

The Lump in the Neck: Evaluation and Management

David S. Boisoneau, M.D.

Ear Nose and Throat Associates of Southeastern Connecticut

President, CT State ENT Society

Clinical Adjunct Assistant Professor, QU PA Program

david@boisoneau.org

10/22/15

Introduction

▶ Common clinical finding

- Often painless
- Often an incidental finding



▶ Effects any age group

- Age is the most critical factor in the differential

▶ Most neck lumps can be diagnosed clinically

- Broad differential
- Systematic approach is essential

▶ NECK MASSES SHOULD BE CONSIDERED MALIGNANT UNTIL PROVEN OTHERWISE*

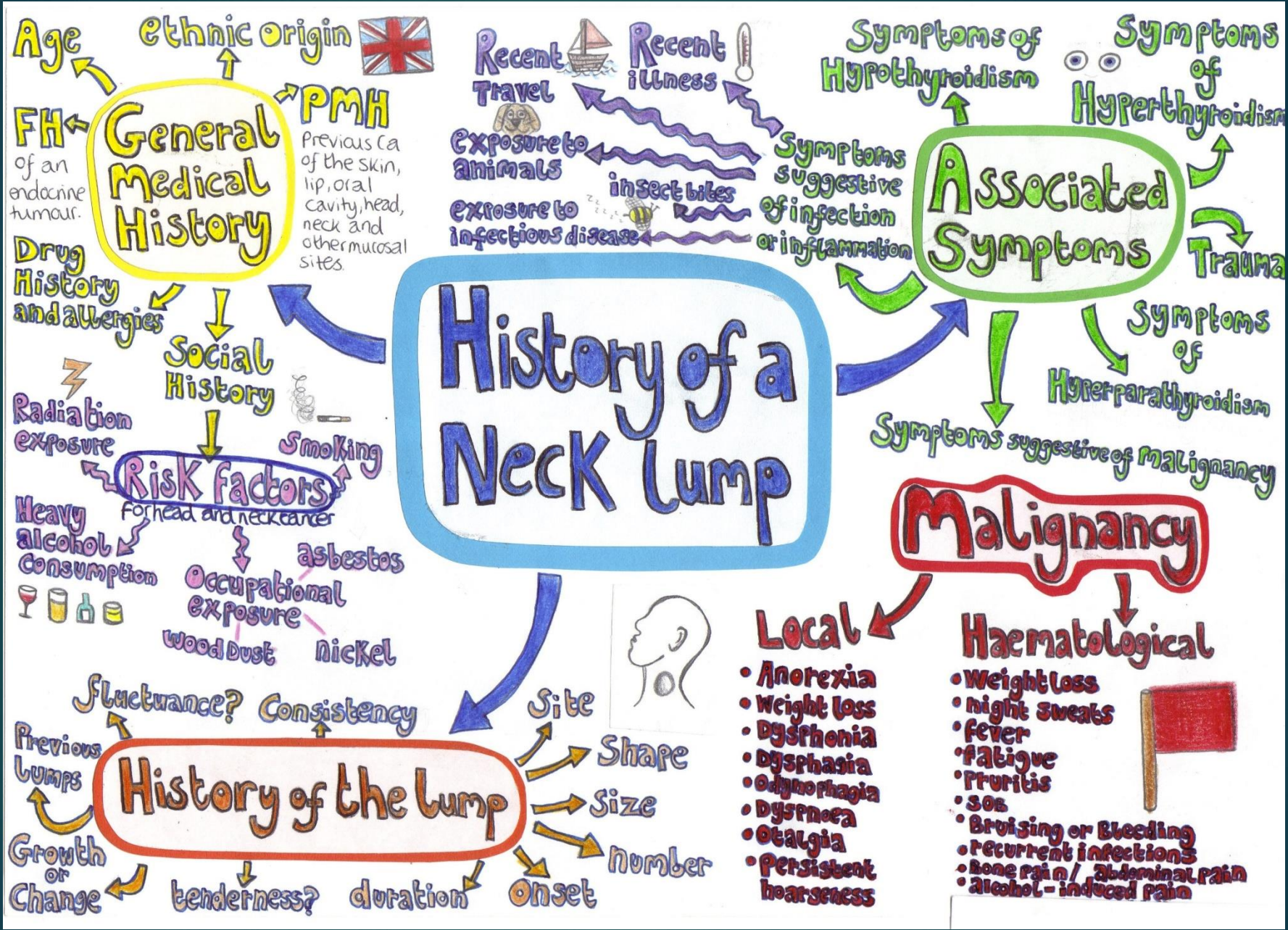
* some restrictions may apply

Neck Mass Part 1: Evaluation and Management*

*(spoiler alert: Part 2 will be differential diagnosis)

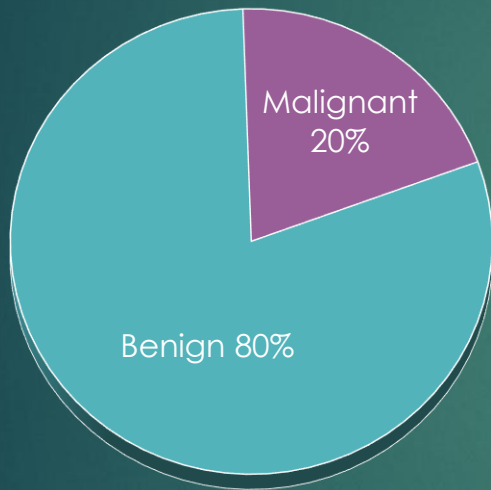
- ▶ A thorough medical history can significantly narrow the broad differential (diagnosis from the doorway)
- ▶ Age
 - Most critical factor
- ▶ Growth rate
 - Bad things don't go away
- ▶ Symptoms
 - Listening actually works



