FNA techniques

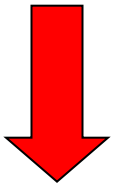
Steve Allpress
John Chaplin
Nick McIvor

lumps

Auckland
Head & Neck
Associates

- every lump must have a diagnosis
  - Working diagnosis
    - » +/- investigations

  - Review
    - » +/- investigations



  - Resolution
  - Definitive diagnosis

lumps

Auckland
Head & Neck
Associates

factors to consider

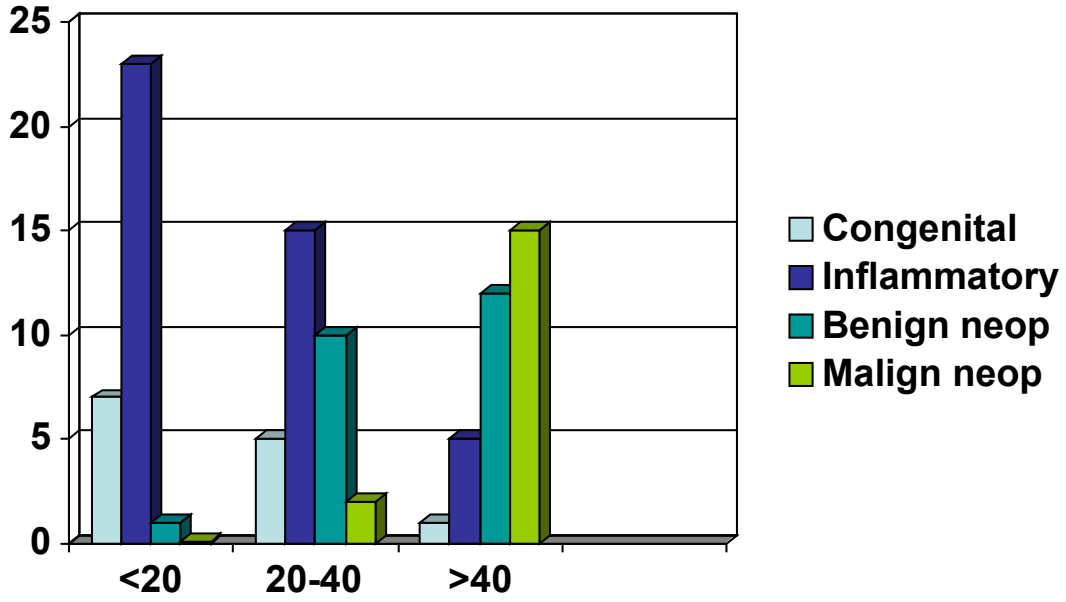
- age & duration
- tissue & site
- number

lumps

Auckland
Head & Neck
Associates

factors to consider

- age & duration



lumps

Auckland
Head & Neck
Associates

factors to consider

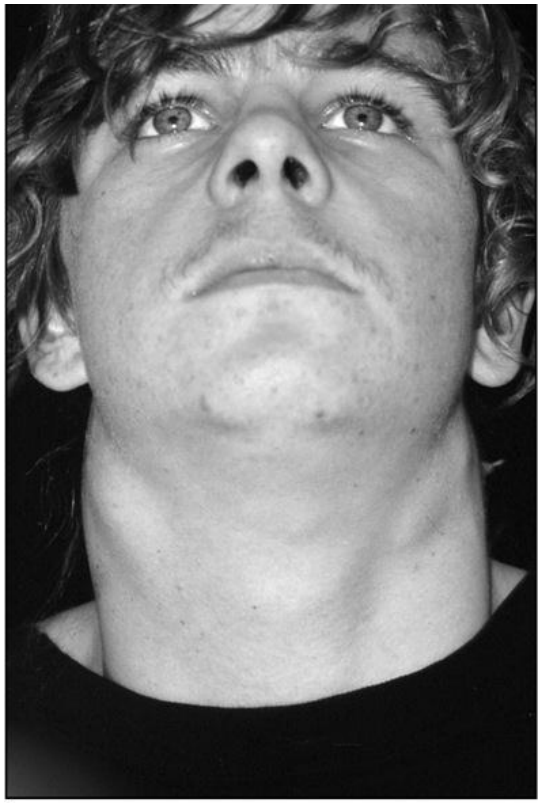
- age & duration
- tissue & site

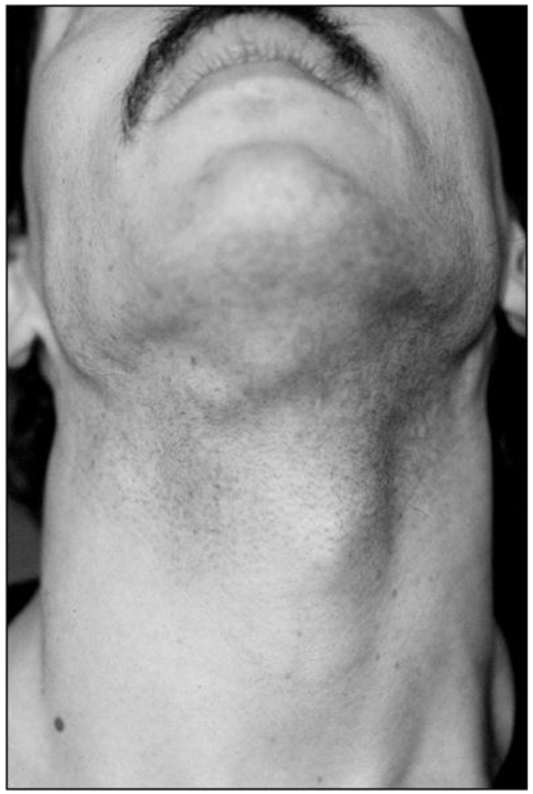
lumps

Auckland
Head & Neck
Associates

factors to consider

- age & duration
- tissue & site
- number





FNA

- pulsatile mass
- non –diagnostic aspirate
- sites
- US guided FNA

Auckland
Head & Neck
Associates

pulsatile mass & bleeding

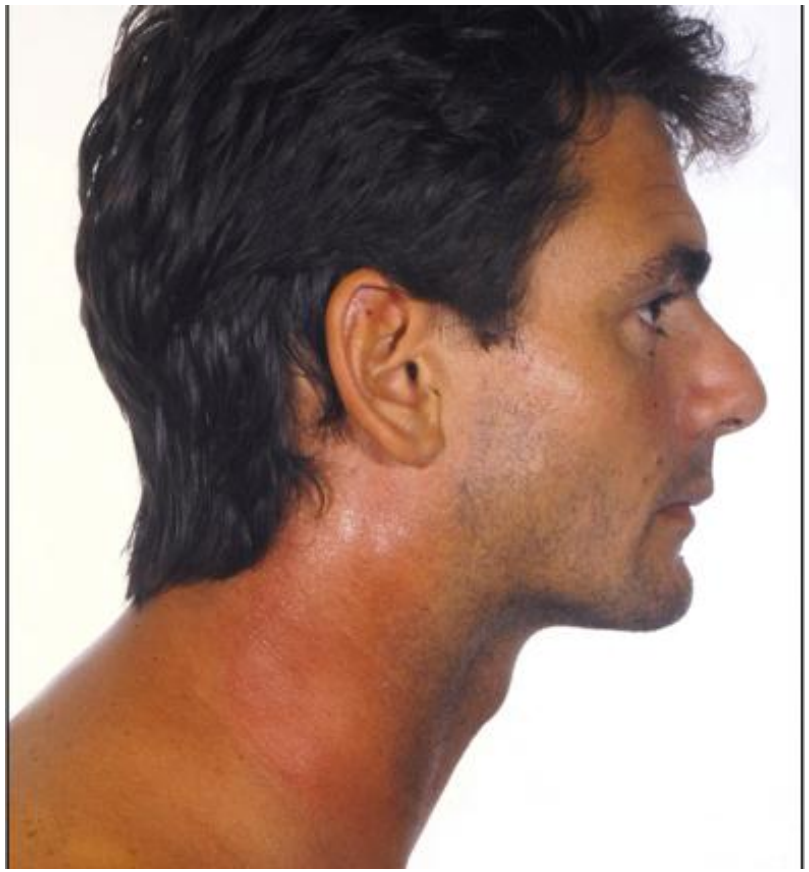
Auckland
Head & Neck
Associates

- usually FNA not necessary or advisable
  - (bruising only)
- diagnosis
  - aneurysmal artery
  - tortuous artery
    - Cf elderly
  - carotid body tumour

