

***Biology 223***

***Human Anatomy and Physiology***

***Week 10; Lecture 1; Monday***

***Dr. Stuart S. Sumida***

# Soft Tissues of the Head – Parts I & II

# Soft Tissues of the Head:

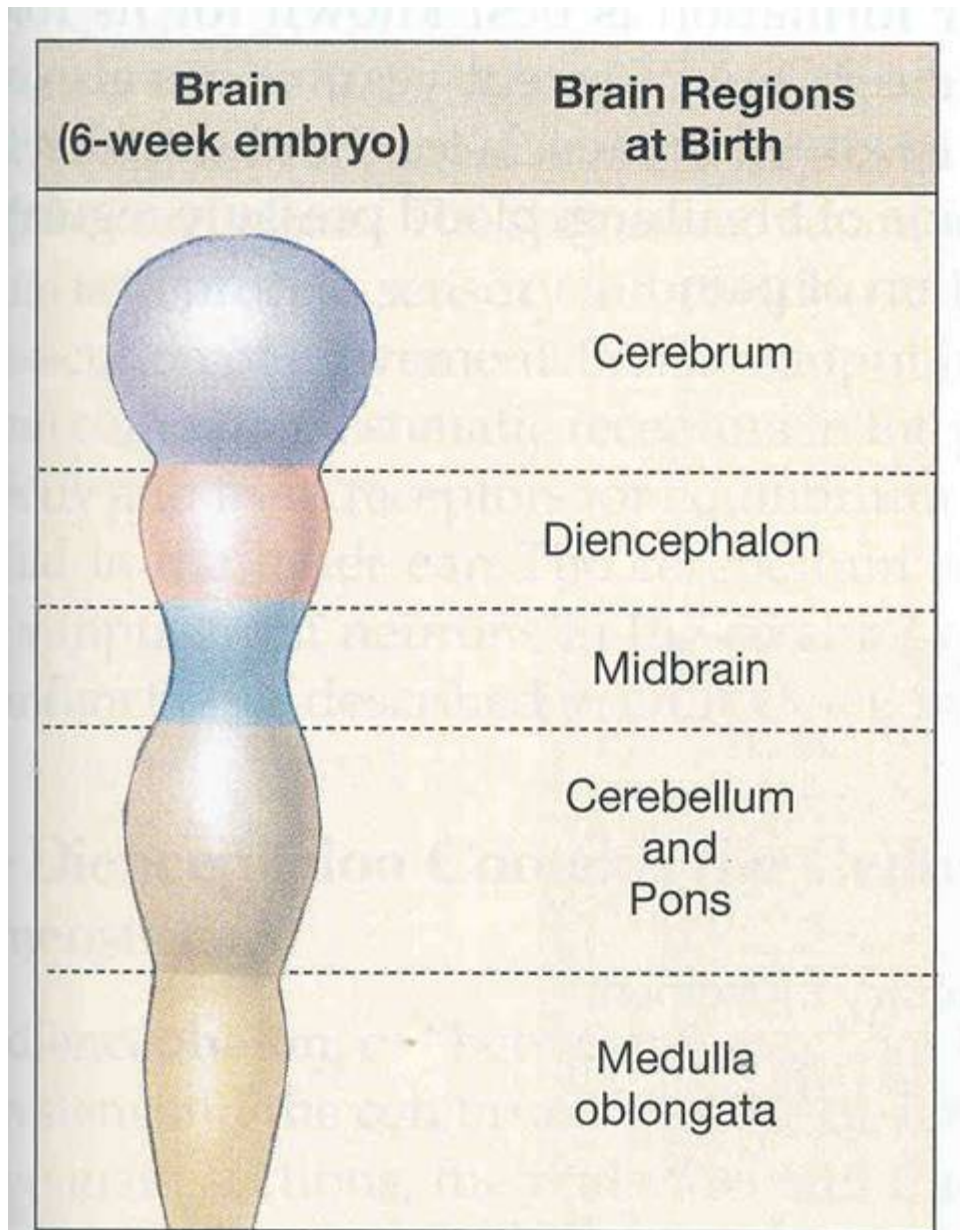
Brain and Cranial Nerves

Muscles

Arteries

Veins

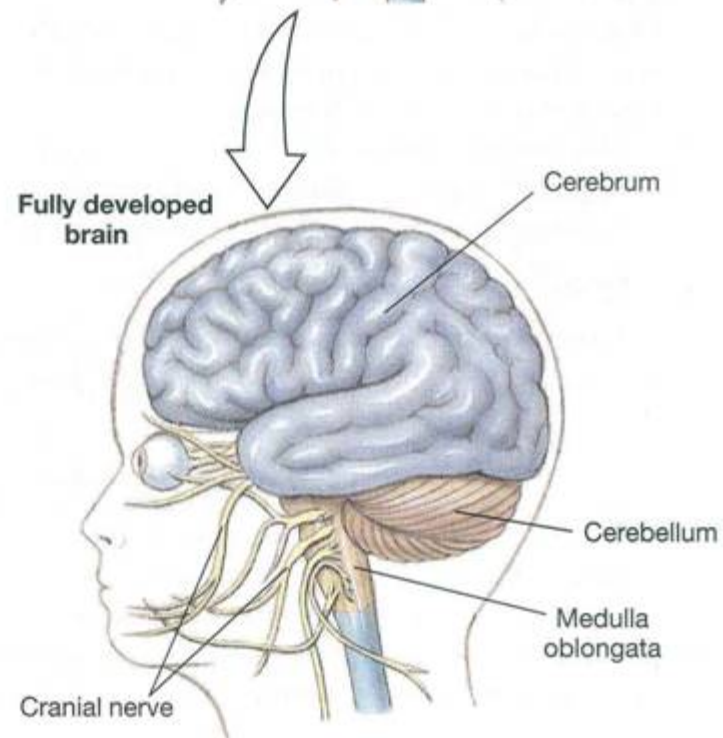
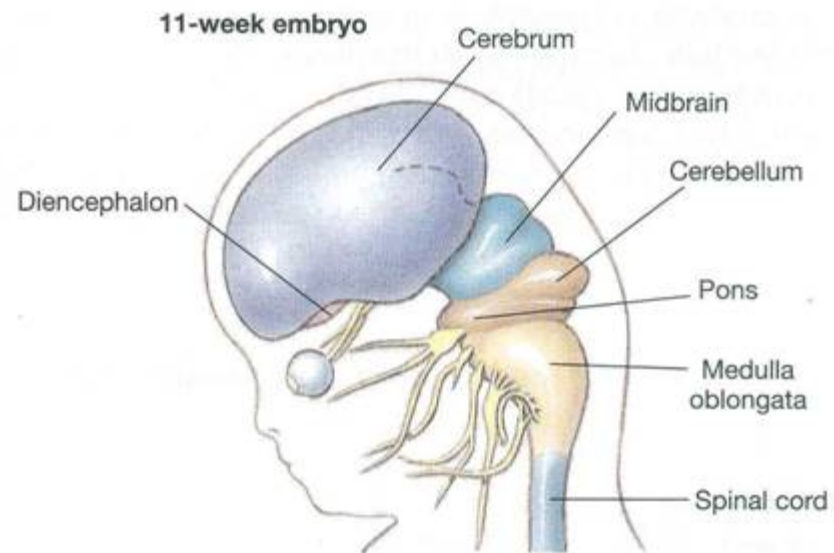
Glands



FOREBRAIN

MIDBRAIN

HINDBRAIN



## Forebrain:

**Cerebrum** – Perception, movement of somatopleure, sensoro-motor integration, emotion, memory, learning.

**Diencephalon** – Homeostasis, behavioral drives in hypothalamus; sensory relay and modification in thalamus; melatonin secretion in pineal gland.

## Midbrain (Mesencephalon)

Control of eye movement.