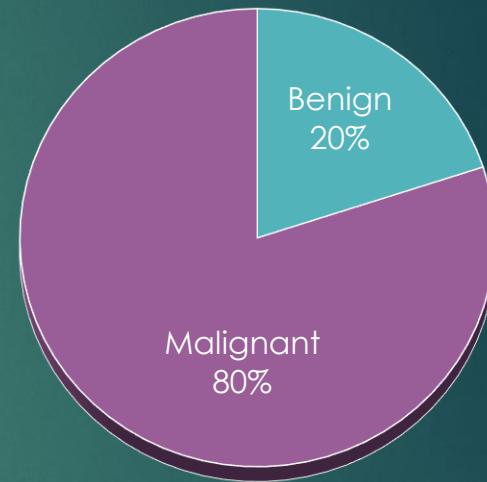


Age Rules...The 80/20 Rule

Pediatric Neck Masses



Adult Neck Masses



Age Rules...The 20/40 Rule

Age <20

Inflammatory

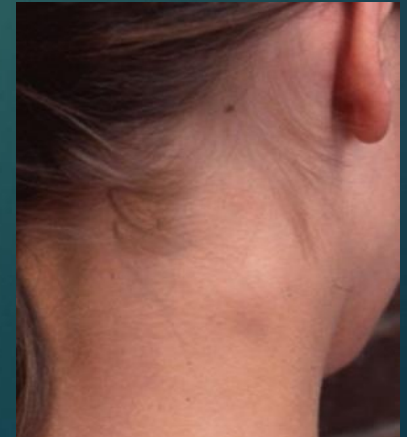
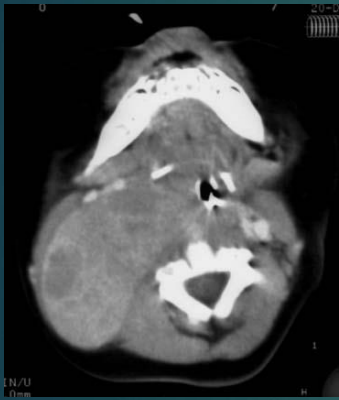
(cervical LA)

Congenital

(TGD/Branchial)

Neoplastic

(lymphoma)



Age Rules...The 20/40 Rule

Age 20-40



Inflammatory

(cervical LA, deep neck, salivary)



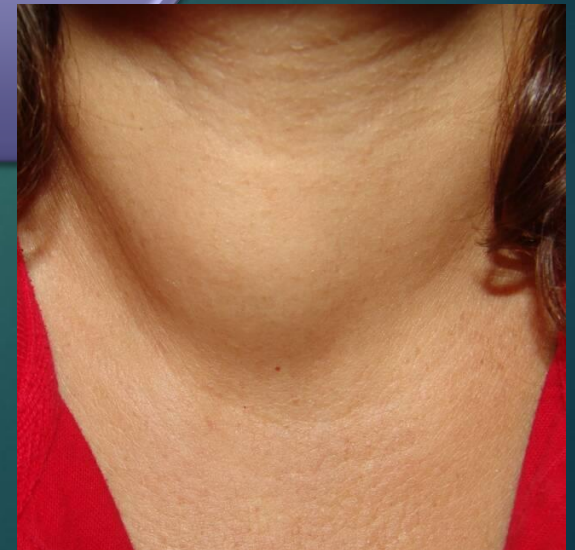
Congenital

(TGD/Branchial)



Neoplastic

(thyroid, salivary)



Age Rules...The 20/40 Rule

Age >40



Inflammatory



Congenital



**MALIGNANCY
UNTIL PROVEN
OTHERWISE***



Duration of Mass: The Rule of 7's

7 Days



Inflammatory



7 Months



Neoplastic



7 Years



Congenital



Growth Rate and Pattern

Slow Growth

- Months to years
- Usually benign
- Bigger is sometimes better



Fast Growth

- Days to weeks
- Can be very good
- Or very baaaad



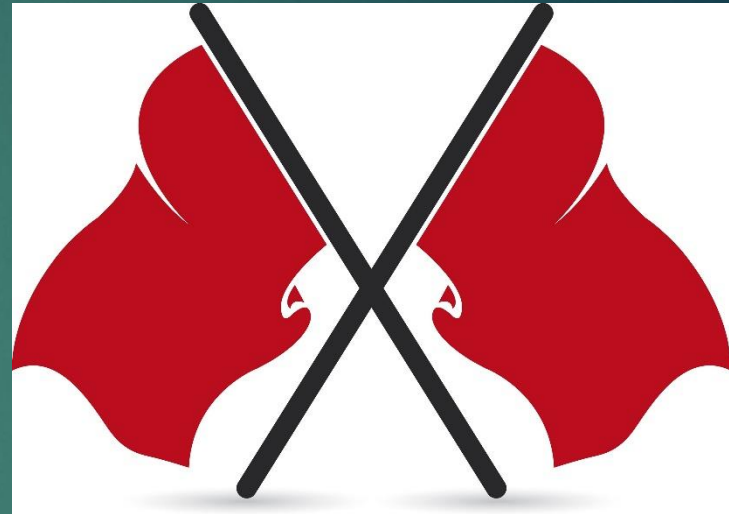
Fluctuating Growth

- Comes and goes
- Bad things don't go away

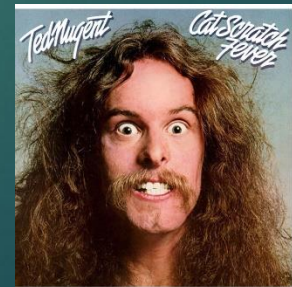


Symptoms and Other History

- ▶ Pain
- ▶ Voice changes
- ▶ Hoarseness
- ▶ Dysphagia
- ▶ Otalgia



- ▶ Review of systems
- ▶ Travel
- ▶ Pets
- ▶ HIV/HPV



People who both smoke and drink heavily over several years have the **highest** risk of developing head and neck cancers.



