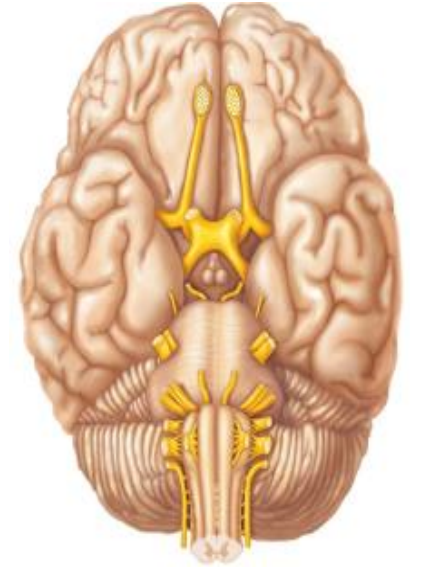


**Cranial nerves originating from  
medulla (11,12)  
Course-Distribution and Branches**



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# Session ILOs

**By the end of this lecture, the student should be able to:**

- 1. describe the origin of XI ,XII cranial nerves**
- 2. describe the functions of XI ,XII cranial nerves**
- 3. describe the course of XI ,XII cranial nerves**
- 4. describe the branches of XI ,XII cranial nerves**

# Cranial nerves merging from Medulla oblongata

## Accessory Nerve (XI)

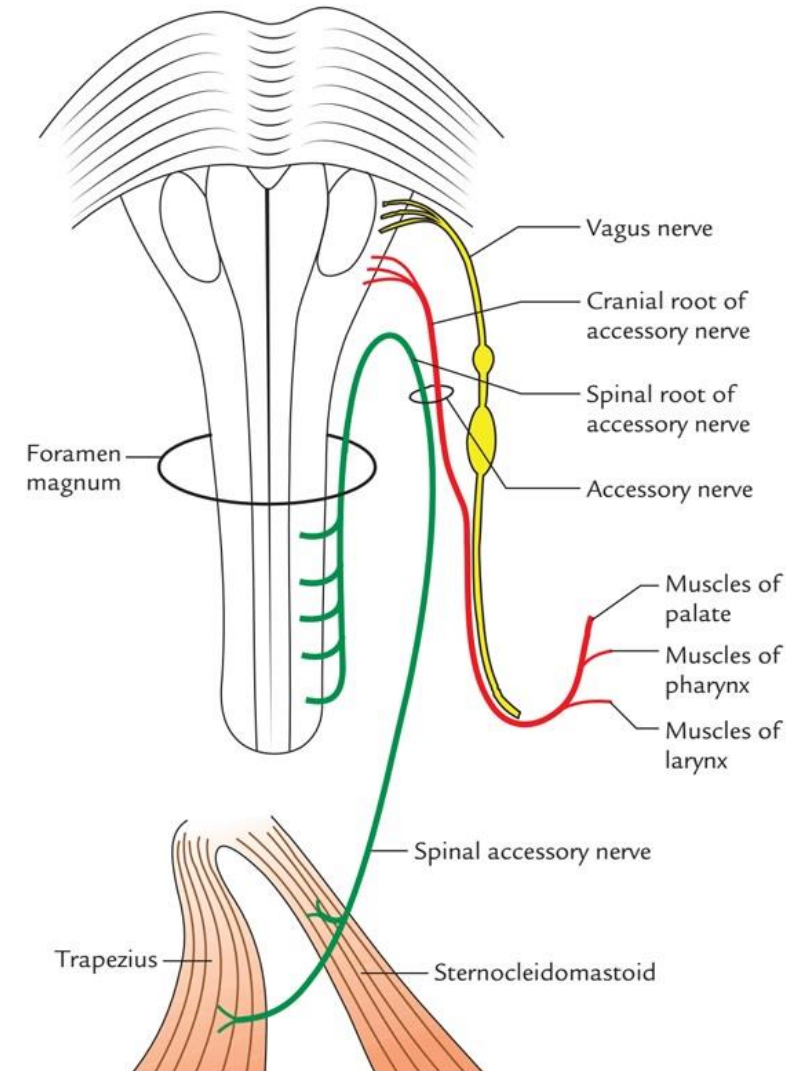
Has a double origin:

### 1- Cranial division:

- Arises from the lower part of the nucleus ambiguus (SVE).
- Leaves the medulla from the postero-lateral sulcus.
- It joins the vagus and so it is named accessory (i.e. it helps the vagus).
- Innervates the intrinsic muscles of the larynx (via the recurrent laryngeal nerve), with the exception of the cricothyroid muscle.