non-diagnostic aspirate

Auckland
Head & Neck
Associates

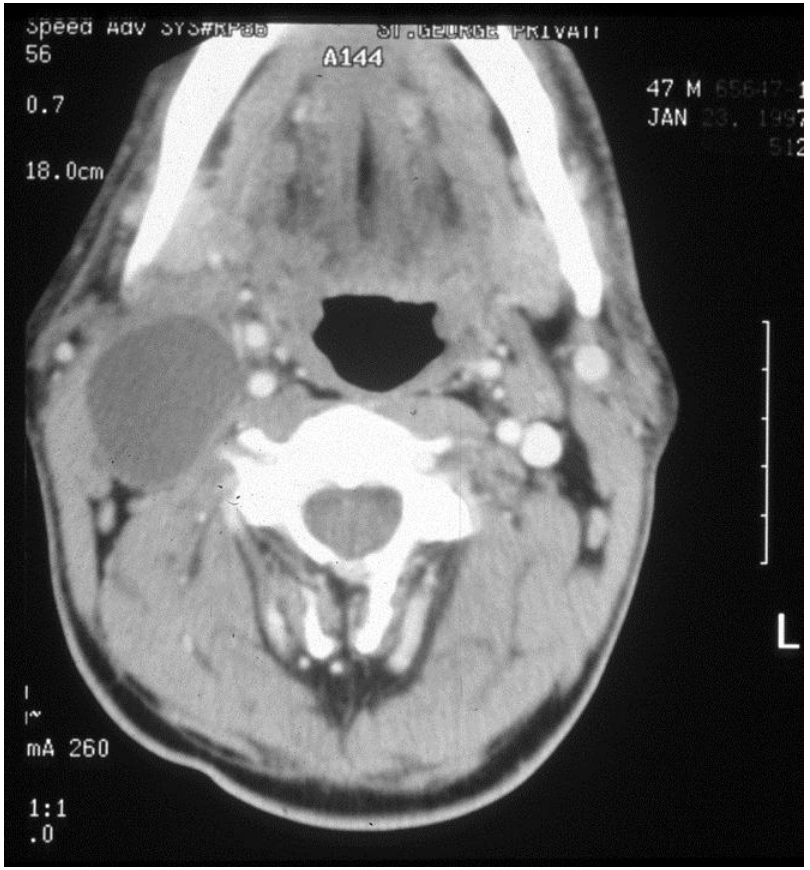
- solid vs cystic



non-diagnostic aspirate

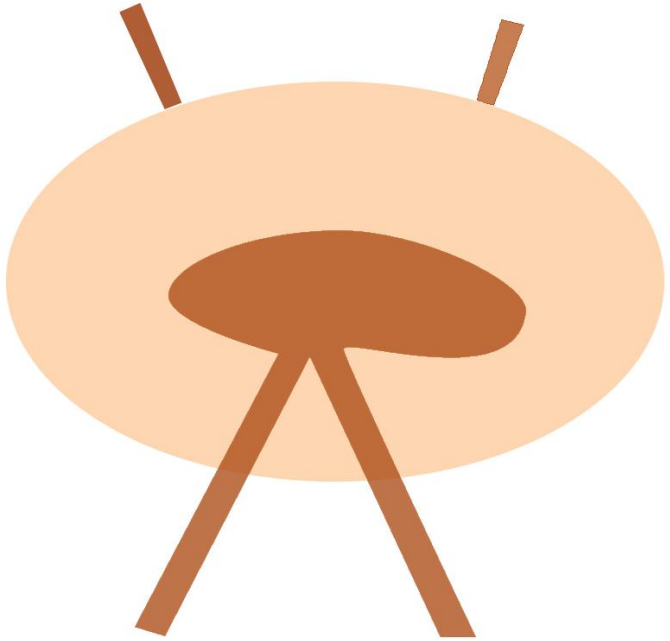
Auckland
Head & Neck
Associates

- solid vs cystic



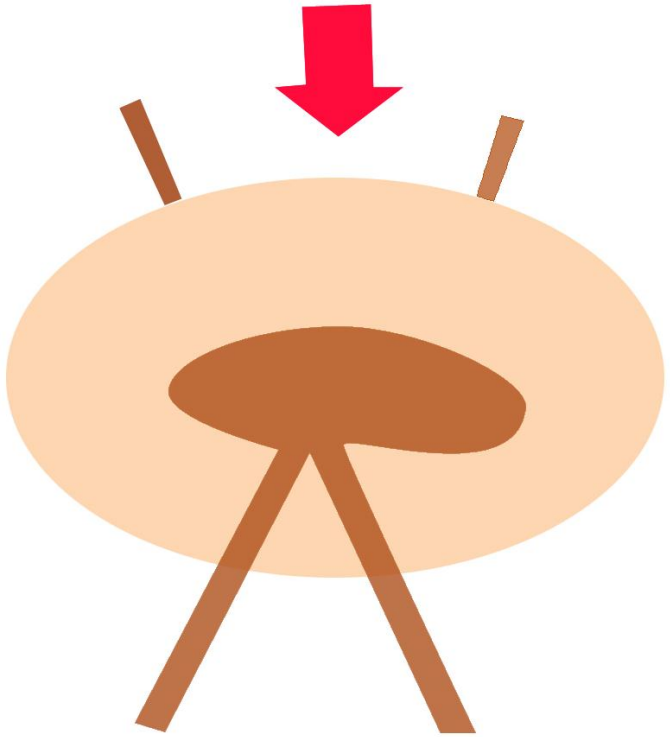
evolution of metastasis

Auckland
Head & Neck
Associates



evolution of metastasis

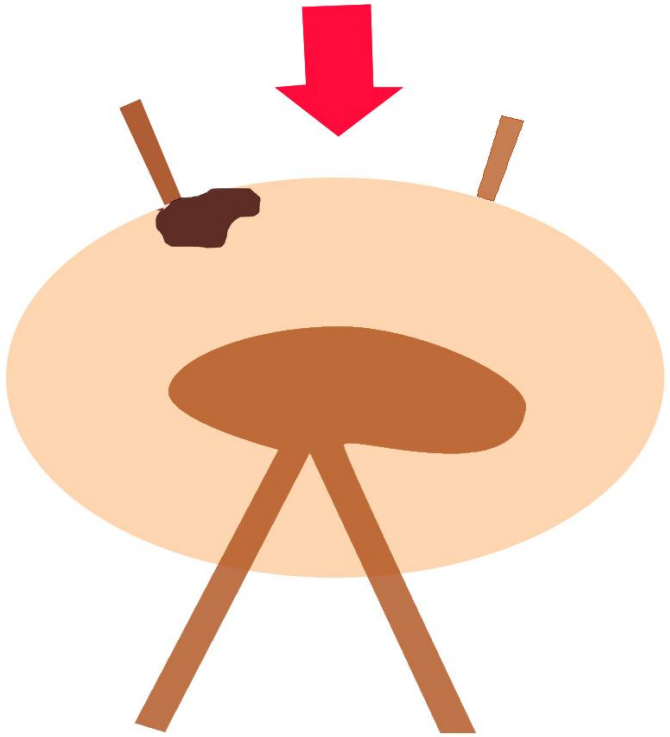
Auckland
Head & Neck
Associates



evolution of metastasis

Auckland
Head & Neck
Associates

