe:  epiglottoplasty

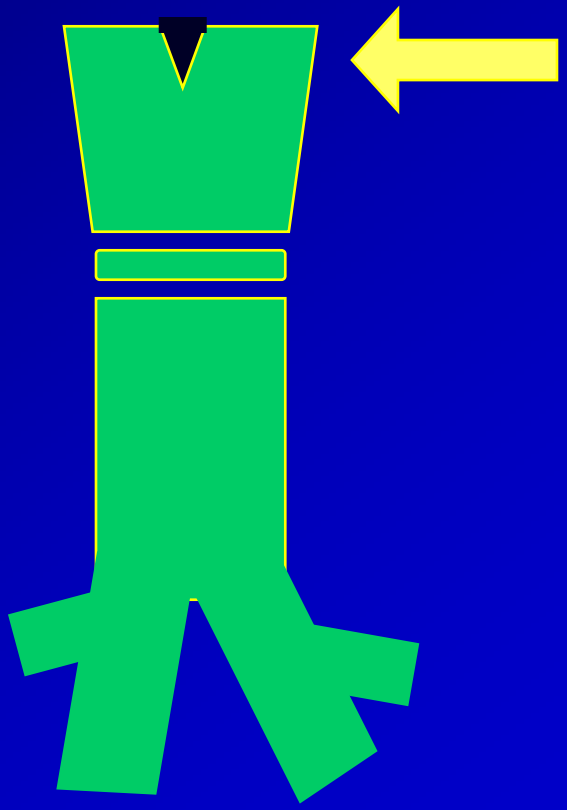
# Most likely diagnosis is?

- Croup
- Vascular ring
- Laryngomalacia
- Subglottic stenosis
- Aspirated foreign body
- Other

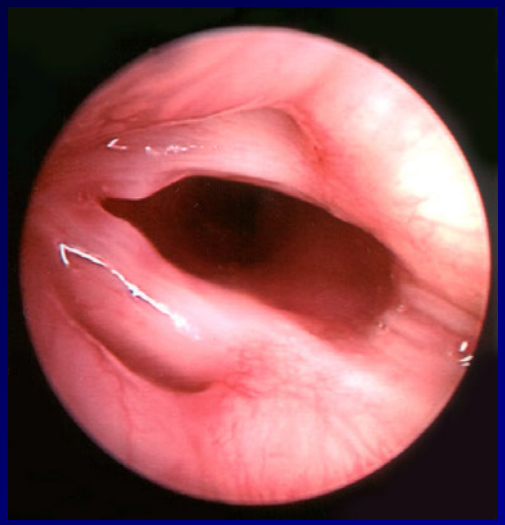


# Laryngomalacia (acquired)

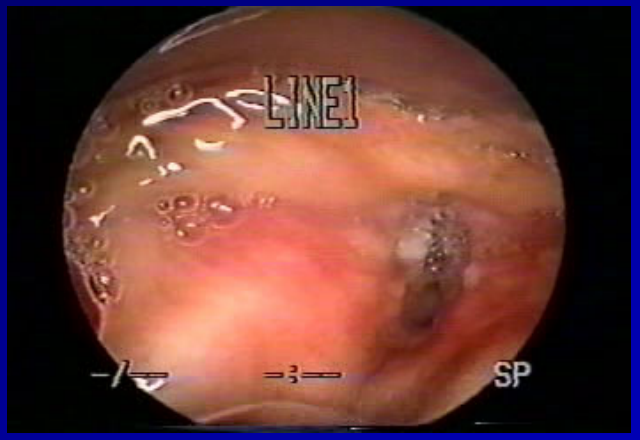




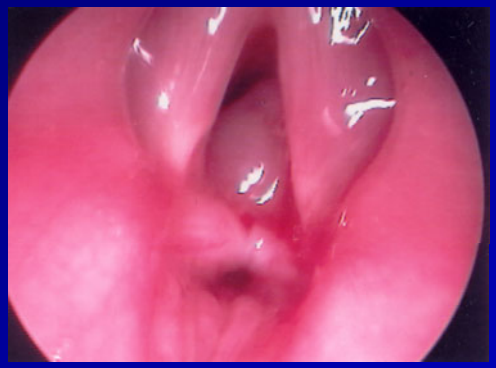
# Selected causes of hoarseness



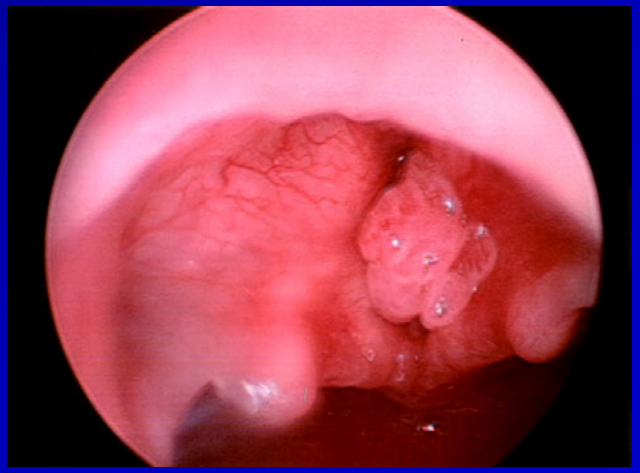
Vocal fold nodules




Exudative Laryngitis/Tracheitis



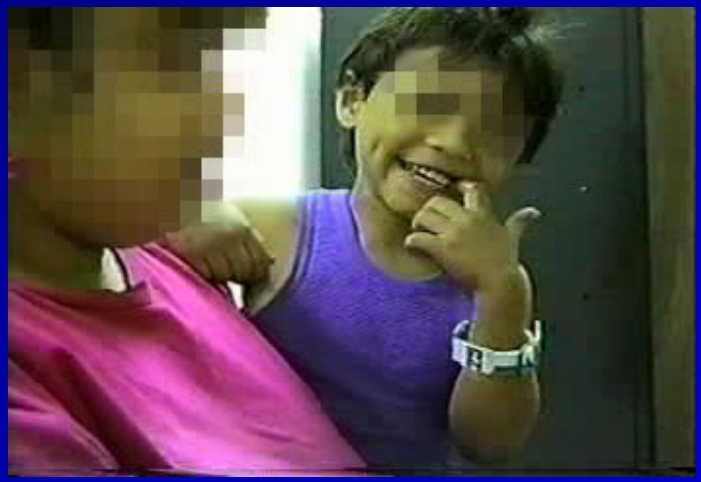
Post-intubation granulation tissue, synechiae



Recurrent respiratory papillomas

# How quickly should this child's airway be visualized?

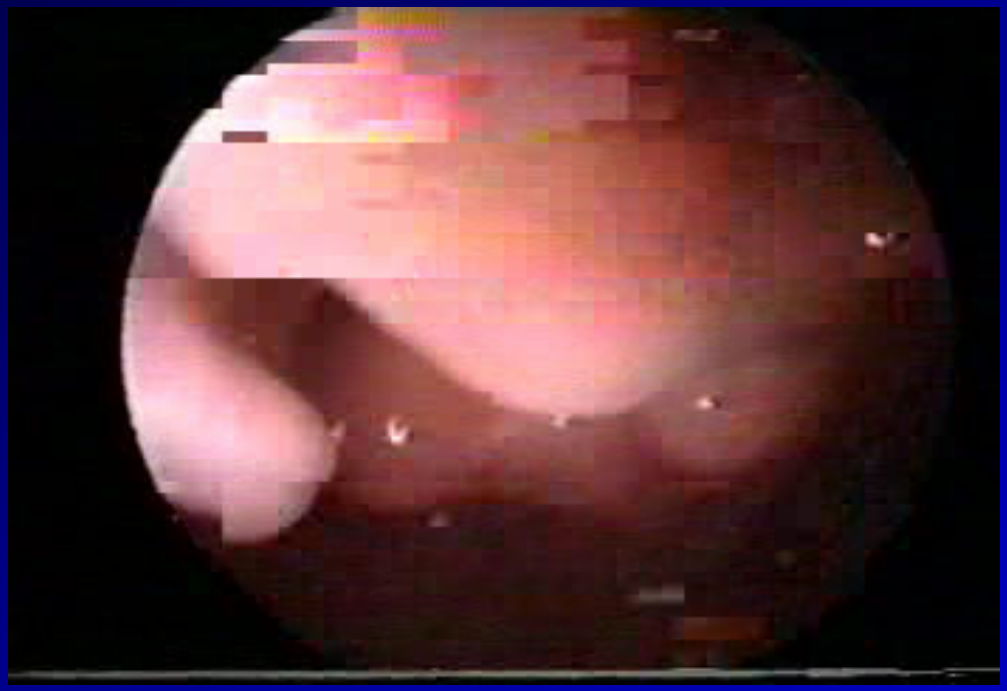
1. Today
2. Within 2 weeks
3. No rush

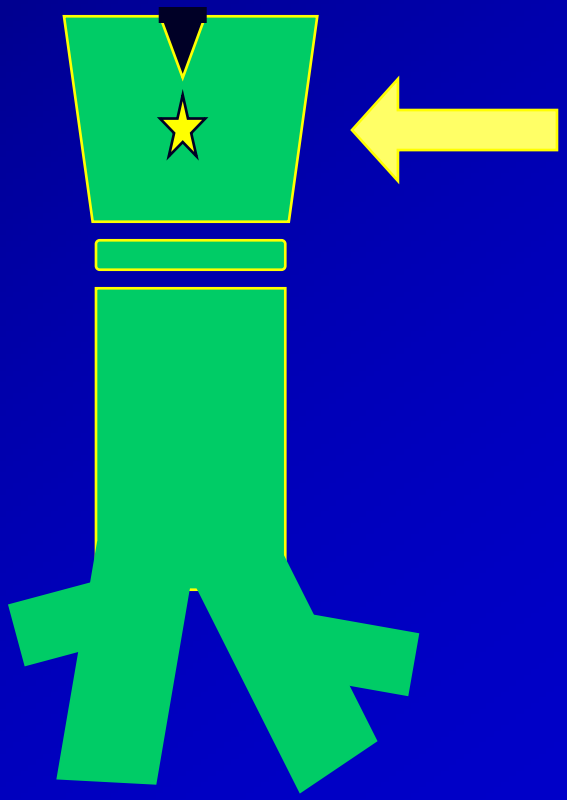


# Proceed urgently if:

- Significant respiratory distress
  - increased supplemental oxygen requirement
  - child uncomfortable or becoming fatigued
  - not explained by other organ system problem
- Stridor of acute onset - risk of progression
  - foreign body
  - infection
  - Trauma
- Significant dysphonia - risk of complete obstruction
  - papillomas
  - exudative infections
  - foreign body

