Clinico-Radiological Approach For Diagnosis Of Neck Swellings
Neck Mass

- Very common & A challenge for physicians
- H & PE commonly lead to the correct diagnosis
- An understanding of cervical embryology is crucial in treatment of congenital & developmental masses
- Diagnosis and management of neck masses need unique diagnostic skills and knowledge of H & N anatomy, pathology, & radiology
### Neck Mass

#### Epidemiology
- Adult neck masses are 90% malignant.
- Pediatric neck masses are rarely malignant.
- Most common neck mass in children is an enlarged reactive lymph node due to bacterial/viral infections.
- Almost 50% of all 2 Y/O children have palpable normal cervical lymph nodes.

#### Physical Examination
- Anatomical Considerations
- Local Examination Of The Mass
- Complete H & N Examination
- Cranial Nerves Examination
- General Examination
Anatomical Considerations

- Prominent Landmarks
- Triangles of the Neck
- Regional Anatomy
- Lymph Node Levels
- Carotid Bulb
- Transverse Process of C1

Modified from Head and Neck Imaging, Mosby 2003

LYMPH NODE LEVELS

AAO-HNS (1988)

Moded from Head and Neck Imaging, Mosby 2003
Diagnostic Work Up

- **Imaging Studies**
  1. Ultrasonography
  2. CT & CTA
  3. MRI & MRA
  4. Radiology; Chest, Neck, Sialography, barium swallow, Angiography
  5. Radionucleotide scanning
  6. PET & PET/CT

- **Endoscopy**

- **Laboratory Work Up;** *(PPD, Gram stain, Culture)*

- **Fine Needle Aspiration Biopsy (FNAB)**

- **Surgical Biopsy**

**Identification of Neck Masses**

On Basis of their location
Identification of Neck Masses On Basis Of Their Location

Anterior Neck Swellings
Lateral Neck Swellings
Posterior Neck Swellings
Diffuse Neck Swellings
Anterior Neck Mass

Midline (Submental)

Midline (Thyrohyoid)

Midline (Prelaryngeal) (Laryngeal)

Midline (Suprasternal) (Pretracheal)

Paramedian (Paralaryngeal)

Paramedian (Paratracheal)
Supraclavicular

Sub-mandibular

Ant. to SCM (Carotid Triangle)

Retro-Mandibular

Along/ Deep to SCM

Post. To SCM

Supraclavicular

Lateral Neck Mass

Anterior Neck Mass

Midline (Submental)

- Lymph Node
- Abscess
- Ludwig’s Angina
- Dermoid
- TGDC
- Soft Tissue Neoplasm
Squamous Cell Carcinoma of the Lip: CECT; multiple Level I submental metastatic lymph nodes with rim enhancement.
**Submental Region**

**Dermoid Cyst**

- Mesoderm & Ectoderm (Skin appendages)
- Sublingual, submental or midline cervical mass
- Painless & do not elevate with tongue protrusion.
- Misdiagnosed as TGDC
- D.D. by MRI & Intraoperative aspiration
- Fat & fluid density
- Treatment is simple excision

*CECT, sublingual cyst with fat & fluid attenuation. Faint peripheral enhancement (arrows).*

**Submental**

*Inframylohyoid* Dermoid

**Sublingual**

*Supramylohyoid* Dermoid

Clinical signs & surgical approach are determined by the relationship of the cyst to the musculature of the FOM.
Dermoid Cysts:
- Thin-walled, unilocular, homogeneous, hypoattenuating (0–18 HU) fluid on CT
- “Marbles” appearance (Coalescence of fat into small nodules)
- Hyperintense or isointense on T1-MRI.
- Hyperintense on T2-MRI. Heterogeneous internal appearance.

