

HARMONY WITHIN

The tongue, vagus, &
voice as gateways to
calm.

with
Gus de la Querra

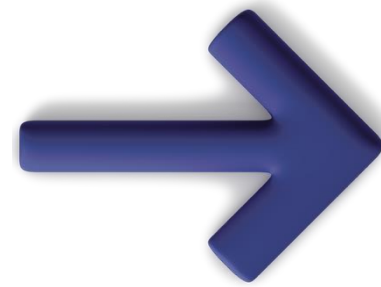
social media: @thebodyrewired

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support@thebodyrewired.com

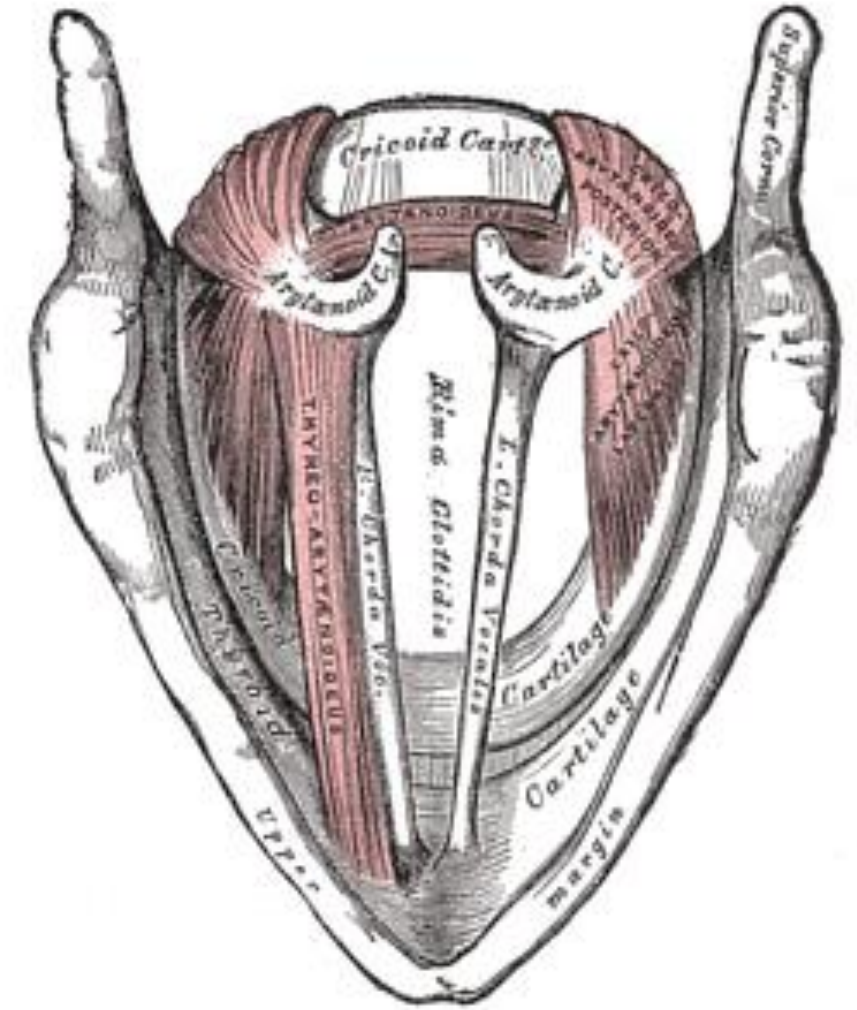
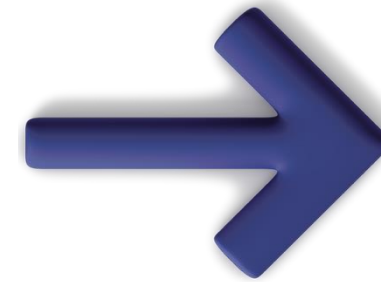
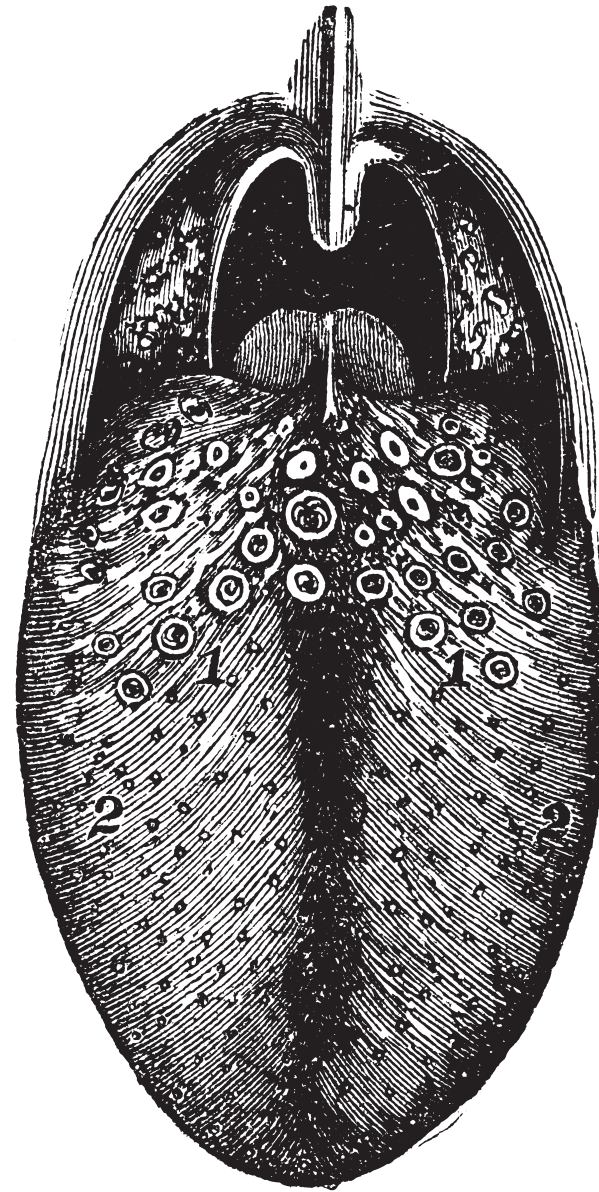
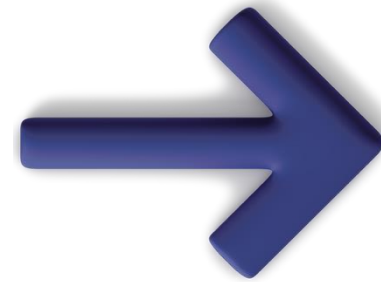
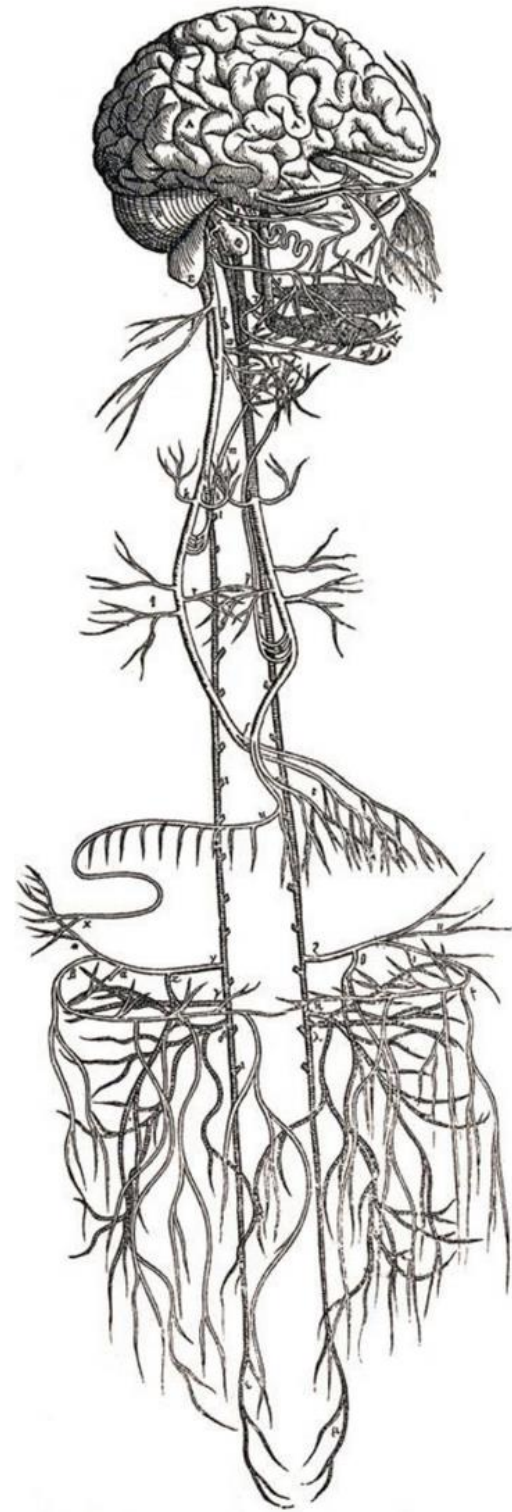
Stomatognathic system