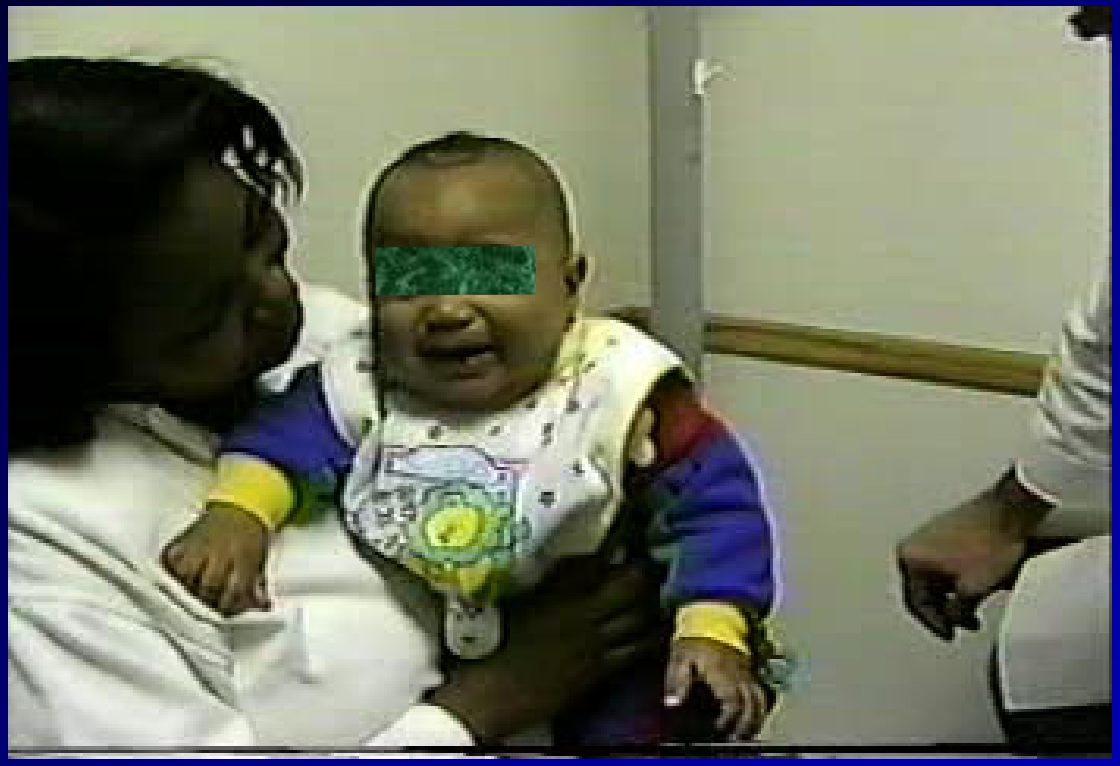
# Recurrent respiratory papilloma



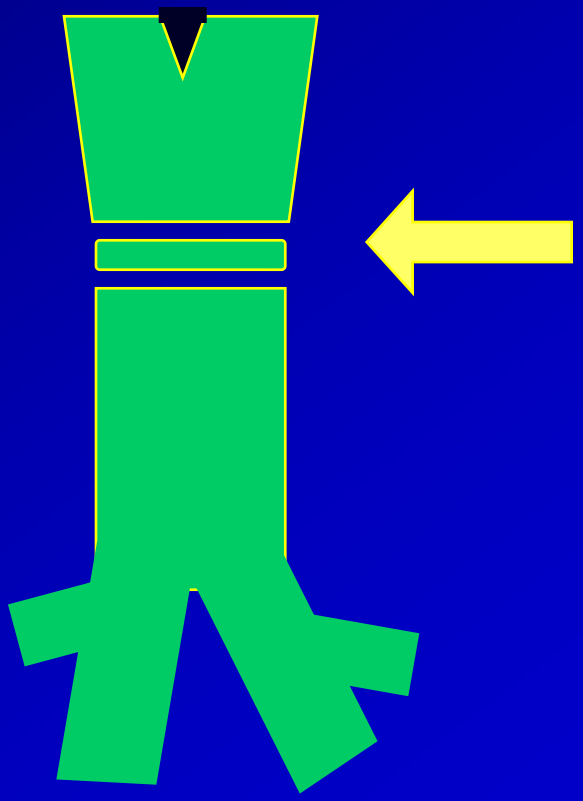


# Recurrent respiratory papilloma

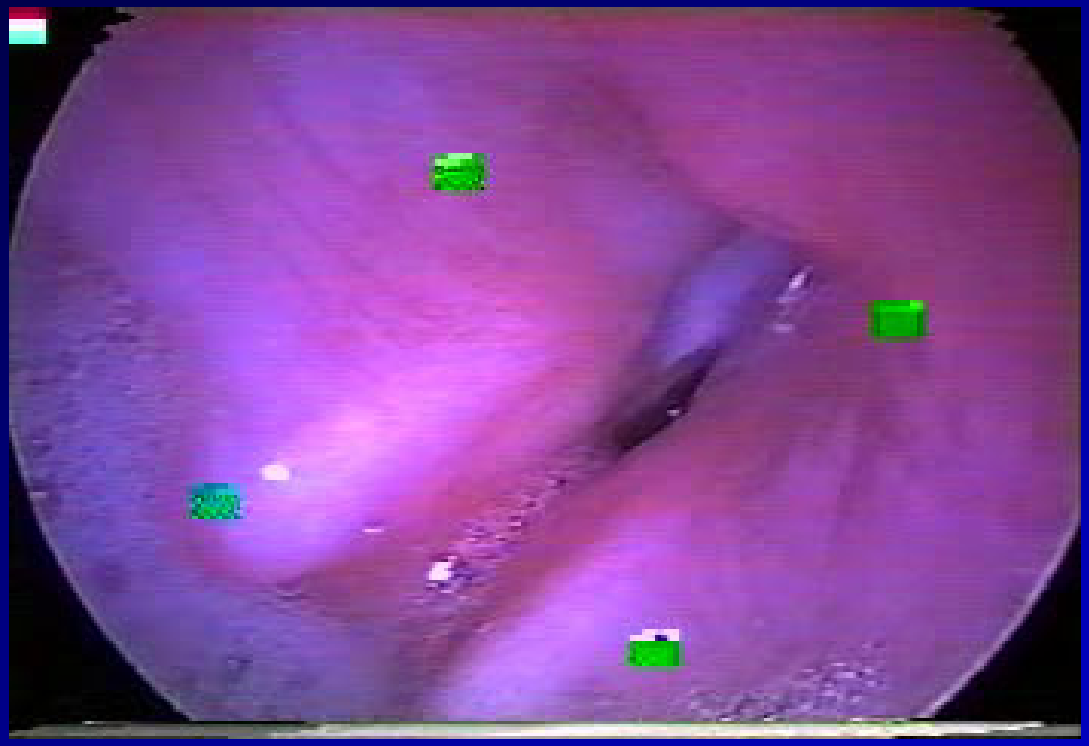
- Predilection for vocal folds
- If untreated, may progress to stridor and airway obstruction
- Excise with microdebrider, $CO_2$ laser or forceps
- Relentless recurrence
- ?cidofovir, cimetidine, interferon, other?
- ?tracheotomy

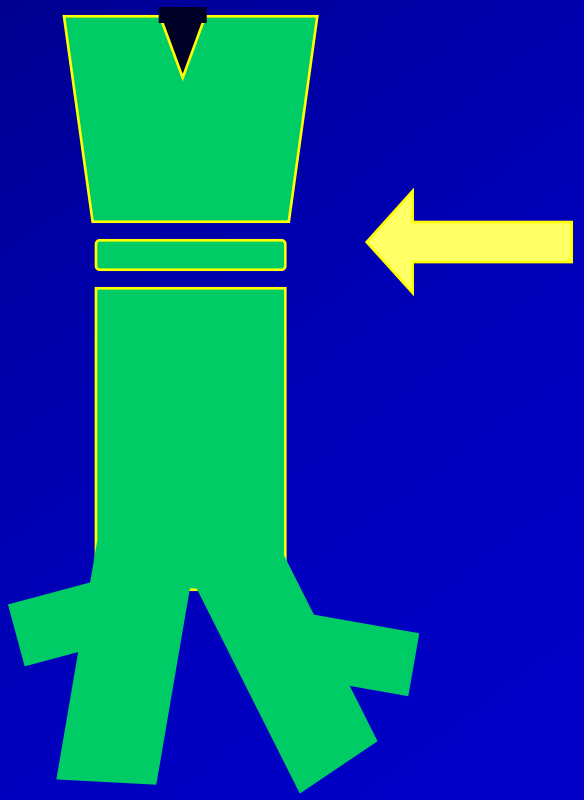


7 month old male, stridorous since 1 month of age, recently worse with upper respiratory tract infection; Full Term, never intubated, eats without difficulty, stridor worsens with agitation.

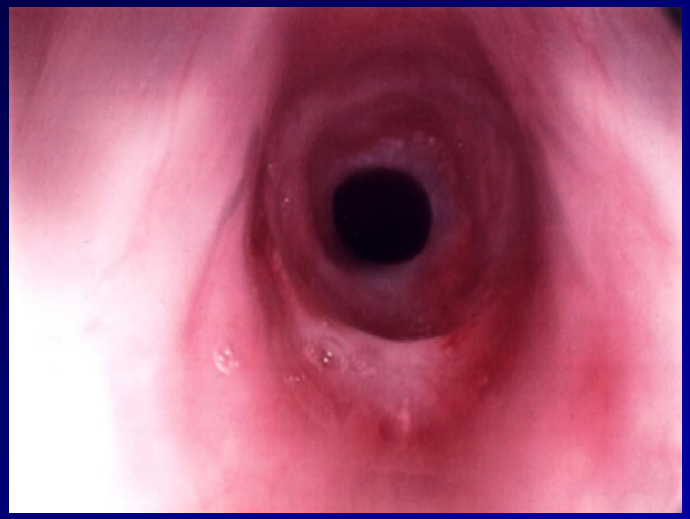
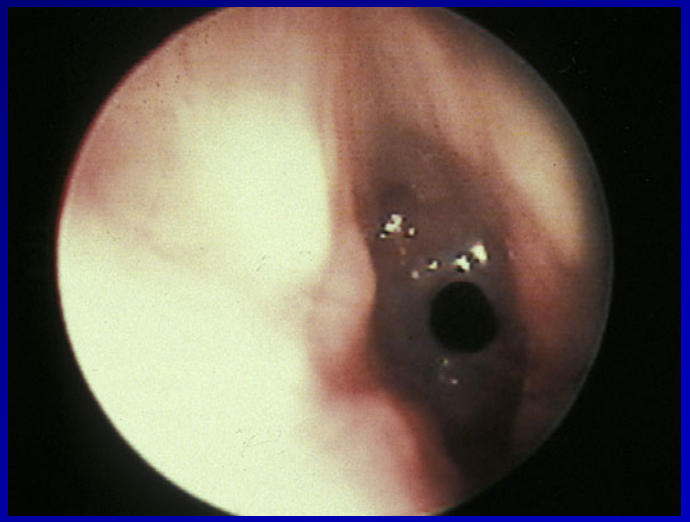
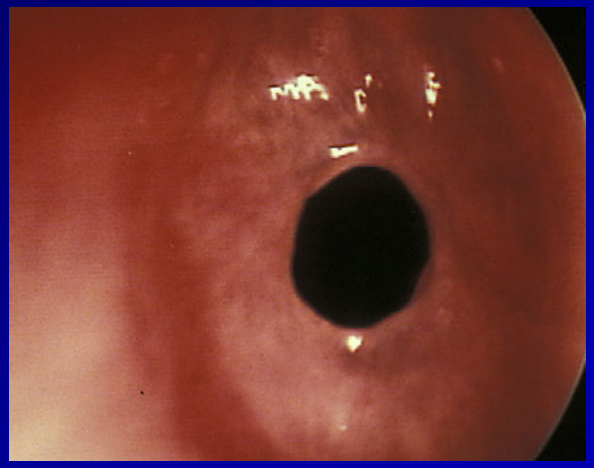
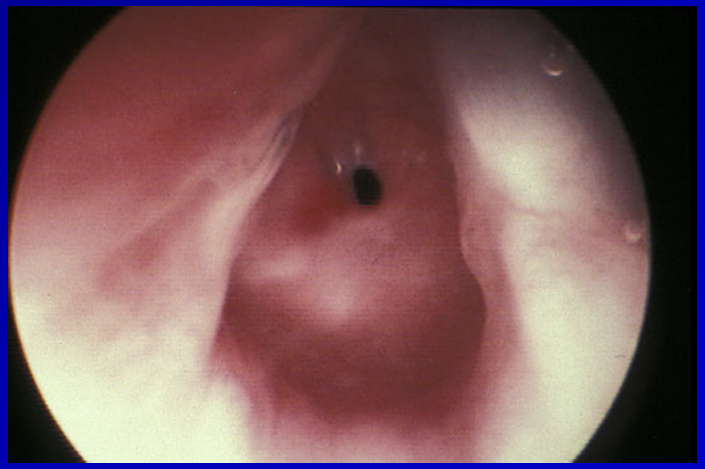
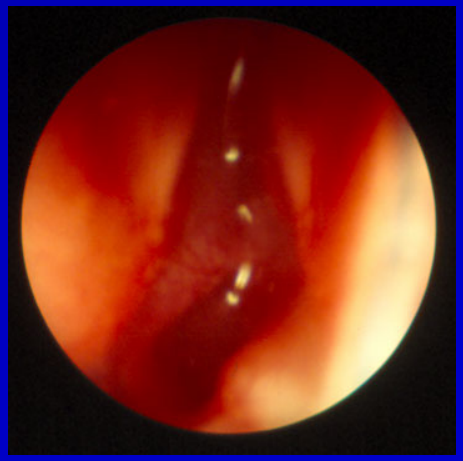