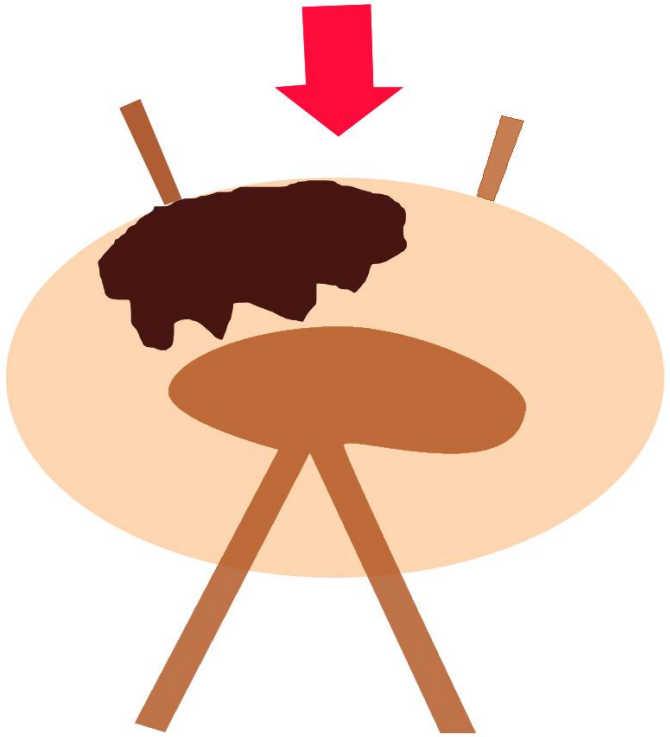
- subcortical



evolution of metastasis

Auckland
Head & Neck
Associates

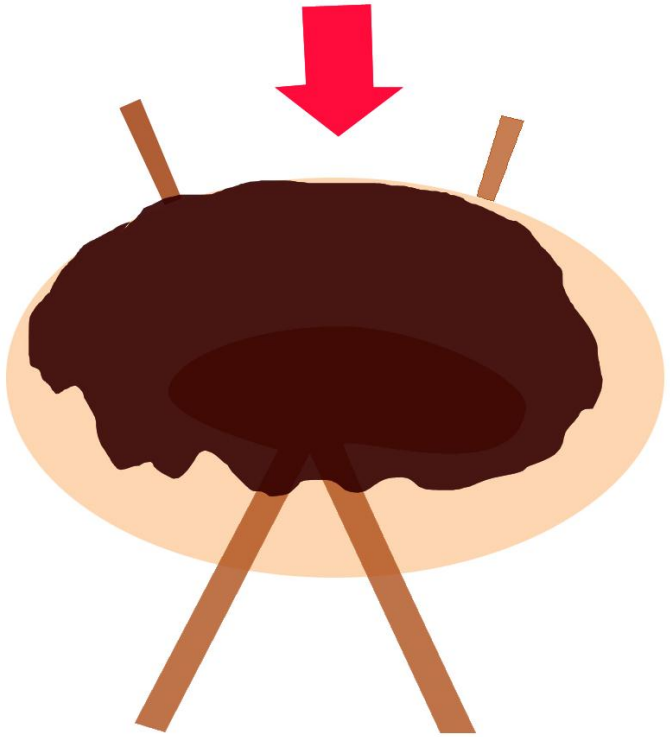
- subcortical



evolution of metastasis

Auckland
Head & Neck
Associates

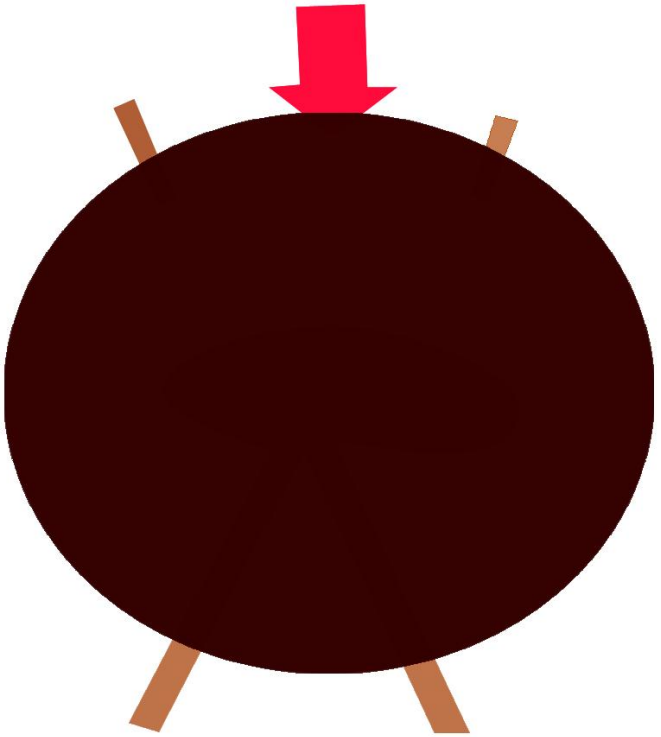
- hilar effacement



evolution of metastasis

Auckland
Head & Neck
Associates

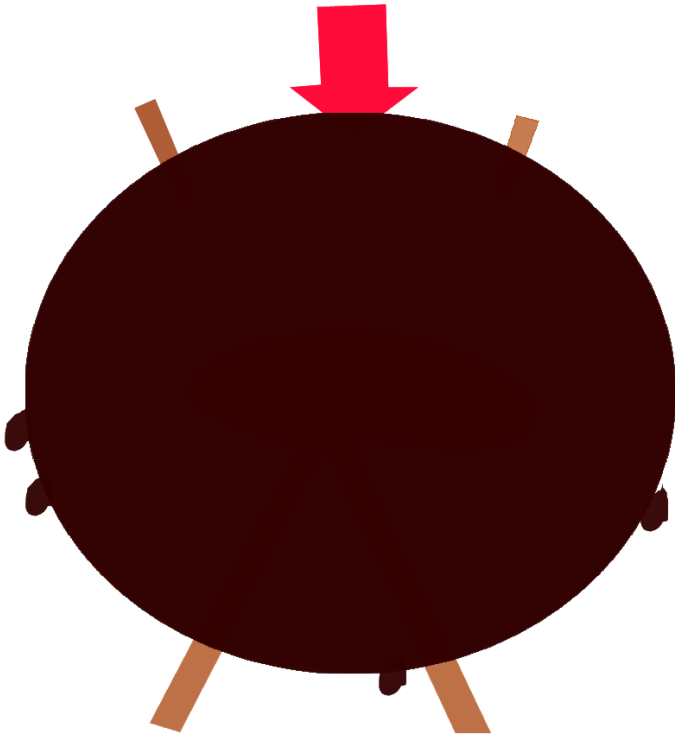
- nodal rounding
- ?palpable



evolution of metastasis

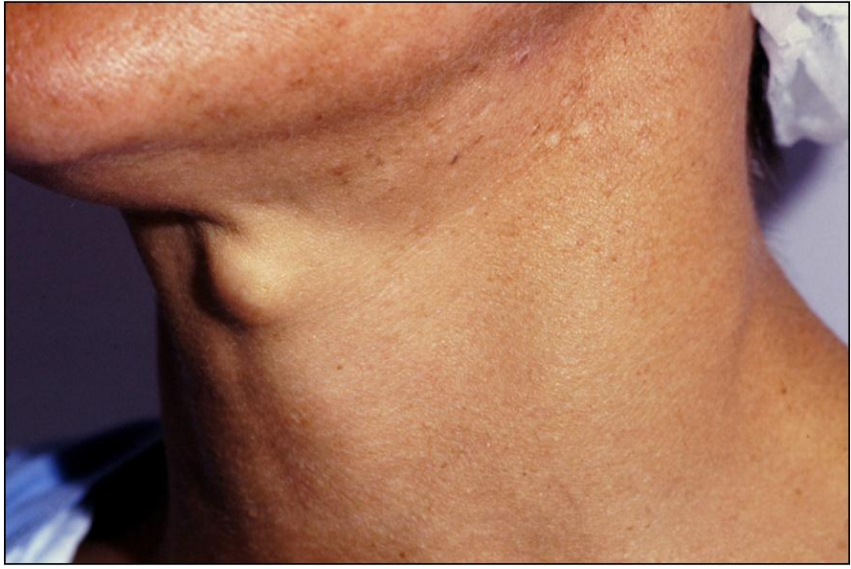
Auckland
Head & Neck
Associates