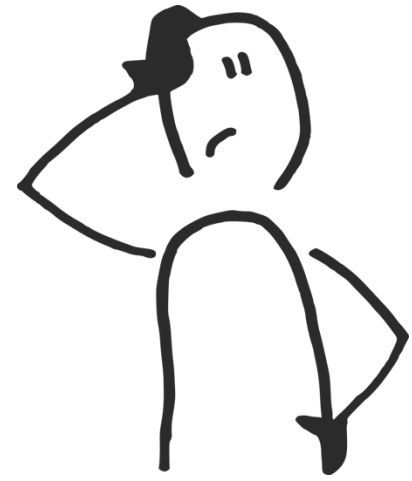
Stoma = relating to mouth , Gnathic = relating to the jaw

- **teeth**
- **jaw**
- **temporomandibular joint (TMJ)**
- **masticatory muscles**
- **soft tissues**



- **speaking**
- **chewing**
- **tasting**
- **swallowing**
- **laughing**
- **smiling**
- **kissing**
- **socializing**

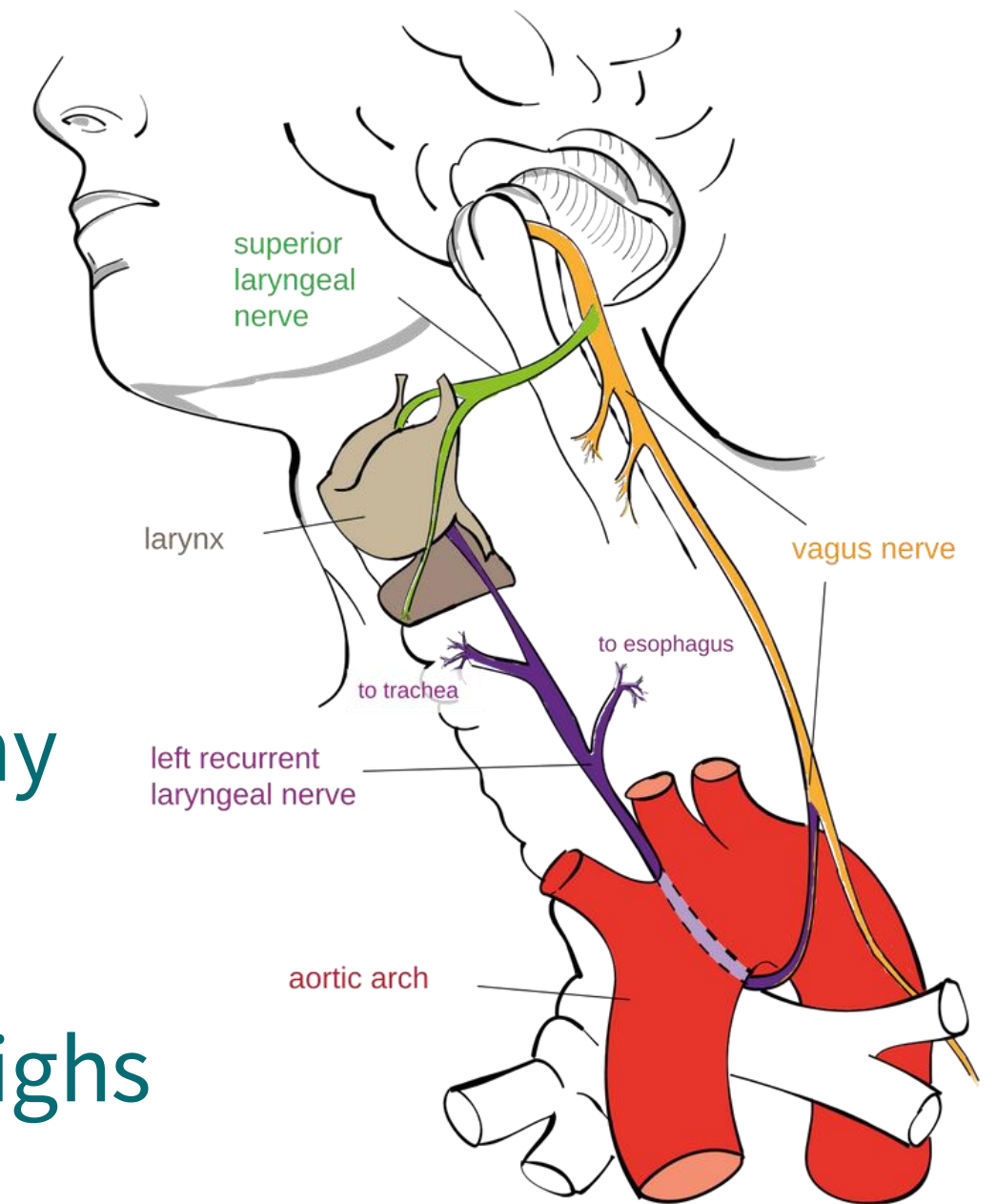




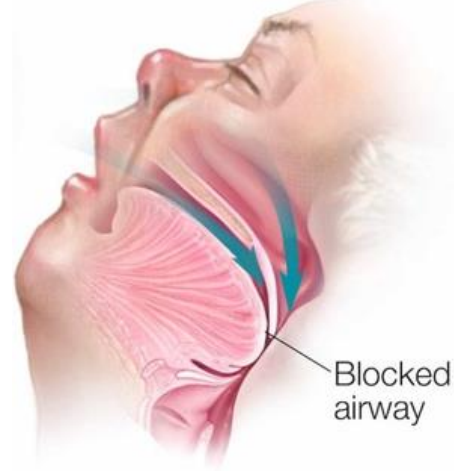
Signs of “un-calmness”...