# Subglottic Stenosis





# Acquired Subglottic Stenosis

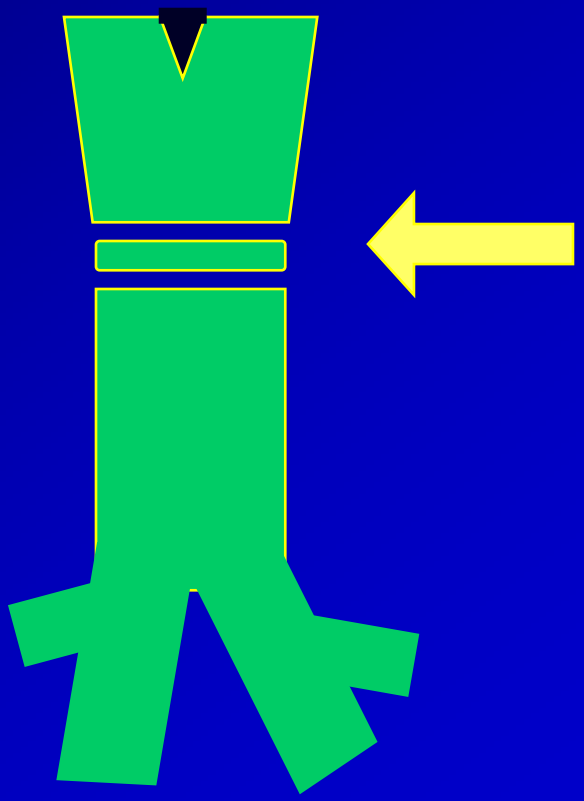






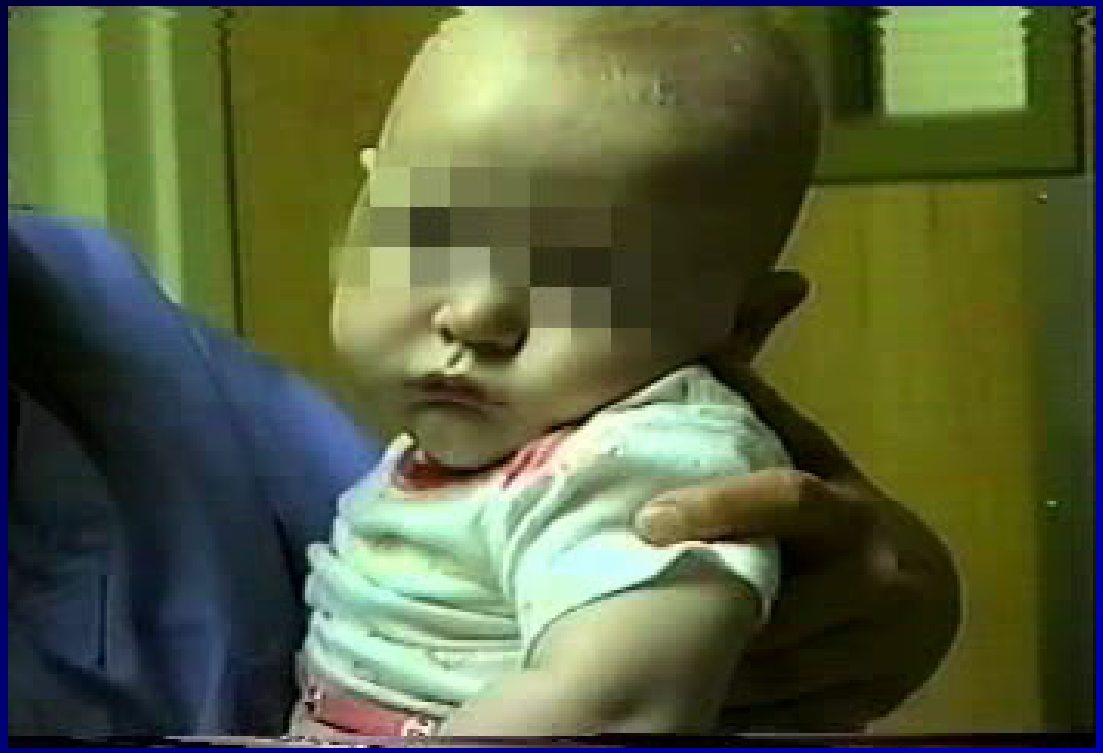
# SUBGLOTTIC STENOSIS

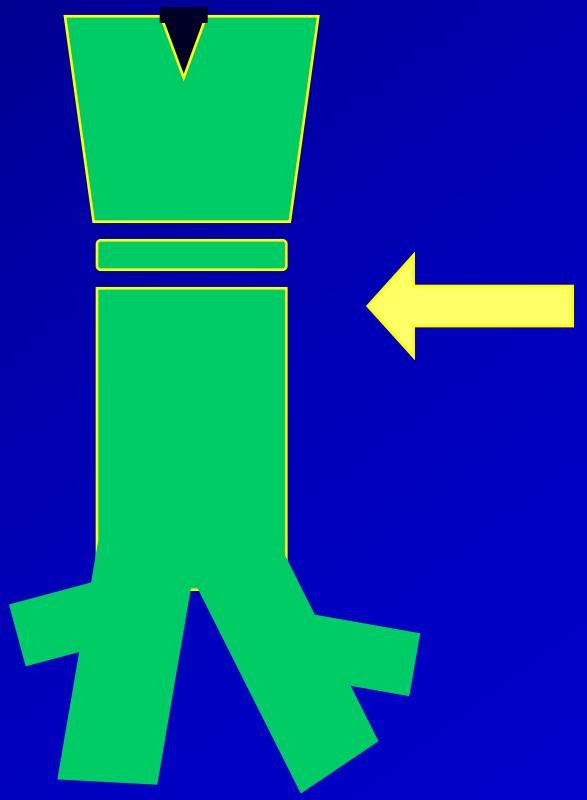
- stridor, cough, persistent or recurrent "croup"
- Congenital or Acquired
  - Acquired is usually a result of intubation
- Diagnosis:  endoscopy

# The subglottis is at risk because:

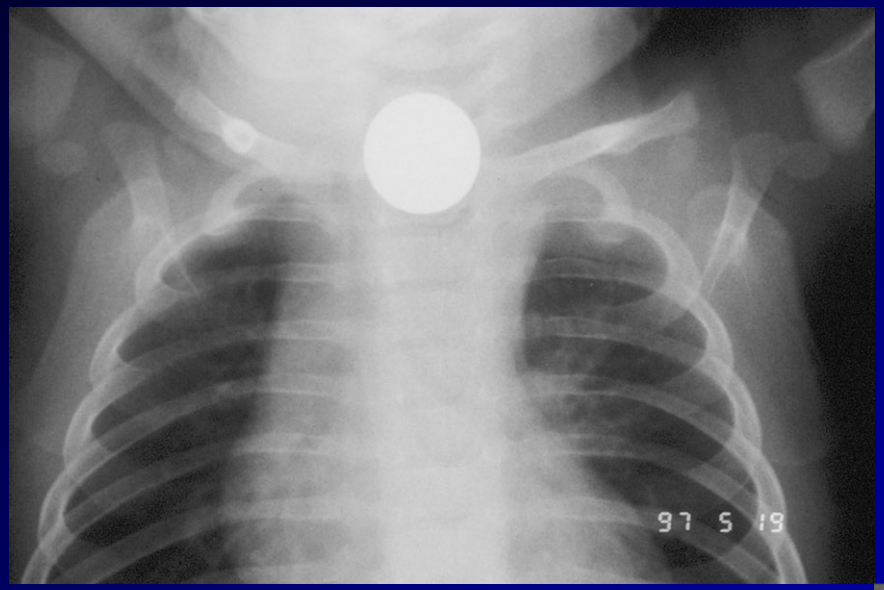
- It is the narrowest portion of the airway in infants
- The cricoid ring is the only complete ring and is non-distensible