## Hindbrain

**Cerebellum and Pons** – control of movement, proprioceptive input; relays visual and auditory reflexes in pons.

**Medulla Oblongata** – Involuntary functions: blood pressure, sleep, breathing, vomiting.

# Meninges (All from Neural Crest)

Outermost: *Dura mater*

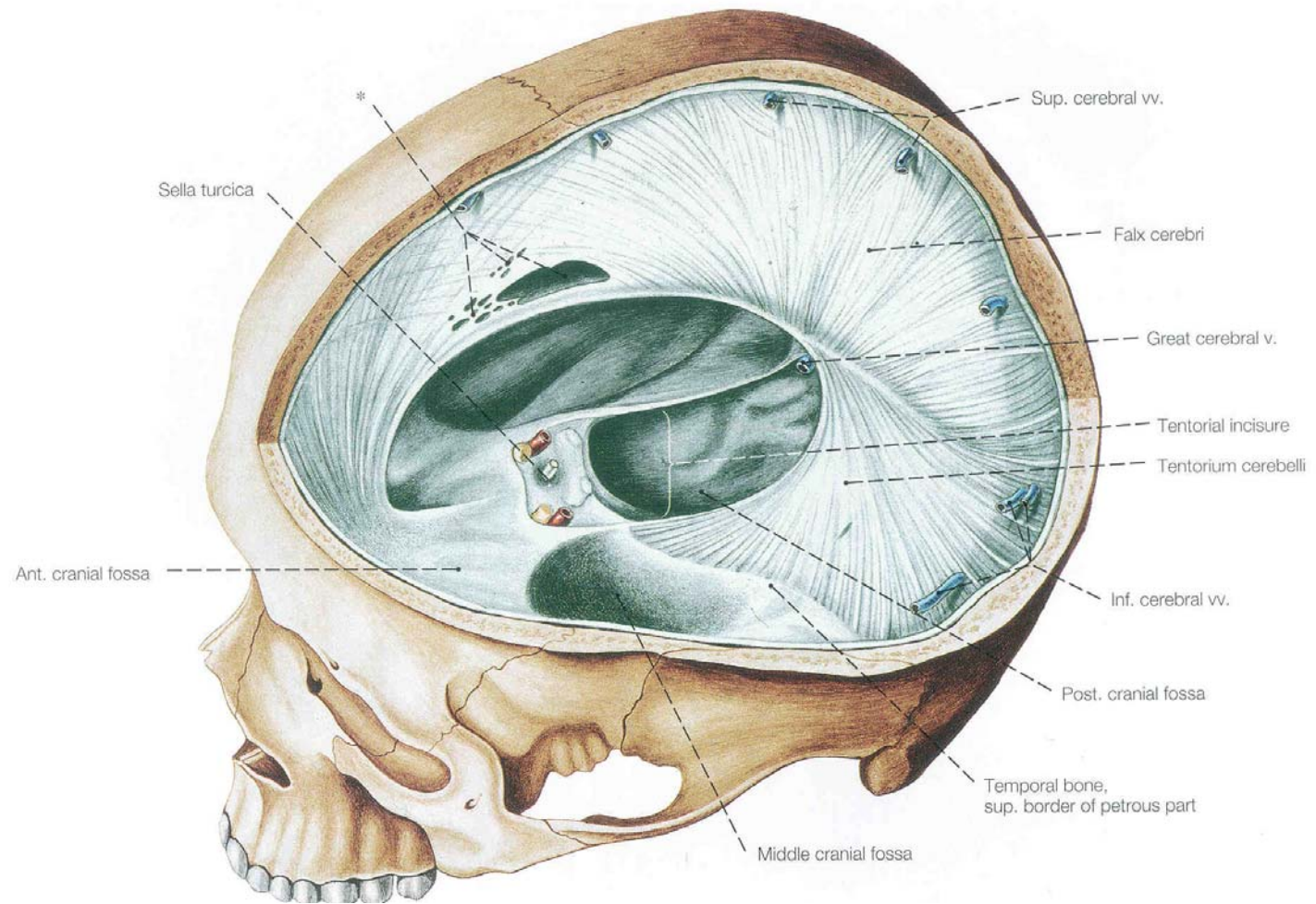
Middle: *Arachnoid mater*

Deepest: *Pia mater*

Cerebrospinal fluid between  