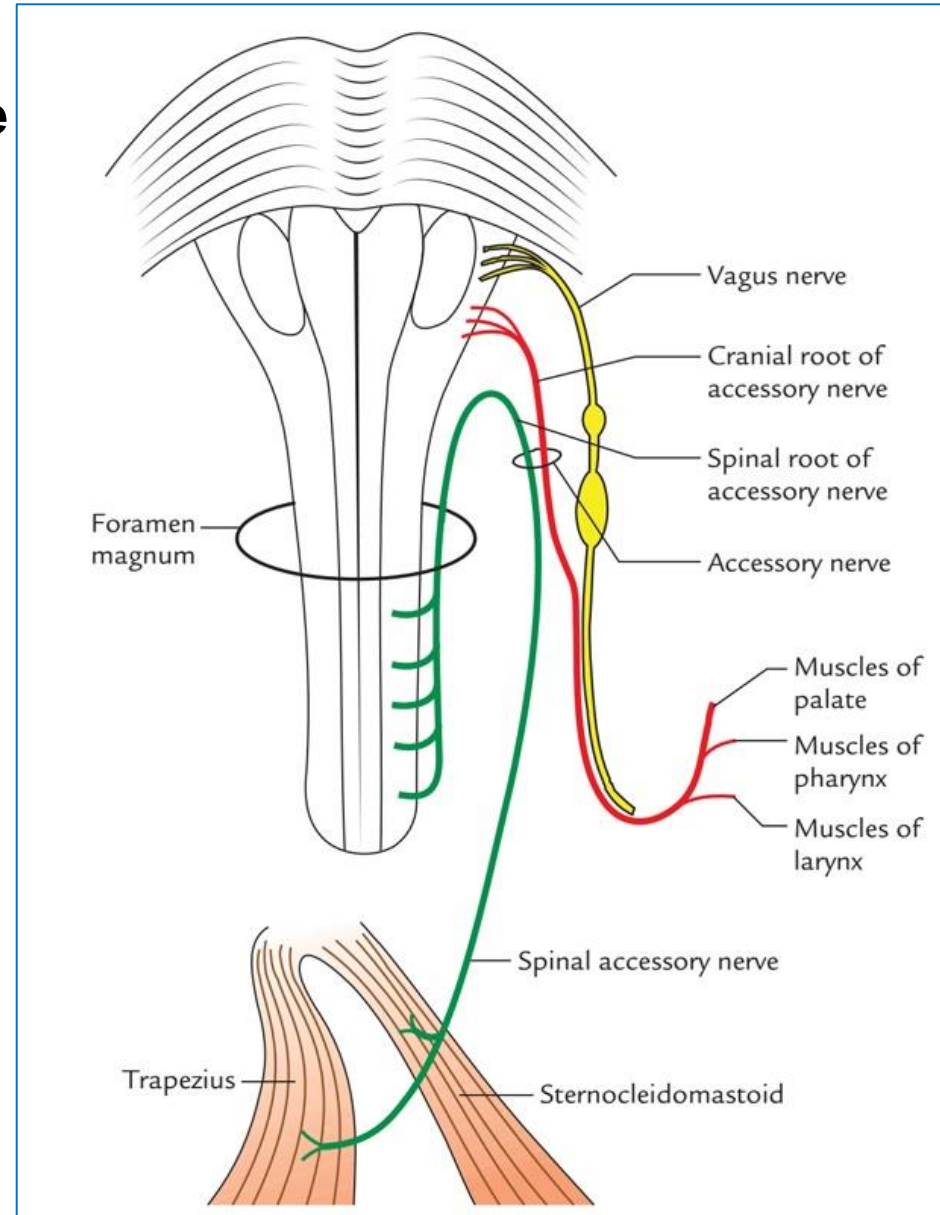
### 2- Spinal division:( GSE)

- Arises by a series of rootlets from the ventral horn of cervical segments C1 – C6.