Epidermoid cysts: Fluid attenuation on CT.
- Hypointense on T1-MRI & hyperintense on T2-MRI

Submental Region

Ludwig’s Angina
- Cellulitis - Not an abscess
- Sublingual & submandibular spaces
- 90% 2ry to dental infection in the lower jaw
- Foul, serosanguinous fluid, no frank pus
- Fascia, muscles & C.T. involvement

CECT, multiple low attenuation (fluid) collections in sublingual (SL) & submandibular (SM) spaces. No peripheral rim enhancement. An abscess on CT is an area of low attenuation with rim enhancement.
Submental Region

Submental Abscess
May be related to a dental or skin infection.

CECT; a submental low attenuation with rim enhancement (arrow). Inflammatory changes in the left submandibular region.

Submental Region

FOM Tumor
Submental Region

Lipoma

Anterior Neck Mass

Midline (Thyrohyoid)
- Thyroglossal DC
- Dermoid
- Supraglottic Ca (PES)
- Thyroid (Ectopic/accessory)
- TGDC Ca
- Hyoid bone tumors
TGD extends from F. cecum through the hyoid bone to pyramidal lobe of the thyroid.
- Incomplete involution results in a TGDC
- 80% infrahyoid
Midline Thyrohyoid Region
Dermoid Cyst

“Usually misdiagnosed as TGDC”

1. Do not elevate with tongue protrusion (*Not attached to the hyoid bone*)
2. MRI, variable T1 signal (Lipid) & No superior tract on sagittal T2 MRI
3. Aspiration

Midline Thyrohyoid Region
Supraglottic Carcinoma
Midline Thyrohyoid Region
Supraglottic Carcinoma

Midline Thyrohyoid Region
Supraglottic Carcinoma
Midline Thyrohyoid Region
Metastatic PTC


Midline Thyrohyoid Region
Hyoid Bone Tumor

Chondrosarcoma of the Hyoid Bone
Midline (Prelaryngeal/Laryngeal)

- Thyroglossal DC
- Dermoid
- Laryngeal tumor
- Hypopharyngeal tumor.
- Retroph. Lesion
- Thyroid *(pyramidal lobe)*
- Thyroid *(Accessory/Ectopic)*
- TGDC Ca
- Prelaryngeal L.N.
- Teratoma

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**Midline (Prelaryngeal/Laryngeal)**

**Thyroglossal Duct Cyst**

- Most common congenital midline neck mass *(70%)*
- 2nd most common neck mass in children after L.N.
- Twice as common as BCC
- 50% present before age 20y
- 75% Midline or 25% paramedian
- 65% infrahyoid *(Midline or off-midline)*
- 20% suprahypoid *(Tend to be midline)*
Midline (Prelaryngeal/Laryngeal) Laryngeal Tumors

- 95% of laryngeal carcinomas are squamous cell carcinoma
- Extralaryngeal spread into the soft tissues in advanced cases

Transglottic Carcinoma with Extralaryngeal Spread

Laryngeal Carcinoma with Extralaryngeal Spread
Midline (Prelaryngeal/Laryngeal)
Laryngeal Tumors

Chondrosarcoma Of The Larynx

Midline (Prelaryngeal/Laryngeal)
Hypopharyngeal Tumors

Posterior Hypopharyngeal Wall Carcinoma
Midline (Prelaryngeal/Laryngeal) Hypopharyngeal Tumors

Posterior Hypopharyngeal Wall Carcinoma

Midline (Prelaryngeal/Laryngeal) Retropharyngeal Lesions

18 year male with post traumatic Retropharyngeal Abscess

Child with Retropharyngeal Abscess
Midline (Prelaryngeal/Laryngeal) Thyroid (Pyramidal Lobe)

An enlarged pyramidal lobe in a multinodular goiter.

Midline (Prelaryngeal/Laryngeal) Thyroid (Accessory Thyroid)

Thyroid gland variations, TGDC, accessory thyroid.
Midline (Prelaryngeal/Laryngeal)
Thyroid (Pyramidal Lobe PTC)

PTC in a pyramidal lobe

Midline (Prelaryngeal/Laryngeal)
Lymph Node

- Non Hodgkin’s Lymphoma,
- Delphian nodes (Anterior Jugular Nodes).