Arachnoid and Pia mater

# Meninges: *Dura mater*

Brain 251

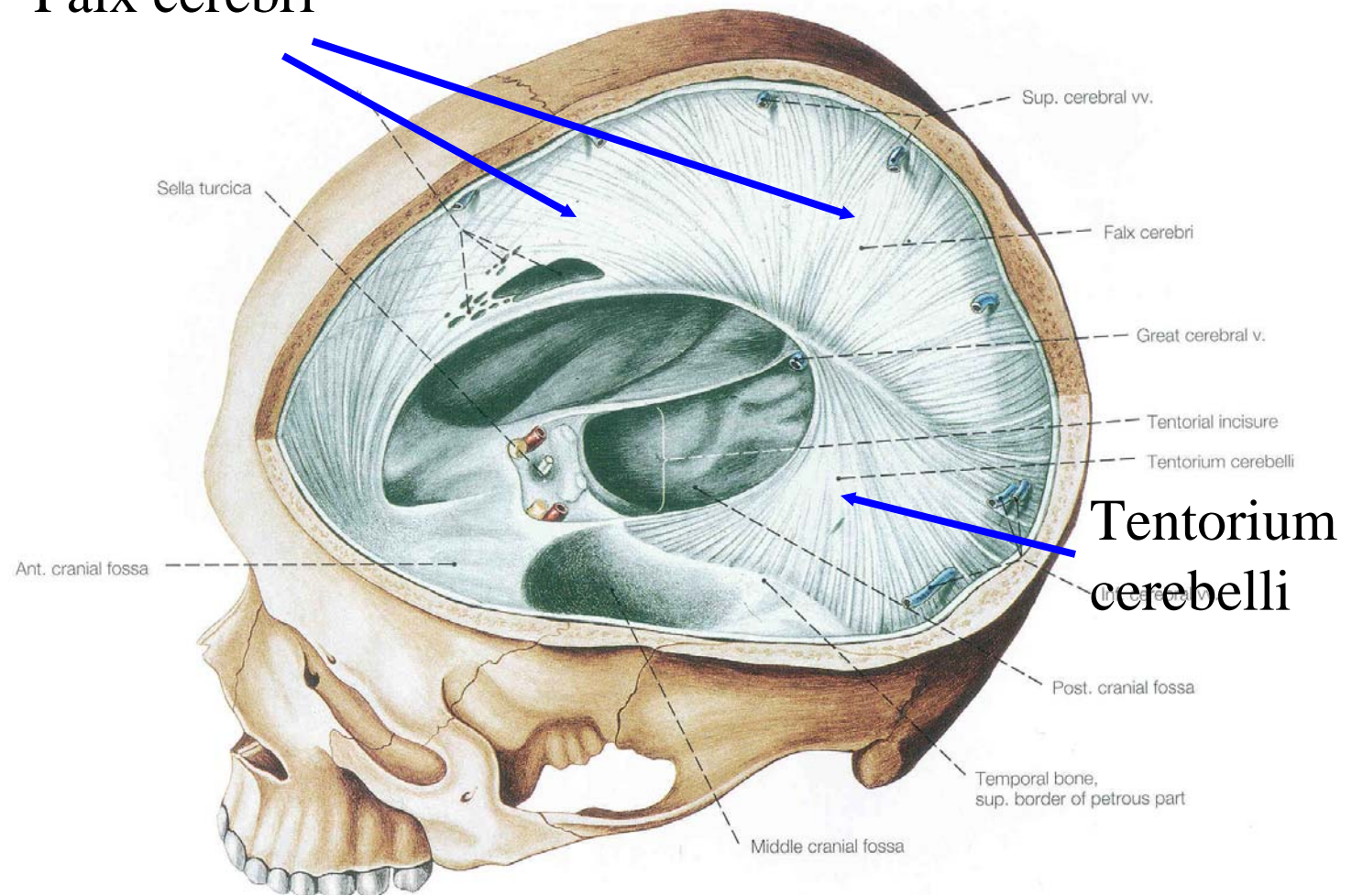




# Dural Reflections

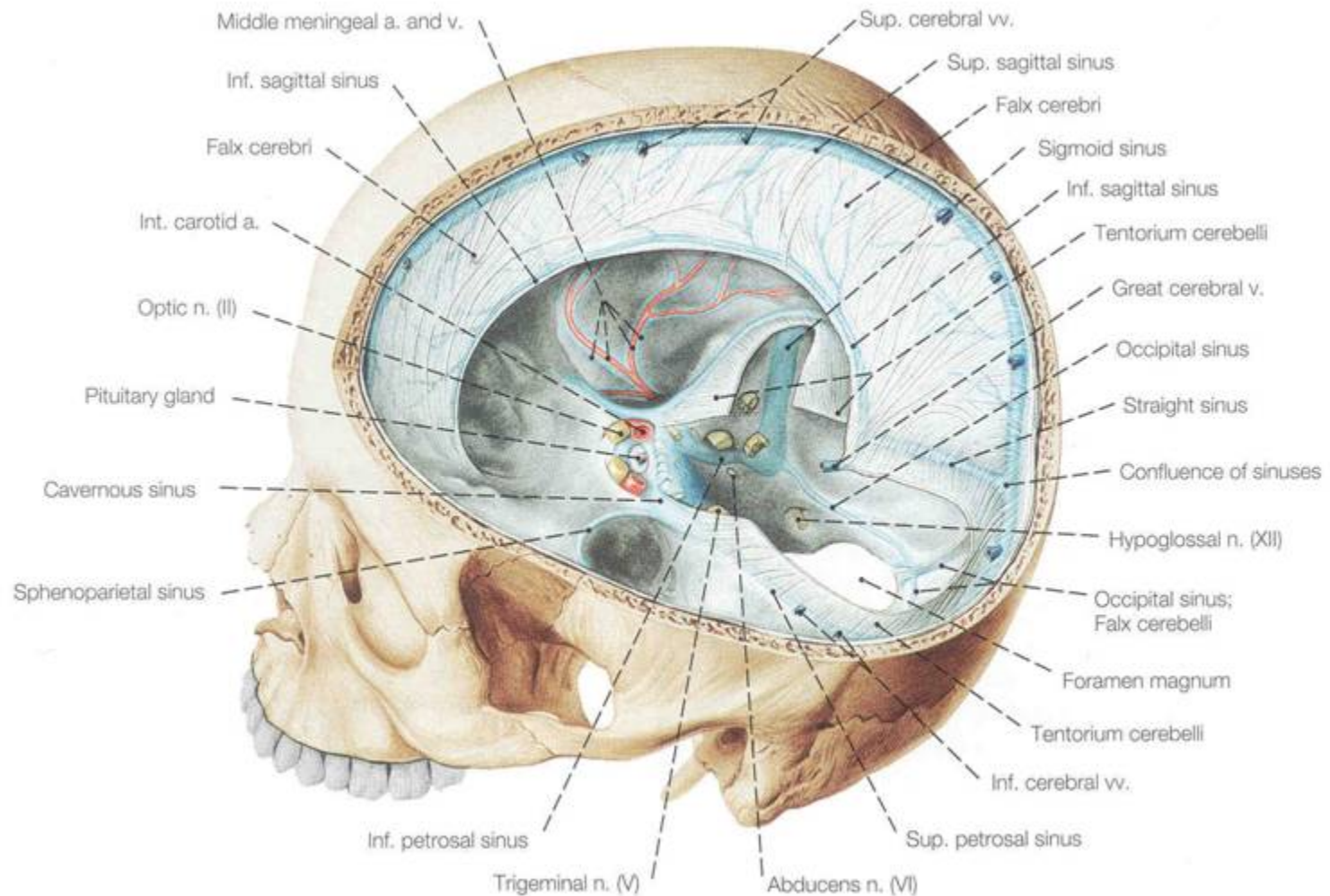
Brain 251

Falx cerebri