5 month old male, stridorous for 2 days, Mom thought because of URI, but no other symptoms; FT, never intubated, stridor worsens with agitation.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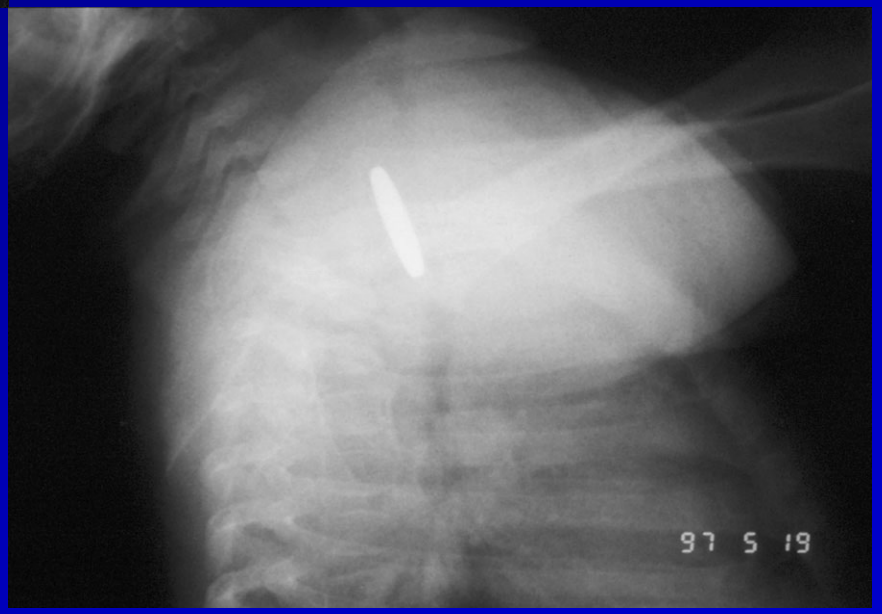
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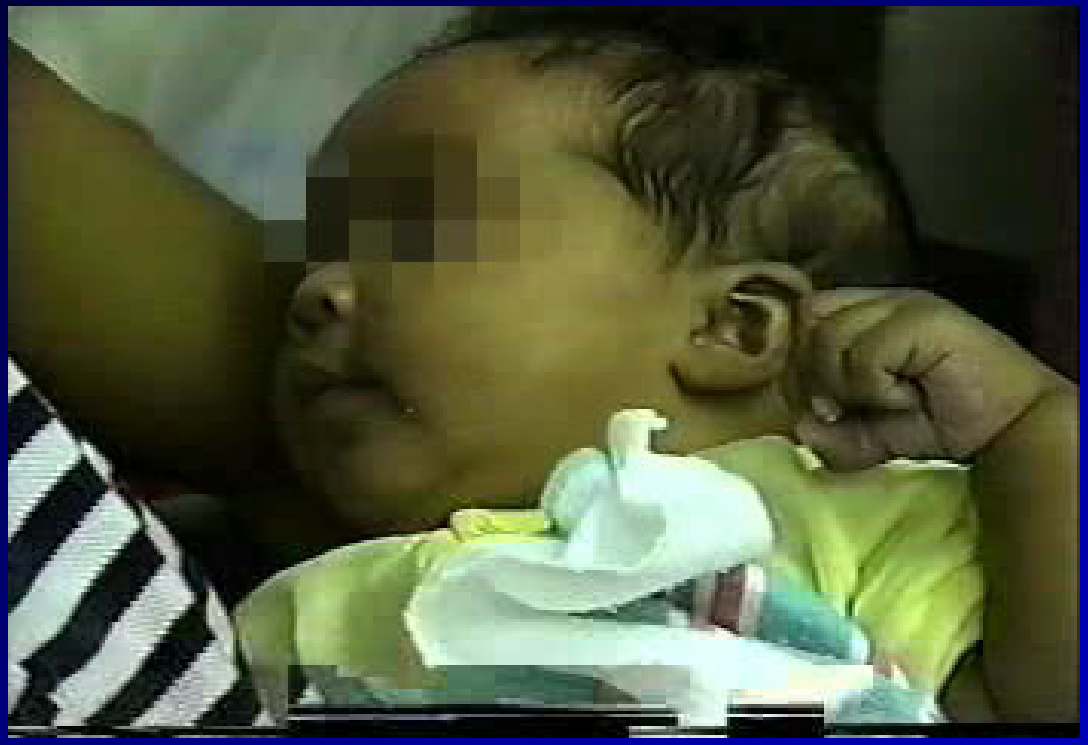
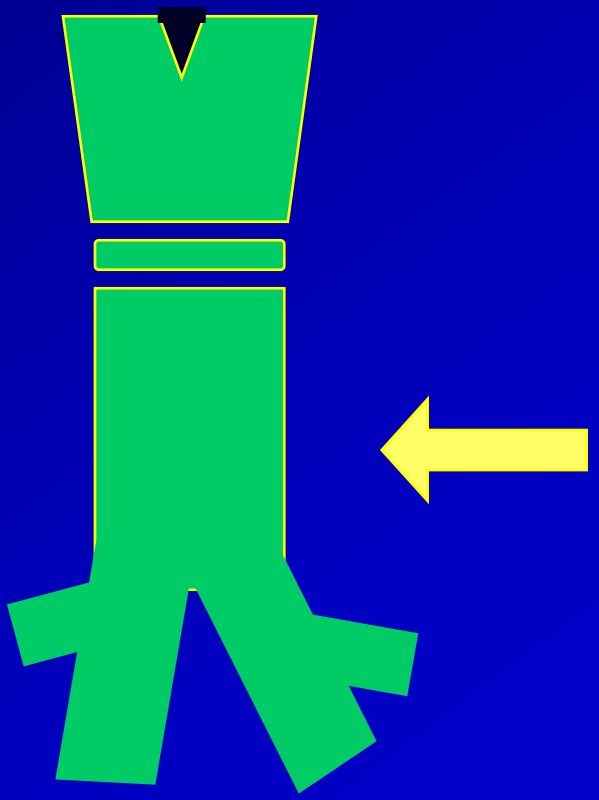
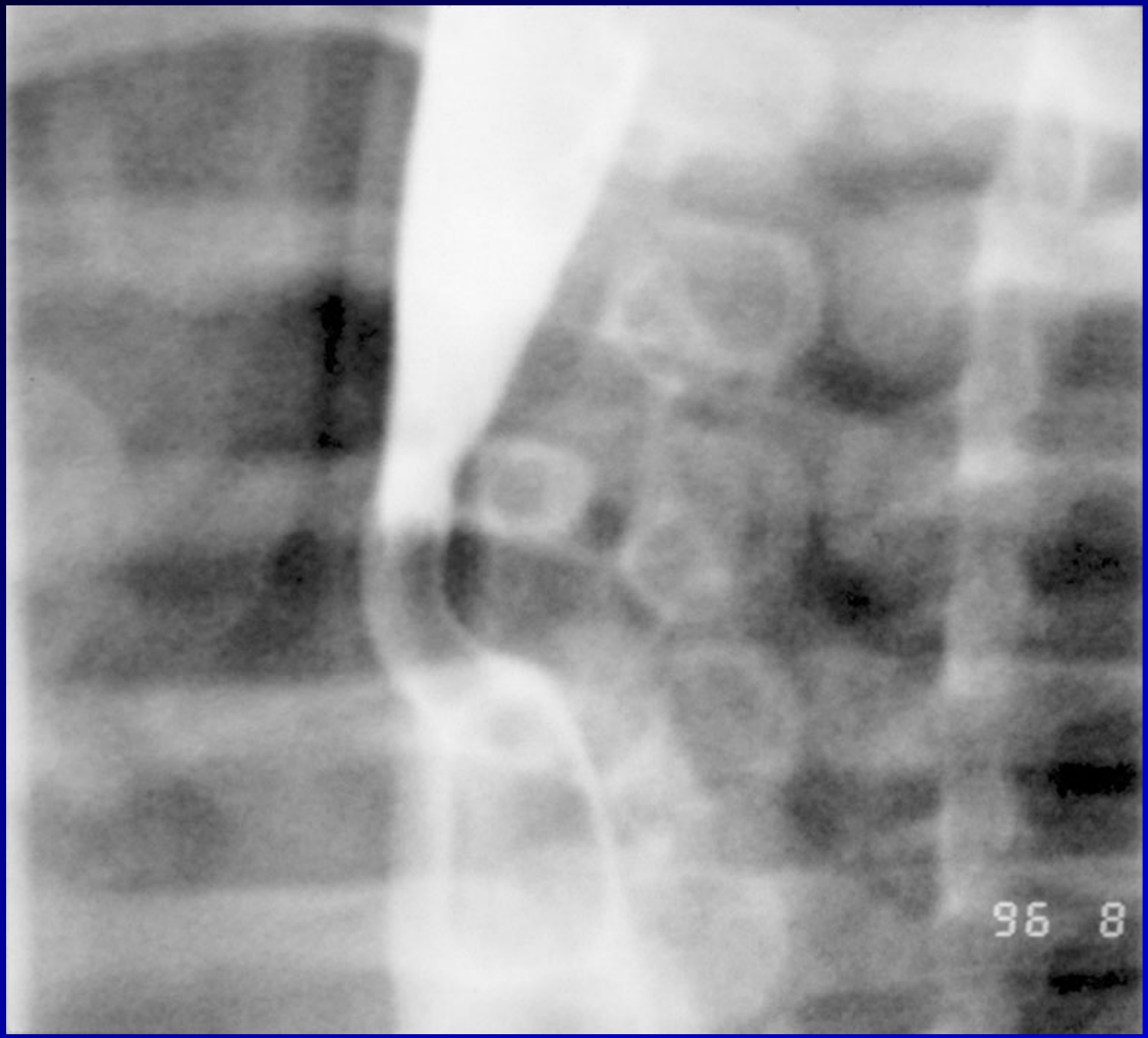
# EXTRINSIC LARYNGEAL COMPRESSION

- post-cricoid foreign body
- deep neck infection



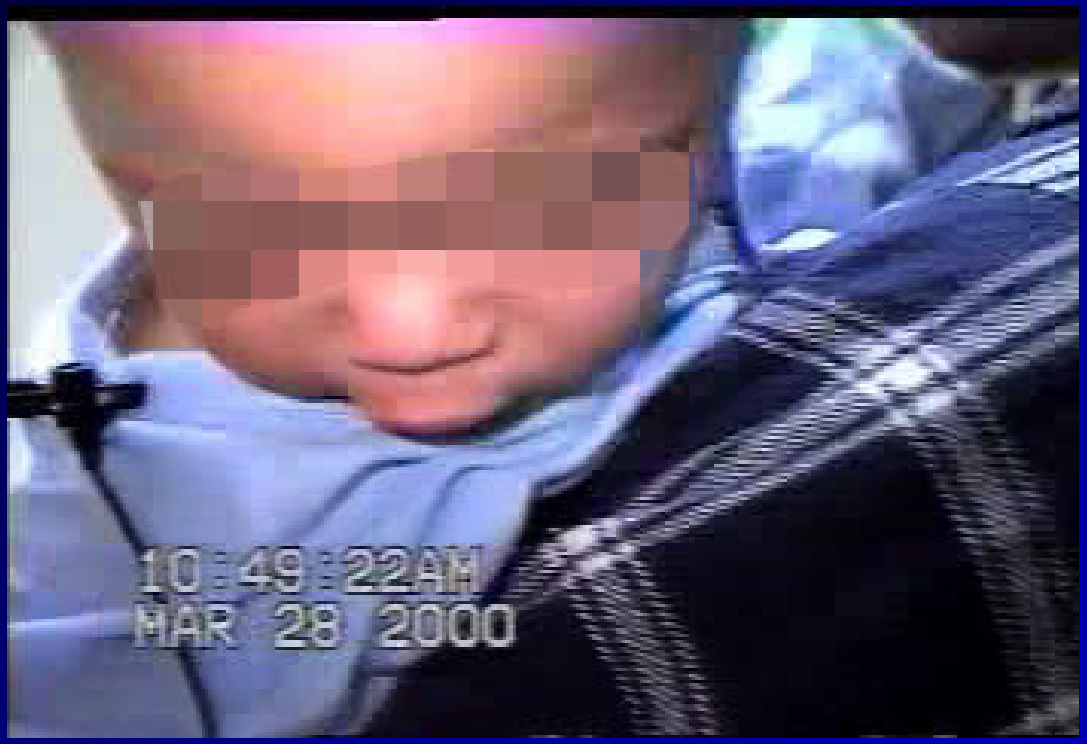


2 1/2 month old female, stridorous since birth, worsening.