CECT; a homogeneous mass with rim enhancement in the anterior neck (arrow).
Midline (Prelaryngeal/Laryngeal)

Abscess
- Occur anywhere in the neck
- Low attenuation mass with rim enhancement
- Tender mass with overlying skin erythremia
- Fever & elevated WBC count
- Necrotic lymph nodes should be excluded in any adult with a lesion that has this appearance.

CECT; a low attenuation mass (*) with peripheral rim enhancement in the anterior neck. The overlying skin & platysma muscle (arrow) are thickened with subcut. inflammatory changes.

Anterior Neck Mass

Midline (Suprasternal & Pretracheal)
- Thyroid mass
- Dermoid cyst
- Branchial cyst (infant)
- Pretracheal L.N
- Thymic mass or cyst
- Mediastinal mass
- Anomalous CA/innomiate.
- AJ phleboectasia
- Cong. Midline cervical cleft
- Lipoma
- Teratoma
Midline (Supratrernal & Pretracheal) Thyroid Masses

- Follicular Adenoma, hemithyroidectomy
- Hashimoto’s Thyroiditis

Midline (Supratrernal & Pretracheal) Thyroglossal Duct Cyst

Mass was mobile with deglutition but not with tongue protrusion.
Midline (Supraternal & Pretracheal)

**Midline Suprasternal Dermoid**

2 Y/O child with midline 3rd Arch BCC & sinus

Midline (Supraternal & Pretracheal)

**Branchial Cyst**
Midline (Supraternal & Pretracheal)

Congenital Midline Cervical Cleft

- Rare anomaly
- Not a true cleft, no skin gap
- Between mandible & manubrium.
- Asymptomatic
- Overlooked at birth
- Clinical Diagnosis
- Upper skin protuberance & lower blind mucosal tract
- Subcut. fibrous cord from the skin tag to chin

Midline (Supraternal & Pretracheal)

Jugular Vein Phlebectasia

AJ phleboectasia

- a dilated Lt. AJV
- CTA, aneurysm of the Lt. AJV
- Normal DSA of Arch of Aorta & neck vs.
Midline (Suprarenal & Pretracheal)
Suprasternal Cyst

PTC metastasis in a Paratracheal L.N.

Midline (Suprarenal & Pretracheal)
Anomalous Innominate A.
Midline (Suprareternal & Pretracheal)

Thymus gland anomalies
- Firm, mobile masses in the lower neck
- Decrease with inspiration (Characteristic)
- 1st decade of life.
- Chest Xray & CT.
- Surgical excision is the treatment of choice.

Cervical thymoma

Anterior Neck Mass

Paramedian (Paralaryngeal)
- TGDC
- Laryngeal Tumor
- Hypopharyngeal Tumor
- Laryngocele
- Saccular Cyst
- Pharyngeal Pouch
- Branchial Cyst

Paramedian (Paratracheal)
- Thyroid mass
- Parathyroid mass
- Metastatic L.N
- Peristomal rec.
- Branchial cyst
- Esoph. & tracheal Diverticulum
- Pneumocele
- Thymic mass/cyst
- Anomalous Carotid
- AJ phleboectasia
- Bronchogenic Cyst
Anterior Paramedian Region
Thyroglossal Duct Cyst

Laterally located infrahyoid TGDC with rim enhancement

Anterior Paramedian Region
Laryngeal Tumors

Transglottic Carcinoma with Extralaryngeal Spread
Anterior Paramedian Region
Papillary Thyroid Carcinoma

Anterior Paramedian Region
Congenital Cervical Lung Herniation

- The least common location of lung herniation.
- Patients <3 years of age
- Unilateral or bilateral,
- Congenital; parietal pleura is intact
- Traumatic; parietal pleura is disrupted
Anterior Paramedian Region