Voice:

- Tires easily
- Croaky/hoarse
- Monotone
- Speech sounding tight, shaky, or breathy
- Speak in a higher pitch when nervous
- Breathing in between sentences, with sighs
- Losing voice

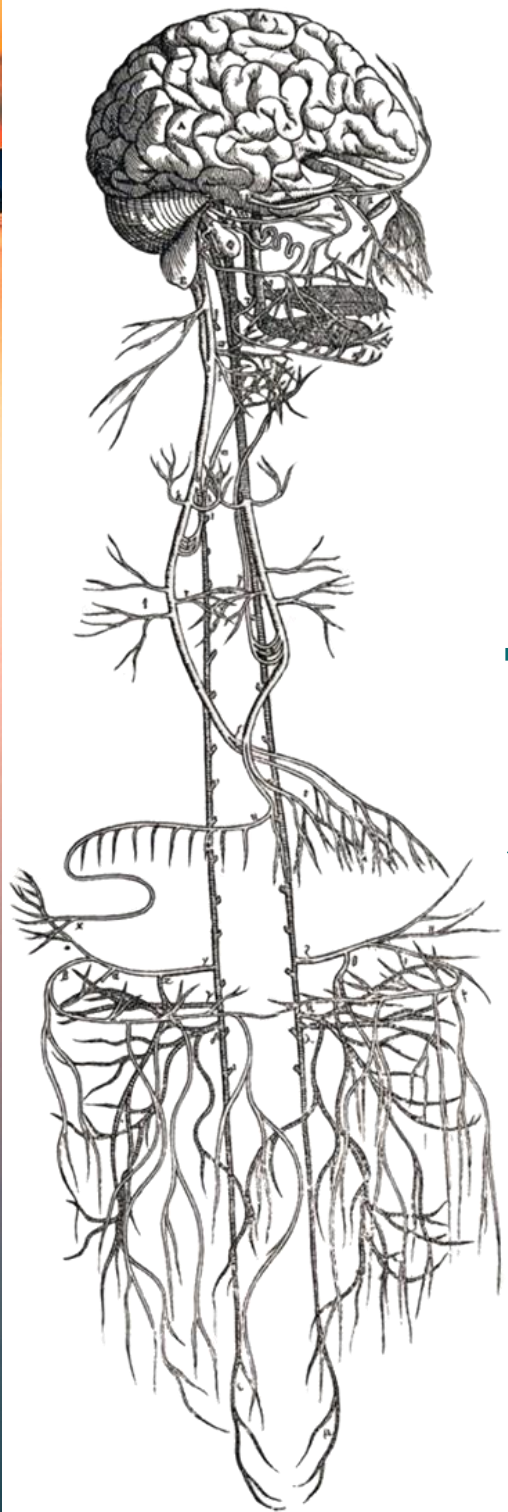


Sleep apnea



Other signs to pay attention to...

- Shallow breathing/breathing into upper chest
- Snoring/Sleep apnea
- Narrow maxilla
- Forward head carriage
- Tongue tension on palpation
- Limited mouth opening - less than 35mm