# Course and relations in the neck:

- The rootlets leave the cord and ascend to enter the skull via **the foramen magnum** to join the cranial part.
- then It leaves it again and passes through the **jugular foramen**
- then descends downwards and passes between :  
**Internal jugular vein & Internal carotid artery**
- It inclines backward and laterally to reach the deep surface of sternomastoid and emerges at its posterior border to **enter the posterior triangle.**
- It crosses the posterior triangle **on the levator scapulae muscle.**
- Finally it disappears under cover of trapezius muscle.

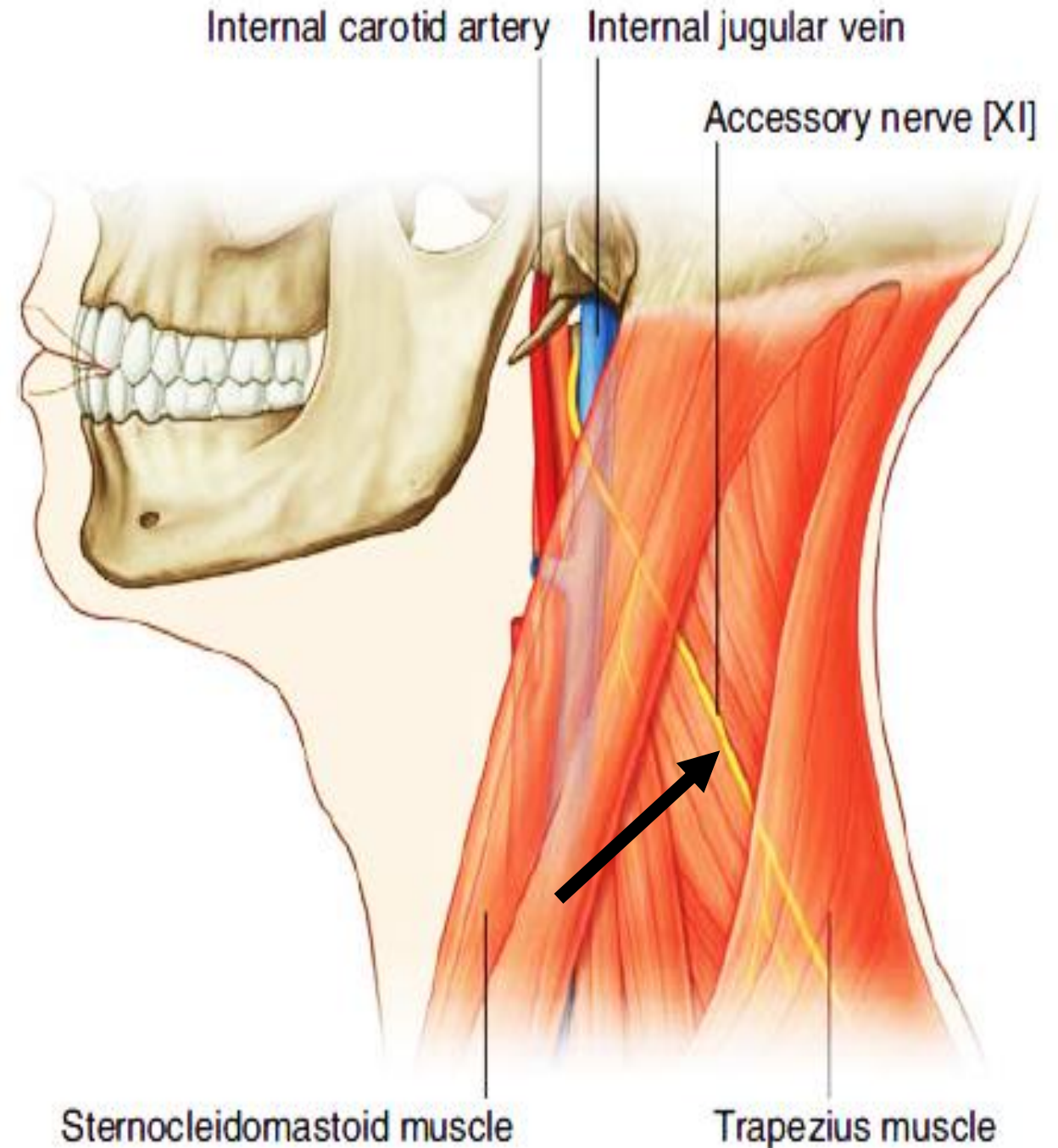


# Branches :

## Branches of the spinal root :

It supplies :

