Glossopharyngeal & Vagus Nerves

SCRUBS

STUDENT COLLABORATIVE RESOURCES FOR UNDERSTANDING AND BRODY SUCCESS

Bryce Pugh, BSOM 2027

Resources used
Coursepack Illustration Supplement - BSOM

Mission Statement

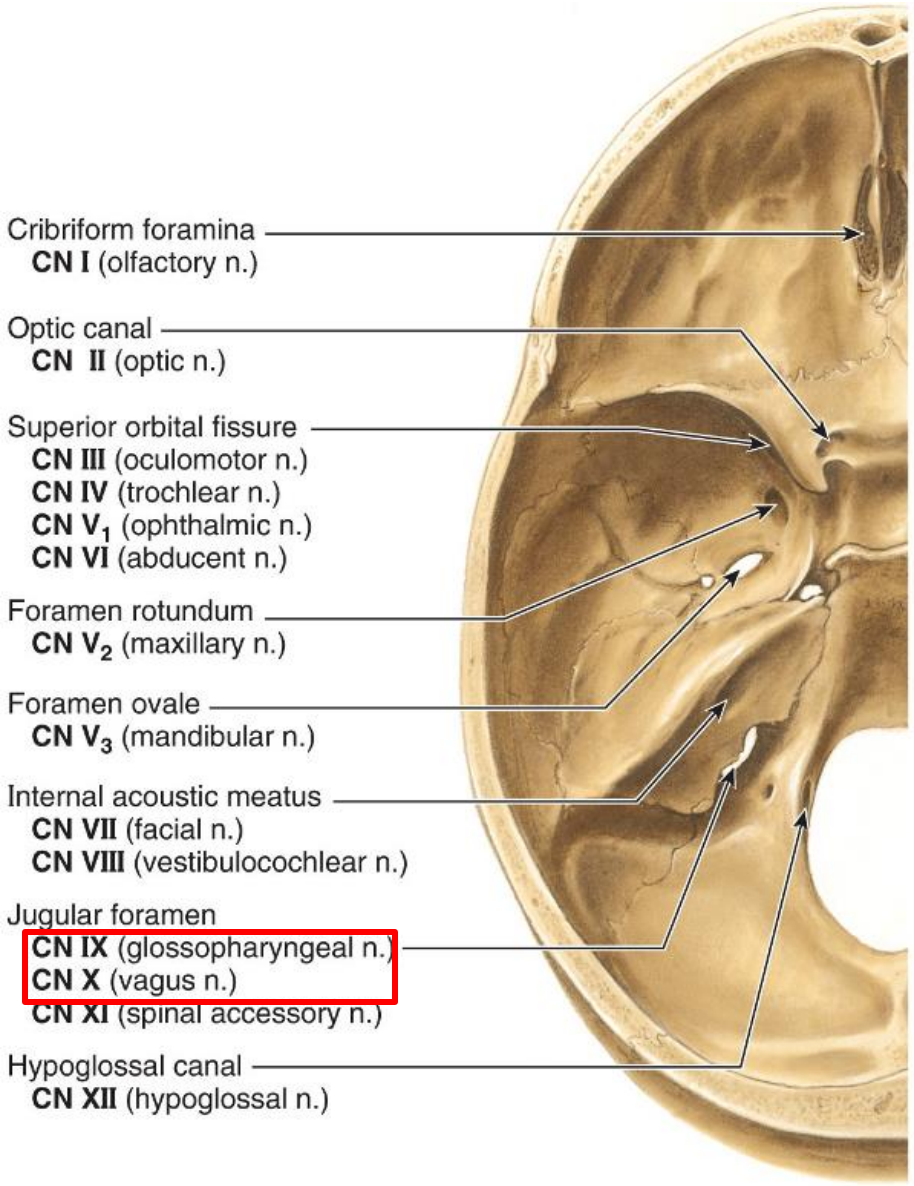
SCRUBS is a student-driven initiative that aims to develop supplemental resources for current and future cohorts that will pass through Brody. Members of **SCRUBS** participate in a variety of sub-committees working to create resources for students, by students. These resources aim to offer unique perspectives from students that have walked in the same shoes, developing resources that we wish we had been exposed to during our time in the course.