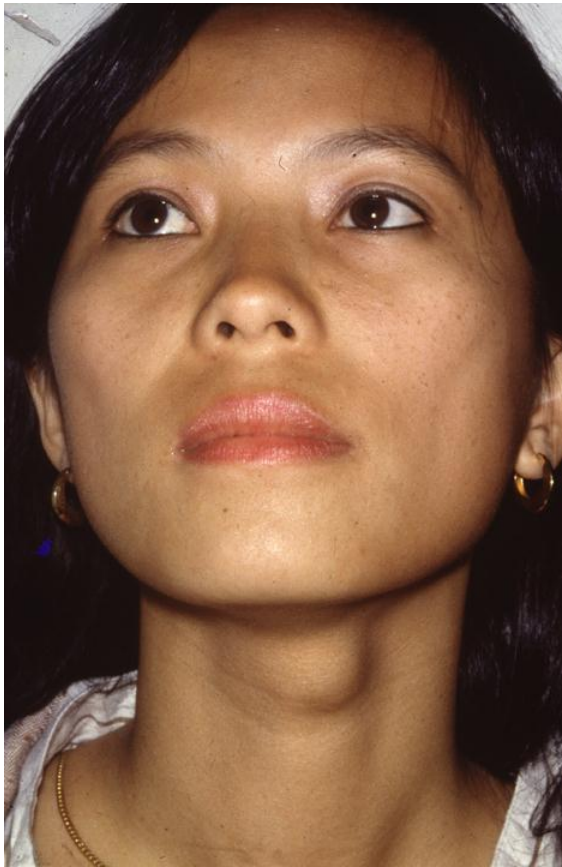
- extranodal extension



thyroglossal?

- young patient
- peri-hyoid mass
- elevates with swallow and tongue protrusion

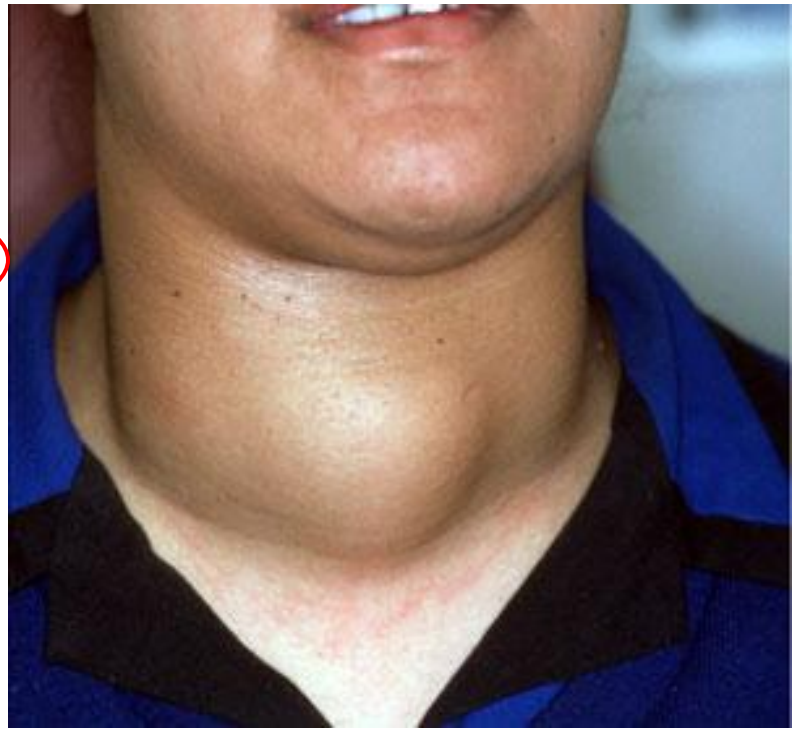




thyroid nodules

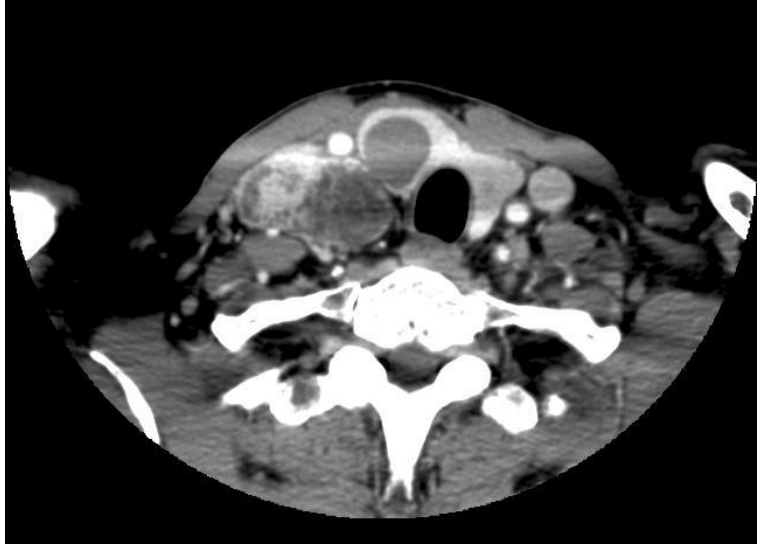
Auckland
Head & Neck
Associates

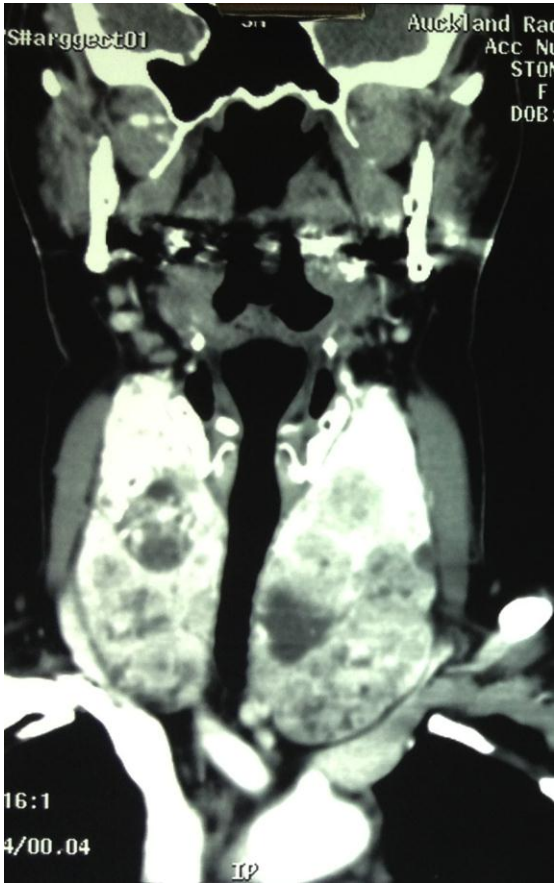
- Bethesda system % malig
  - 1. Non diagnostic 5
  - 2. Benign 3
  - 3. Follicular undetermined 15
  - 4. Follicular neoplasm 20
  - 5. Suspicious malig 50
  - 6. Malignant 100