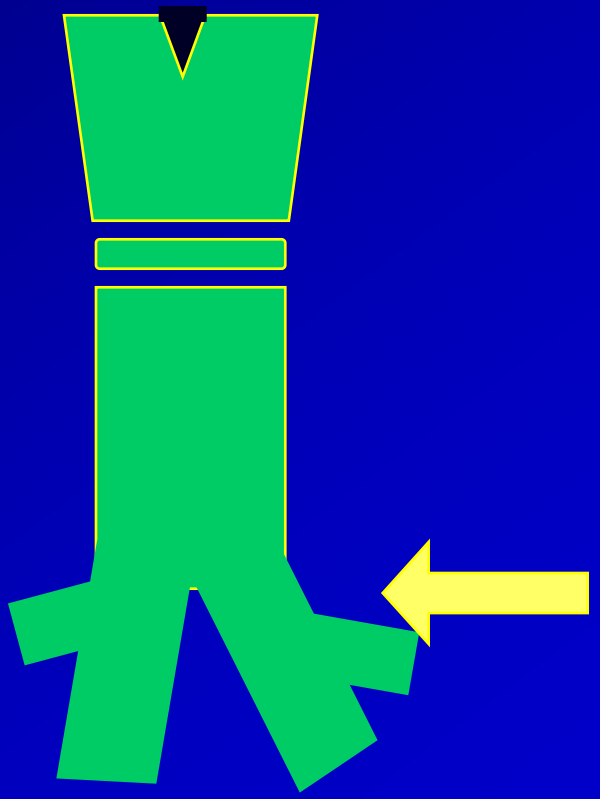

96 8

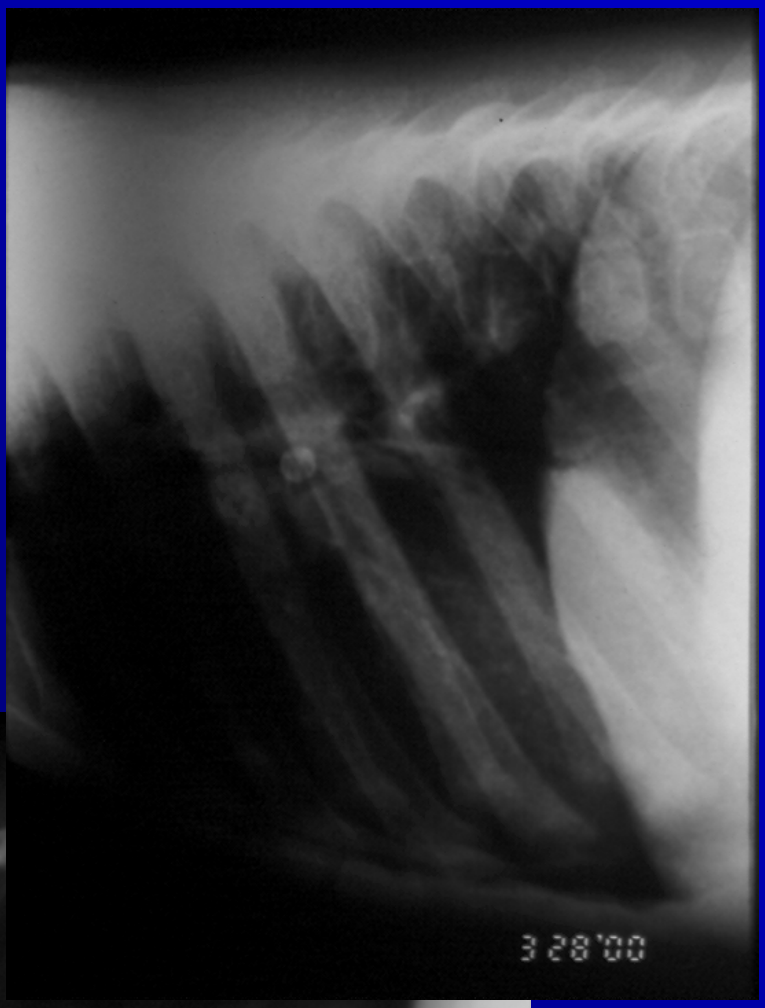
# VASCULAR RING
# DOUBLE AORTIC ARCH

- recurrent “croup,” dysphagia
- reflex apnea
- stridor, staccato cough
- diagnosis: endoscopy and/or barium swallow
- diagnosis: ?CT ?MRI/MRA
- treatment: surgical




New onset stridor

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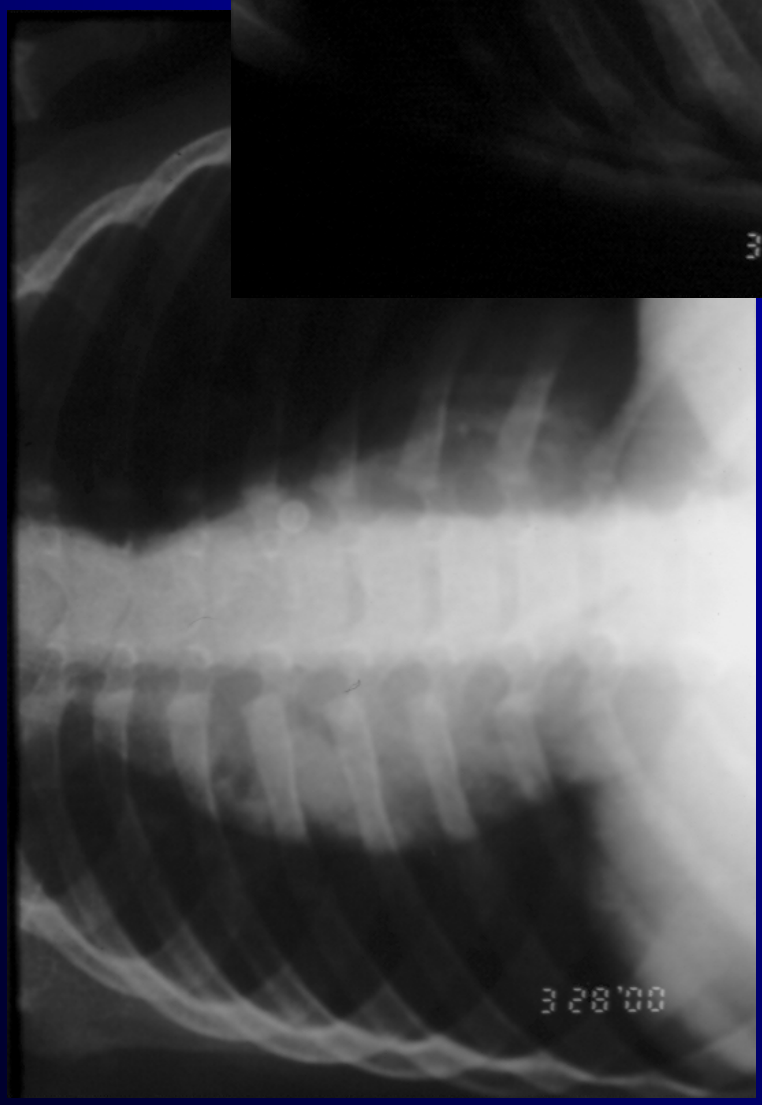
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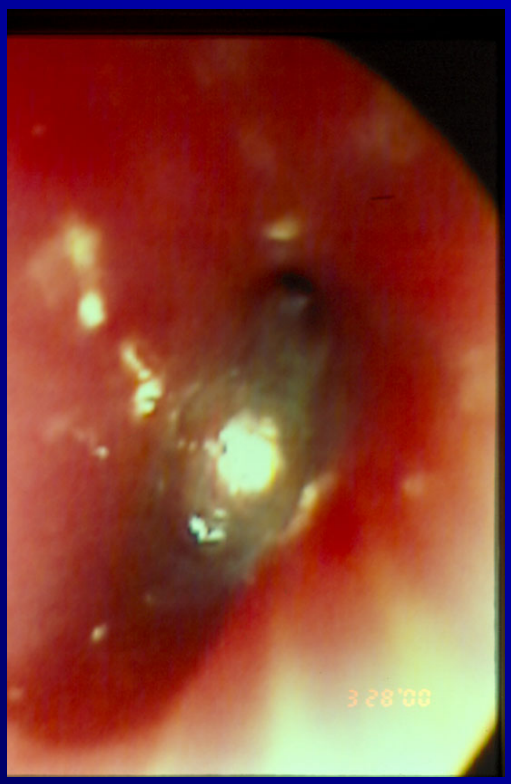
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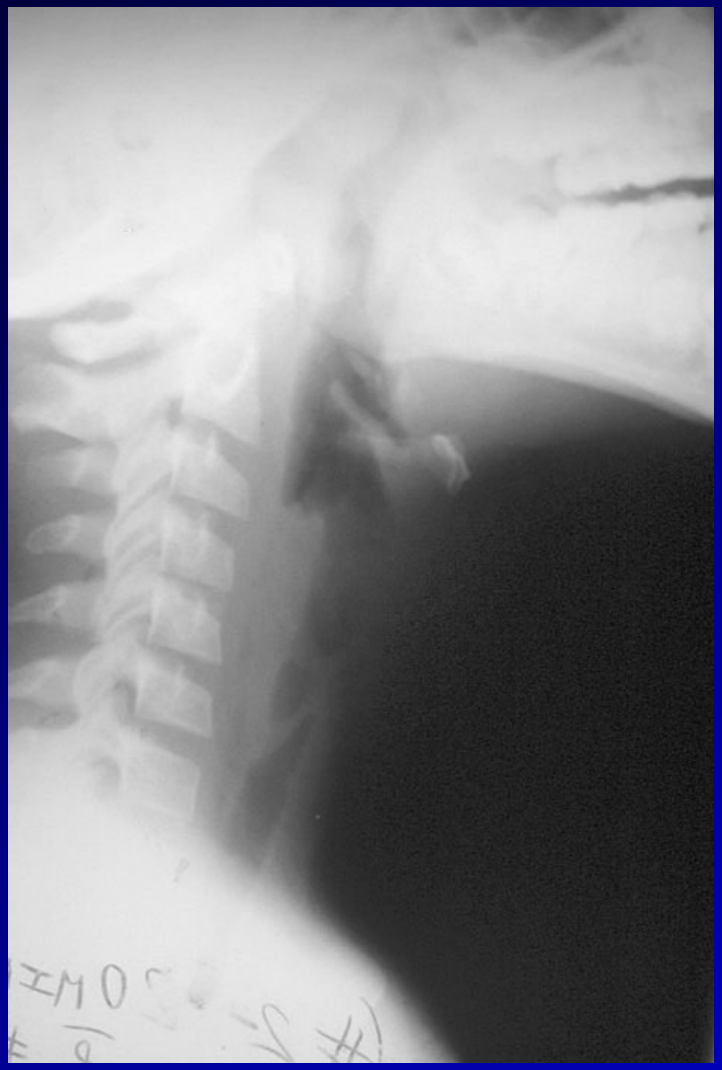
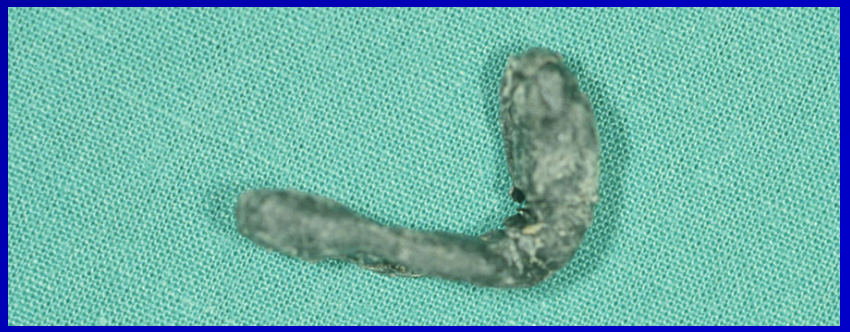
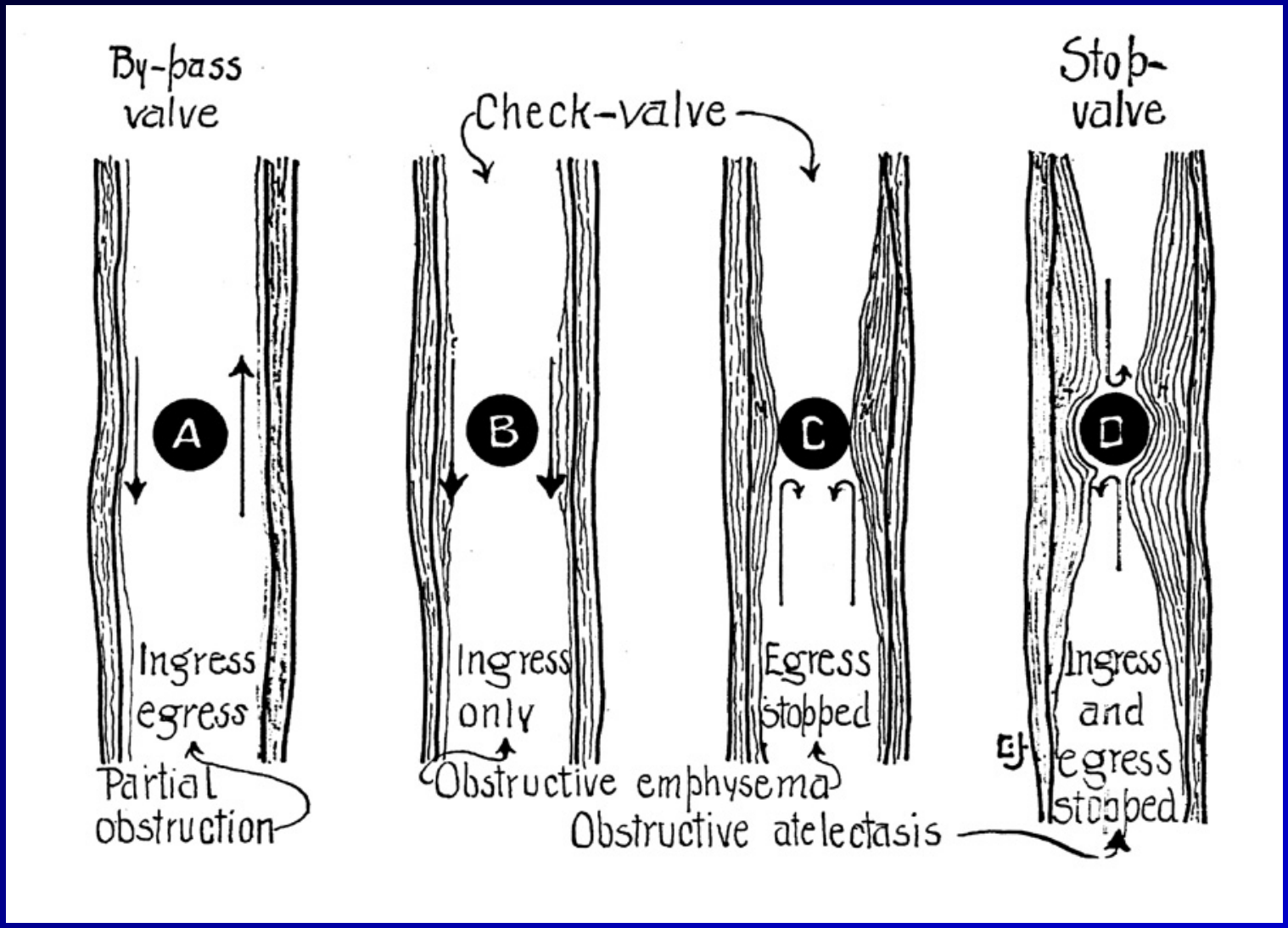
# ASPIRATED FOREIGN BODY