Physical Examination

Familiarity with neck anatomy is critical for diagnosis and management of disease processes affecting this region

▶ Central Neck

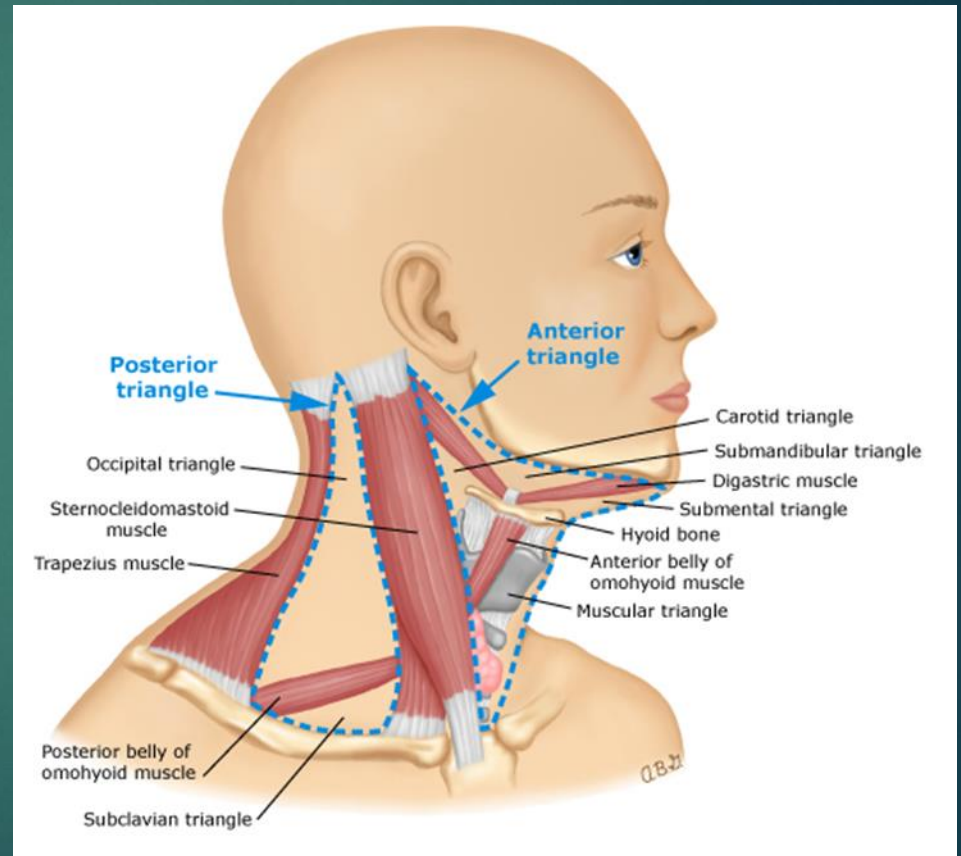
- Hyoid bone
- Thyroid/Cricoid cartilages
- Trachea
- Thyroid isthmus