Anomalous Carotid Artery

- Rare anomalies due to abnormal tracheobronchial development
- Extrathoracic suprasternal or presternal.
- Intrathoracic in the mediastinum, diaphragm, pericardium, or lung
- The definitive treatment is surgical excision
Peristomal Recurrence

Anterior Paramedian Region

Commonest Midline Neck Mass

Cystic

- Thyroglossal duct cyst
- Cystic thyroid nodule

Solid

- Lymph Node
- Solid thyroid nodule
Lateral Neck Mass

- Supraclavicular
- Submandibular
- Ant. to SCM (Carotid Triangle)
- Along/ Deep to SCM
- Post. To SCM
- Retro-Mandibular
- Supraclavicular

Submandibular

- SMG Swellings
- Lymph Node
  - Lymphadenitis
  - Atypical mycobacteria
  - Cat scratch disease
  - Metastatic
- Abscess
- Plunging Ranula
- PPS tumor
- Soft tissue Tumors
  e.g. lipoma..etc
Submandibular Region

SMG enlargement may be due to:

1. Tumor in the gland
2. Stone obstruction
3. FOM carcinoma compressing the duct

Submandibular Chronic Sialadenitis with Stone
Submandibular Region

Submandibular Space Abscess

- May be 2ry to dental infection
- D.D. a necrotic L.N. with extracapsular extension of
- **Clinical history is key**

A multiloculated low-attenuation mass with peripheral rim enhancement in the Lt SM space.

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Submandibular Region

Submandibular Sialadenitis

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**Submandibular Region**

**Floor Of Mouth Carcinoma**

- 90% occur in the anterior FOM
- Cause obstruction of the S.M.duct
- Present with a hard submandibular L.N. or an enlarged S.M.G.

**Submandibular Region**

**Submandibular Lymph Node Hyperplasia**

"Homogenous lymph nodes are often encountered in patients with Lymphoma, Sarcoidosis or Reactive lymphoid hyperplasia"
Submandibular Region

Submandibular Atypical Mycobacterial Lymphadenitis

Enhanced CT shows multiple masses with rim enhancement in the right submandibular region.

Cat Scratch Disease

Submandibular Region

Cervical Lymphadenitis

Enhanced CT shows multiple masses with rim enhancement in the right submandibular region.

Enhanced image
Submandibular Region
Granulomatous Lymphadenitis (Sarcoidosis)

Submandibular Region
Lymphoma

Diffusely homogenously enlarged level IB submandibular lymph nodes
Submandibular Region

Granulomatous Sialadenitis

- Sarcoidosis
- Xanthogranuloma

Submandibular Region

Submandibular Gland Tumor

- 50% malignant (*Adenoid cystic & mucoepidermoid carcinoma*)

A heterogenous mass enlarging the gland & almost replacing the entire glandular tissue.

Benign Mixed Tumor.

5/2/2012
Submandibular Region

Submandibular Gland Tumor

Lymphoepithelial Lesion

Pleomorphic Adenoma

Submandibular Tumor

Submandibular Lipoma
CECT (A) shows a low density lesion in the sublingual space (arrow) that extends posterior medial to the SMG (B). This lesion can be differentiated from a branchial cleft cyst when a portion of the lesion is identified in the sublingual space (tail sign).

The pathognomonic radiological sign for plunging ranula is the presence medial to the SMG, & presence of the tail sign.
Parapharyngeal Tumor
Submandibular Region

Vagal Paraganglioma

Deep Lobe Parotid Pl. Adenoma
Submandibular Region
Phlepoectasia (Common facial V)

- Transverse Process of Atlas / Styloid Process
- Lymph Node (2nd to naso oropharyngeal lesion)
- Tail of parotid Tumor
- Deep lobe Parotid
- Branchial cleft I/II
- Paraph. tumor

Lateral Neck Mass
Retromandibular

- Transverse Process of Atlas / Styloid Process
Retromandibular Region
Lymphoid Tissue Hyperplasia