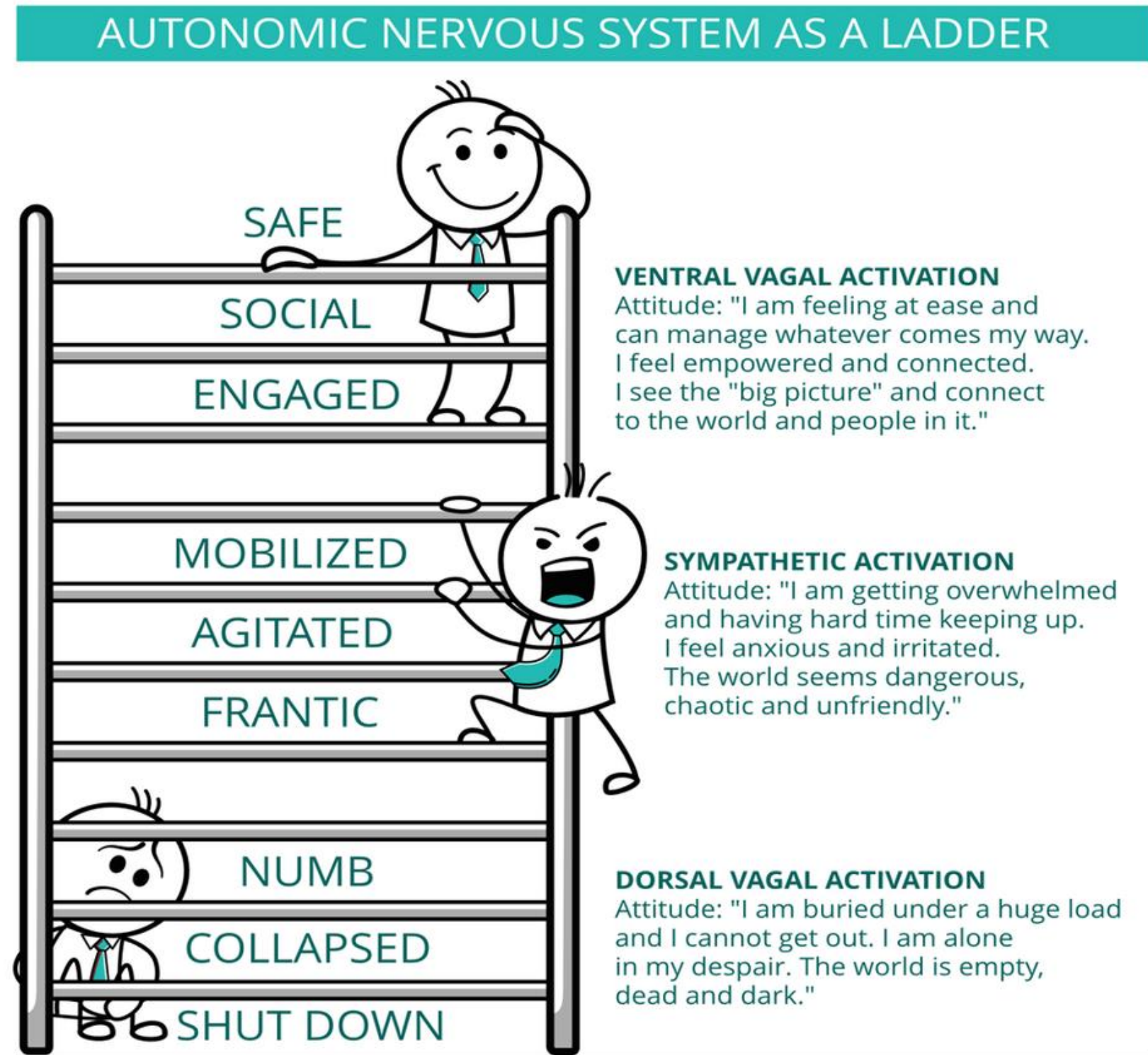


The Vagus

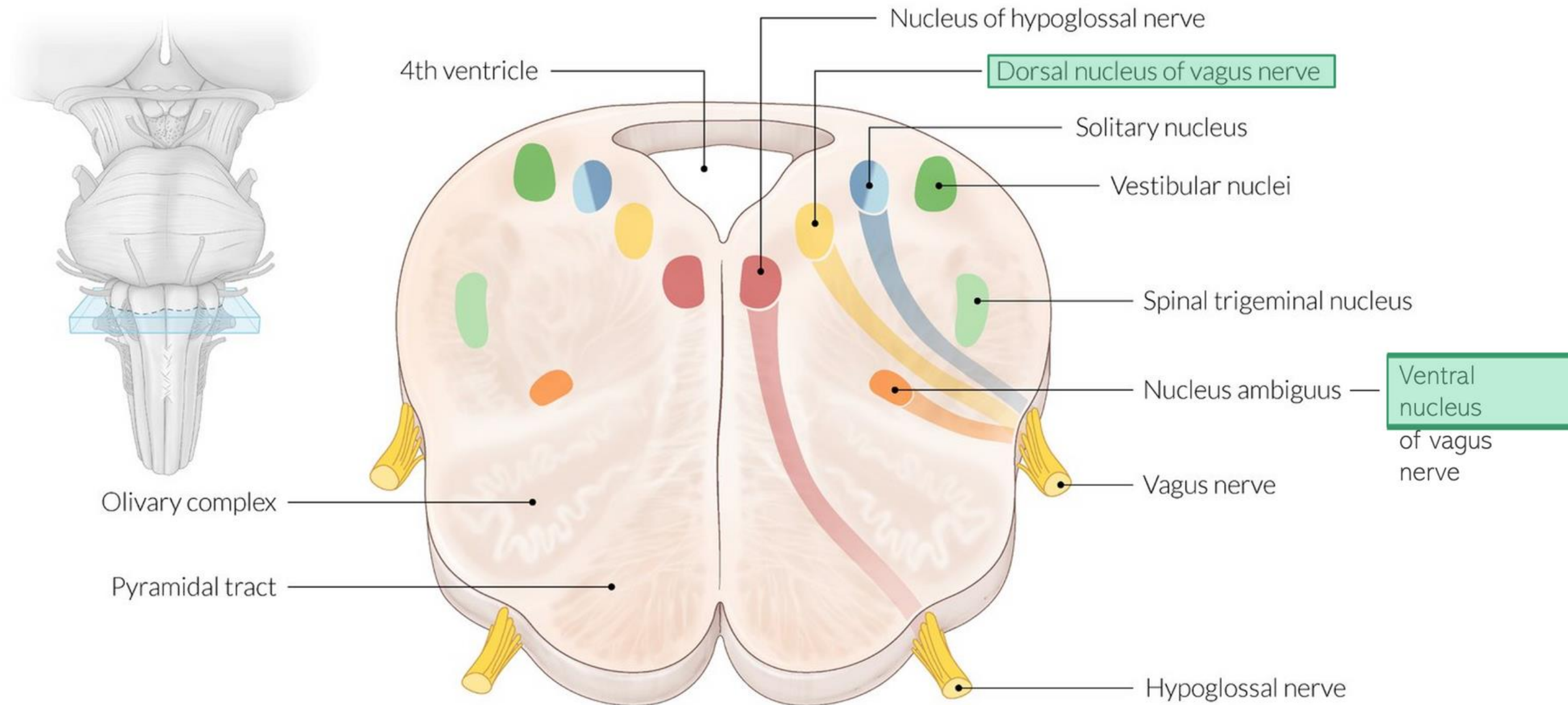
Nerve of safety
& social interaction

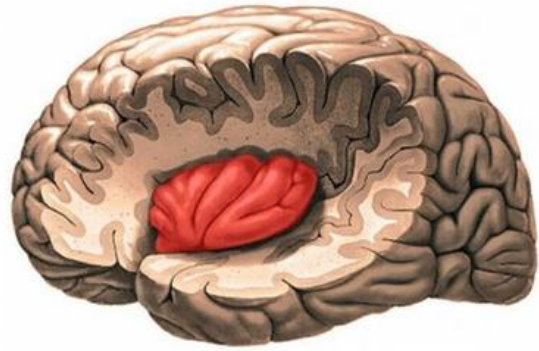
The Polyvagal Theory

Stephen Porges



Adapted from *The Polyvagal Theory in Therapy* by Deb Dana





The Kingpin - Insular cortex or Insula

- Part of limbic system - emotions & memory
- Consciousness, and regulating homeostasis
- Homeostatic emotions such as hunger, pain, and fatigue
- Taste, perception, motor control, self-awareness, and cognitive functioning
- Self-awareness
- Compassion & empathy
- **Interoception** and decision-making

The Polyvagal Theory

Social engagement

V - Trigeminal - mylohyoid, soft palate, ant. digastric

VII - Facial - Facial muscles, post. digastric, stylohyoid

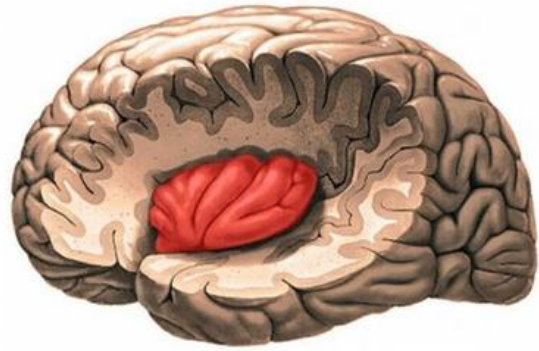
IX - Glossopharyngeal - Stylopharyngeal for swallowing, baroreceptors, chemo receptors

X - Vagus - Vocal cords, swallowing, palatoglossus (tongue)

