

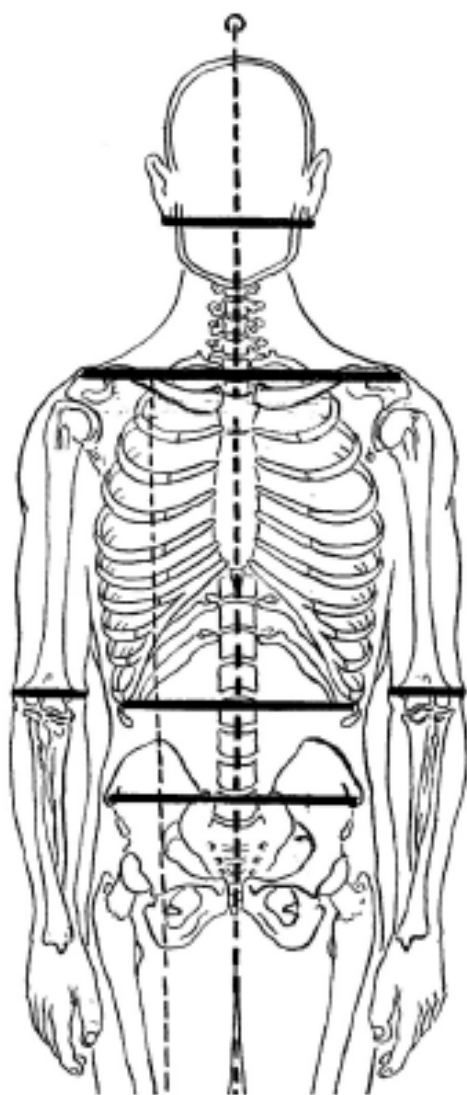


**Posture,
Cervical Spine
& the**

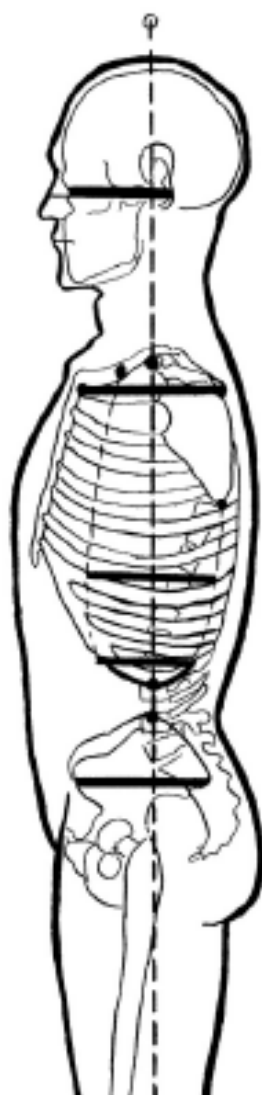


First things first!

- Let us do a quick postural scan of each other; with “quick” being the operative word!
- We will focus on the orientation of the:
 - Head
 - Neck
 - Shoulder Girdle
 - Upper Thoracic Spine & associated ribs
 - with a quick peek at the low-back and hips.



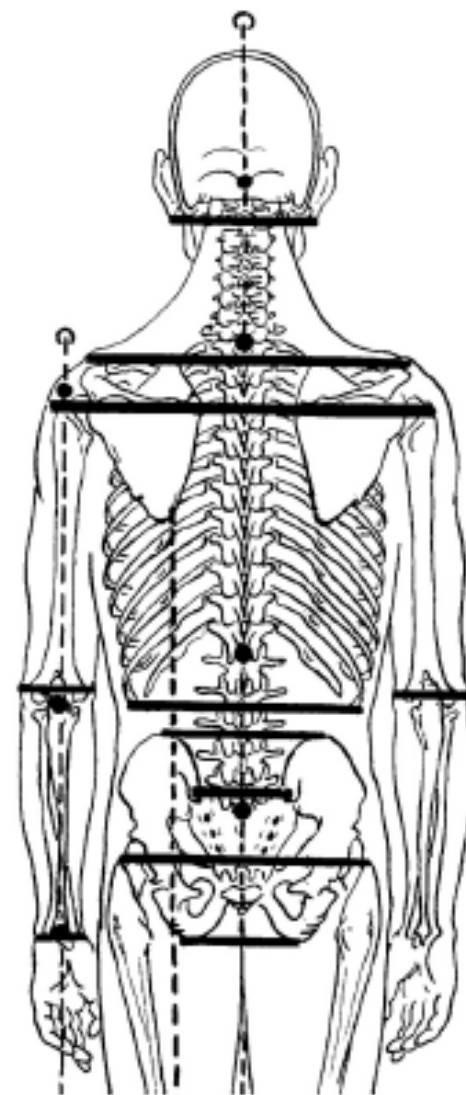
Anterior



L Lateral



R Lateral



Posterior

Quick Review of Anatomy

- Boney and articular structures : -
 - Of the shoulder-girdle and cervical areas.
- A common pattern : - *Upper X Syndrome*
 - *(meant as one example of numerous postural patterns found in Headache & Migraine clients)*
- Musculature : -

● **Thyrohyoid M.**
Lateral Area of the **Body of the Hyoid Bone** and Medial Half of the **Greater Hyoid Horn**

● **Omohyoid M.**
Superior Belly: Lateral Lower Edge of the **Body of the Hyoid Bone**