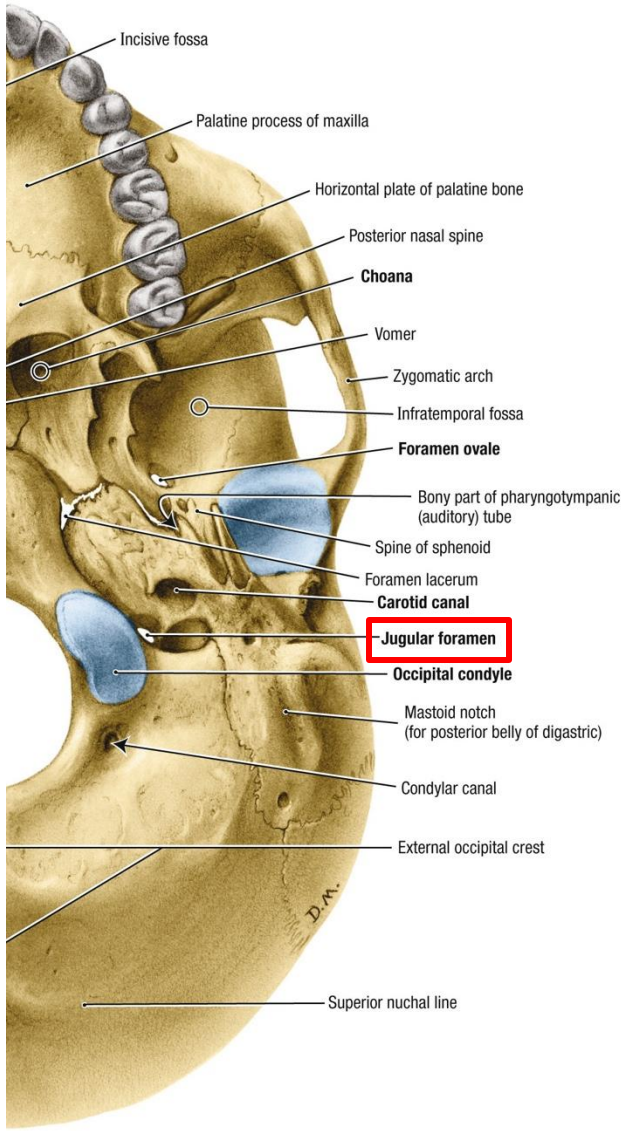
The hope is this organization will become a staple of the Brody student body, exemplifying the unique collaborative community that Brody offers. If this is a mission that aligns with your goals and you have the desire to help those that will come behind you, as well as a goal to leave your mark on Brody as a whole, we invite you to join the team!