XI - Accessory - cranial root = soft palate, pharynx, larynx

XII - Hypoglossal - Tongue

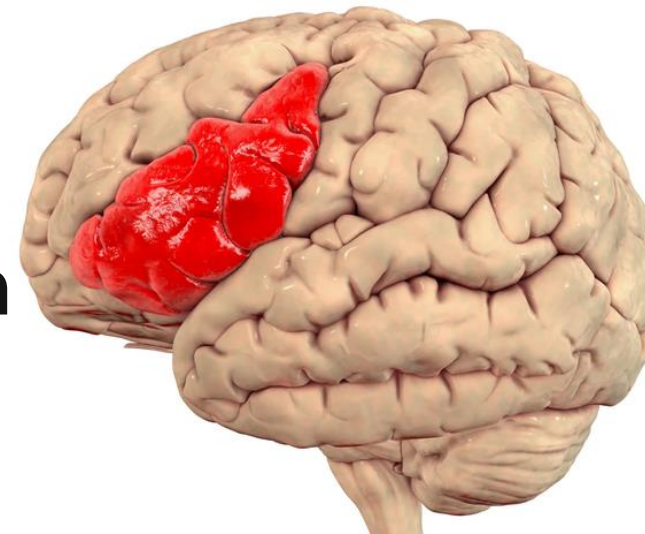


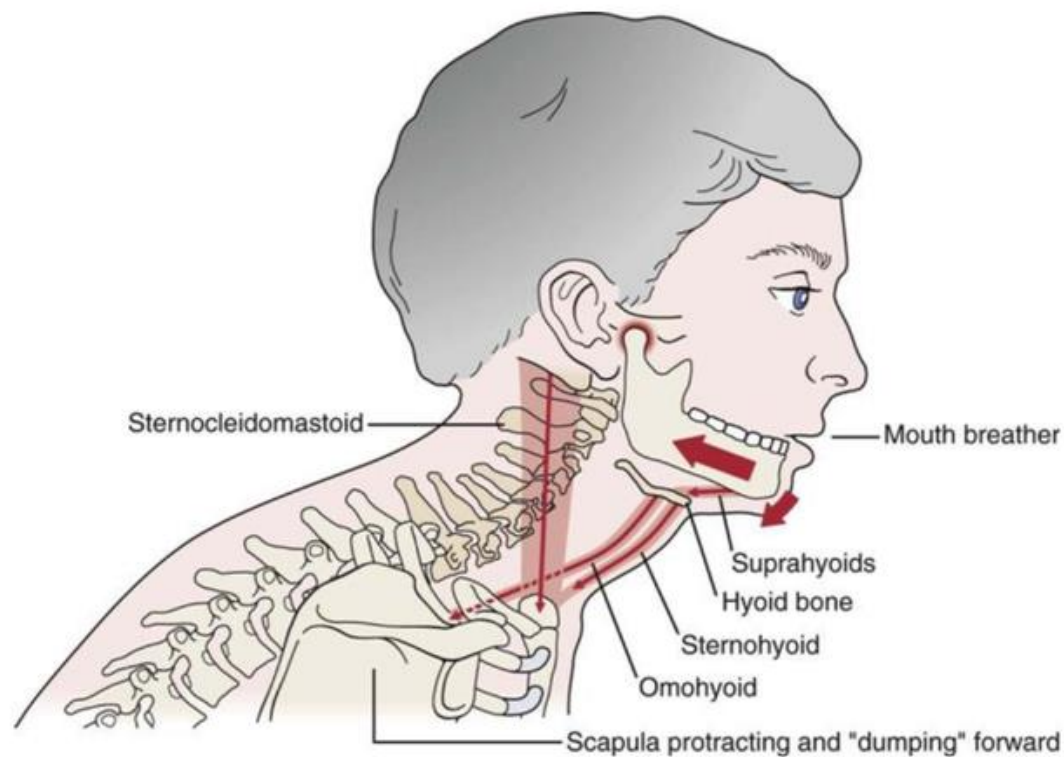
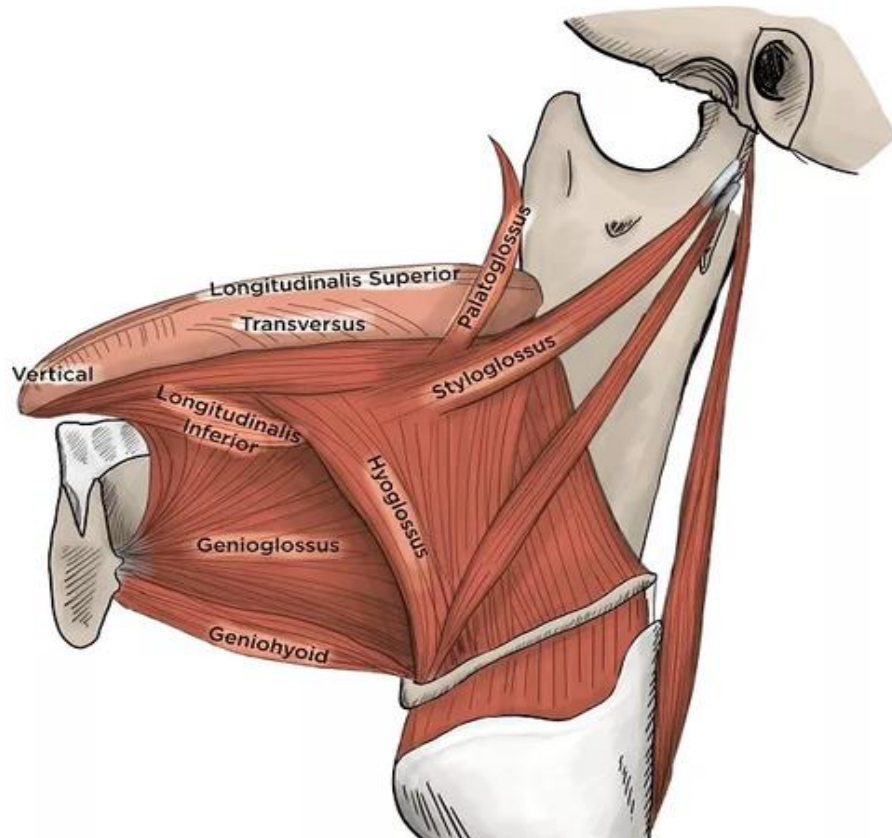


Insular cortex & speech

- Motor control - fine movements needed for articulation.
- Sensory feedback - integrating sensory feedback during speech production, helping to adjust articulation.
- Connected to Broca's area - a key region for speech production.