▶ Lateral Neck

- Anterior triangle
- Posterior triangle

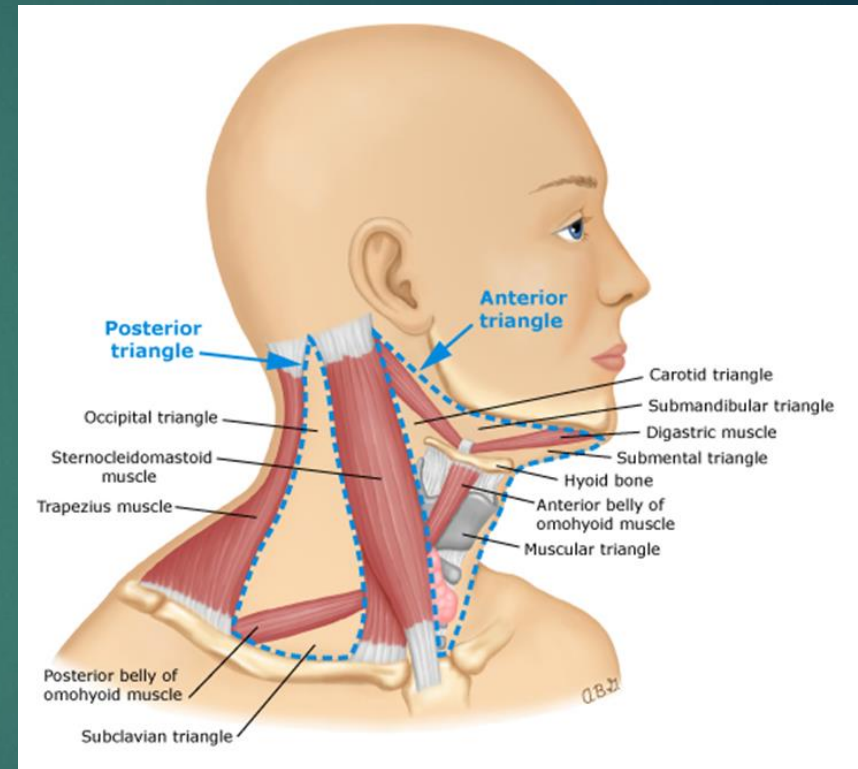
▶ Other considerations

- Carotid bulb
- C2 process
- Mastoid process



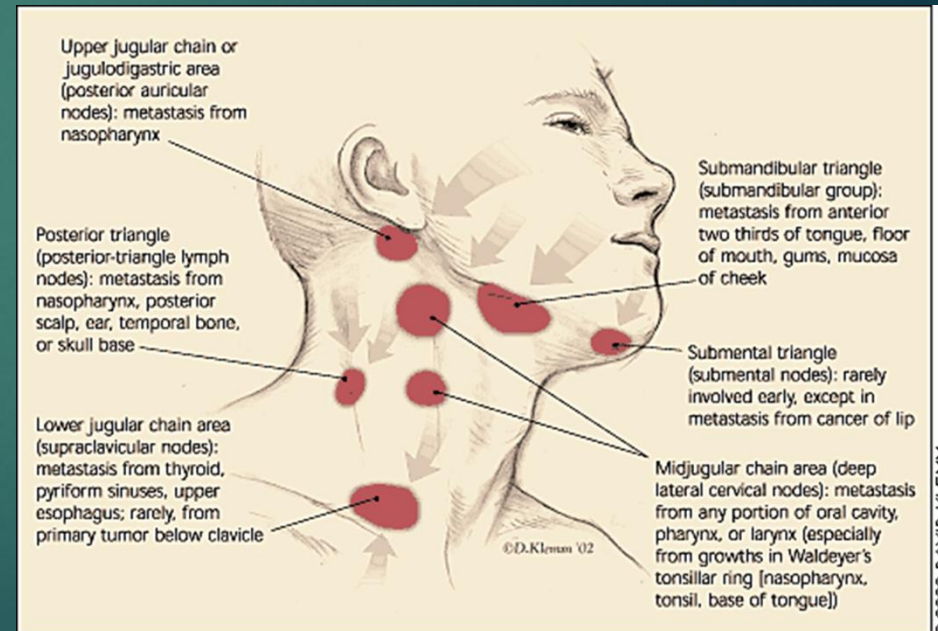
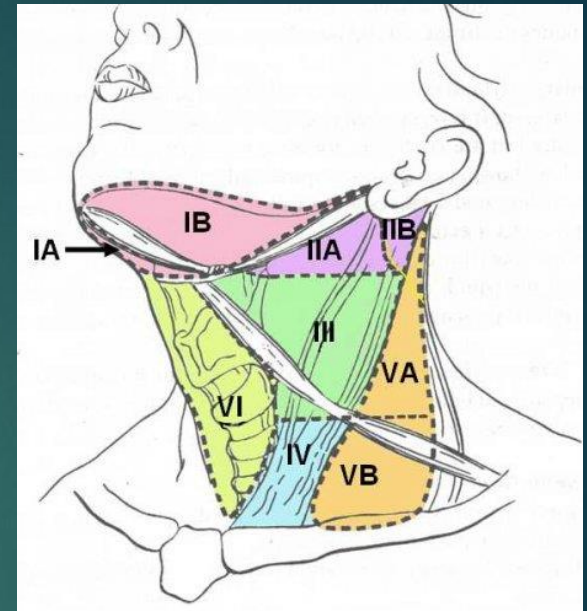
Location, Location, Location

- ▶ Preauricular and jaw angle
 - salivary/lymphoid
- ▶ Central neck
 - Thyroid gland, thyroglossal cyst
- ▶ Anterior border of SCM
 - Jugulodigastric nodes, often malignant
 - Second branchial cleft cyst
- ▶ Posterior to SCM
 - Most worrisome for malignancy
- ▶ Supraclavicular
 - left side, worry about mets from lung/GU/GI
 - Virchow's node



Lymph Node Levels

- ▶ Six Levels: I-VI
- ▶ Mets follow well-defined patterns
- ▶ Supraclavicular adenopathy is suspicious for lung/GI primary
- ▶ Fixed, firm, or matted lymph nodes and nodes larger than 1.5 cm require further evaluation



Characteristics of the Mass

- ▶ Firm vs soft (firm worrisome for malignancy)
- ▶ Fixed vs mobile (fixed worrisome for malignancy)
- ▶ Pulsatile (possible vascular tumor)
- ▶ Warm (infectious)
- ▶ Moves with swallowing (occurs with thyroid)



Head and Neck Exam

(Basically a full Ears, Nose and Throat Exam)