non-diagnostic and benign

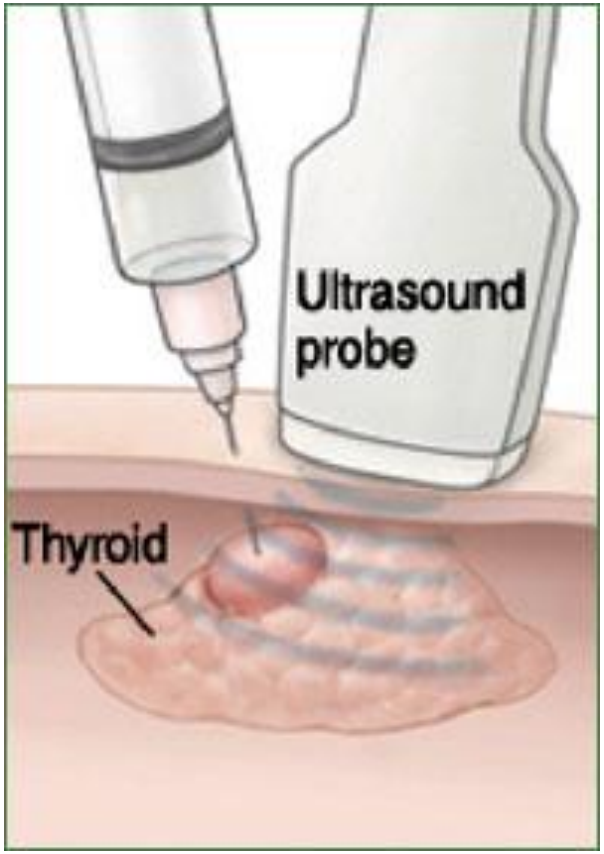
- Reason
  - Cystic
  - Complex
  - Bloody
  - Multiple
- Plan
  - Repeat USGFNA

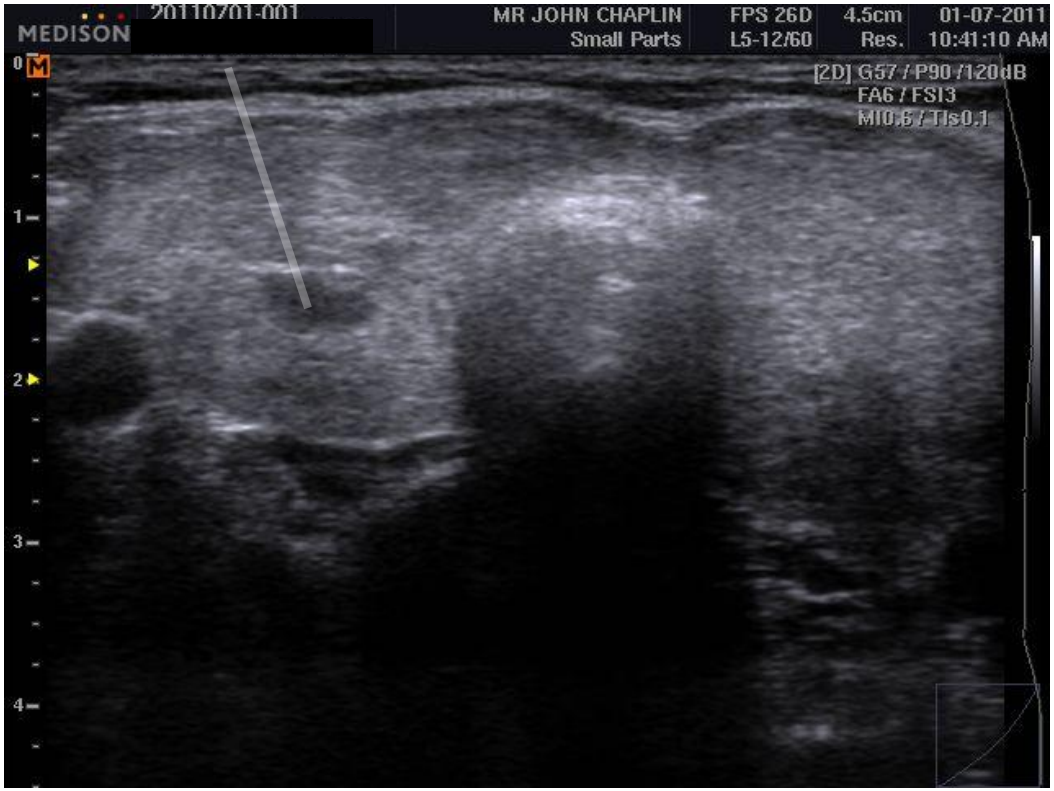




USFNA

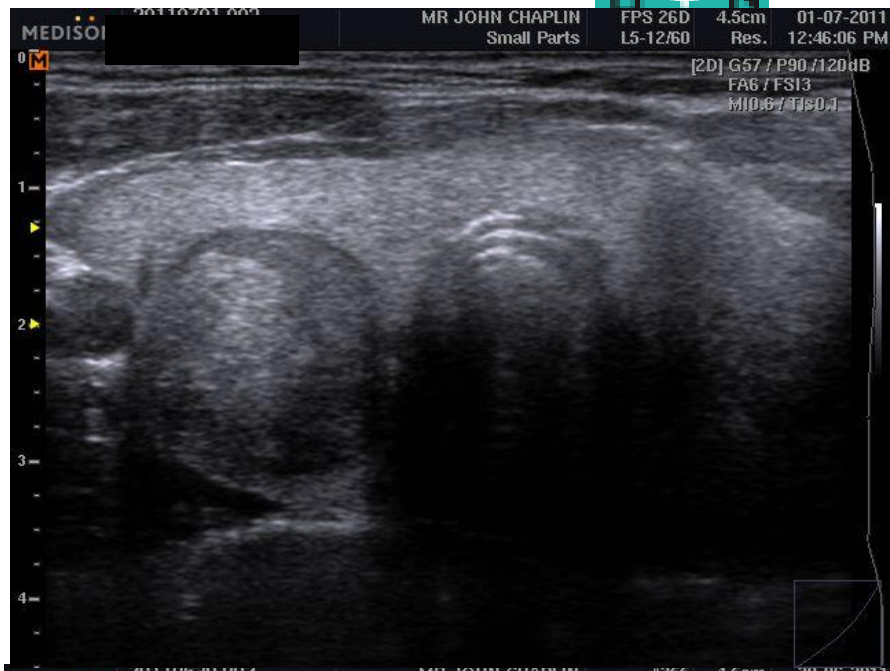
Auckland
Head & Neck
Associates

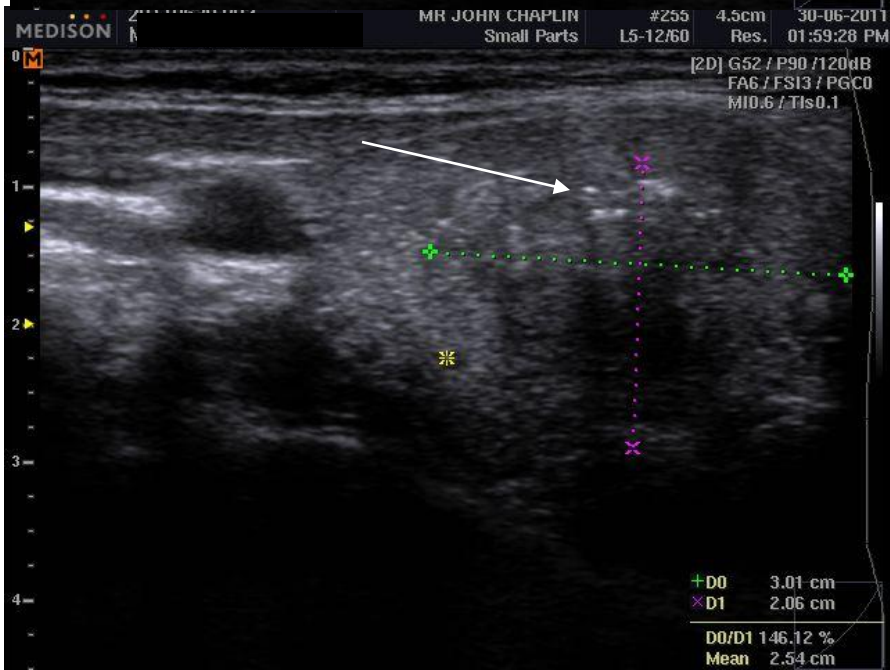




ultrasound in FNA

- thyroid nodule
  - posterior nodule
  - partially cystic
  - multiple
  - suspicious features
    - microcalcification
    - internal vascularity
    - hypoechoic
    - irregular halo
    - taller than wide on transverse view