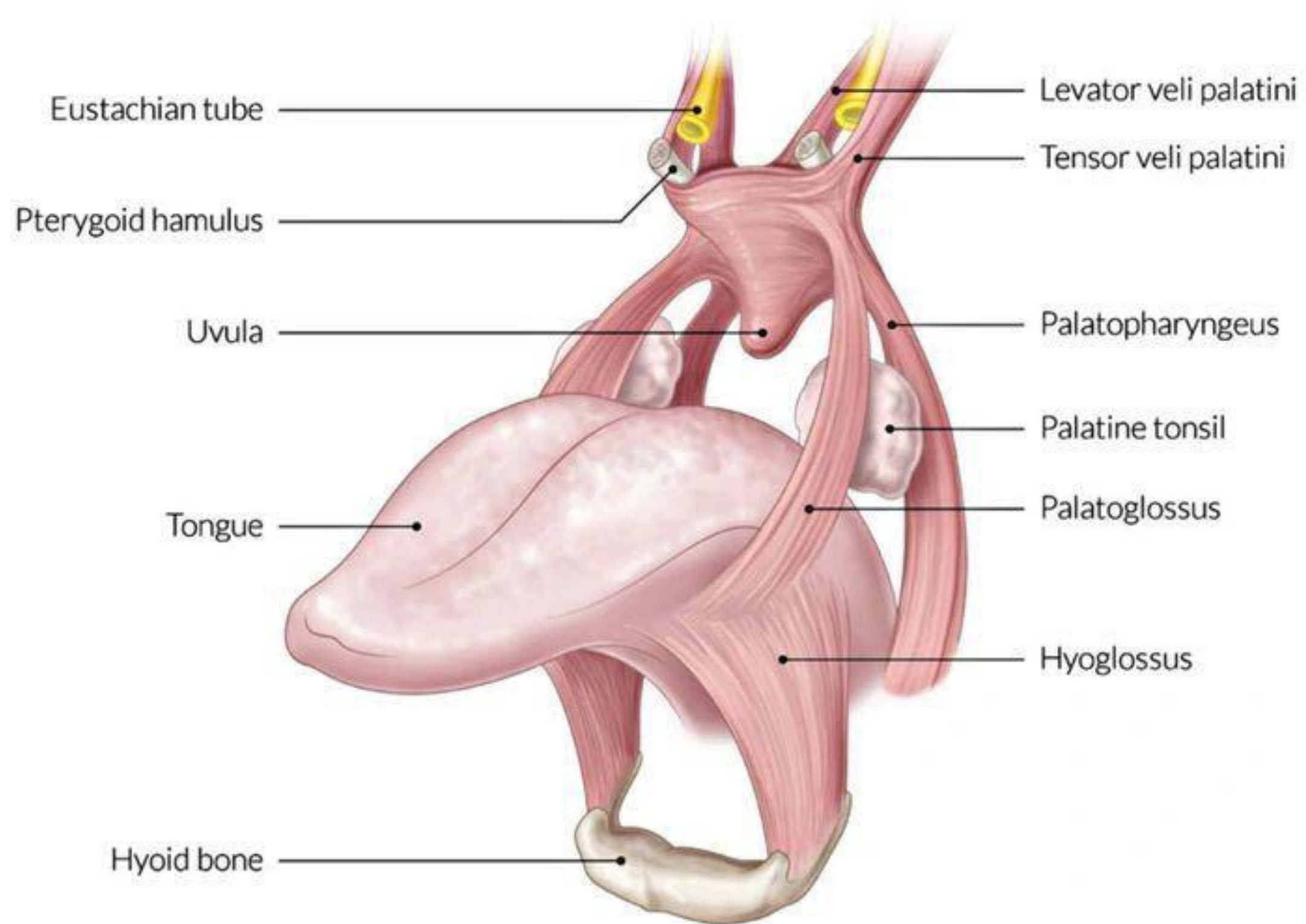
Broca's area

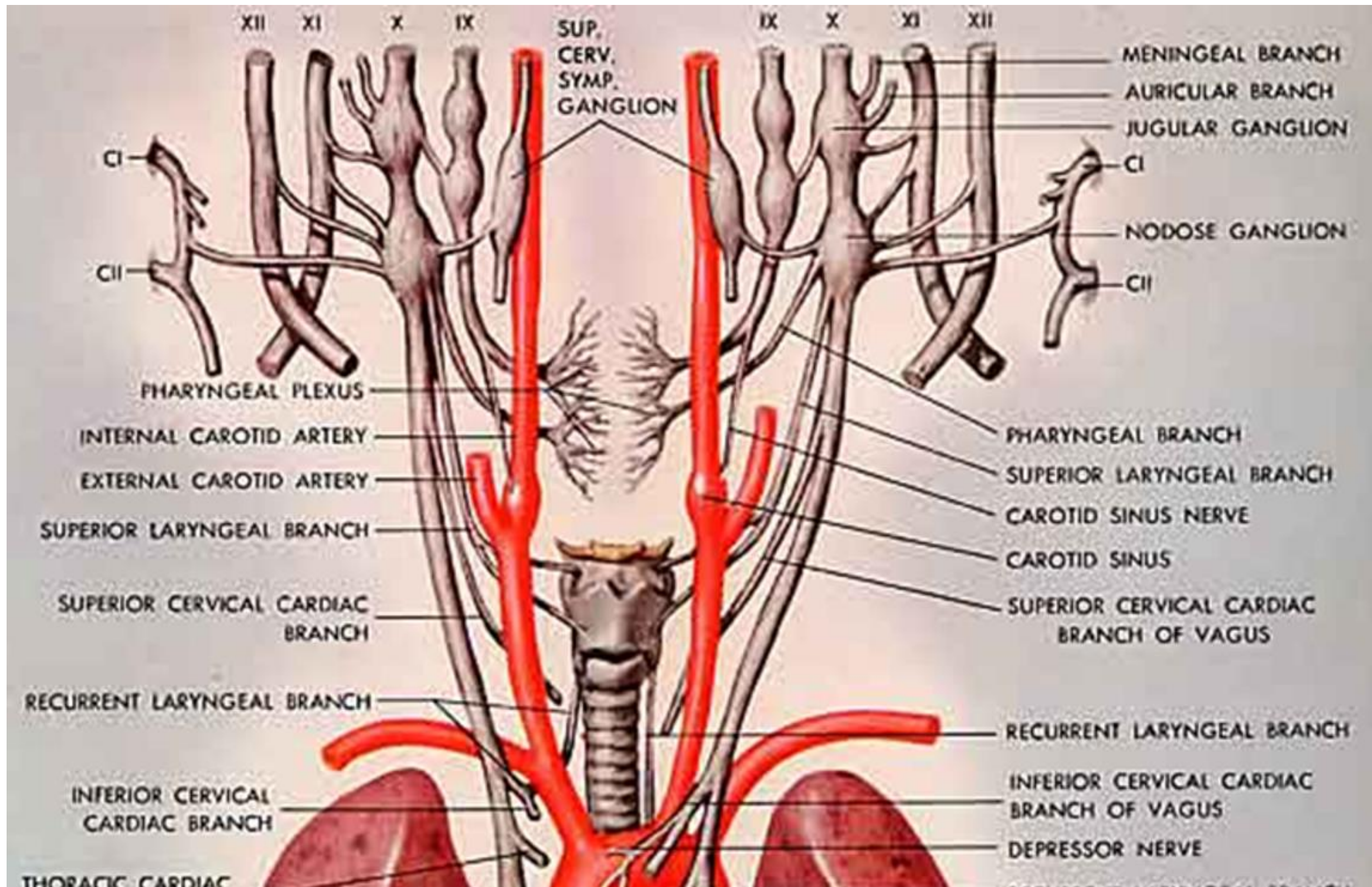




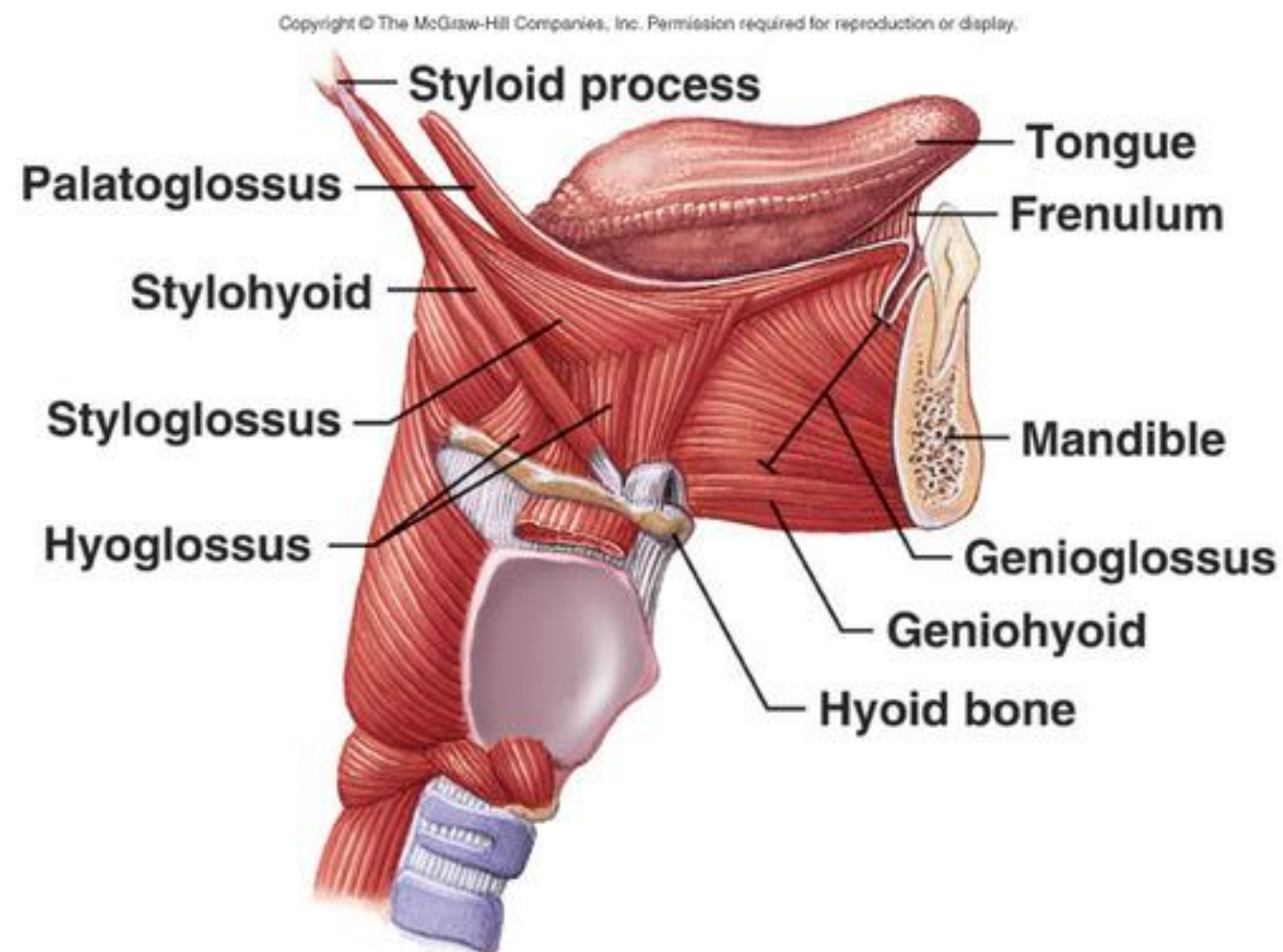
The Tongue

- Social interaction
- Suppressed emotions = tension
- Sensory & Motor communication with the Insula
- Function exclusively controlled by cranial nerves
- Mouth breathing = tension
- Hyoglossus & Genioglossus (Also Stylohyoid) - pulls hyoid down & restricts airway
- Palatoglossus - raise back of tongue. Controlled by the Vagus.
- Biomechanically affected by C-Spine