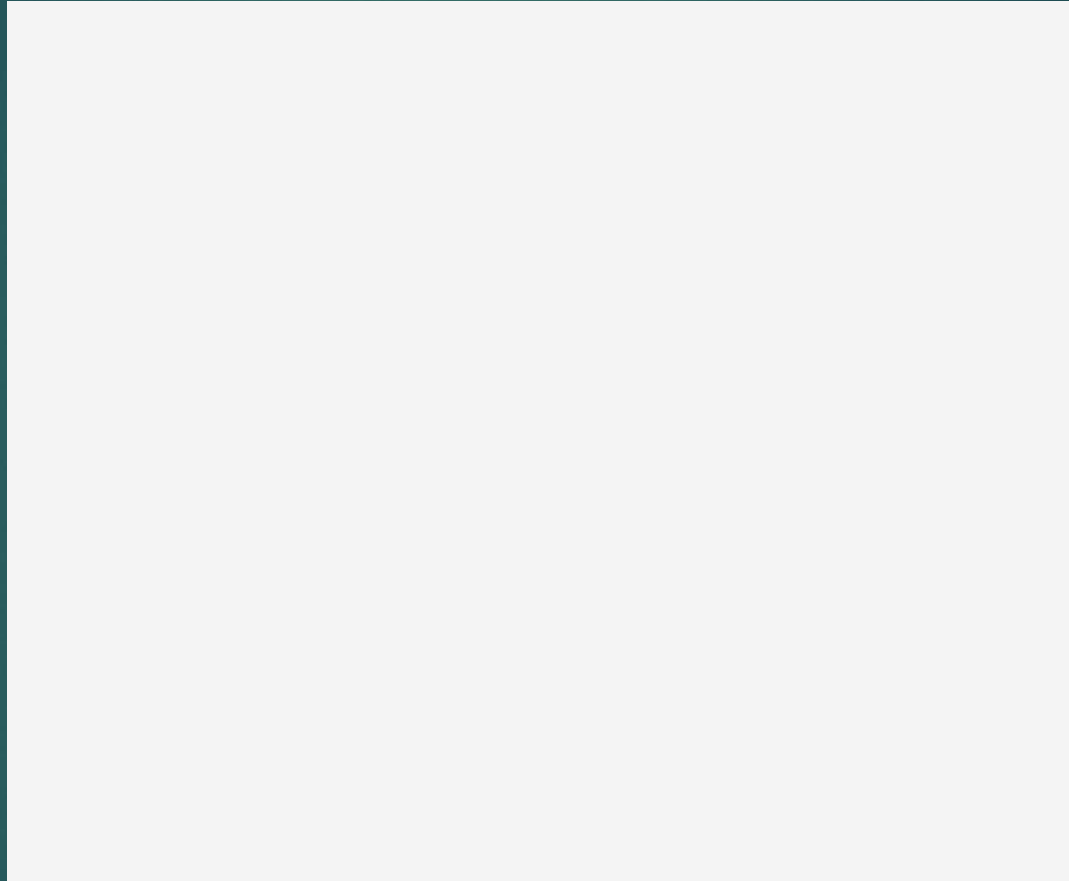
- ▶ General
-
- ▶ Skin
-
- ▶ Ears
-
- ▶ Oral
-
- ▶ Cranial nerves
-
- ▶ Upper airway endoscopy
 - Usually transnasal
 - Gold standard in 2015



d
esn't
eks

T
uate

Fiberoptic Transnasal Endoscopy



Laboratory Studies

Lab studies should be directed by the potential differential, and usually don't help very much

▶ Infectious

- CBC
- ESR/CRP
- EBV/CMV/HIV
- Bartonella
- Lyme
- PPD

▶ Neoplasm

- CBC
- PFA, PT/PTT
- TSH
- PTH

▶ Inflammatory

- RF
- ANA
- Anti-Ro, Anti-La

Diagnostic Tests

- ▶ **Fine needle aspiration (FNA)**

- ▶ CT

- ▶ MRI

- ▶ Ultrasound

- ▶ Radionucleotide scanning

- ▶ Plain XR films are useless please stop getting them*

- ▶ *except maybe CXR

Fine Needle Aspiration Biopsy

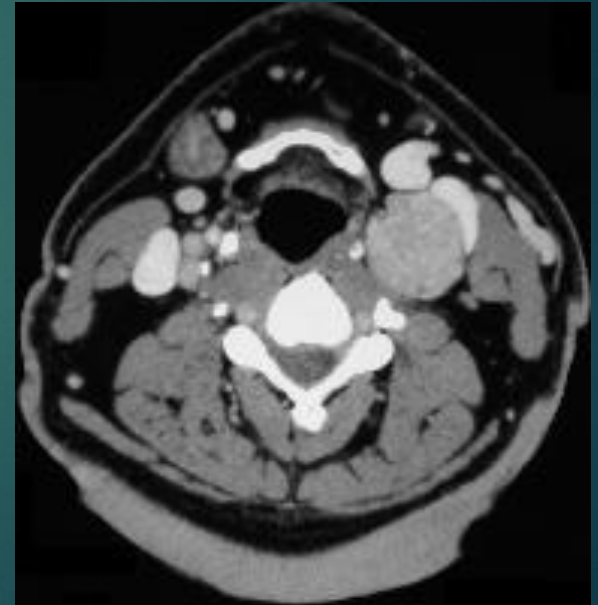
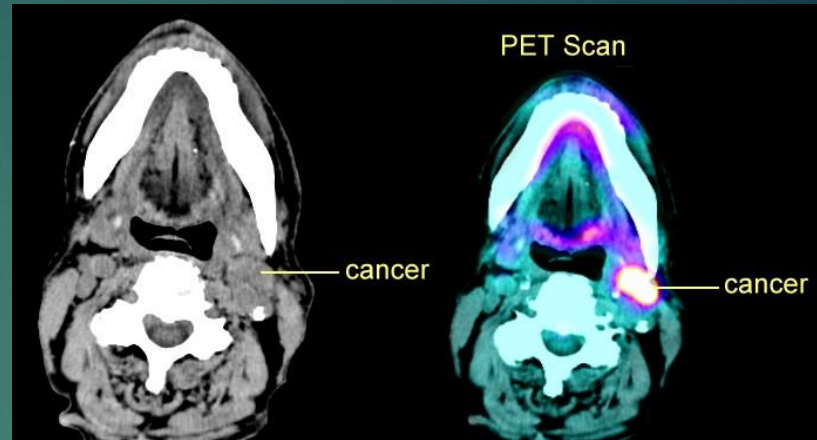
- ▶ Preferred diagnostic approach for the majority of neck masses
- ▶ Small gauge needle
 - Seeding not an issue
 - Local vs none
 - Done immediately
- ▶ Direct palpation vs US guided vs. CT guided
- ▶ Almost no contraindications
 - ?vascular



- ▶ 85% specificity, 99% sensitivity
- ▶ Should always be performed prior to any open procedures