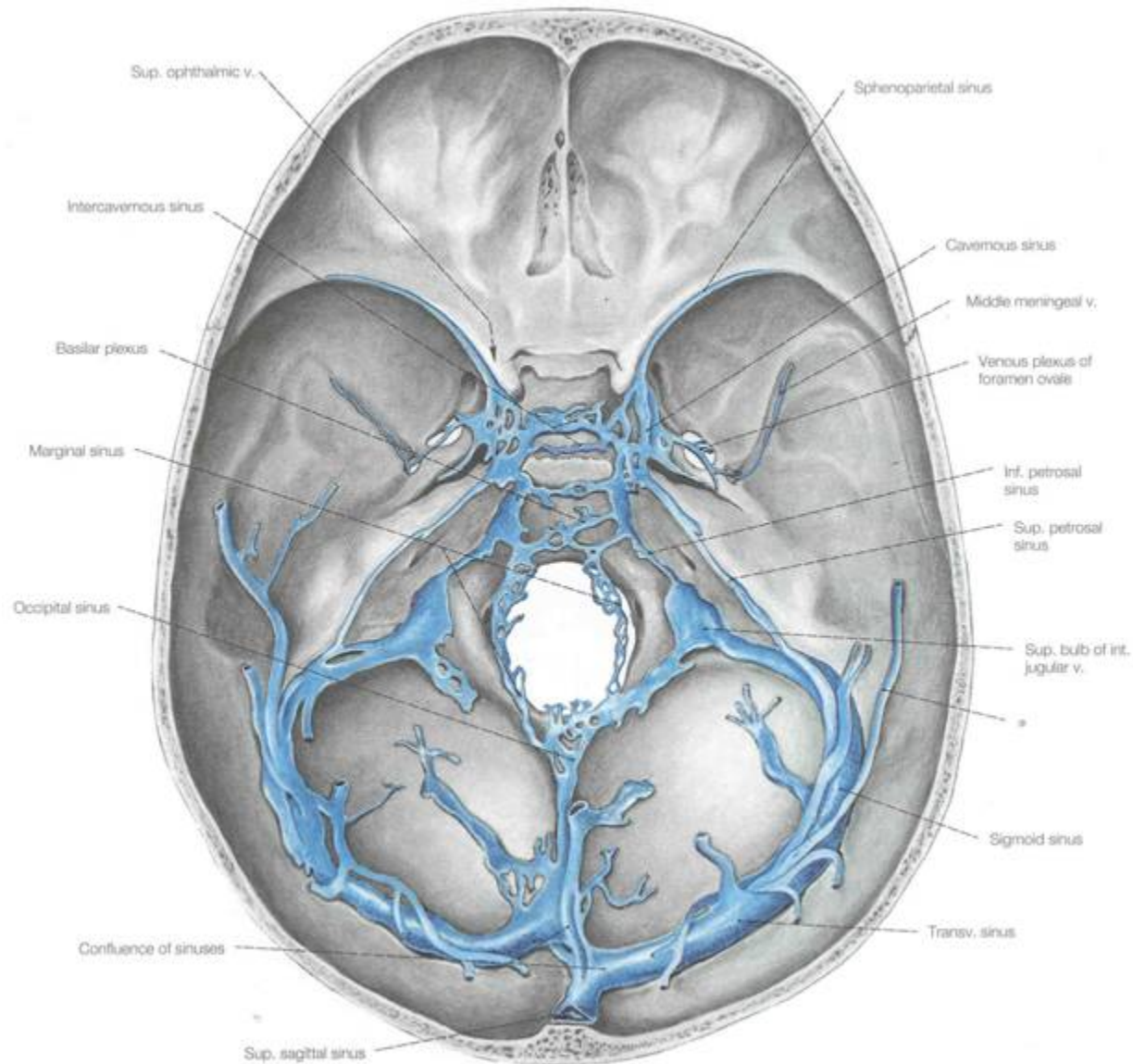




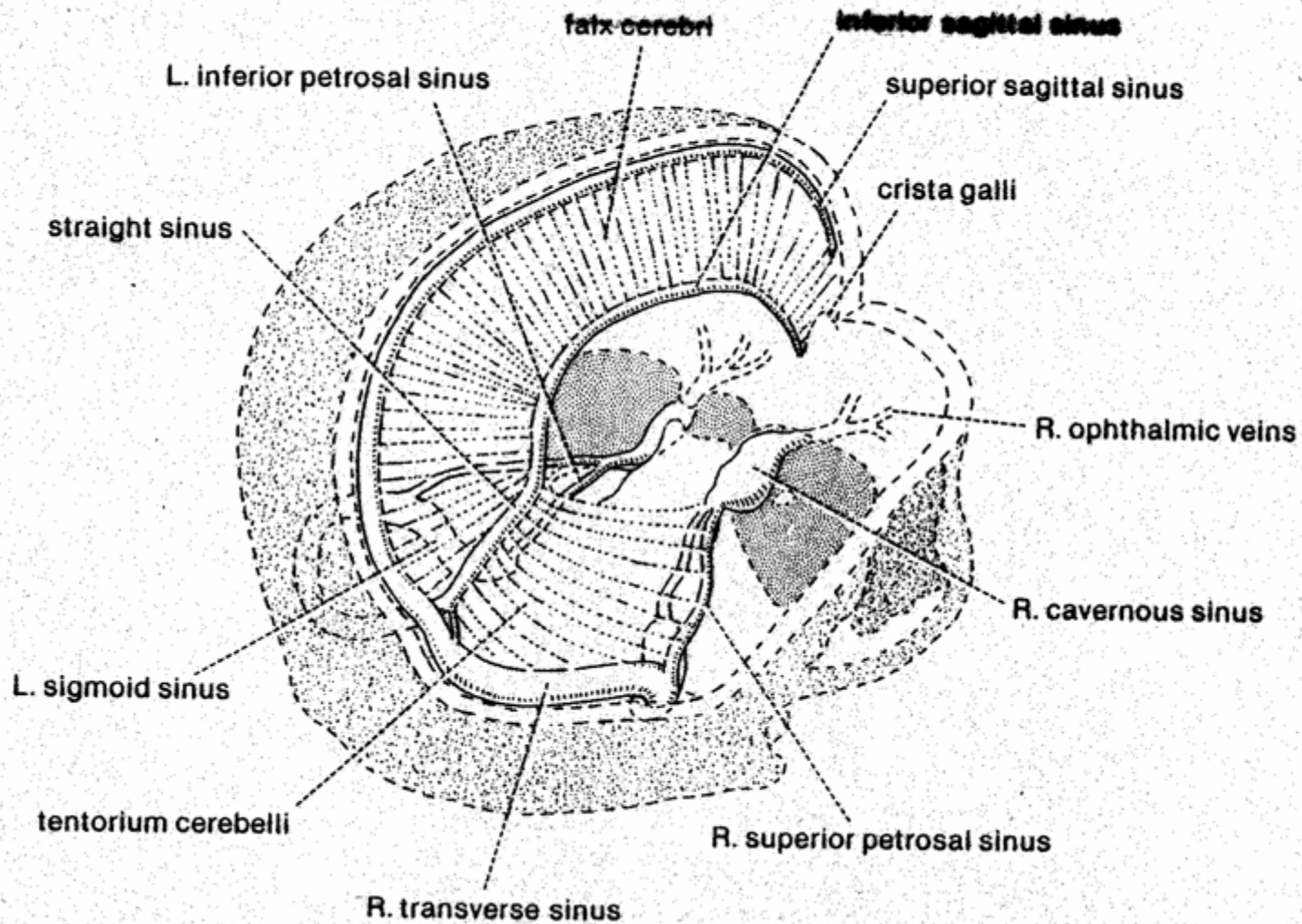
# Vasculature: Venus Sinuses



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# Vasculature: Venus Sinuses