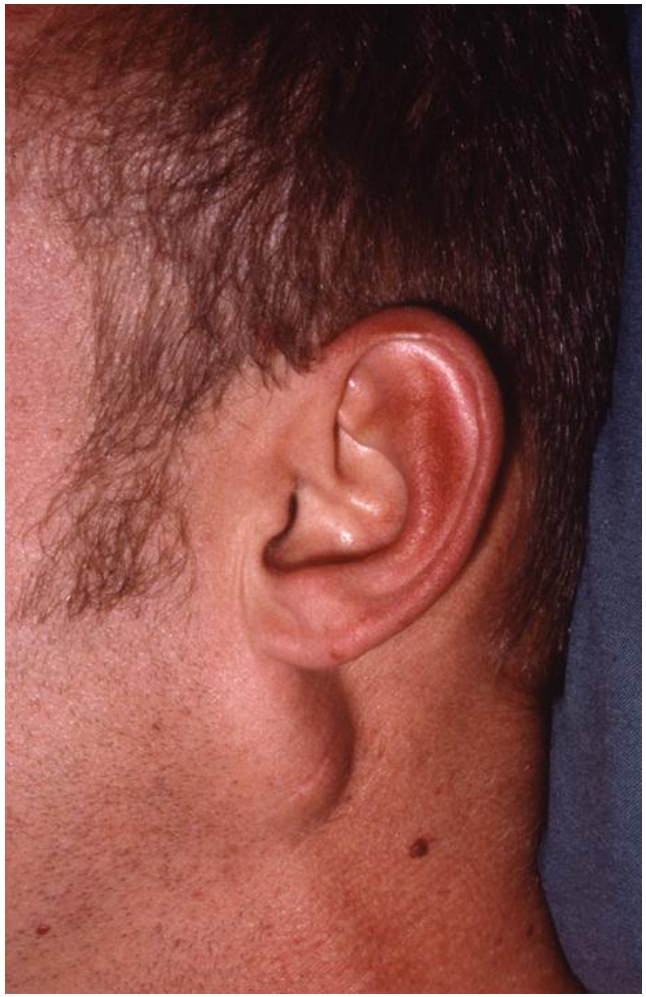




parotid gland

Auckland
Head & Neck
Associates

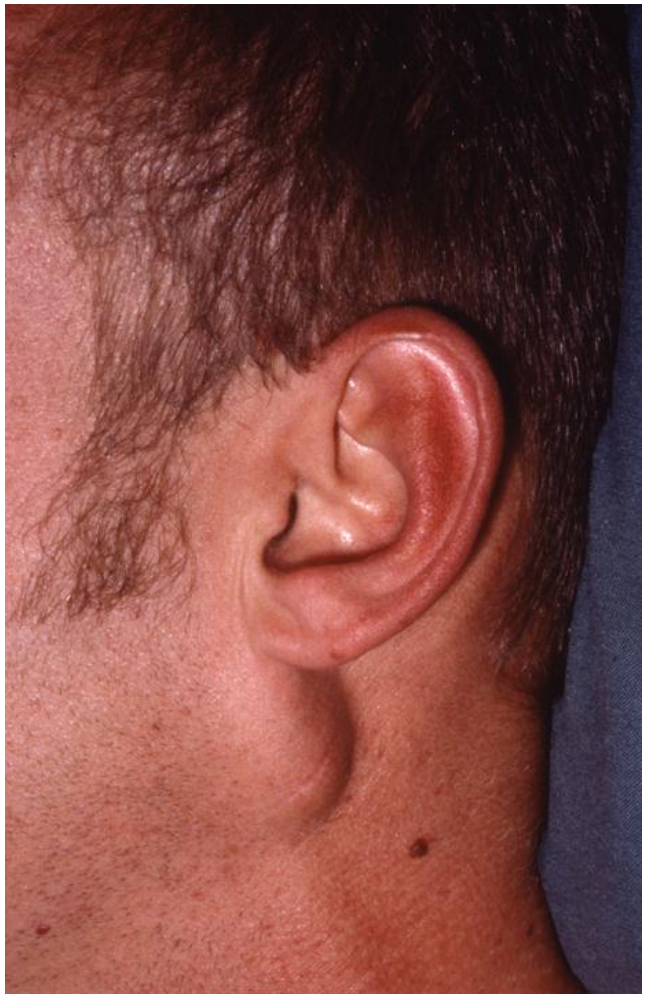
- adenoma
- metastatic node
- adenocarcinoma