Retromandibular Region
Metastatic Nasopharyngeal Carcinoma
Retromandibular Region
Parotid Lymphoepithelial Lesion

Retromandibular Region
Intraparotid Lipoma	Parotid Fibrolipoma
Parotid Fibromatosis
Retromandibular Region

Parotid Adenocarcinoma
Retromandibular Region
Retromandibular Region
T.B. Parotitis & Lympadenitis

Retromandibular Region
Parapharyngreal Lymphoma
Retromandibular Region
Deep Lobe Parotid Pl.Adenoma

Retromandibular Region
Elongated Styloid Process
Ant. To SCM
(Carotid Triangle)

- Normal; hyoid, thyroid c., & carotid bulb
- Lymph Node (Jugulodigastric)
- Branchial Cyst II, III, IV
- CBT/ G. Vagale
- Schwannoma
- Laryngocele
- Lat. Saccular Cyst
- Pharyngeal Pouch
- Carotid anurysm
- Phleboectasia (I.J.V)
- Hemangioma
- Lymphangioma

Carotid Triangle

Cervical Lymphadenitis

Atypical Mycobacterial Cervical Lymphadenitis

Level II A & B L.N.
Diagram (A) a BCC with reference to SCM. Axial CECT (B) and sagittal image (C) show a low attenuation, well-circumscribed mass anterior to SCM with anterior displacement of the submandibular gland (SM) and posterior medial displacement of the carotid sheath structures. Axial T2WMR (D) shows the anterior aspect of the SCM being flattened by this high-signal intensity cyst.
Bilateral low attenuation JD nodes (Level II) with rim enhancement in a patient with a tonsillar carcinoma.

Metastatic PTC. Level IIa & III
Carotid Triangle

B-Cell Lymphoma

Schwannoma

- Occur in the same locations as paragangliomas.
- May enhance on CT similar to paragangliomas.
- MR, MRA, or CTA can exclude paraganglioma (no neovascularity or salt & pepper pattern)

(A) an enhancing mass in the left carotid space causing splaying of carotid sheath structures. MRA shows splaying of the carotid bifurcation with no neovascularity (B)
Carotid Triangle

Sympathetic Schwannoma

Carotid Triangle

Neurofibroma
Carotid Triangle

Carotid Body Tumor

- Signal voids on MRI & evidence of neovascularity is noted on MRA & CTA.

Axial CECT (A) & CTA (B) show an enhancing mass splaying the carotid arteries. The ICA (arrow) is displaced posteriorly & ECA anteriorly (arrow).

Carotid Triangle

Carotid Body Tumor

Axial T1WI (A) an intermediate signal intensity mass with typical “salt and pepper” appearance caused by flow voids (vessels = pepper) & areas of subacute hemorrhage (salt). There is anterior displacement of ECA (arrows), & posterior displacement of ICA (arrows). The lesion enhances on post contrast FST1WI (B). The splaying of the carotid bifurcation and enhancement of the lesion are seen on MRA (C).
Carotid Triangle

Carotid Body Tumor

Extra Parotid Warthin’s Tumor
Carotid Triangle

Laryngomucocele

Carotid Triangle
Carotid Triangle
Lateral Saccular Cyst (Laryngoscleroma)

- Saccular cyst is a mucous filled dilatation of the saccule that does not communicate with the laryngeal lumen.

- “Early obstruction of the saccule opening results in the accumulation of fluid in the saccule with no presence of air”

- Can be distinguished from laryngoceles in that there is no communication with the laryngeal lumen, they do not contain air (No air fluid level) & located submucosally.
Carotid Triangle
Carotid Artery Aneurysm

- Mostly 2ry to atherosclerosis
- May be due to degeneration, infection (mycotic forms), congenital, trauma, fibromuscular dysplasia, irradiation arteritis, dissecting aneurysm or non-specific causes
- Present commonly with pulsatile neck swelling.
- Other Sx include pain, TIA, stroke and dysphagia.