# VENOUS DRAINAGE OF THE SKULL:

SUPERIOR SAGITTAL SINUS to RIGHT/LEFT  
TRANSVERSE SINUS

INFERIOR SAGITTAL SINUS TO STRAIGHT SINUS

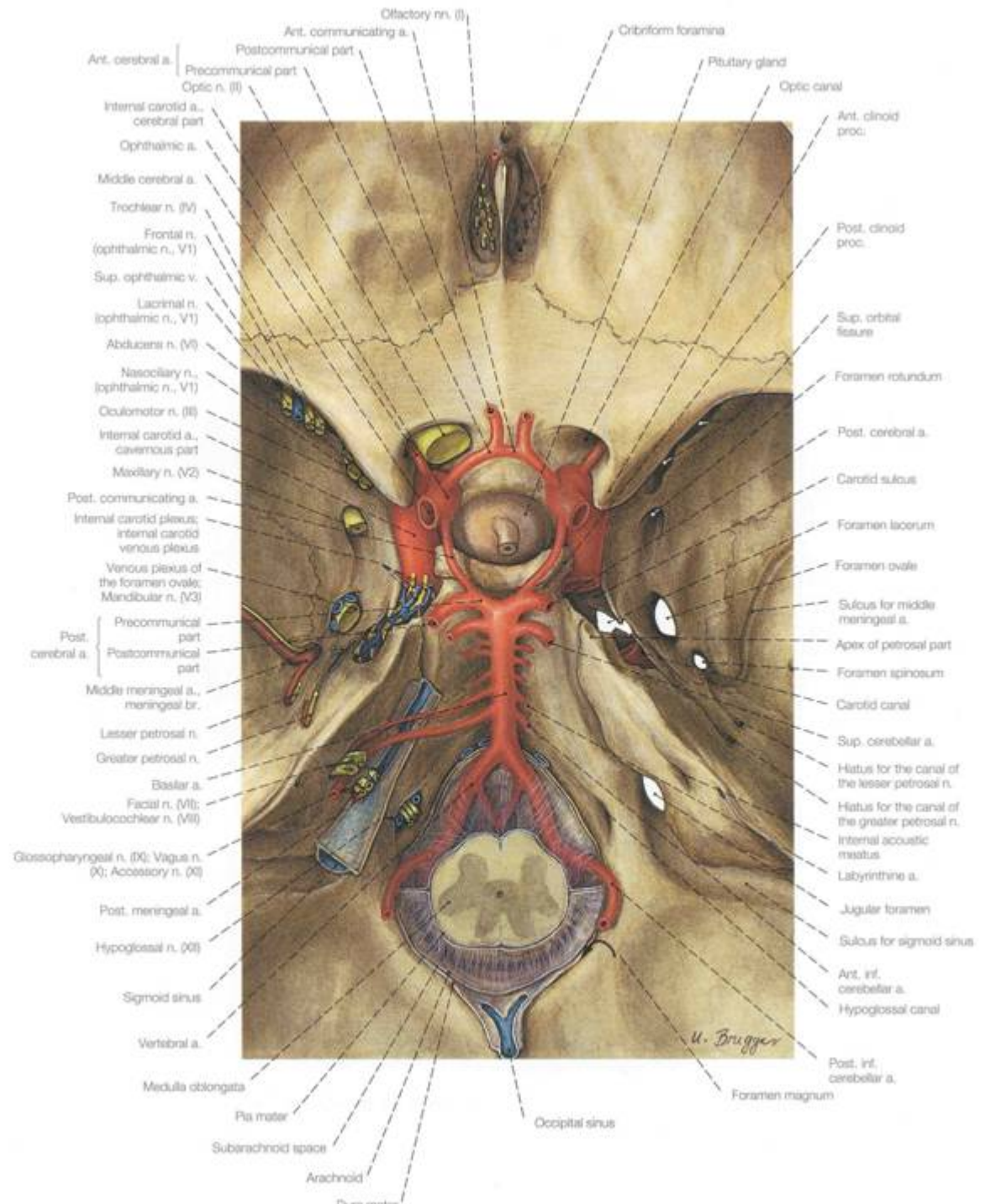
R/L TRANSVERSE SINUSES TO R/L SIGMOID  
SINUSES