● **Sternohyoid M.**
Lower Edge of the **Body of the Hyoid Bone**

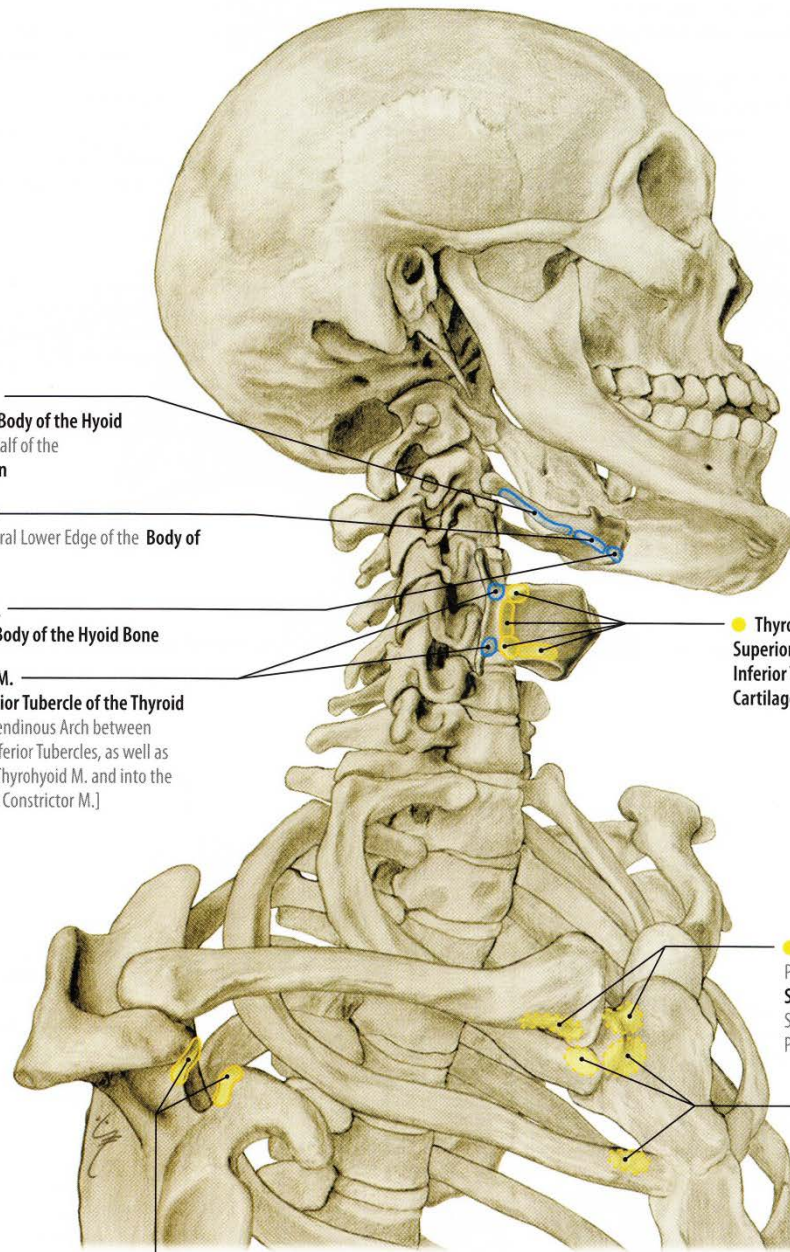
● **Sternothyroid M.**
Superior and Inferior Tubercle of the Thyroid Cartilage Plate [Tendinous Arch between the Superior and Inferior Tubercles, as well as Transition into the Thyrohyoid M. and into the Inferior Pharyngeal Constrictor M.]

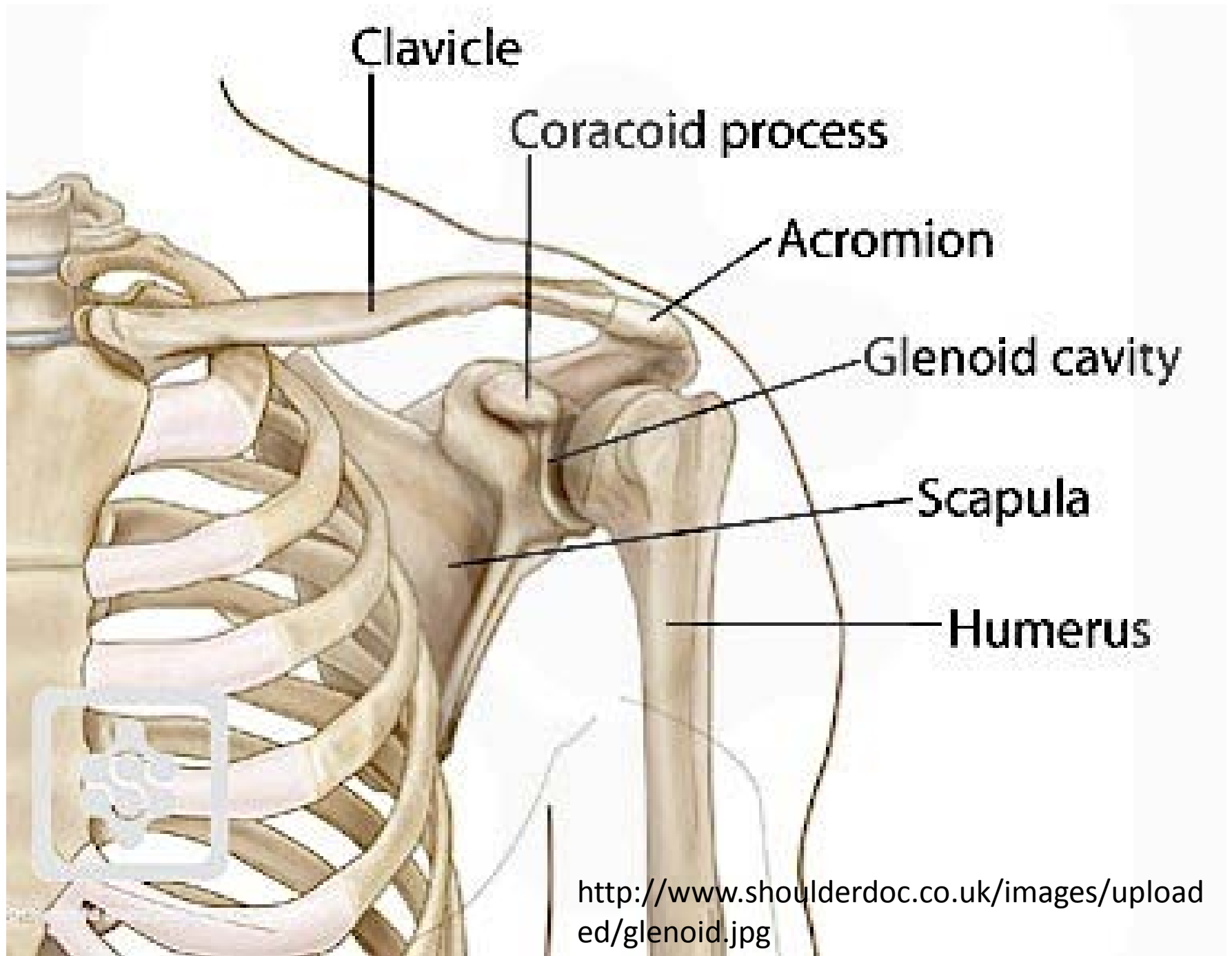
● **Thyrohyoid M.**
Superior Tubercle, Oblique Line, Inferior Tubercle of the **Thyroid Cartilage Plate**