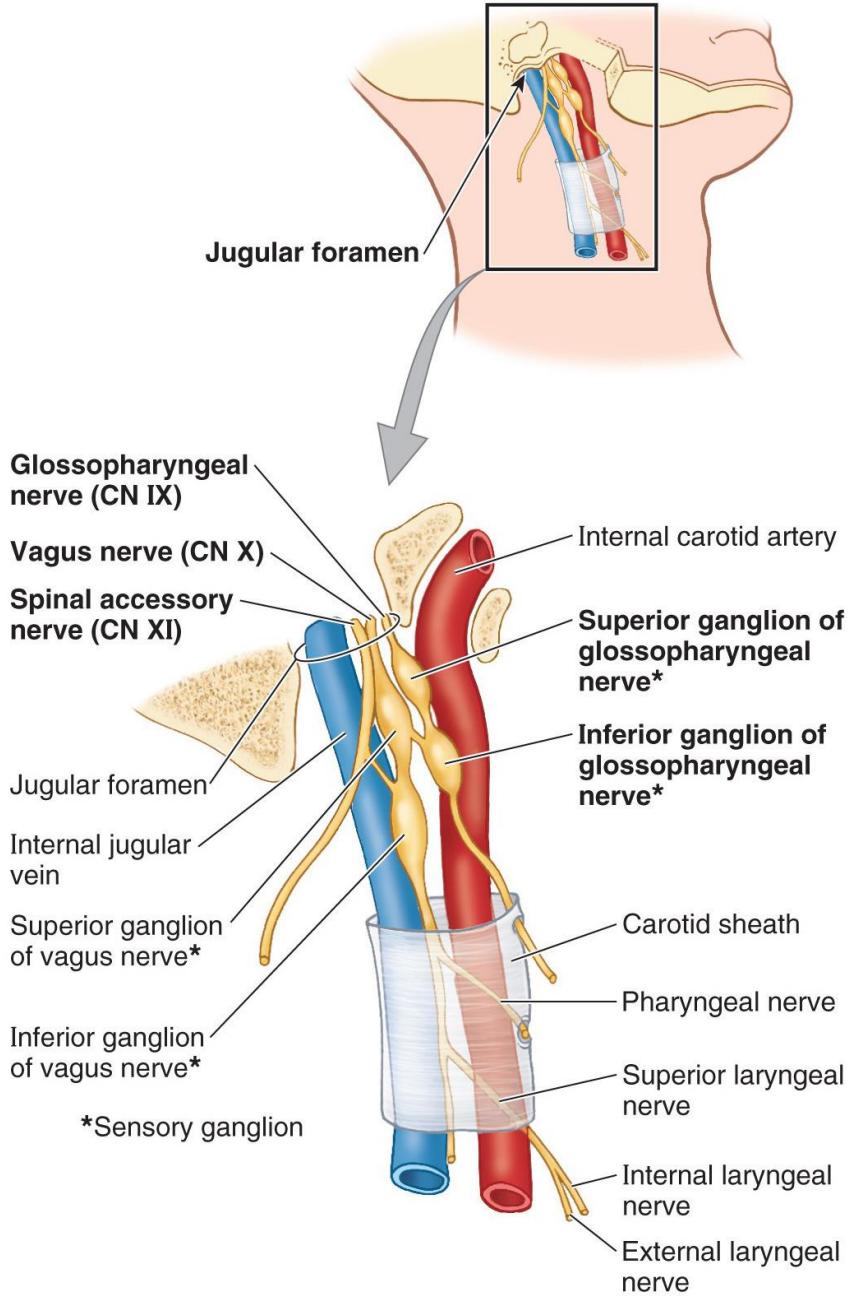
Disclaimer

The resources that are included in this document are made by students and not the faculty. As such, there is the possibility for errors in our development, although this is mitigated via a team approach to development with multiple stages of vetting. If there is a contradiction with the coursework presented within your course, please go by the course documents. Additionally, **SCRUBS** aims to supply ***supplemental resources***, however these are in no way replacements to the instruction of the Brody faculty. Use these resources as a supplement, but not as your primary source for course material.