Stress and our voice



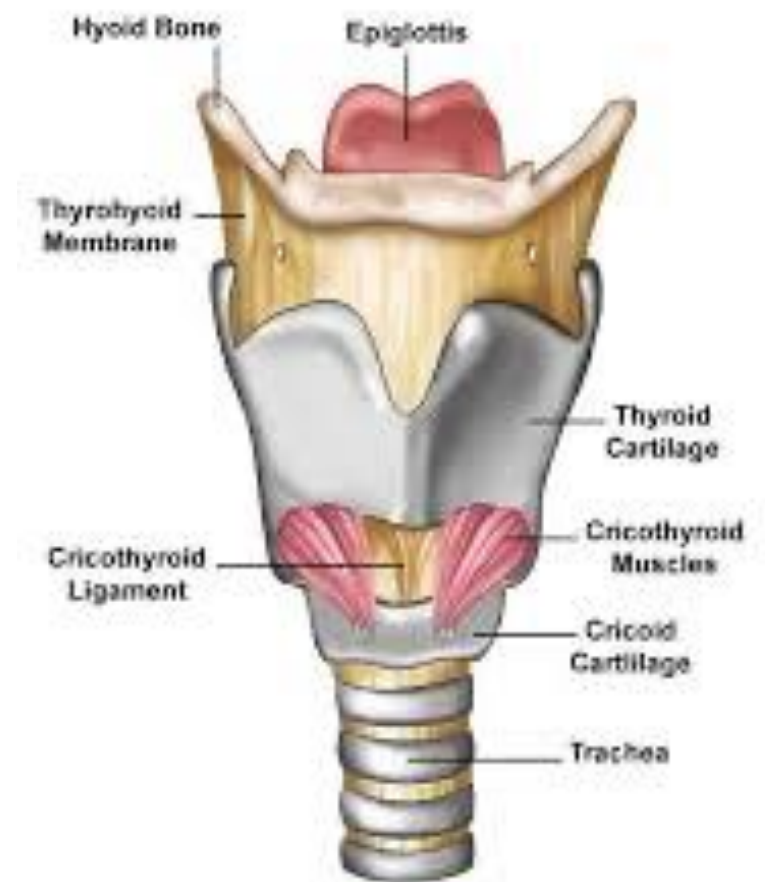
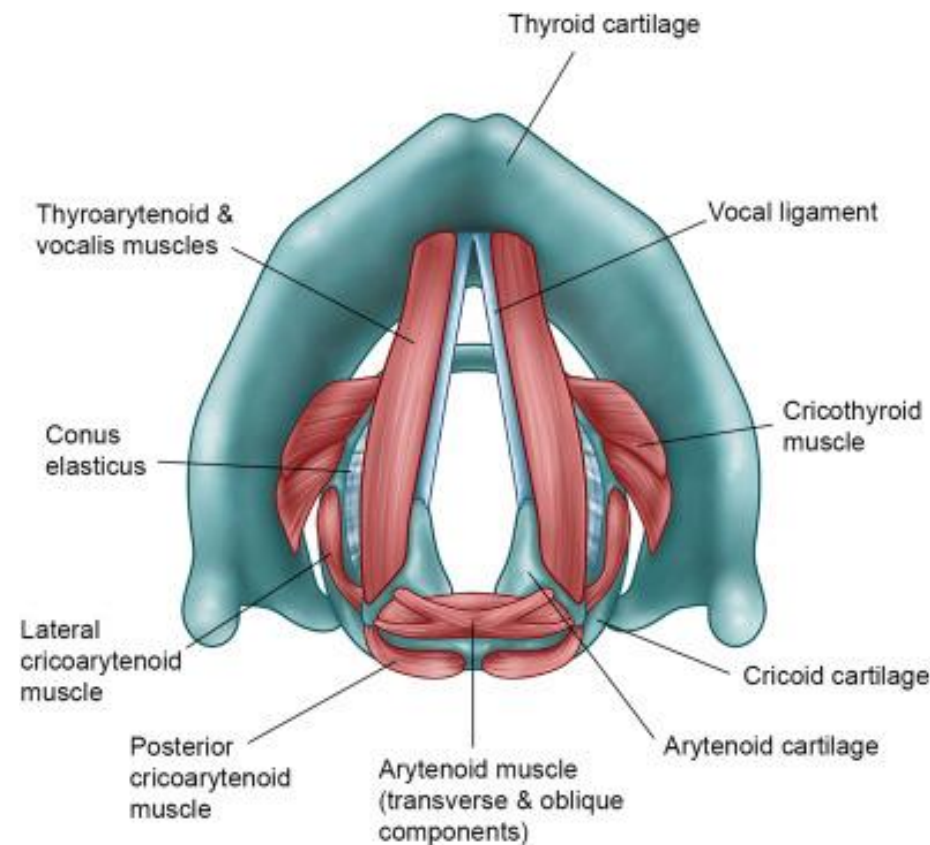
- Vagus controls vocal cords
- Poor breath support = vocal fatigue
- Stress response will stop production of saliva and also dry up vocal cords due to muscle tension, thus lack of fluid flow.
- Mouth breathing - dry vocal cords
- Tightening of SCM & Scalenes restricting laryngeal mobility.
- Tensional relationship between tongue, hyoid & thyroid cartilage housing vocal cords.