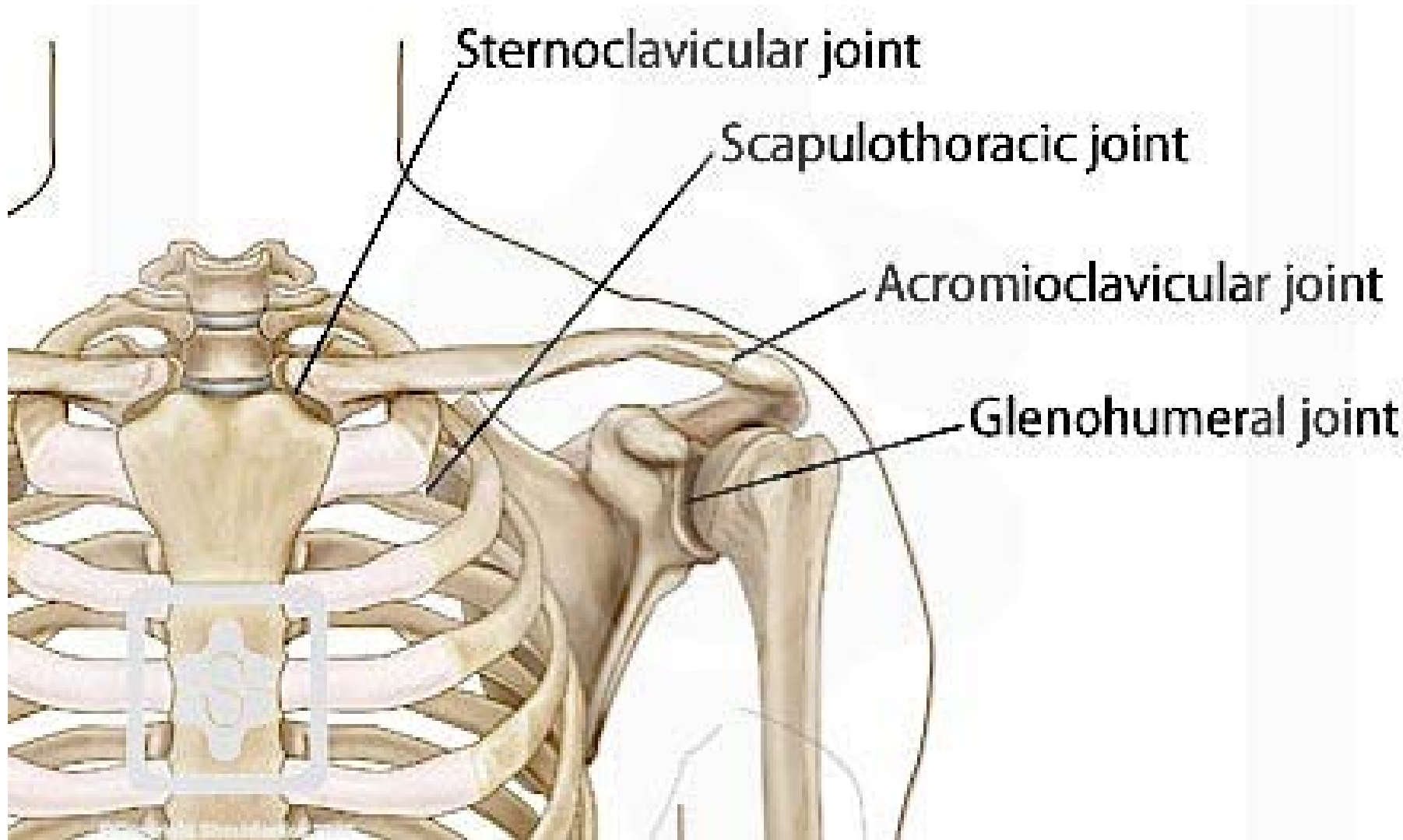
● **Sternohyoid M.**
Posterior Surface of the **Manubrium Sterni**, Joint Capsule of the **Sternoclavicular Joint** and Sternal Part of the **Clavicle**