Other Diagnostic Tests

- ▶ CT scan
 - Solid vs cystic
 - Extent of lesion
 - Vascularity (with contrast)
- ▶ MRI
 - More soft tissue detail
 - Better for upper neck and skull base
- ▶ Ultrasound
 - Gold standard for thyroid
 - Noninvasive for peds
- ▶ Radionucleotide scanning
 - Functional evaluation
 - Rarely used now (FNA)

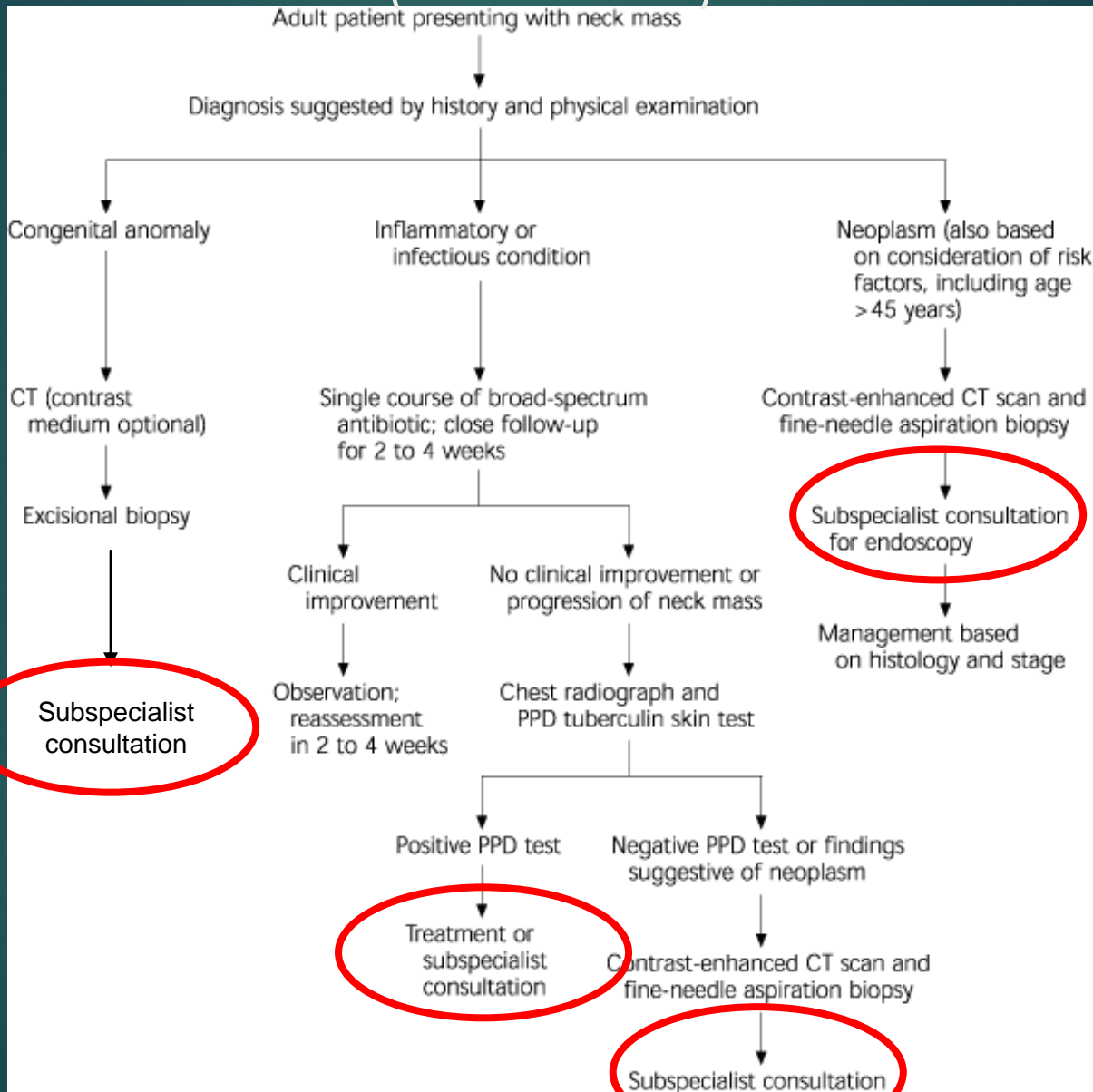


Open Surgical Biopsy

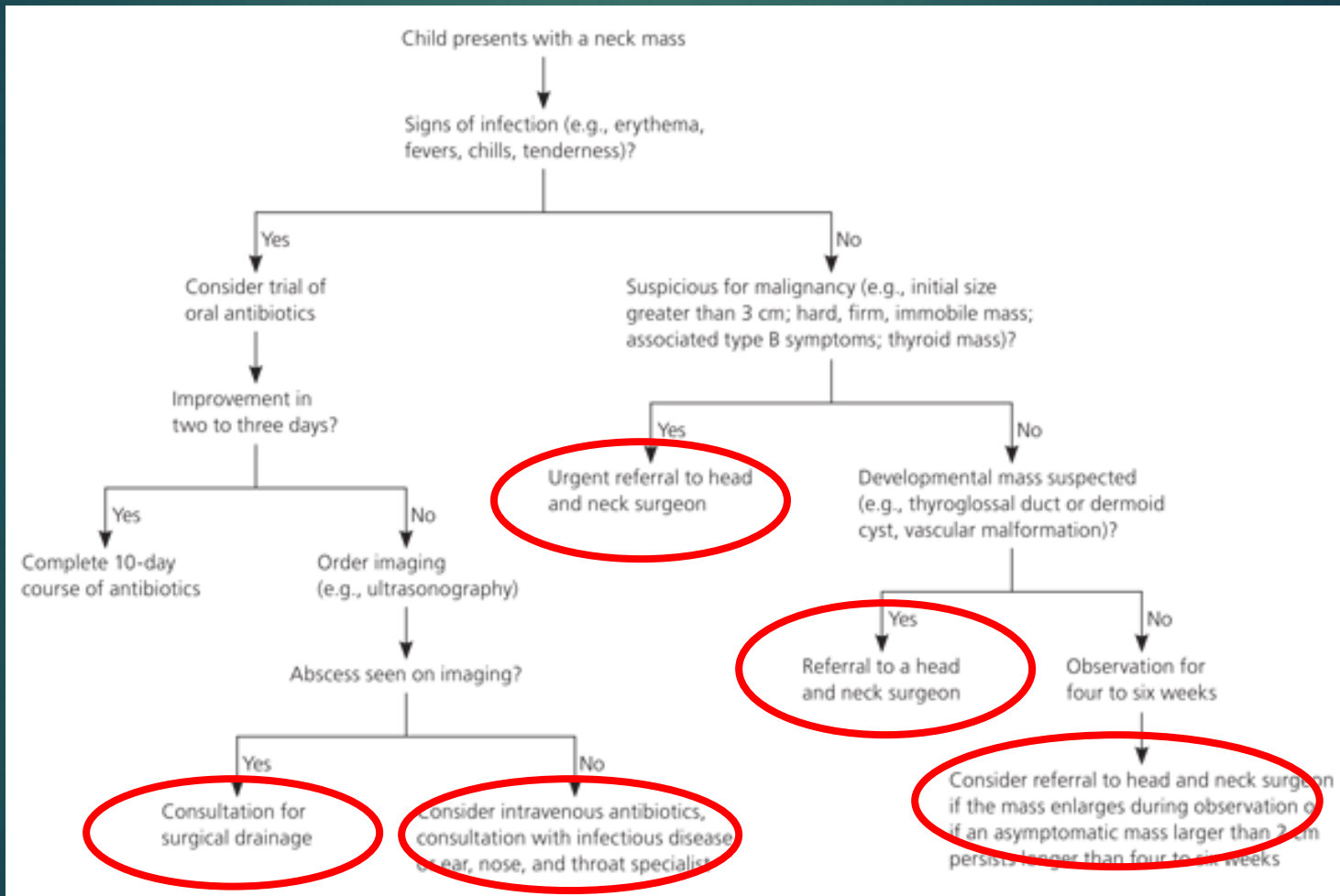
- ▶ Open INCISIONAL biopsies should be discouraged!!
 - Contaminates the surgical field
 - Unless FNA suggests lymphoma
 - Or if draining an obvious abscess
- ▶ Open EXCISIONAL biopsies should only be done if:
 - Have the ability to perform frozen section and:
 - Prepared to immediately do a full neck dissection if malignancy encountered
- ▶ *Thus, my bias is that ONLY head and neck surgeons (ENT's) should be cutting into or around neck masses!!!**



Mandatory Algorithm Slide-Adult (from AAFP)



Mandatory Algorithm Slide-Pedi (from AAFP)



Neck Mass Part 2: Differential Diagnosis

Three broad categories:

- ▶ Congenital
- ▶ Inflammatory
- ▶ Neoplastic

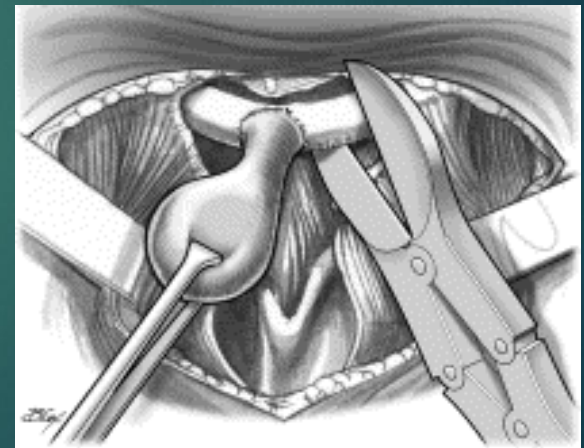
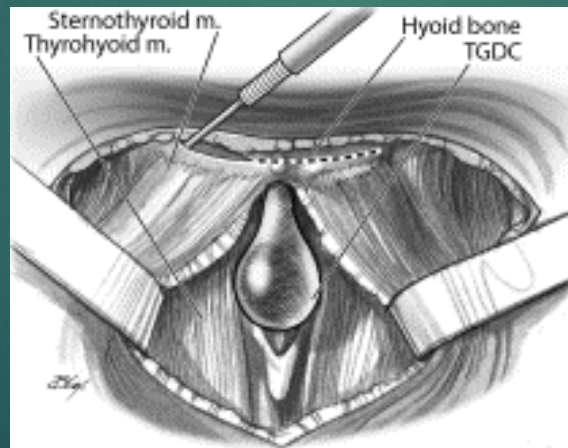
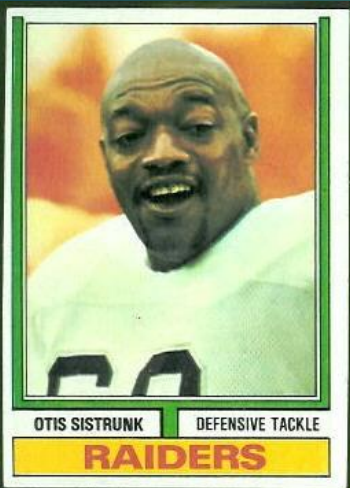
Congenital Neck Masses