R/L SIGMOID SINUSES TO SUPERIOR BULB OF R/L  
JUGULAR VEIN

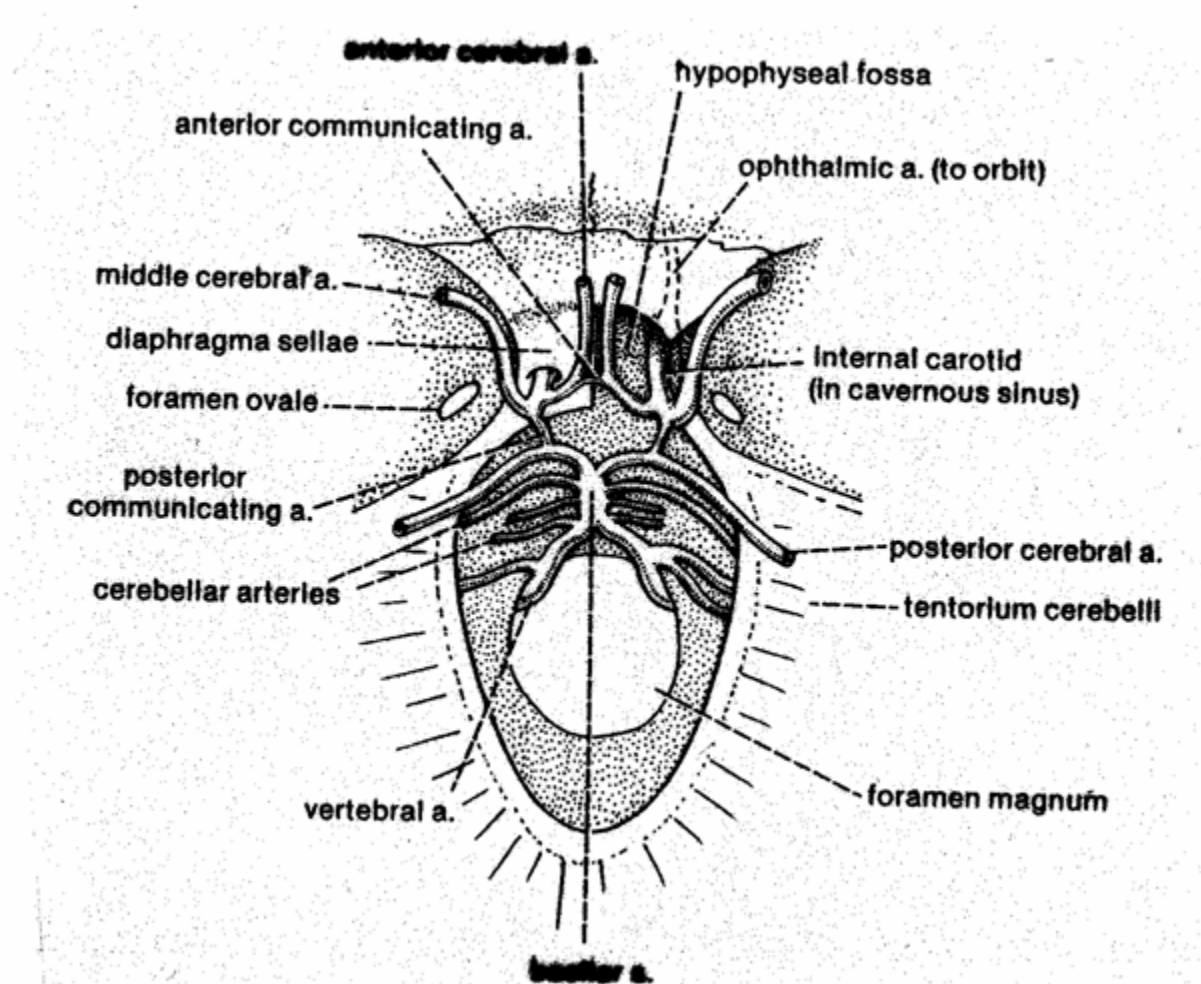
ALSO TO JUGULAR: R/L MARGINAL SINUSES, R/L  
CAVERNOUS SINUSES, OCCIPITAL SINUS, R/L



# Vasculature: Arterial Supply



# Vasculature: Arterial Supply





# ARTERIES LEADING TO CIRCULOSUS ARTERIOSUS CEREBRI

- Right Carotid Artery
- Left Carotid Artery
- Basilar Artery (formed from right and left Vertebral Arteries)
- Also, know branches off of it!

Major Muscles of the Head and Face  
are Derivatives of the Mandibular Arch  
and Hyoid Arch

The motor nerve to the mandibular  
arch: MANDIBULAR NERVE, V3.

The motor nerve of the hyoid arch:  
FACIAL NERVE, VII.

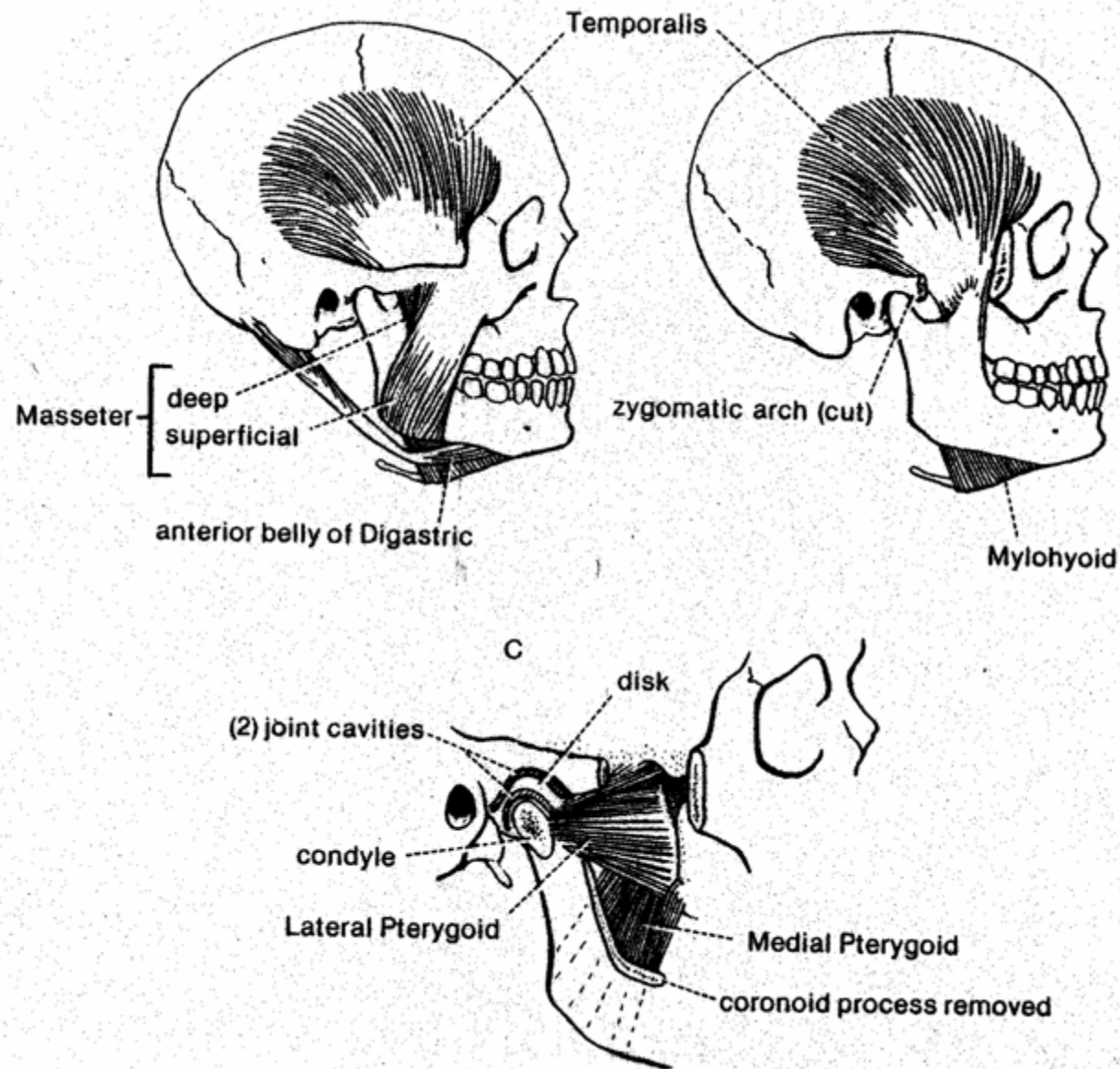
# Major Muscles of the Mandibular Arch (innervated by V3):