CN IX/X







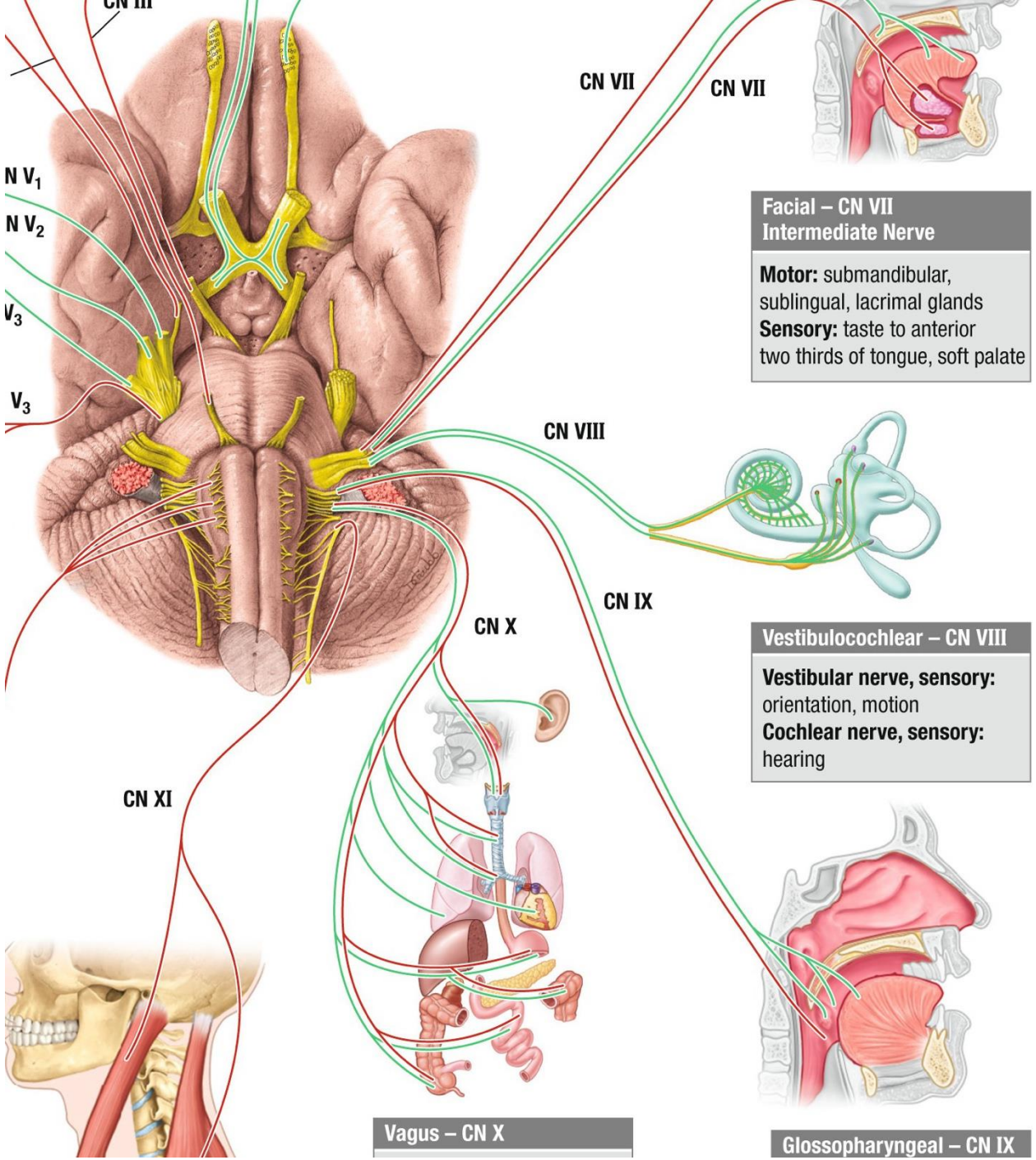
Glossopharyngeal and Vagus Nerves Overview

CNIX

- Motor
  - Parotid Gland
  - ½ gag reflex
- Sensory:
  - Taste & GSA for post. 1/3 of tongue
  - Pharynx – gag reflex