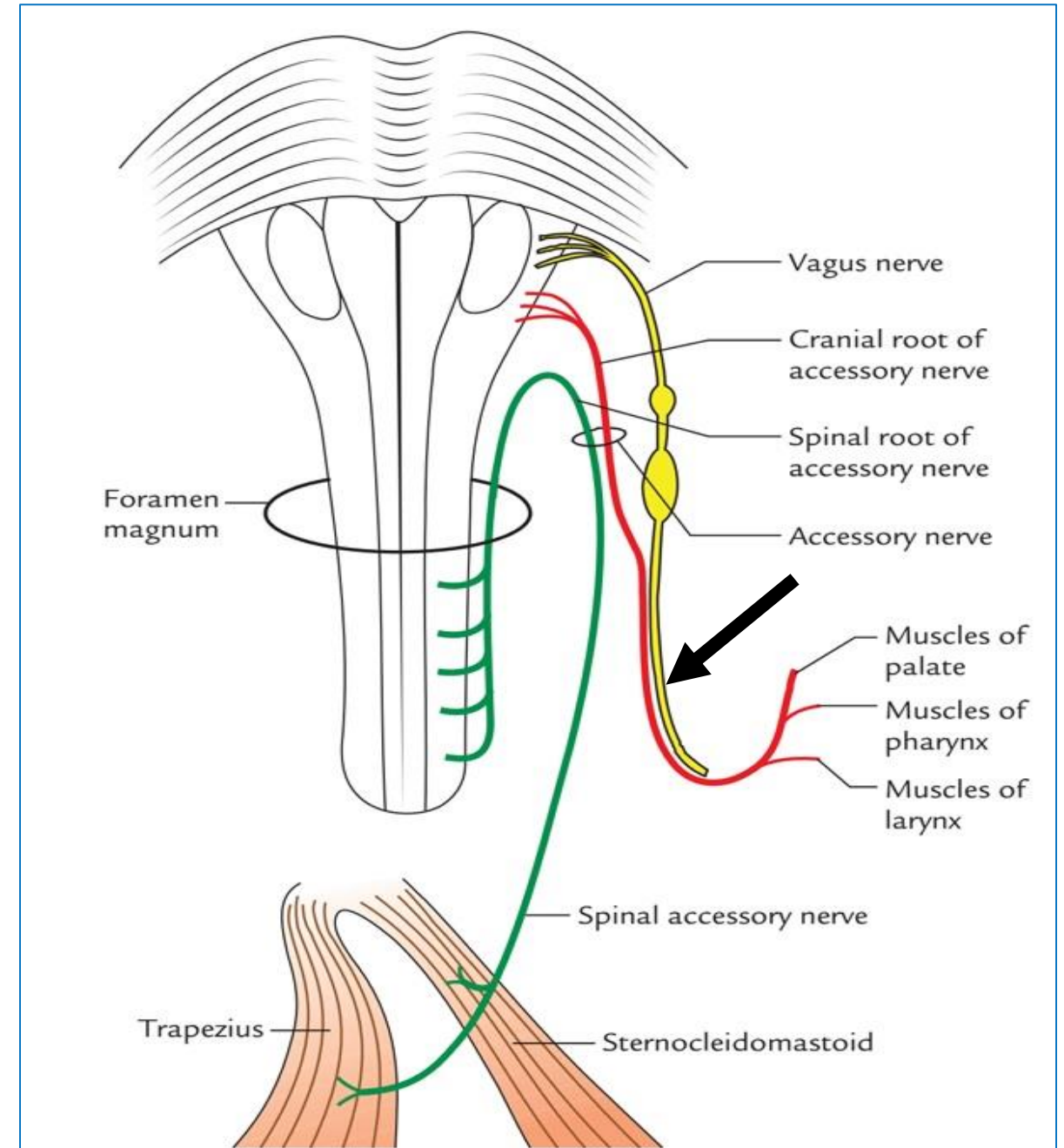
- Sternomastoid muscle.
- Trapezius muscle.
- It gives communicating branches to C2 & C3