Post. To SCM (Posreior Triangle)

- Lymph Nodes
  - Lymphadenitis
  - T.B
  - Metastatic
- Soft tissue tumors;
  (Lipoma, sarcoma)
- Lymphangiomas
- Neural tumors
- Lesions of the vertebral axis
Cervical Lymphadenitis, Kawasaki Disease

Posterior Triangle L.N. enlargement may be due to:
1. TB
2. Lymphoma (especially Hodgkin's Lymphoma)
3. Head and neck cancer
Posterior Triangle

Lymphangioma

- Uni or multiloculated, non-enhancing
- Capillary, cavernous, & cystic
- Large, soft, compressible masses
- Posterior vs. anterior triangle location
- Do not transilluminate.
- CT scan
- Spontaneous regression is rare
- Surgical excision is the treatment of choice.
- Sclerotherapy with OK-432

ECT (A) a low attenuation mass (*) medial & ant.to SCM (S). Axial TIMRI (B) a hypointense mass that increases in signal intensity on T2MRI (C). Septations are seen in the lesion on T2WI.

Nerves In The Neck

- Recurrent LN
- Phrenic nerve
- Cervical nerve root
- Vagus nerve
- Cervical sympathetic chain

You must be familiar with the location of the nerves in the neck when evaluating for a possible neural tumor.
Posterior Triangle

Neural Tumors

The location of the lesion may be the key to diagnosis.

CECT (A) multiple bilateral low attenuation, vagal and cervical nerve root lesions in a patient with neurofibromatosis. A heterogeneously-enhancing mass is seen in the left prevertebral region (B). This sympathetic chain schwannoma is causing anterior displacement of the carotid sheath structures (circle).

Posterior Triangle

Neural Tumors: Neurofibromatosis

“When you have a mass in the posterior triangle, look for evidence of communication with the spinal canal or adjacent nerves”

Axial T1WI (A & B) a “dumbbell” shaped homogeneous, isointense mass in the left posterior cervical space that extends from the spinal canal and enlarges the neural foramen (arrows). The intraspinal component (arrow) is seen on the coronal T2 MRI (C).
Posterior Triangle

Neural Tumors

Schwannomas

(A) a heterogenous mass with a low attenuation center in the Rt. posterior cervical space (arrow). Sequential image (B) shows an enlarged cervical nerve root passing between the anterior (A) & middle (M) scalene muscles leading to the mass. This finding suggests the diagnosis of a neurogenic lesion.

Metastatic disease

“Commonly presents as an asymmetric mass that involves cervical lymph nodes or vertebra”

Metastatic breast Ca: (A) an expansile lytic lesion involving the vertebral body & posterior elements. Metastatic melanoma: (B) a large, centrally-necrotic mass in the right paraspinal muscles.
Posterior Triangle

Rhabdomyosarcoma

- Most common solid H & N tumor in children
- Symptoms related to tumor site
- Rapidly growing, <1 month before diagnosis
- Complete resection if possible
- Chemotherapy with radiation and/or surgical salvage has cure rates of 50-65%

Malik et al, 2002

1. Ill defined
2. Enhancing soft tissue density
3. Areas of necrosis

Posterior Triangle

Embryonal Rhabdomyosarcoma

- 10-15% of all solid tumors.
- Median age = 5y
- Aggressive tumor
- Occur in multiple sites
- 35-50% originate in H & N
- Metastases in lungs, L.Ns, mediastinum, brain, liver, & skeleton.
- Surgical excision, with adjunctive chemotherapy & radiation therapy
**Posterior Triangle**

**External Jugular V. Phleboectasia**

- Rare anomaly - An isolated fusiform or saccular dilatation of a vein
- Affect IJV, EJV, AJV, sequentially.
- An intermittent neck swelling during straining & Valsalva manoeuvre.
- Diagnosis is confirmed by Doppler US, CE. CT, CTA, MRA & MR venography.
- Surgical excision for symptomatic patients or for cosmetic reasons.