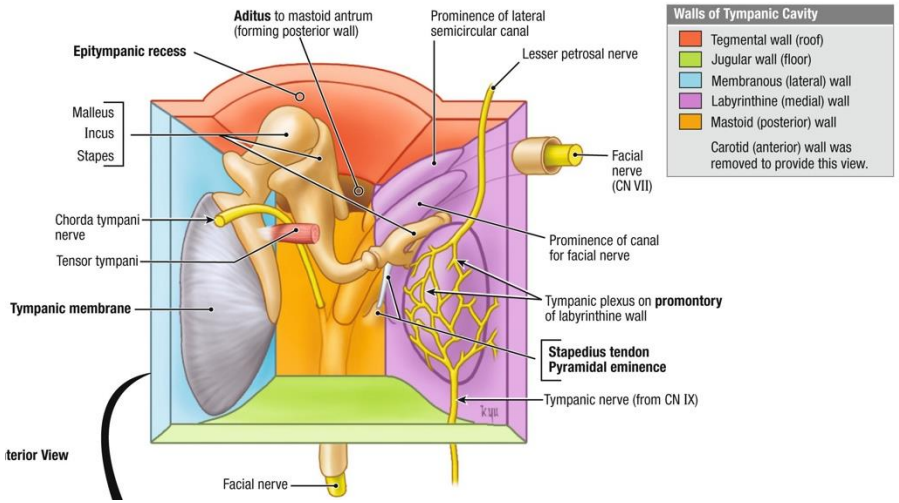
CNX

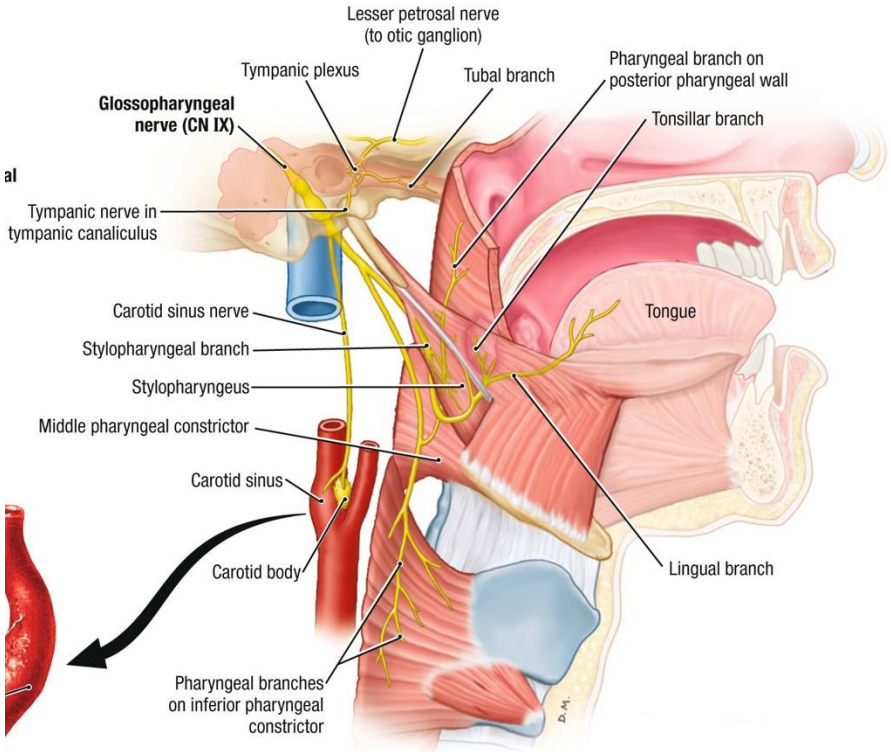
- Motor & sensory to organs
- Major Parasympathetic