# Branches :

## Branches of the cranial root :

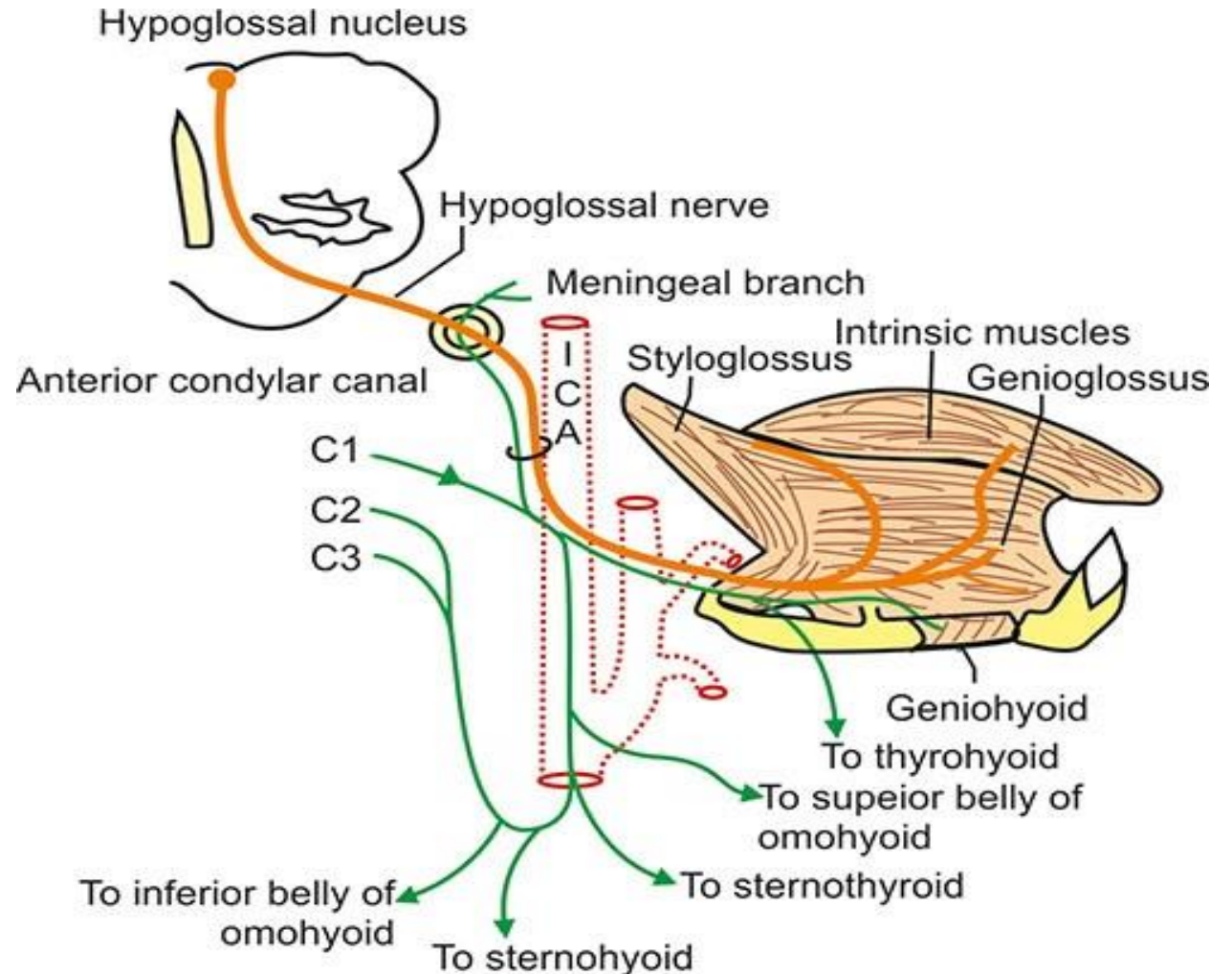
It supplies muscles of palate ,  
pharynx and larynx by joining the  
vagus nerve



# Hypoglossal Nerve XII

# Cranial nerves merging from Medulla oblongata Hypoglossal Nerve(XII)

- Is a pure **GSE (General somatic efferent)**
- Arises from the hypoglossal nucleus in the open medulla.
- Leaves the medulla from the antero-lateral sulcus.
- Leaves the cranial cavity through the hypoglossal foramen
- Supply all muscles of the tongue except palatoglossus muscle supplied by pharyngeal plexus



# Course and relations in the neck:

It descends with the 9<sup>th</sup>, 10<sup>th</sup> & 11<sup>th</sup> cranial nerves between :

Internal jugular vein & Internal carotid artery.