- ▶ Branchial cleft cysts (20% of congenital masses)
 - ▶ First branchial cleft cyst
 - Rare
 - EAC, facial nerve concerns
 - ▶ Second branchial cleft cyst
 - Most common
 - Anterior border of SCM, tracts to tonsillar fossa
 - ▶ Third branchial cleft cyst
 - Lower, tracts to pyriform sinus



Congenital Neck Masses

- ▶ Thyroglossal duct cyst
 - Midline neck mass, most common congenital mass
 - 40% present over the age of 20
 - Elevates with tongue protrusion
 - Sistrunk procedure (remove central hyoid bone)



Congenital Neck Masses

▶ Vascular tumors

▶ Hemangiomas

- Rapid growth as infant then gradual resolution
- Look for other areas (GI tract/spine/subglottis)

▶ Lymphangiomas

- Remain unchanged, can be huge
- Surgical resection



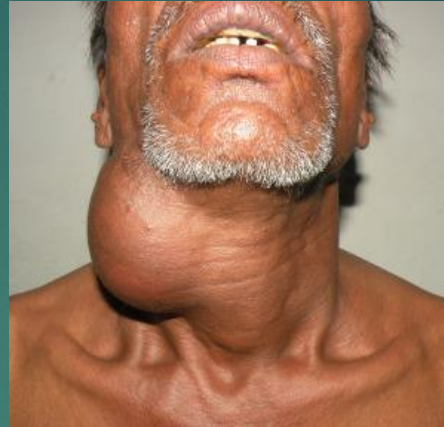
© Mayo Foundation for Medical Education and Research. All rights reserved.



©2006 Heron Werner

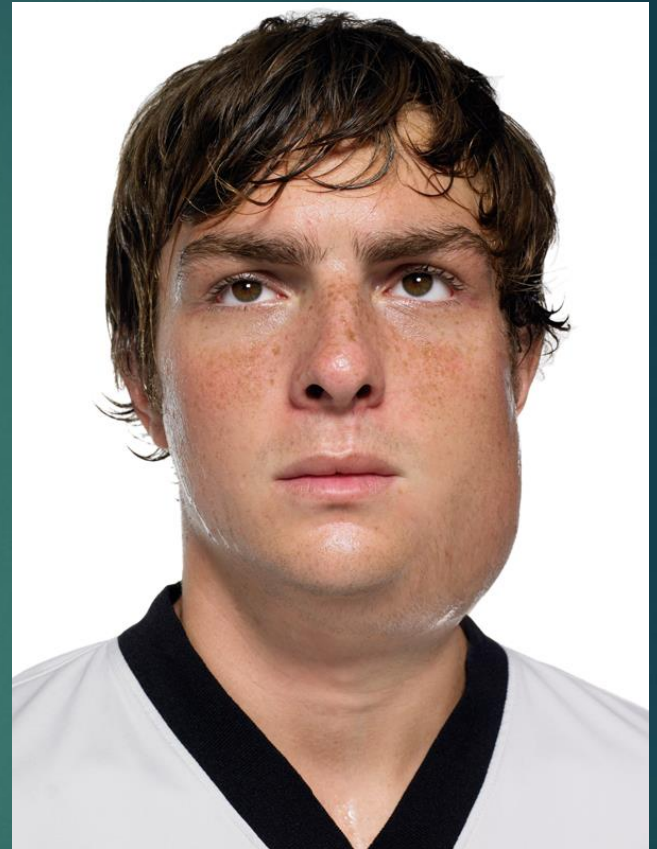
Congenital Neck Masses

- ▶ Laryngocoele
- ▶ Dermoid
- ▶ Teratoma
- ▶ Ranula



Inflammatory Neck Masses

- ▶ Reactive cervical lymphadenopathy
 - ▶ The most common
 - ▶ Usually viral
 - ▶ Resolves 1-2 weeks
 - ▶ A node over 1.0 cm lasting over two weeks from resolution of viral symptoms requires imaging
 - ▶ Mononucleosis has larger and more posterior nodes
- ▶ Bacterial lymphadenopathy
 - ▶ Suppurative from Staph
 - ▶ MRSA
 - ▶ Cat scratch and other granulomatous etiologies



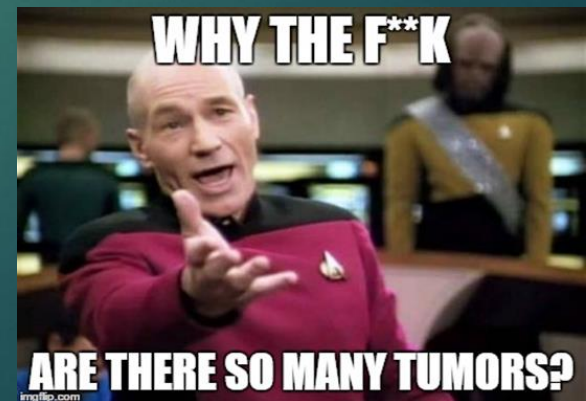
Neoplastic Neck Masses

Benign

- Thyroid
- Salivary
- Paragangliomas
- Schwannomas
- Lipomas
- Cutaneous lesions

Malignant

- Metastatic squamous cell until proven otherwise
- Lymphomas
- Salivary
- Thyroid
- Cutaneous





Summary, Final Thoughts:

- ▶ Extensive differential diagnosis
- ▶ Age of patient is important
- ▶ Accurate history and complete exam essential
- ▶ FNA – invaluable diagnostic tool
- ▶ Possibility for malignancy in any age group
- ▶ Close follow-up and aggressive approach is best for favorable outcomes