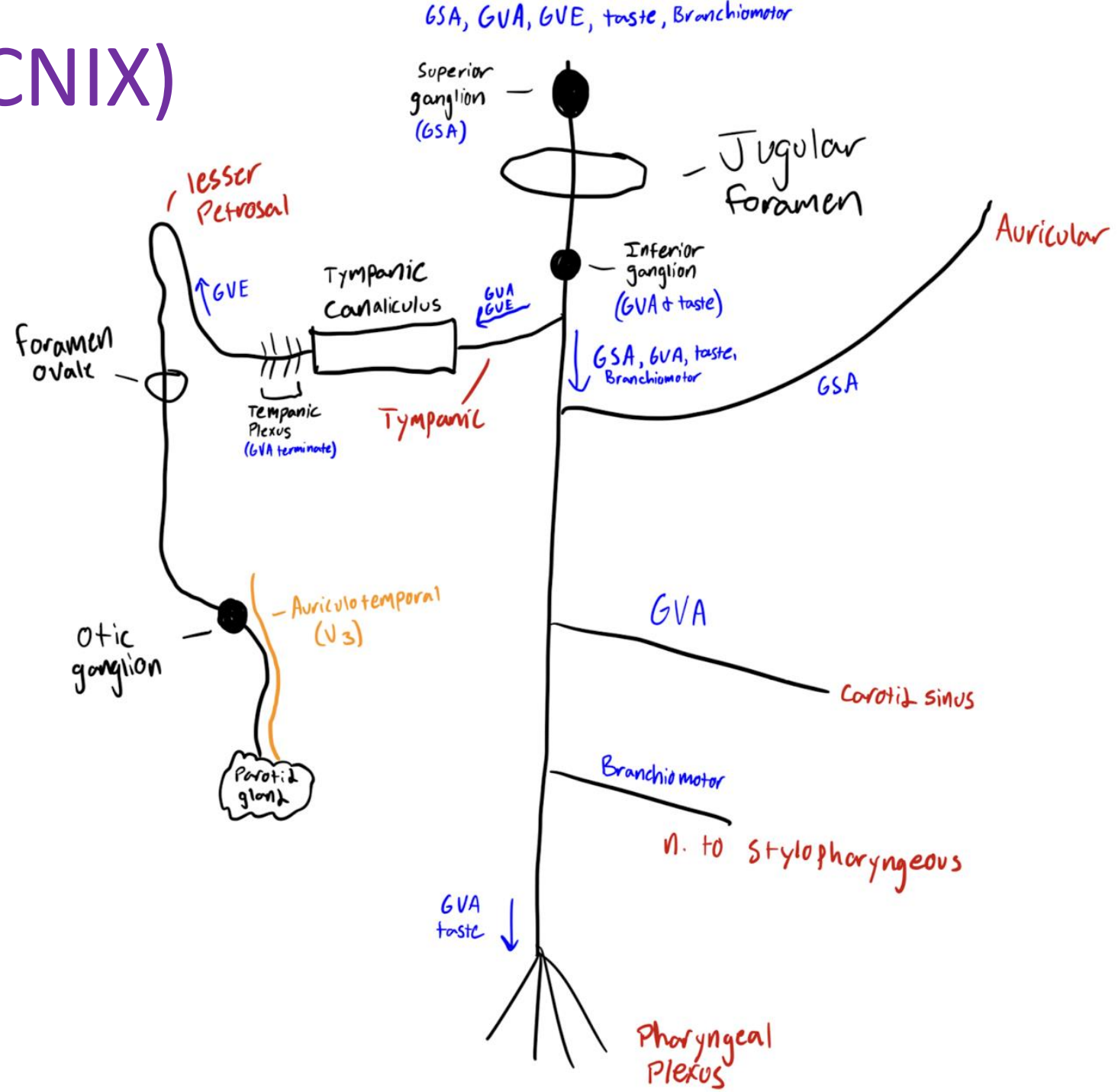


Glossopharyngeal Nerve - CNIX

Glossopharyngeal N. (CNIX)