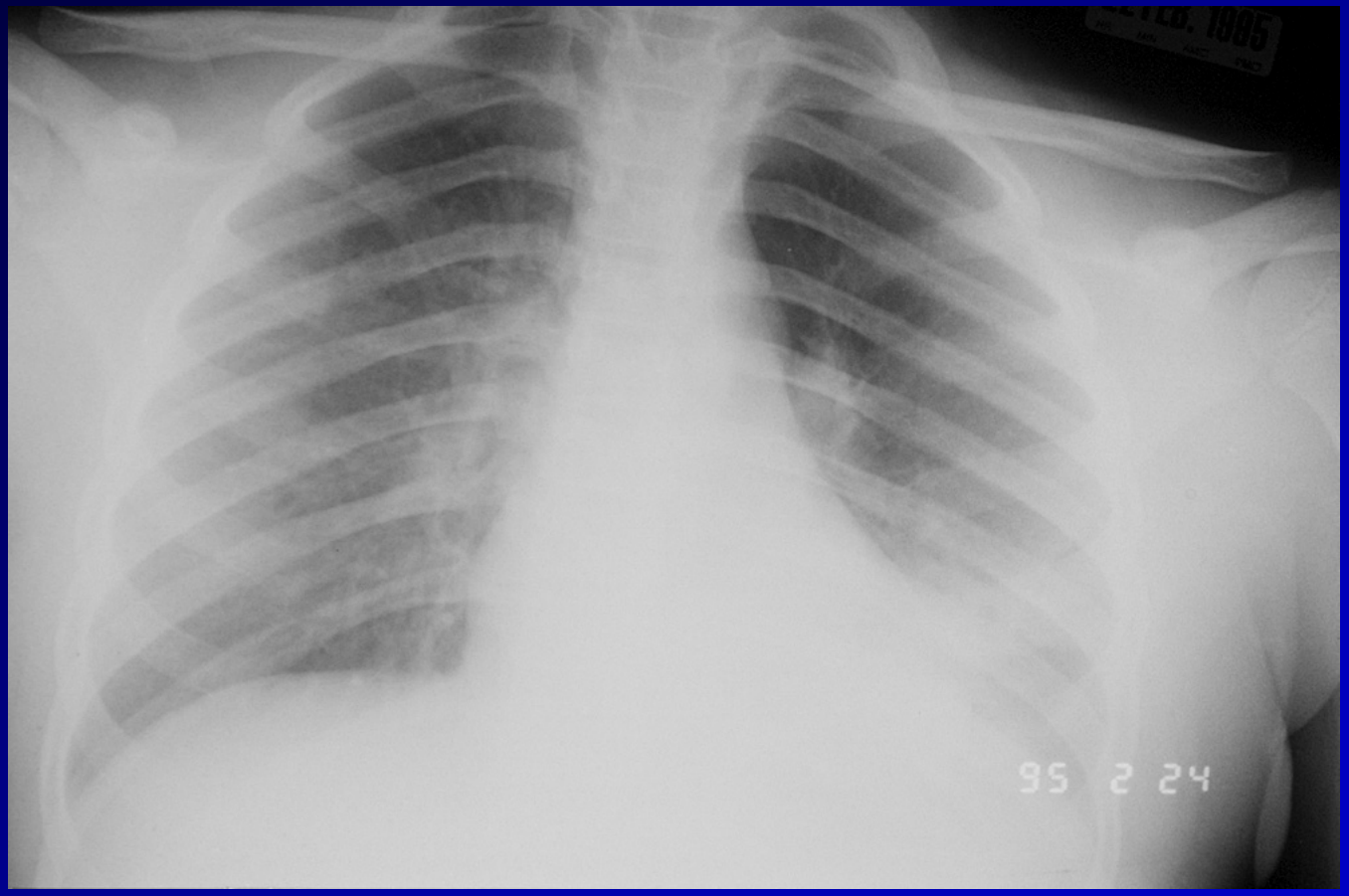


- Sometimes the foreign body can be seen in an XRay; but at other times only the consequences of the foreign body are seen