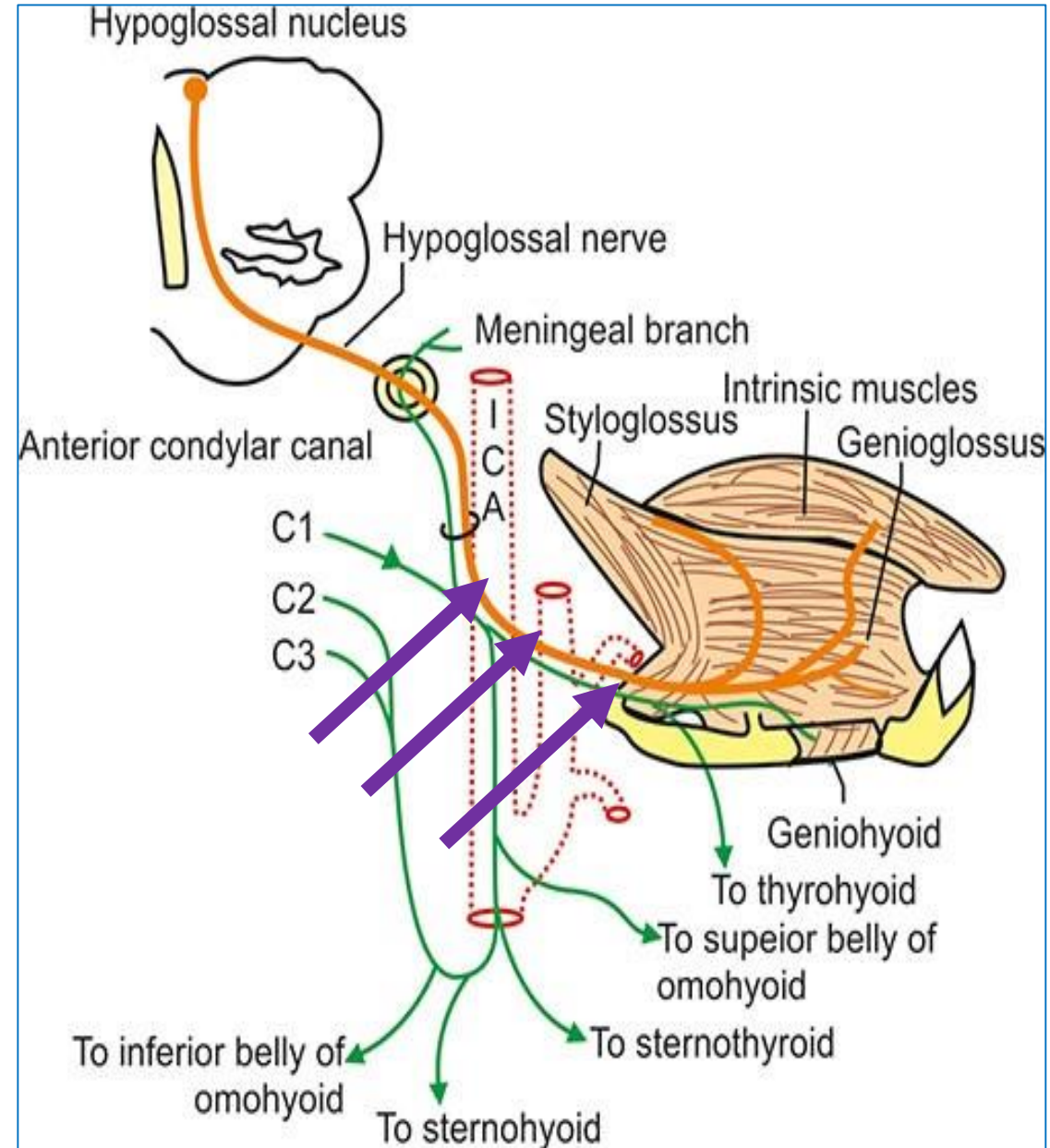
\*It loops around the occipital artery then crosses superficial to the following 3 arteries :

Internal carotid artery

External carotid artery

The loop of the lingual artery.

\*It passes forwards on the hyoglossus muscle in the digastric triangle. Finally it reaches the tongue.