parotid gland

Auckland
Head & Neck
Associates

- Mixed cellular population with myxoid stroma… pleomorphic adenoma

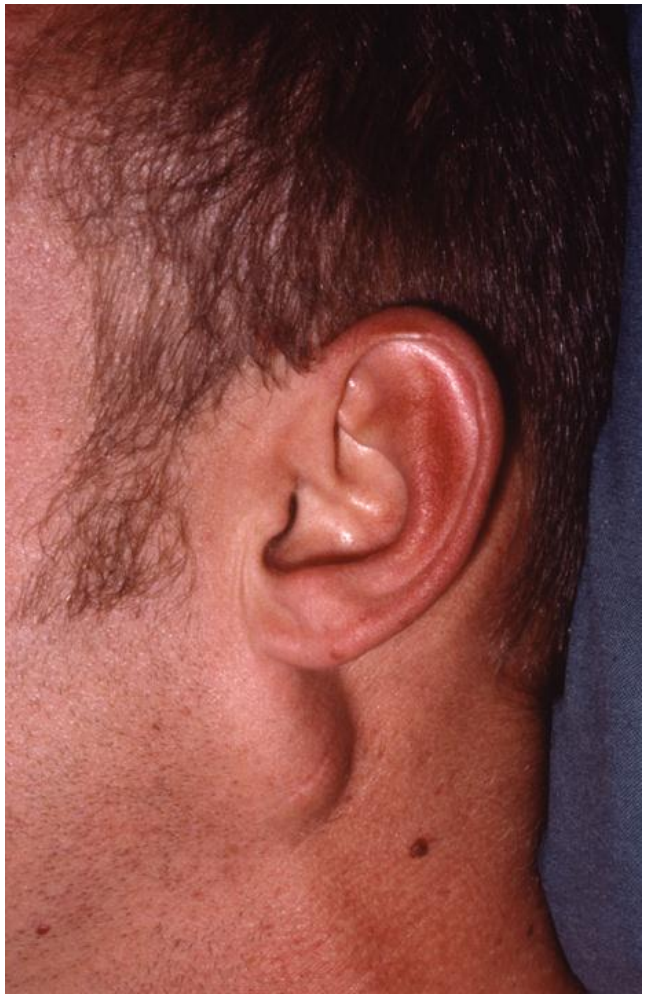


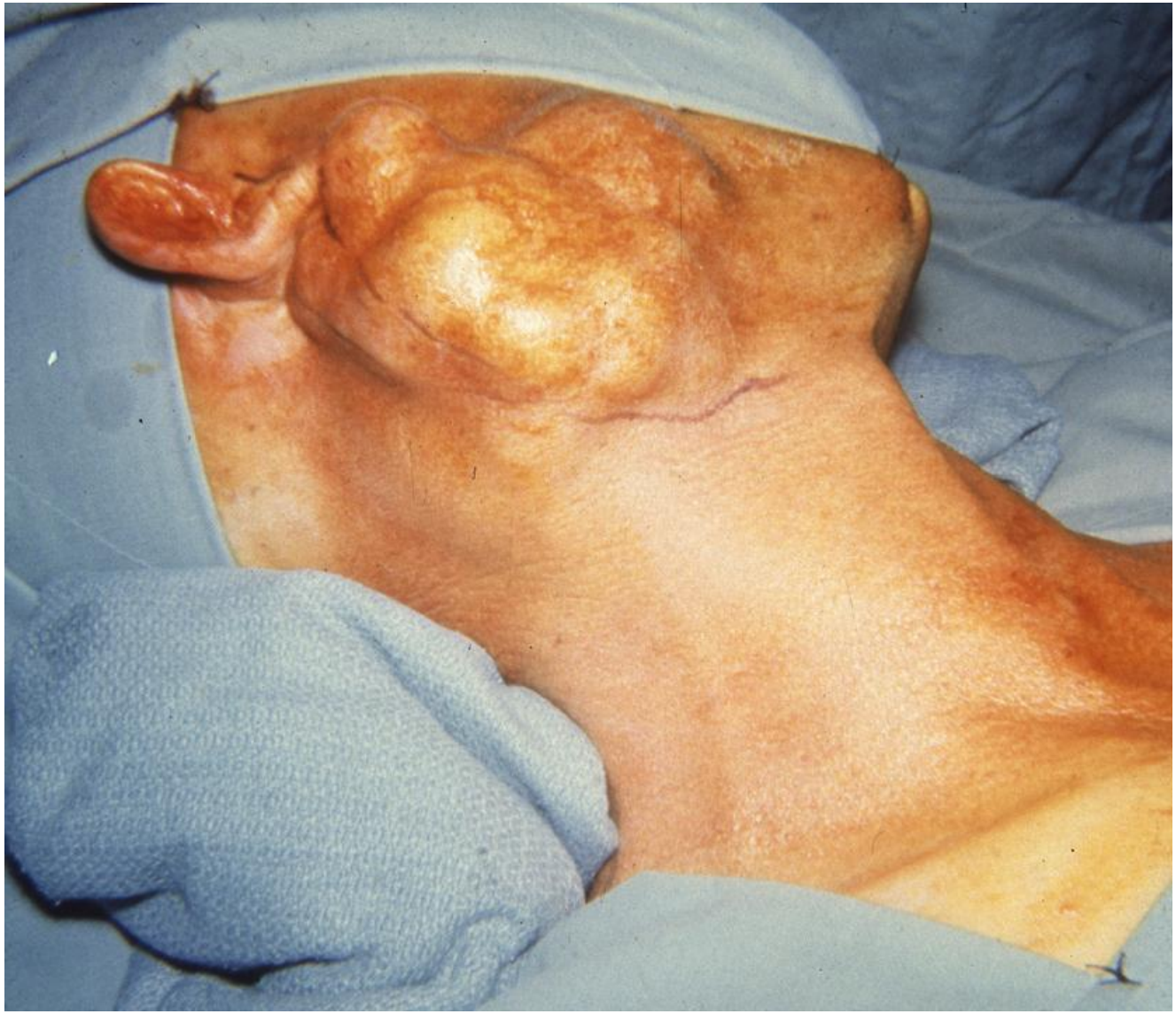
parotid gland

Auckland
Head & Neck
Associates

- Mixed cellular population with myxoid stroma… pleomorphic adenoma

- 95% accuracy
- Continue to grow
- Potential malignant change



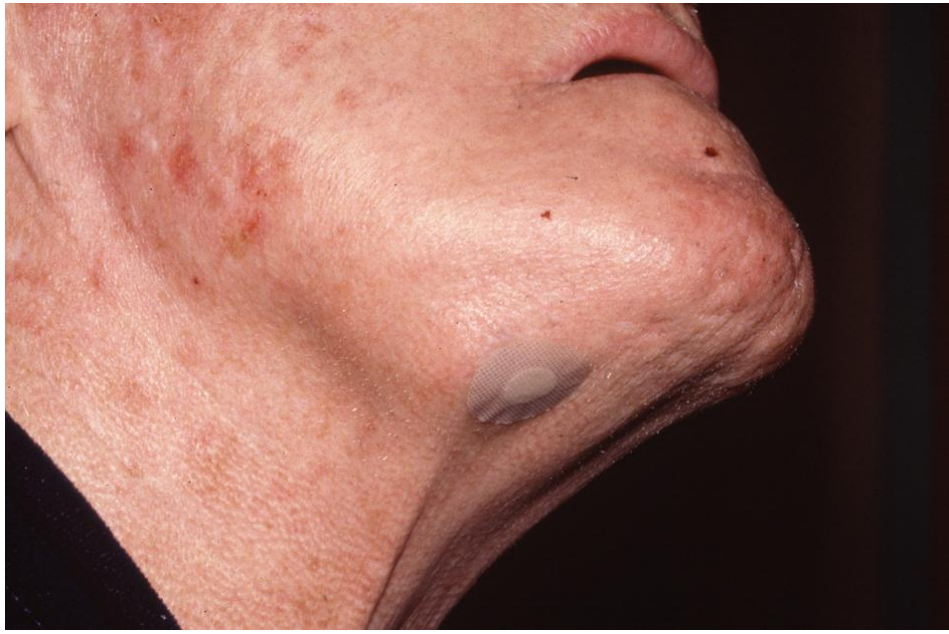


Auckland
Head & Neck
Associates

submandibular

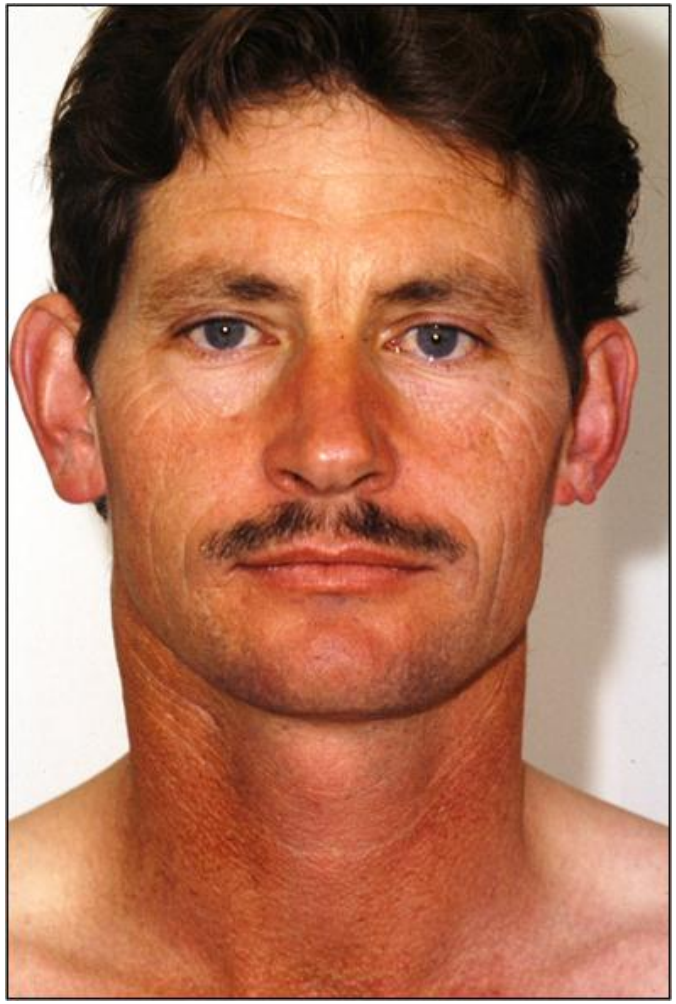
Auckland
Head & Neck
Associates

- whole gland
  - Fluctuating
  - stable
- lump within gland
  - adenoma
  - adencarcinoma
- lump outside gland
  - node
    - reactive
    - lymphoma
    - metastatic