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**Lateral Neck Mass**

Along /Deep to SCM

- Lymph nodes
  - Lymphadenitis
  - T.B
  - Metastatic
- SCM tumor of infancy
- SCM pseudotumor
- Lipoma
- Lymphangiomas
- Neural tumors
- IJ Phleboectasia
Along/Deep To SCM
SCM Tumor of Infancy (Fibromatosis Colli)

Jugular Vein Phlebectasia

- Only 5 Pediatric neck swelling enlarge on Valsalva manoeuvre:
  1. Phlebectasia (Venous Aneurysm)
  2. Laryngocele or lateral saccular cyst
  3. Superior Mediastinal tumor
  4. Tracheocele or Tracheal diverticulum
  5. Cervical apical Lung herniation
Along/Deep To SCM
Vascular Malformation
Supraclavicular Region

Supraclavicular Lymphadenopathy

- Left supraclavicular lymph nodes (The Virchow node) may represent:
  1. Metastasis from distant malignancy (abdominal or thoracic), particularly lung (bronchogenic ca.), breast & GIT (stomach, esophagus)
  3. Mediastinal disease (lymphoma, TB, atypical mycobacterial infection, or sarcoid)
  4. Chronic fungal & mycobacterial infections (eg, scrofula)
35% of patients with H&N lymphoma present with a supraclavicular mass
35% of pts with suprclavicular masses had lymphoma

Torsiglieri et al., 1988

Nontuberculous Mycobacterial Lymphadenitis
Supraclavicular Region

Lymph Nodes

Metastatic Lt. Supraclavicular L.N. from gastric carcinoma

Rt. Supraclavicular T.B Lymphadenitis

Supraclavicular Region

Phleboectasia

Lymphangioma

T.B: Tuberculosis
A well defined negative density collection is seen in the retro-esophageal space in the right supraclavicular region.
Supraclavicular Region

Cervical Rib

Supraclavicular Region

Supraclavicular Diffuse Lipoma

- Soft, ill-defined mass
- Usually >35 years of age
- Asymptomatic
- Clinical diagnosis – confirmed by excision

Supraclavicular Abscess
Posterior Neck
(Occipital/Median/Paramedian)

- Lymph node
  - Lymphadenitis
  - Metastatic
  - Lymphoma
- Abscess
- Lipoma
- Meningocele
- Encephalocele
- Neural tumors
- Vertebral lesions

Lateral Neck Mass

Lymphoma: CECT (A and B) show enlarged homogenous occipital lymph nodes (arrows).

Enlarged occipital & spinal accessory lymph nodes may present as posterior neck masses.
Posterior Neck

Carbuncle / Furuncle

- A furuncle is an acute, round, firm, tender, circumscribed, perifollicular staphylococcal pyoderma that usually ends in central suppuration.
- A carbuncle is two or more confluent furuncles with separate heads.

Posterior Neck

Hemangioma

Lipoma
Posterior Neck
Myelomeningocele  Neurofibromatosis

Lateral Neck Mass
Diffuse Neck Swellings
- Madelung's Disease
- Lymphoma/Leukemia
- Massive Cervical Lymphadenitis
- Cystic Hygroma
- Huge Teratoma
- Lymphatic Obstruction
- Huge goiter
Diffuse Neck Swellings

Madelung’s Disease
- Middle-aged (50 y) alcoholic males
- *Non-encapsulated fatty masses*
- At least 10 years of heavy drinking
- Typical lipomas are encapsulated

Diffuse Neck Swellings

Lymphoma / Leukemia

Diffuse homogeneous cervical lymphadenopathy in adults is often encountered in patients with lymphoma & leukemia.

Diffuse homogeneously-enlarged cervical lymph nodes. The lingual tonsils are also enlarged (circle).
Diffuse Neck Swellings

Lymphoma

Level II A & B, III, IV, V

Diffuse Neck Swellings

Cystic Hygroma
Diffuse Neck Swellings

Teratoma

Newborn with Massive Cervical Teratoma