Body Worlds Plastinarium, Guben

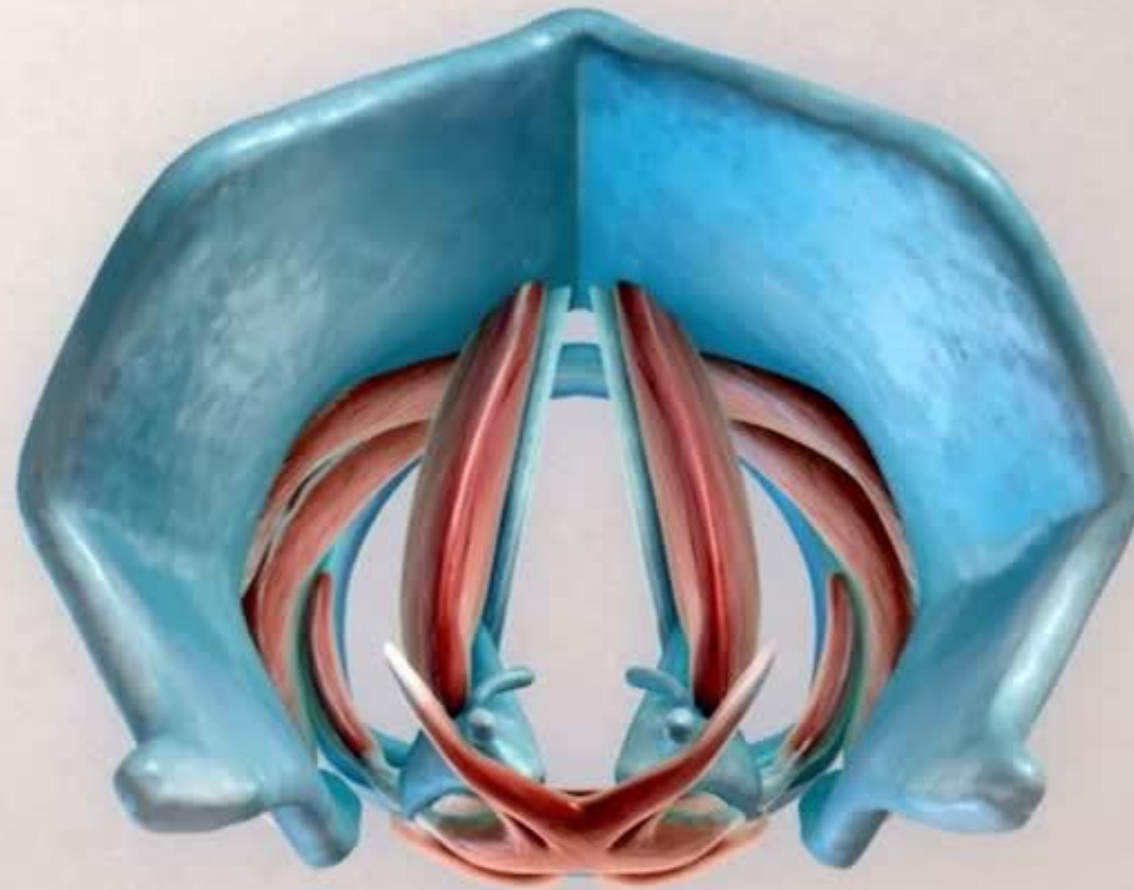
Unresolved trauma & “bottling up” of emotions.

- Dorsal vagus activation - lack of social engagement
- A tight throat (difficulty speaking up)
- Avoidance of loud or expressive speech
- Unconscious breath-holding
- Tightening of the tongue, hyoid-thyroid complex and vocal cords.



Part III:

YOUTUBE: "How the Larynx Produces Sound"
Bethea Medical Media



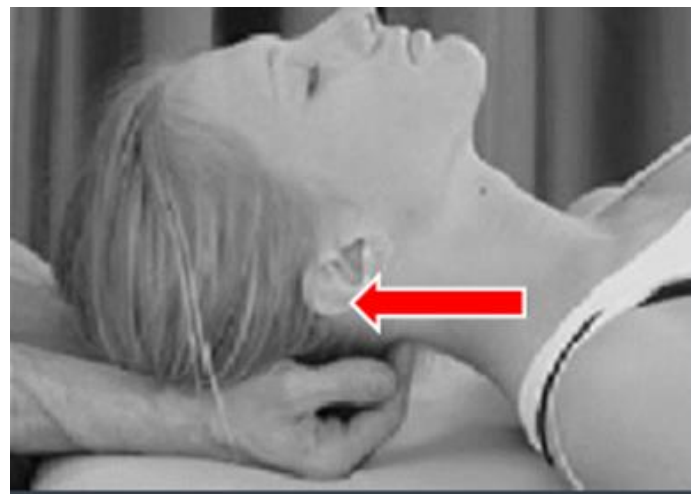
The muscle movements
(as viewed from above)

What to do?

The Basic Exercise



Suboccipital work



Hands-on for the vagus

Subclavian triangle



SCM's



Parotid



Auricular



What to do? Tongue

Mylohyoid



Activate palatoglossus

Try to lift the back of your tongue while simultaneously imagining pulling the soft palate downwards.

Active Tongue Stretch



Place tip of tongue on the palatine spot, open mouth as wide as you can whilst keeping the tip of the tongue on the notch. 8-10 times

Passive tongue stretch





Creating Calm

- Singing, humming, chanting
- Gargling
- Breath work
- Meditating
- Yoga
- Exercise
- Cold water
- Get into nature
- Set up circadian rhythm
- Omega-3
- Laugh
- Social bonding
- Setting boundaries
- Learning to say “No”
- Be kind to yourself



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