● **Sternothyroid M.**
Posterior Surface of the **Manubrium Sterni**, **Cartilage of the First (and Second) Rib**

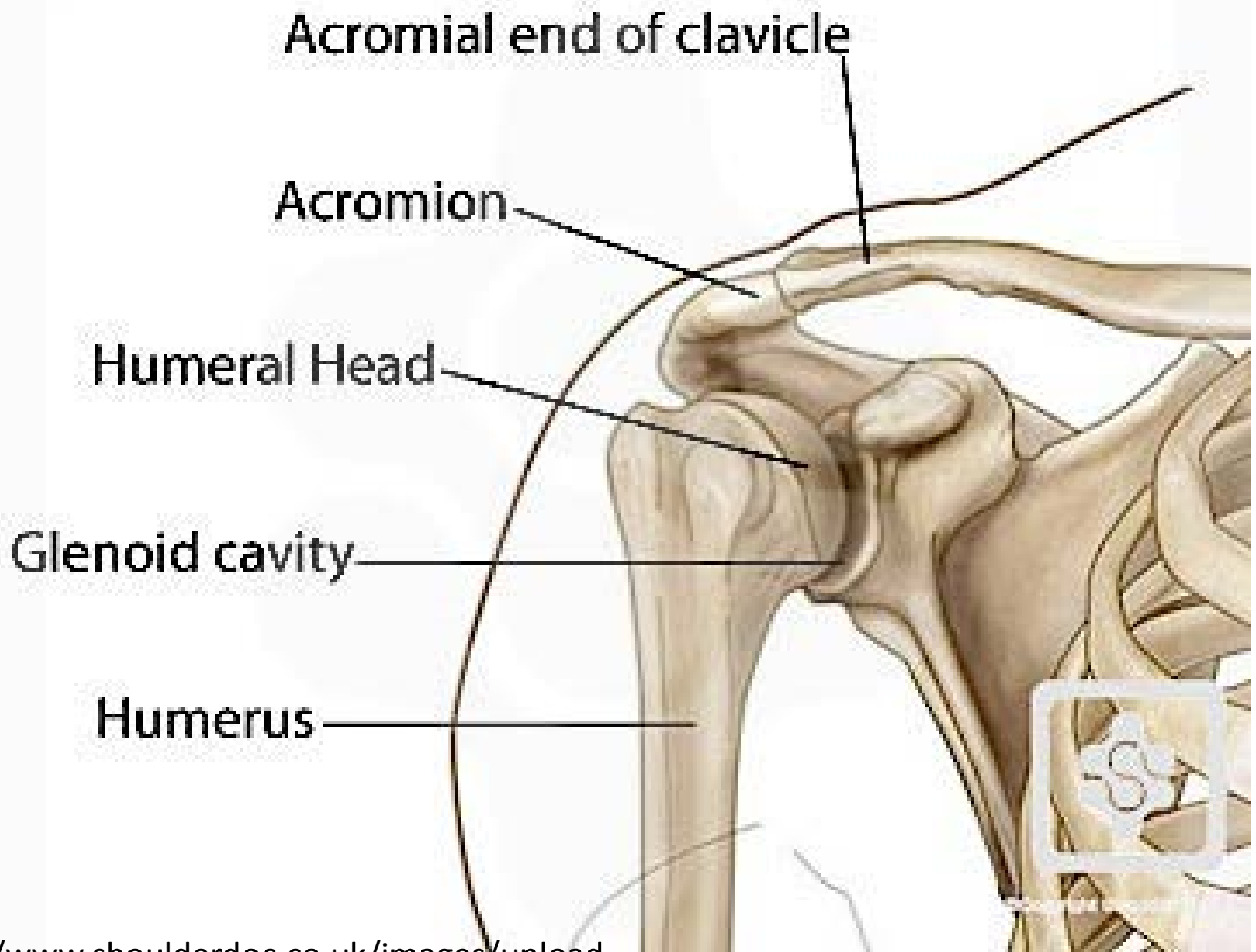
● **Omohyoid M.**
Inferior Belly: **Superior Medial Margin of the Scapular Notch**, and **Superior Transverse Scapular Ligament**