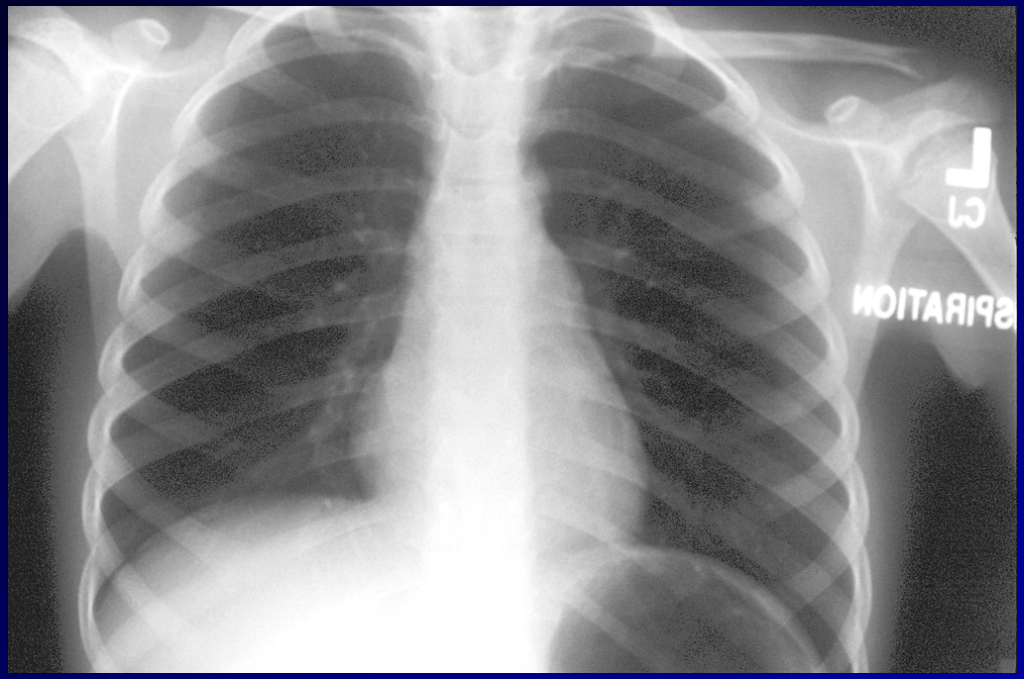


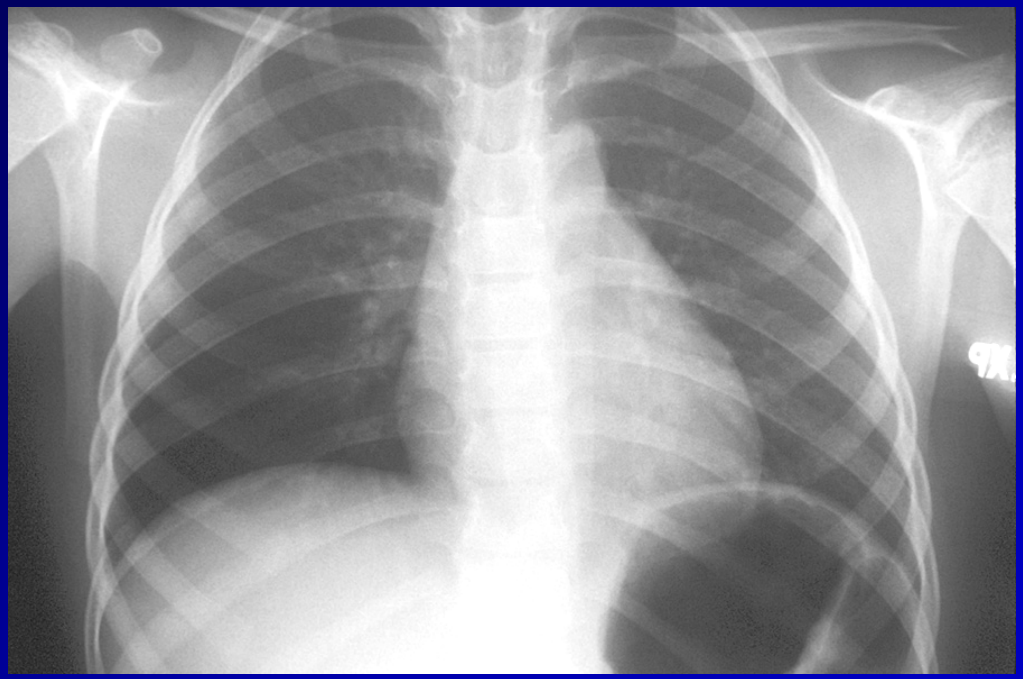



Chevalier Jackson. Bronchoscopy and Esophagoscopy. A Manual of Peroral Endoscopy and Laryngeal Surgery 2nd ed. 1927.