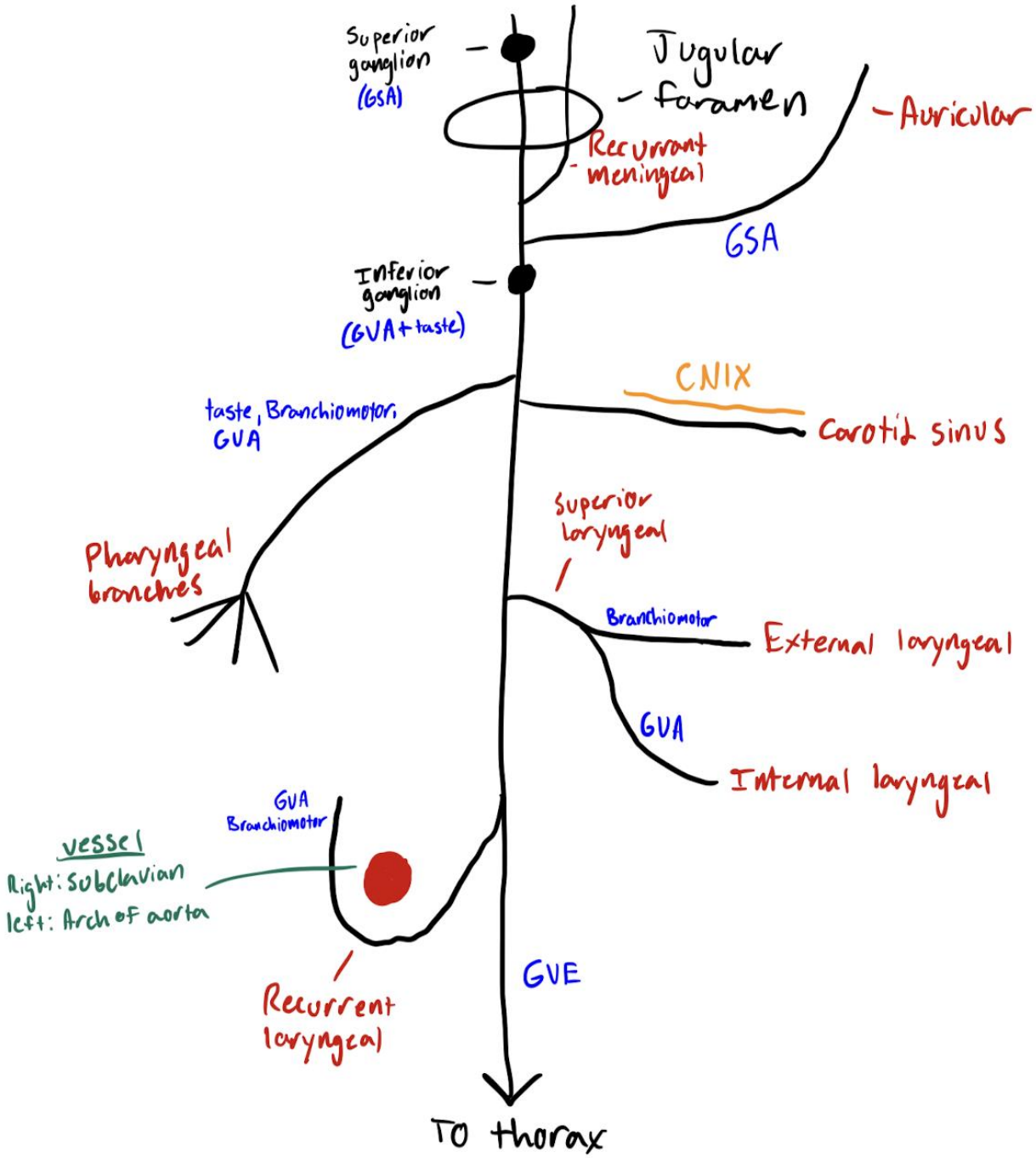




Vagus Nerve - CNX

Vagus Nerve (CNX)

- Pharyngeal branches leave & enter **pharyngeal plexus**
- Carotid sinus branch
  - Only innervates <u>chemoreceptors</u> in the <u>carotid body</u> – NOT CAROTID SINUS (CNIX does chemo- & baroreceptors)
- Superior laryngeal
  - External laryngeal: BM to **<u>cricothyroid</u>** muscle
  - Internal laryngeal: GVA – **<u>perforates thyrohyoid mbr.</u>** & innervates **<u>sup. to true vocal folds</u>**
- Main trunk descends anterior to the:
  - Subclavian artery **(R)**
  - Arch of the aorta **(L)**
- **<u>Recurrent laryngeal</u>** – posterior to vessel
  - Becomes inferior laryngeal
  - GVA: **<u>inf. to true vocal folds</u>**
  - BM: Innervates **<u>all muscles of the larynx</u>** (except cricothyroid) & striated muscles of upper esophagus



Clinical Anatomy

Clinical Correlations

- CNIX lesions usually grouped w/ CNX & CNXI
  - Test w gag reflex test: Stroke wall of pharynx over palatine tonsils
  - **damaged** CNIX = **no gag reflex**
  - CNX does motor of the reflex
- Otitis media (middle ear infection) can cause pain relayed by CNIX
- CNX pharyngeal branch damage = difficulty swallowing
  - Arch of soft palate droops on affected side, & **uvula deviates TOWARD NORMAL side**
- CNX recurrent laryngeal damage = hoarseness / voice loss
  - Unilateral loss of fxn, opposite fold moves past midline to enable phonation. Voice will sound normal but tire easily
  - In thyroidectomy, high transection & retraction of infrahyoid muscles to protect.

Whitmer KH. Clinical Techniques: The Neurological Assessment. iastatepressbookspub. Feb 2021.