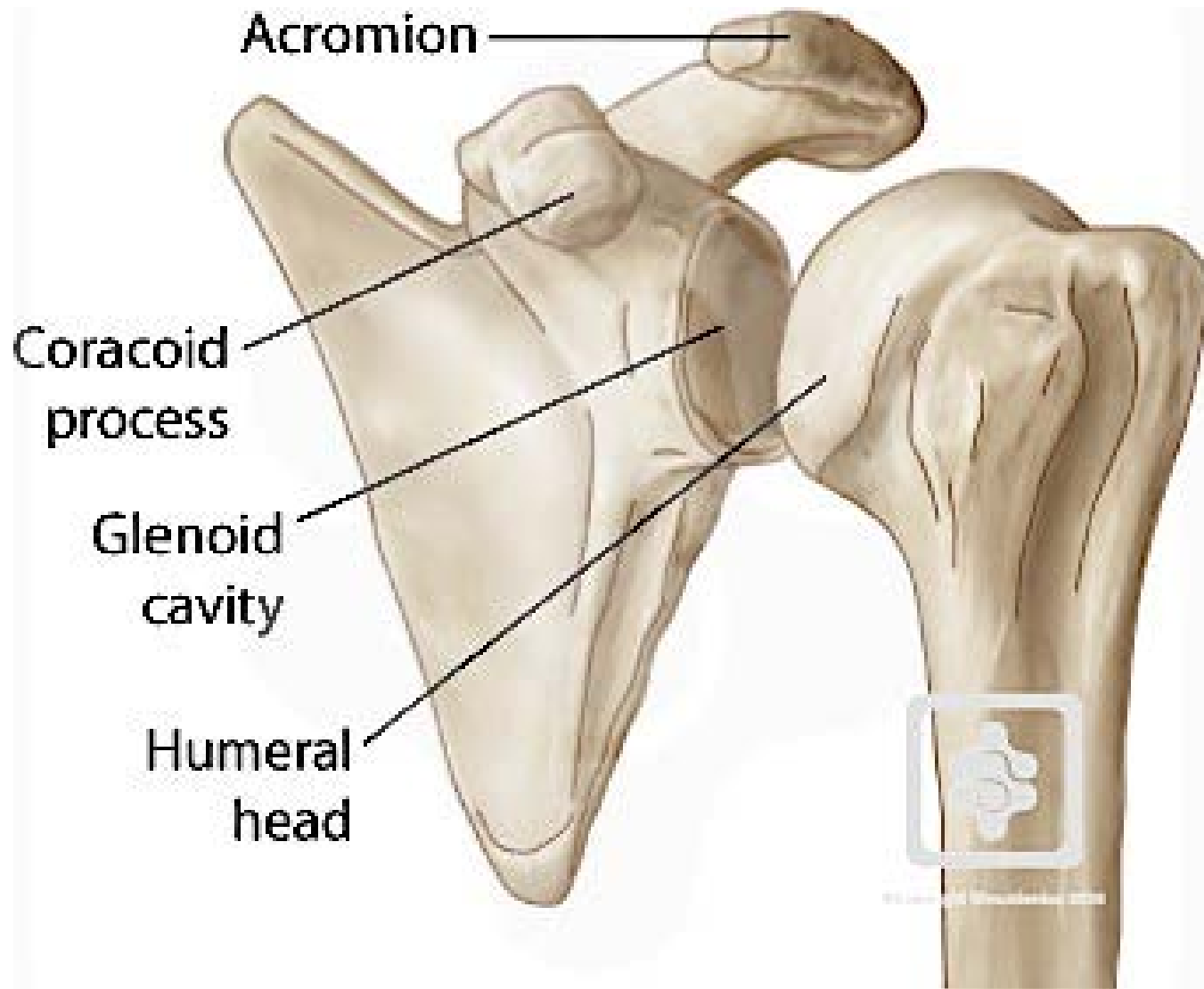






<http://www.shoulderdoc.co.uk/images/uploaded/glenoid.jpg>





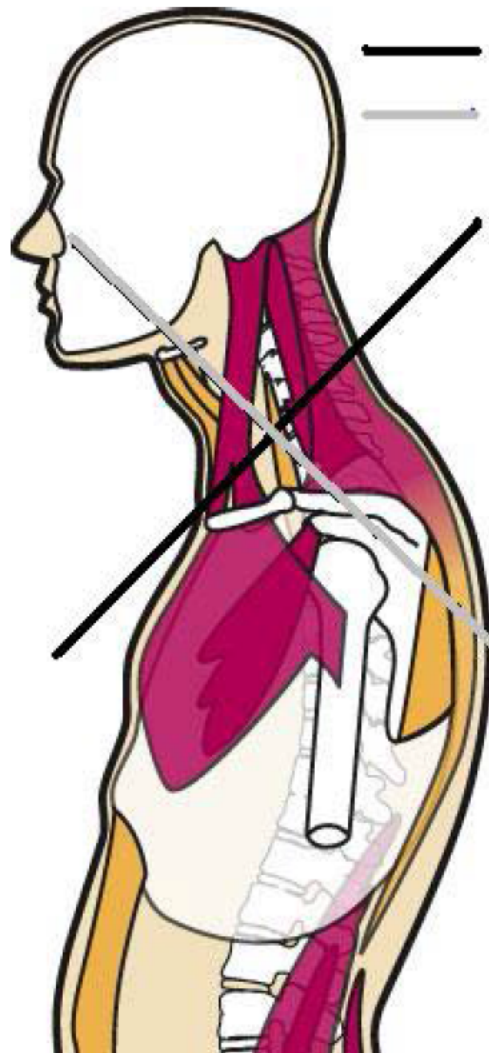
<http://www.shoulderdoc.co.uk/images/uploaded/glenoid.jpg>

You-Tube video: Movements of the Shoulder

http://www.youtube.com/watch?v=VdaY775JGX4&feature=player_embedded

Observations & Inspection :

Upper Cross Syndrome



— Tight musculature
 — Weak musculature

Weak

Deep flexors
 of the neck

Rhomboids
 Infraspinatus
 Teres minor
 Middle and
 lower Trapezius

Tight

Sub-occipitals
 Upper Trapezium & Levator
 Scapulae
 SCM & Scalenes
 Teres major and Latissimus &
 Dorsi
 Pectoralis Major & Minor
 Serratus Anterior