# Branches:

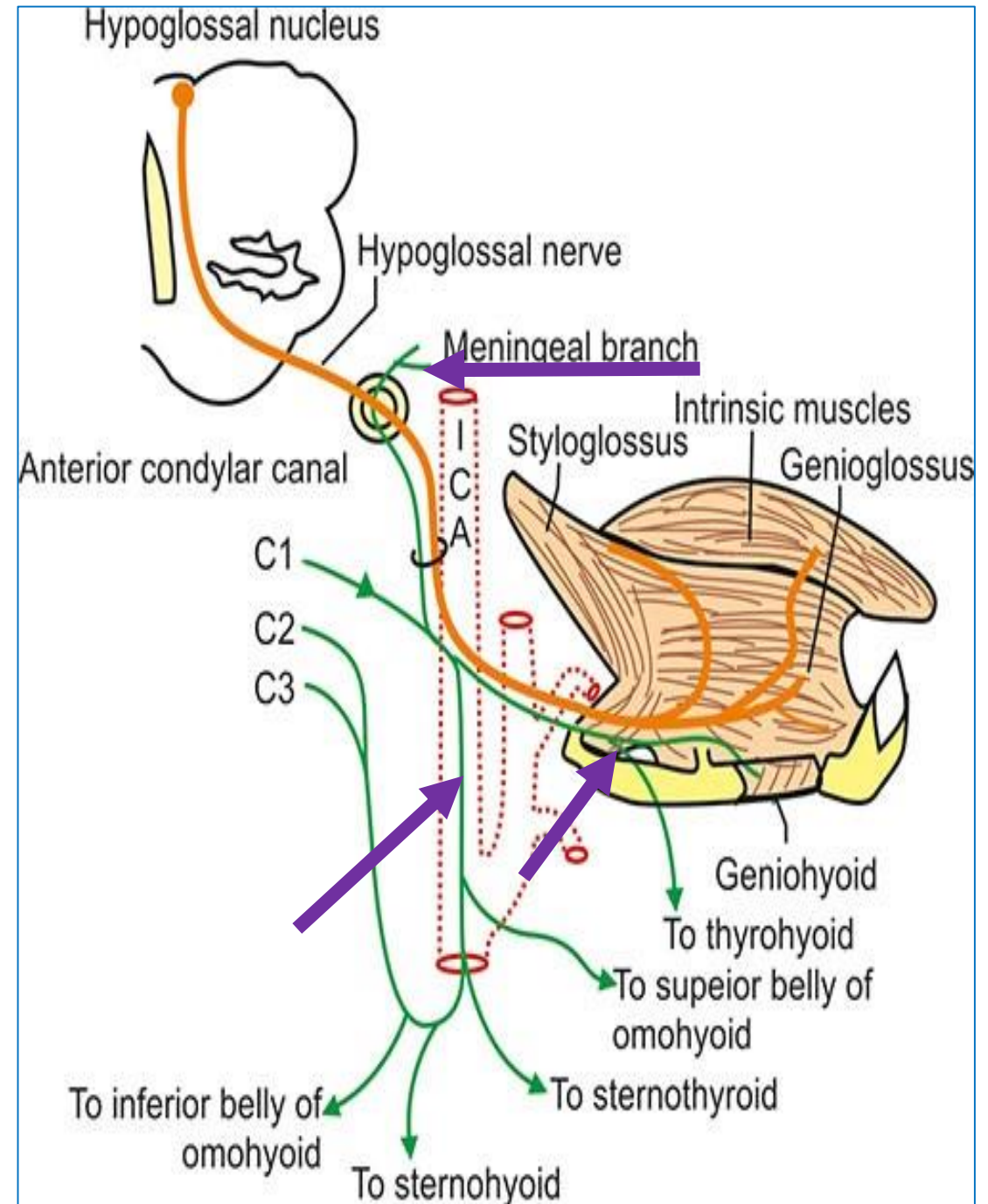
## 1) Fibres from C1

- **Meningeal branch** :To the dura of the posterior cranial fossa
- **Nerve to geniohyoid** .
- **Nerve to thyrohyoid** .
- **Descendens hypoglossi** which joins the descendens cervicalis (C2 & 3) to form the ansa cervicalis

It supplies the infrahyoid muscles

## 2) Fibres from the hypoglossal nucleus:

Muscular branches to all extrinsic and intrinsic muscles of the tongue except palatoglossus (supplied by the cranial root of accessory nerve).



Thank  
you