squamous aspirate

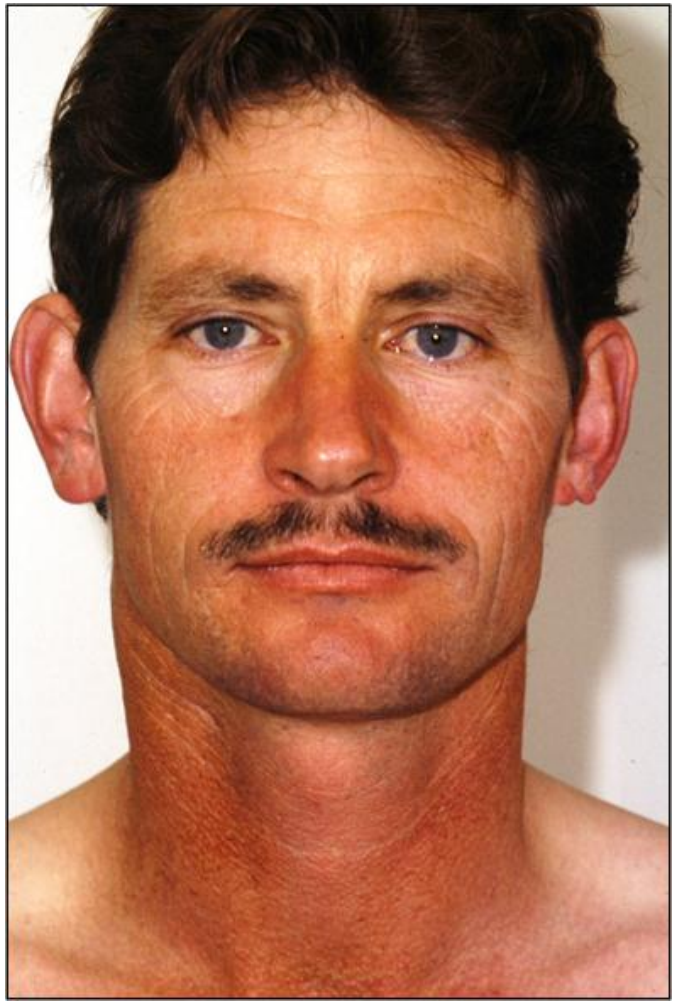
Auckland
Head & Neck
Associates



- 45 yr old male
- Never smoked
- 3 week history right neck mass
- No pain
- No cutaneous malignancy
- No pharyngeal symptoms

squamous aspirate

Auckland
Head & Neck
Associates



FNA shows fluid only with scattered atypical epithelial cells.
Pathologist suggests excision of mass.

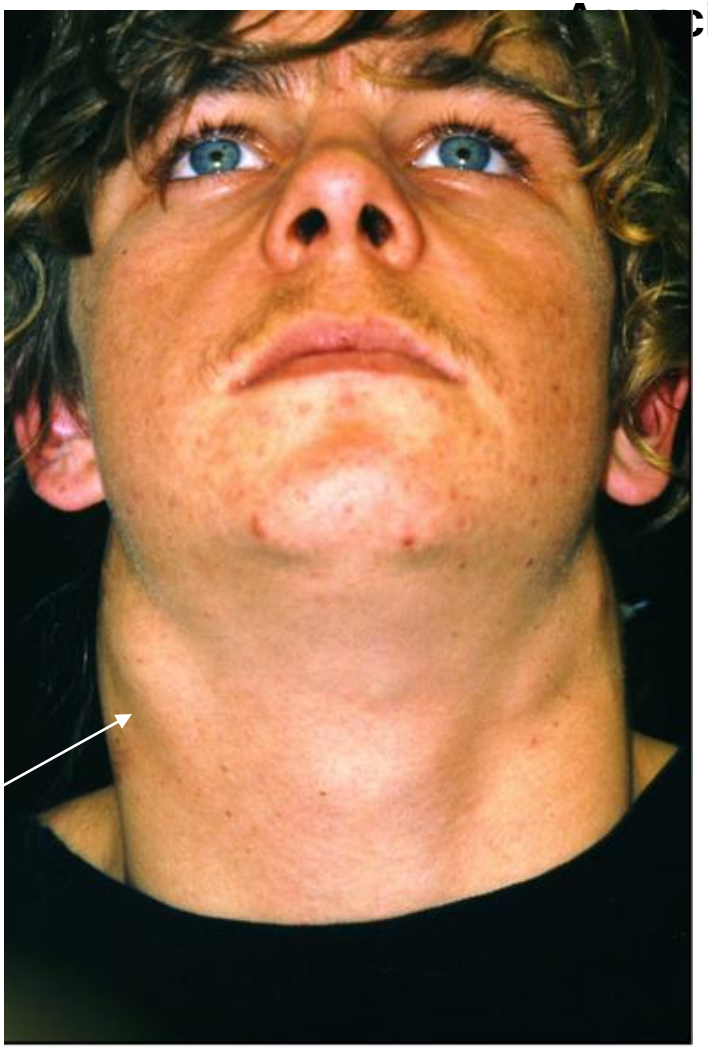
lymphoid aspirate

Auckland
Head & Neck
Associates

… suggests reactive lymphadenopathy

…monoclonal population can not be excluded..

…assess in clinical context.



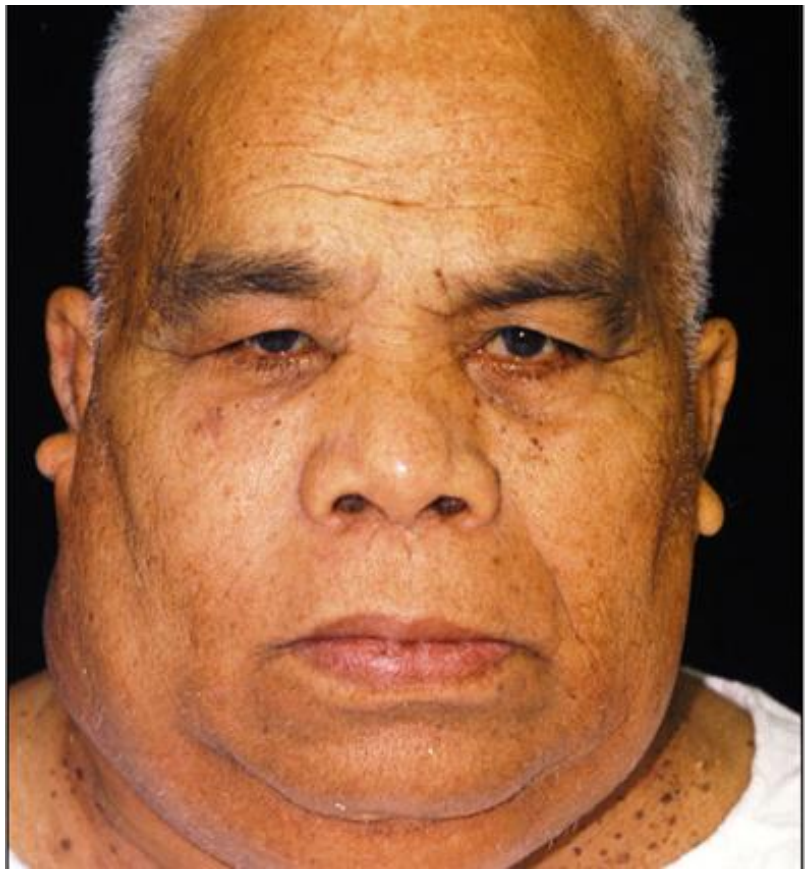
lymphoid aspirate

Auckland
Head & Neck
Associates

… suggests reactive lymphadenopathy

…monoclonal population can not be excluded..

…assess in clinical context.



lymphoid aspirate

Auckland
Head & Neck
Associates

If obvious source of inflammation- treat and observe

If node is large (>3cm) remove to exclude lymphoma

If no obvious source

- Blood screen: FBC, Toxoplasmosis, EBV, cat scratch disease, CMV.
- Observe over one to two months and if still present or larger
- remove to exclude lymphoma
- Continue to observe if smaller

USFNA - equipment

Auckland
Head & Neck
Associates

- Needle- 22 gauge
- Syringe - 5ml
- Glass slides
- Pencil
- Pottle
- Saline
- Band-aid
- Ultrasound (optional)

technique

Auckland
Head & Neck
Associates

Multiple passes

USFNA

- neck mass
  - partially necrotic
  - suspicious features
  - aspirate for assay
    - Thyroglobulin
    - Calcitonin
    - Parathyroid Hormone