N.B. Taut verses Tight and Palpation

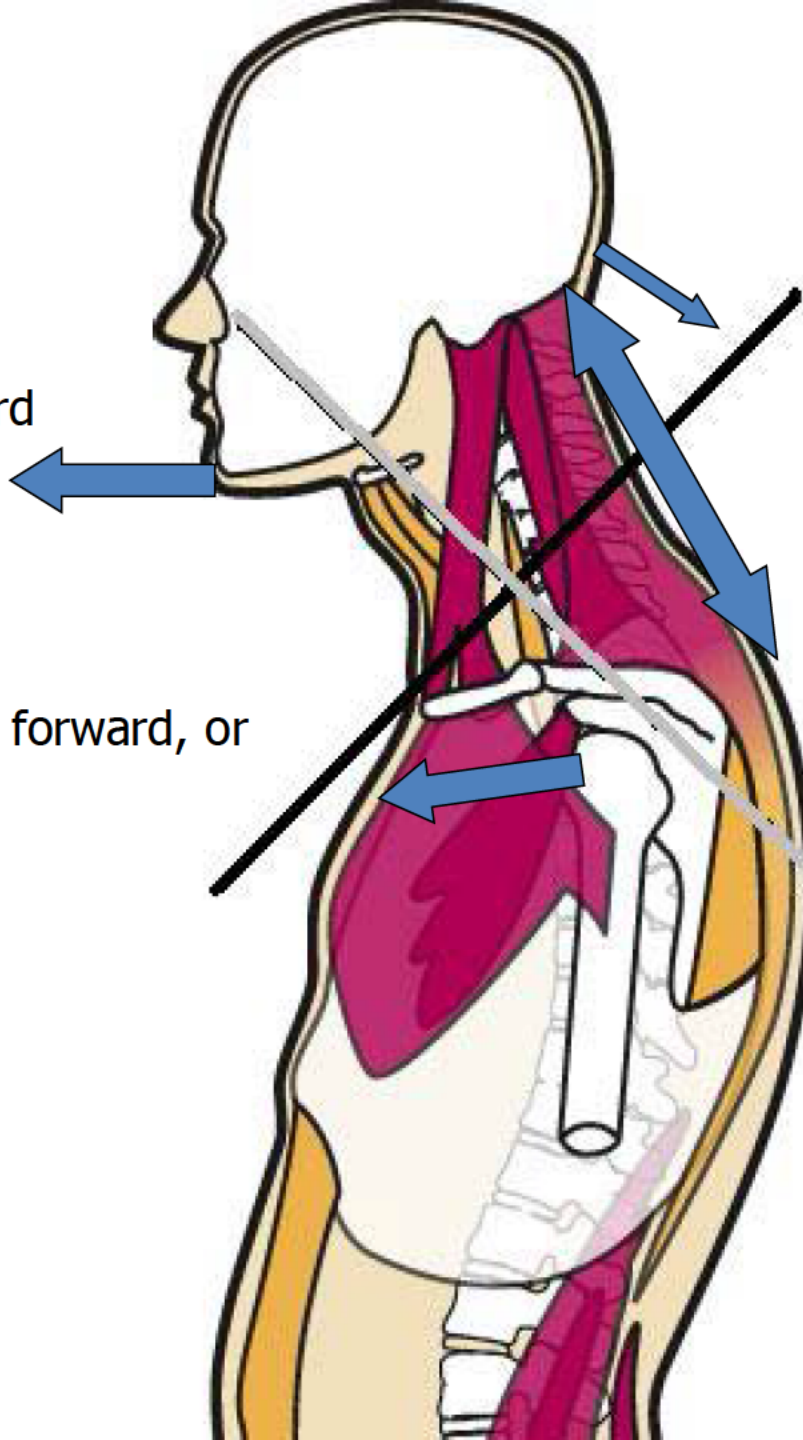
Results in:

Chin moves forward into protrusion.

Shoulder rolls forward, or is protracted.

The Upper Cervical Spine (the OA jt. & C2) are held in extension, while the lower cervical spine and upper thoracic are held Flexed.

Thoracic Kyphosis exaggerates and the musculature & posterior ligaments are stretched.



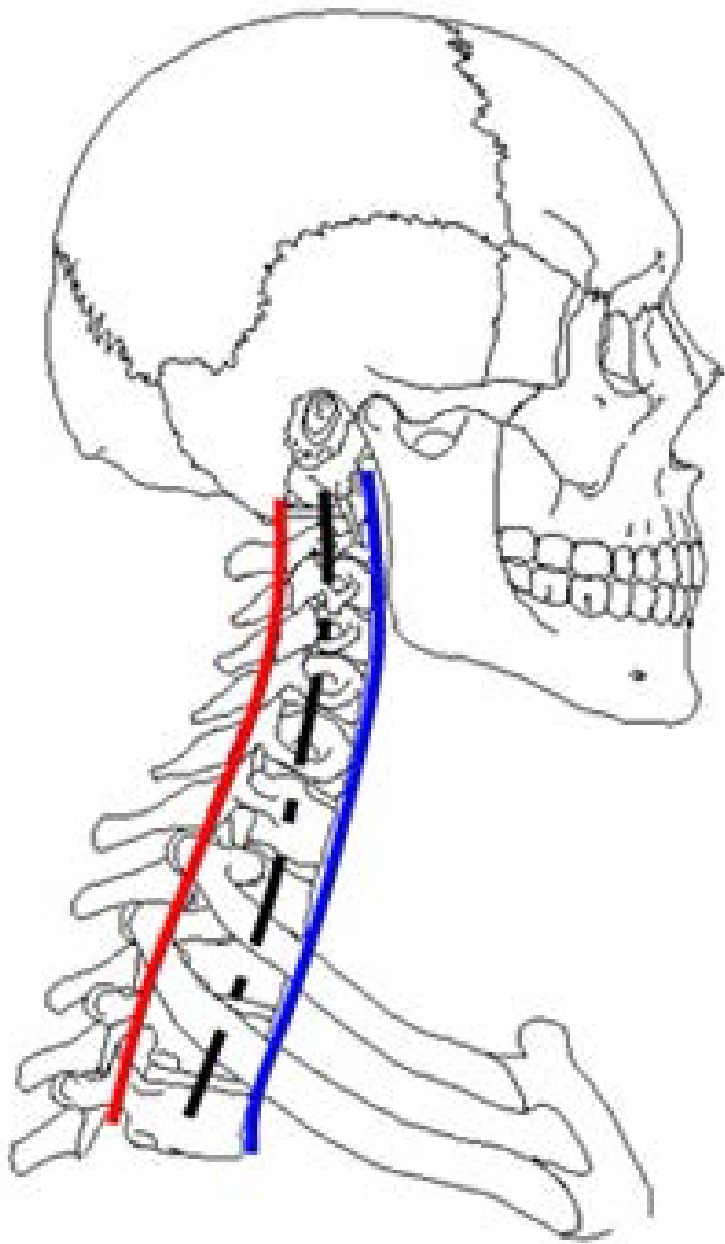
Traumas such as whiplash injuries can result in other postural deviations:



**Normal
Cervical Curve**



**Reversed
Cervical Curve**



<http://img.medscape.com/pi/features/slideshow-slide/c-spine/fig2.jpg>

Some Consequences: -

I would like to suggest, for our purposes, that there are five major areas where postural & muscle balance issues "come home to roost" and precipitate the majority of Headaches, migraines and just plain cervical pain experienced by so many of our clients. Each of these 5 have specific ways of being assessed and treated:

- Head, Face & Jaw (TMJ)
- Occipital-Atlanto-Axial joints (O-C1-C2)
- The Cervical lordosis - C3-4-5
- The Cervico-Thoracic area, C6 to T4/5
- The Shoulder Girdle (the "base" for the 4 above)

Progression of Treatment.

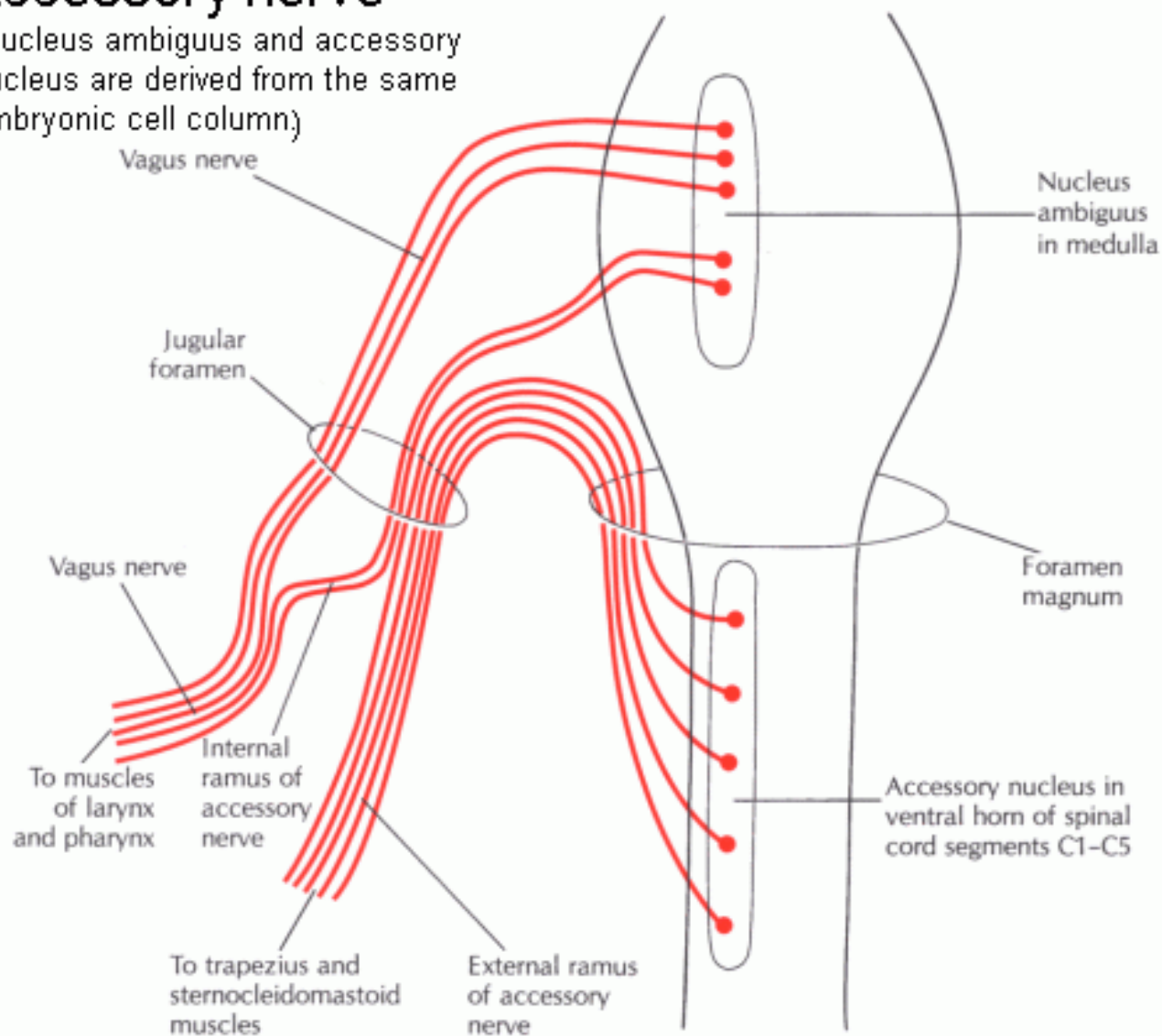
These five areas are chosen to help organize the information given throughout this workshop. This is especially true for the progression of treatment:

- Starting with the shoulder girdle as our “general” – “peripheral” approach.
- We will then progress through the cervicothoracic area, to mid-cervical, up into the specialized sub-occipital area (O-C1-C2), and then address the head/cranium-face-jaw

Stop! Please! No More!!!

Accessory nerve

(Nucleus ambiguus and accessory nucleus are derived from the same embryonic cell column.)

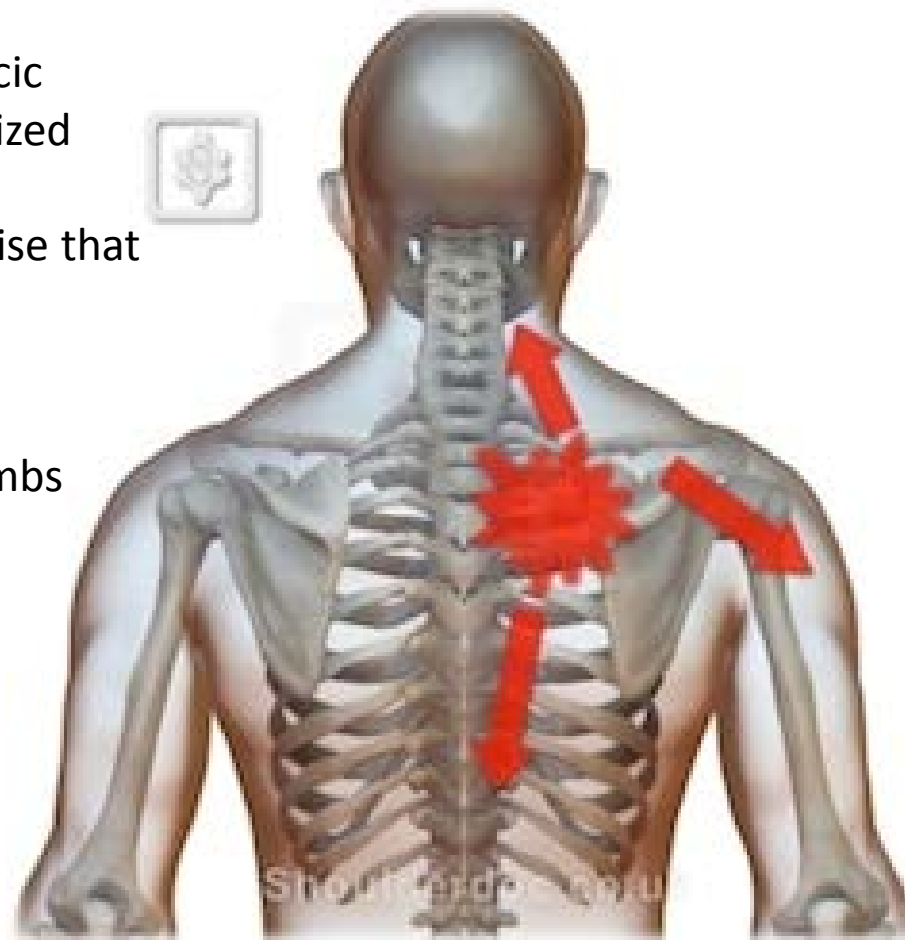


Spinal and cranial roots of the accessory nerve.

T4 syndrome, or more accurately “upper thoracic syndrome”, is a rare and perhaps under-recognized clinical entity that warrants attention.

Upper thoracic syndrome is based on the premise that dysfunction of the joints in the thoracic spine (including the intervertebral/zygapophyseal, costovertebral and costotransverse joints) can refer pain and paraesthesia to the upper limbs and the hands. As sympathetic outflow to the upper limb is supplied by levels T2-5, the sympathetic nervous system could provide a pathway for referral from the thoracic spine to the upper limb.

This syndrome is 3 times more common in women than men



- Although this syndrome is poorly defined in the literature, the cluster of symptoms reported in T4/Upper thoracic syndrome include:
 - Subjective reports of parasthesia, altered and extreme temperature perception and “puffiness” in the glove distribution of both hands
 - A history, or current complaint of intermittent posterior thoracic pain or pain around the scapula region
 - Symptoms worse last thing at night or with activities involving thoracic flexion/slumping (e.g sitting at a computer/desk for long periods, laying with pillows under your head)
 - Position of most comfort tends to be laying completely flat (supine)

- Objective assessment findings include:
 1. Increased cervical lordosis and cervico-thoracic kyphosis
 2. Flattened upper thoracic spine (T2-7)
 3. Minimal thoracic movement during single arm elevation to either side
 4. Notable restriction in upper thoracic movement
 5. Local tenderness and symptoms reproduced with mobilisation of the spine anywhere between levels T2-7 (historically including T4)
 6. Local hypomobility of the vertebral segment associated with symptoms
 7. Positive upper limb tension tests, often limited on both sides by pain across upper thoracic spine
 8. Positive slump test

- References

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