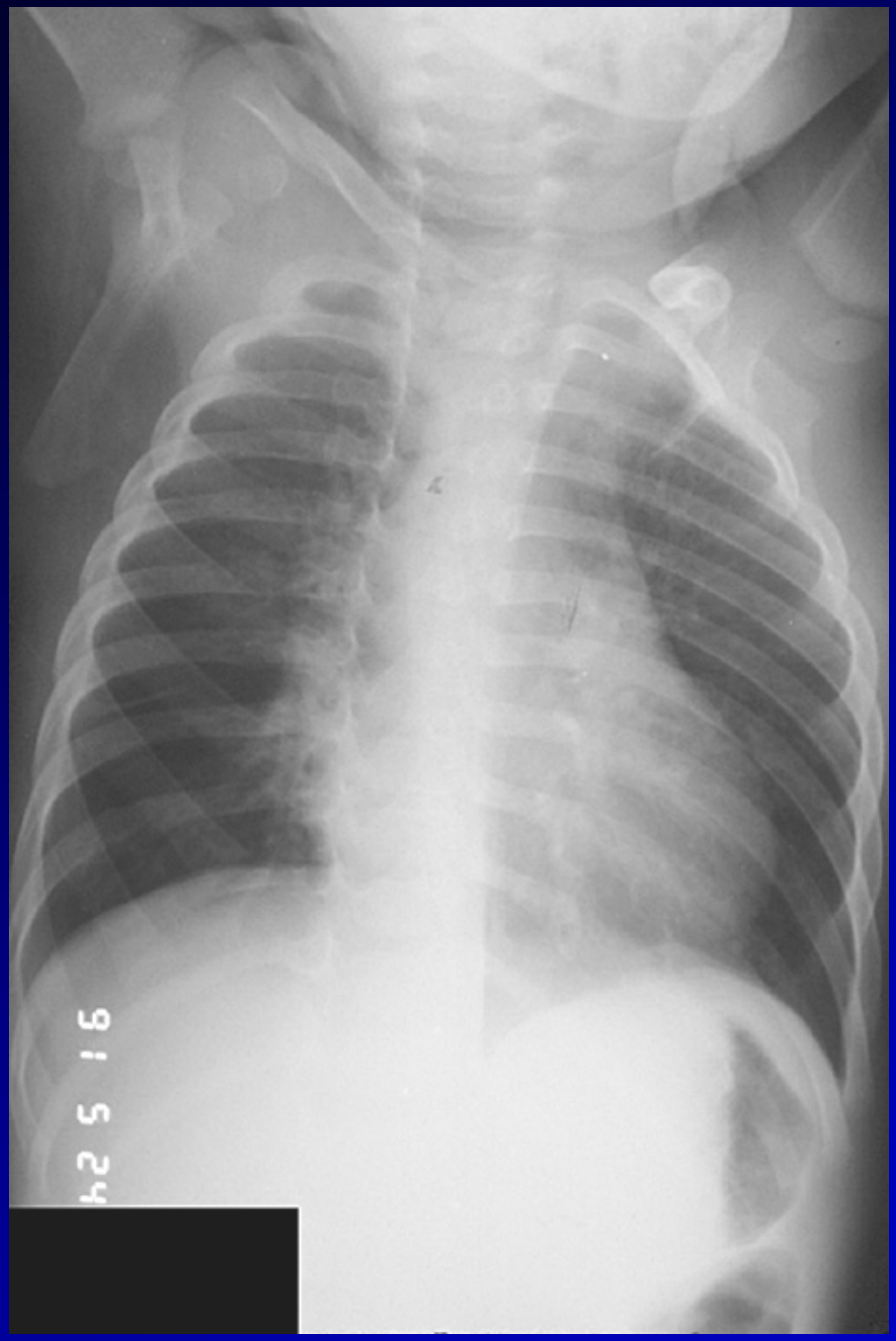



Atelectasis:  stop valve effect

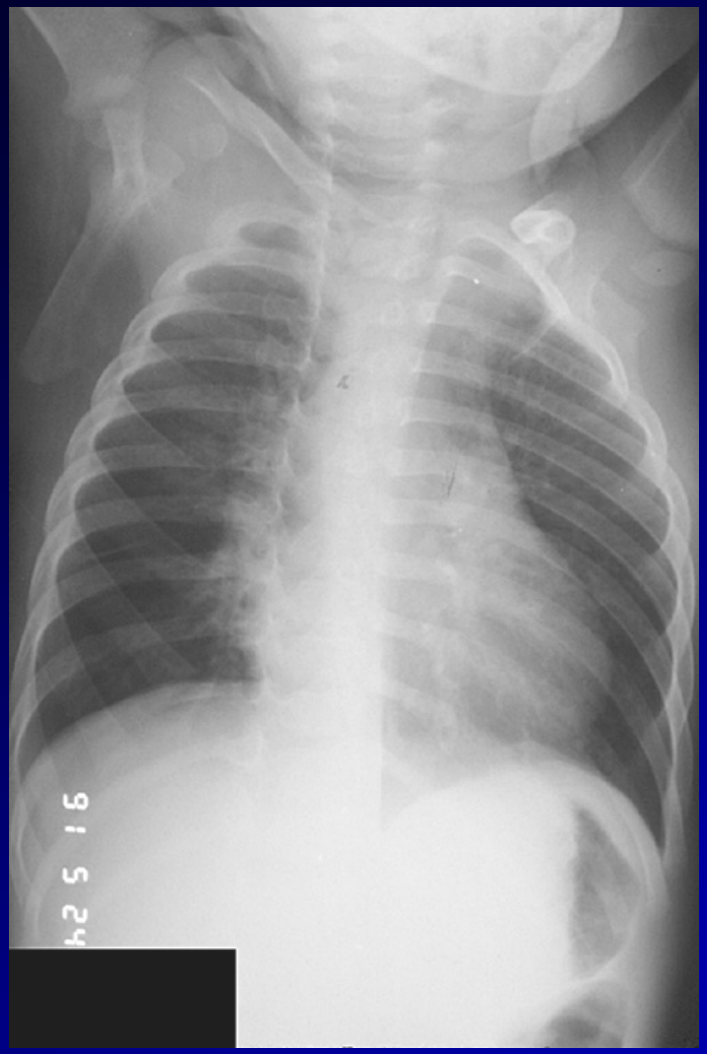


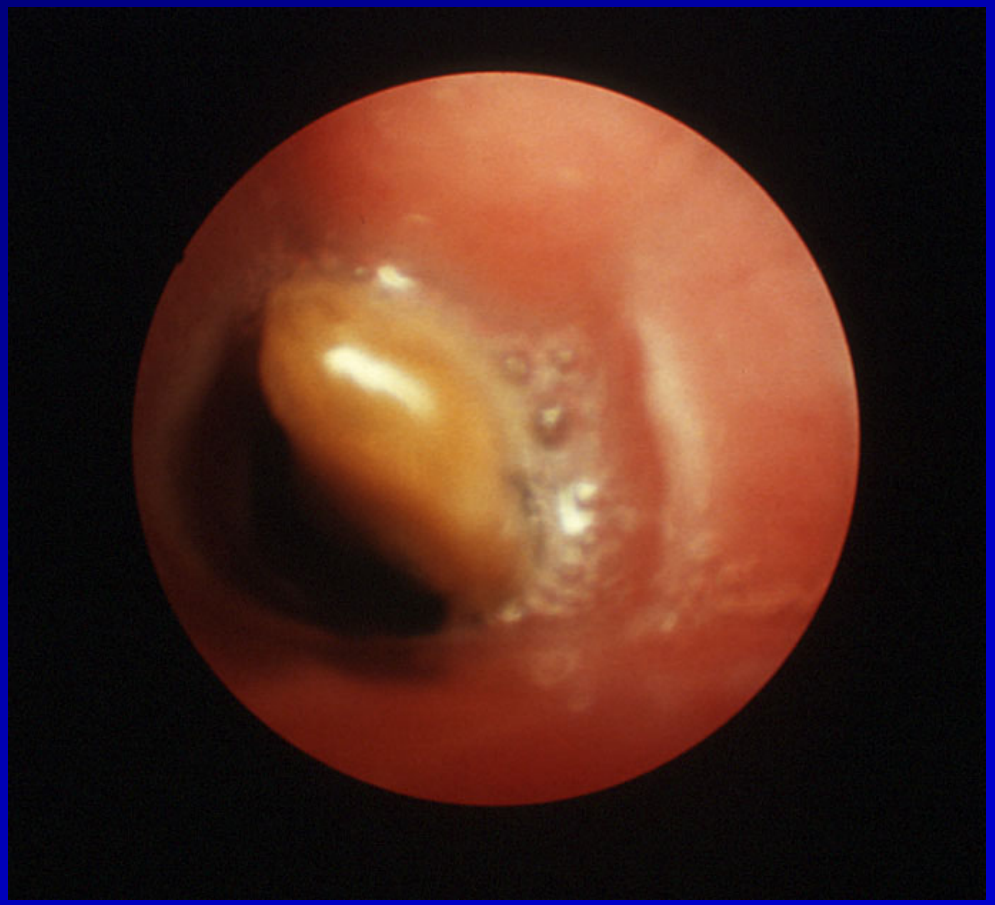


Hyperinflation:
check valve effect

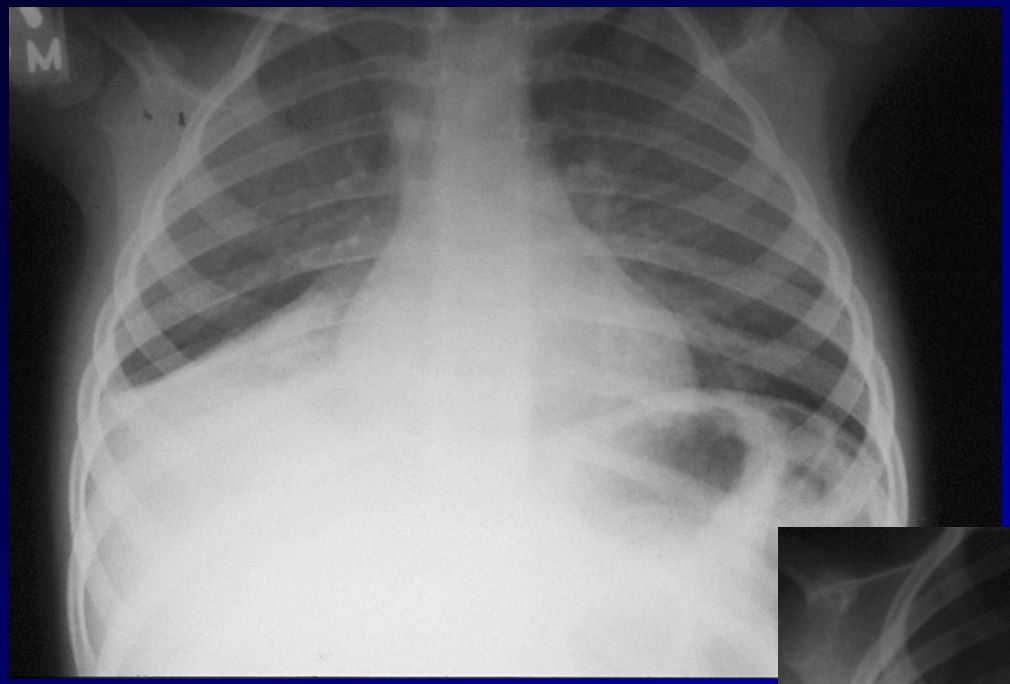


Decubitus XRay

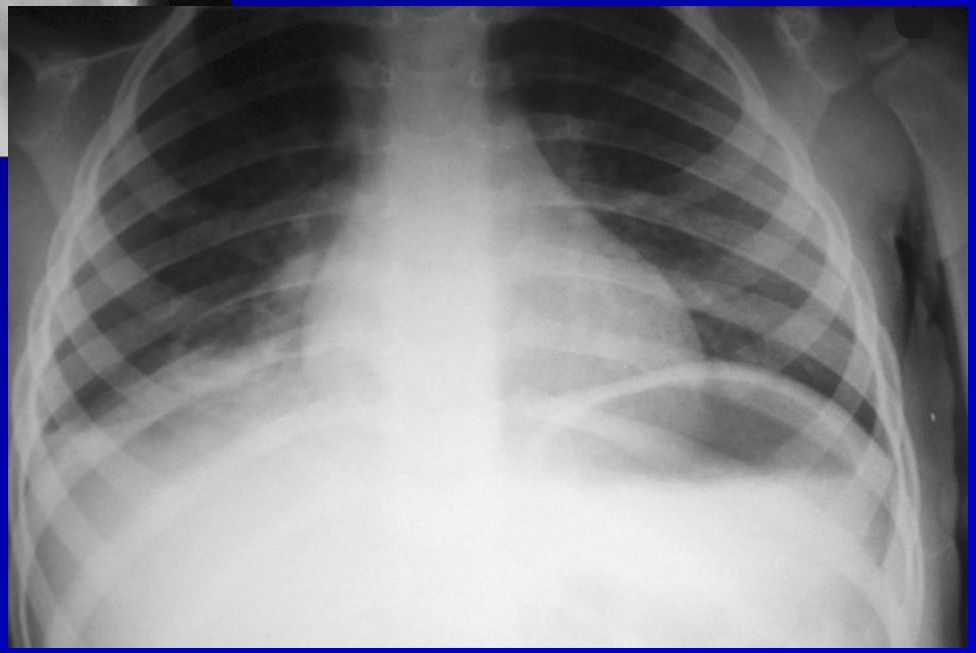


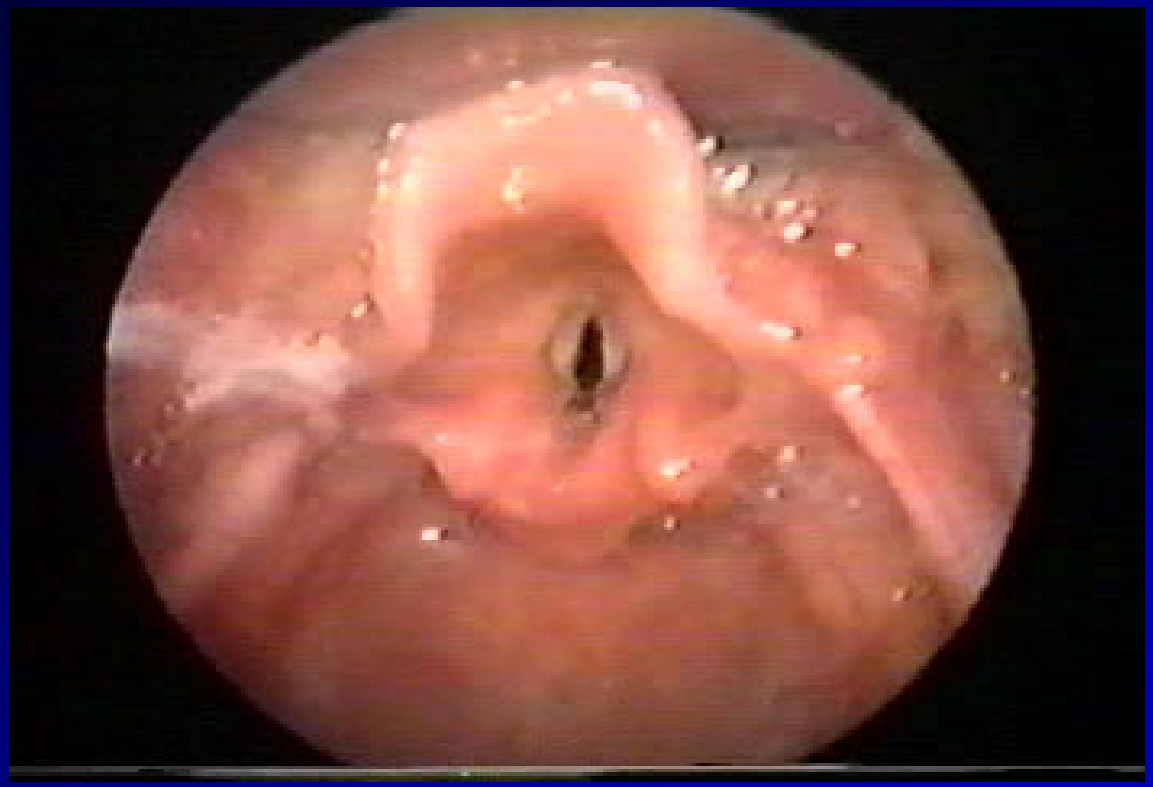


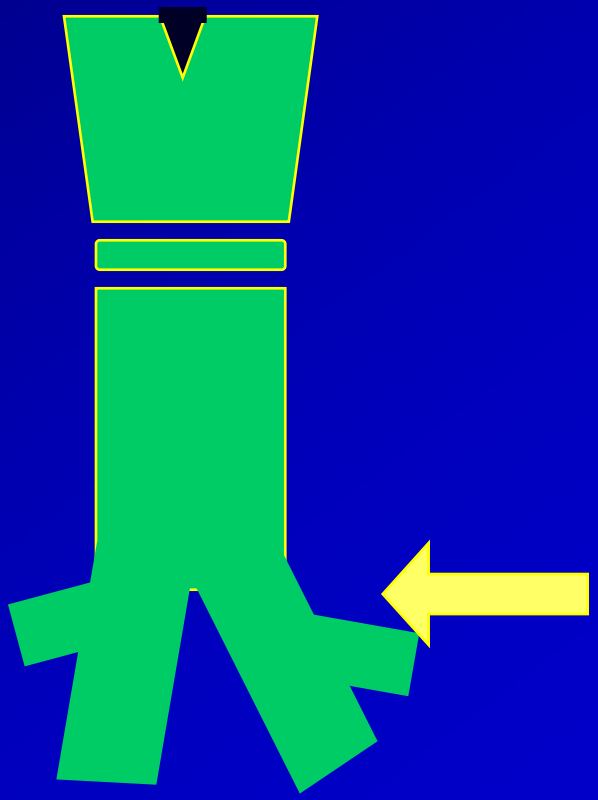
Sunflower seed,
right main bronchus



2 1/2 year old female with chronic cough, fever, and persistent right lower lobe atelectasis despite oral and intravenous antibiotics. XRay from February and March.







# ENDOBRONCHIAL FOREIGN BODY

- gagging, coughing, choking
- symptoms may become quiescent
- endoscopy if
  - suggestive history
  - suggestive XRay
  - pulmonary disease with atypical course

# Resources

- www.guideline.gov
- www.aap.org
  - http://aappolicy.aappublications.org
- www.entnet.org
- www.kidshealth.org

# Tonsillectomy Myths, Facts and Special Considerations


- D Howel, et al, Family Practice, 2002
- Bicknell PG, Pediatr Infect Dis J, 1994
- Paradise JL, Ann Otol Rhinol Laryngol 1992
- Peter, G. Ped Infect Dis J 1994
- Griffin JL et al, Arch Otolaryngol Head Neck Surg, 1994
- Rosenfeld RM et al, Ann Otol Rhinol Laryngol, 1990
- L Brodsky, Ped Clinics North America 1989
- Kerns DB et al, ENT Journal Vol 70
- Prim MP et al, Int J Ped Otorhino, 2002
- Dahn KA et al, Arch Otolaryngol Head NeckSurg, 2000
- Galanakis E et al, Arch Dis Child 2002
- Misago N et al, J Dermatology, 2001
- Bicknell PG, Pediatr Infect Dis J, 1994
- McMillin BD et al, ENT Journal, 1999
- Nouwen J et al, Ann Otol Rhinol Laryngol 2002
- Yellin SA, et al, Otolaryngol Head Neck Surg 1995
- Myer and Cotton, ed. A Practical Approach to Pediatric Otolaryngology

# Selected References


Relapsing Polychondritis:

1. McAdam LP, O'Hanlan MA, Bluestone R, Pearson CM. Medicine 1976; 55:193-215

Congenital Head and Neck Masses:

1. Diagnosis and Management of Congenital Head & Neck Masses SIPAC 1981 Amer. Acad. Oto.-Head & Neck Surgery

Sinusitis:

1. Annals Otorhinolaryngology Oct. 1995
2. AAP Clinical Practice Guideline: Management of Sinusitis 2001
3. Oto Head & Neck Surgery vol 117 no. 3 part 2 Sept. 1997
4. Pediatric Sinusitis SIPAC, 2000 Amer. Acad. Oto.-Head & Neck Surgery