- Temporalis
- Masseter
- Medial Head of Pterygoid
- Lateral Head of Pterygoid
- Mylohyoid
- Anterior Belly of Digastric
- Tensor Tympani

# Major Muscles of the Hyoid Arch (innervated by VII):

- Posterior Belly of Digastric
- Facial Muscles (!!)
- Stapedius
- Stylohyoid

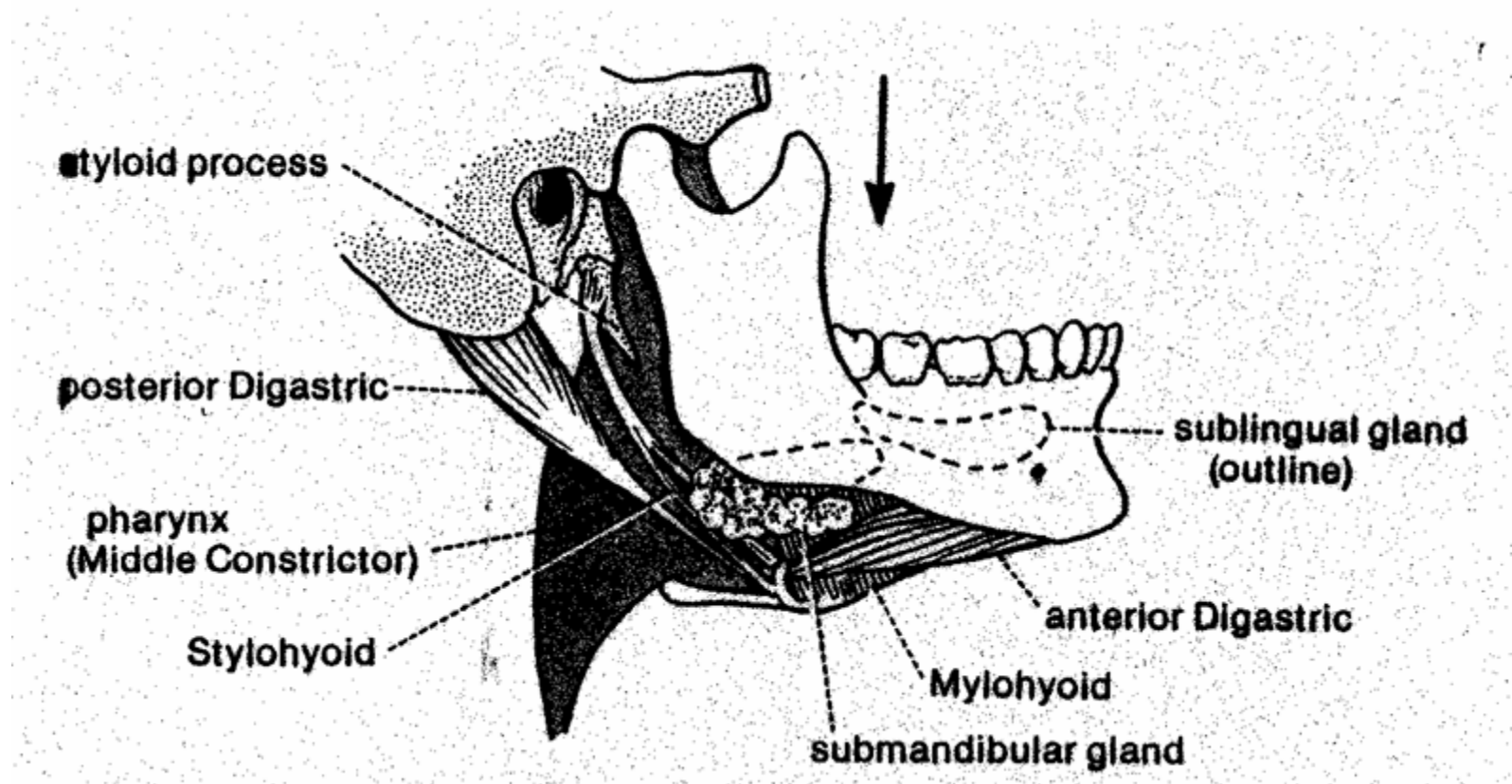
# Jaw Moving Musculature:



# Jaw Opening Musculature: Digastric Muscle

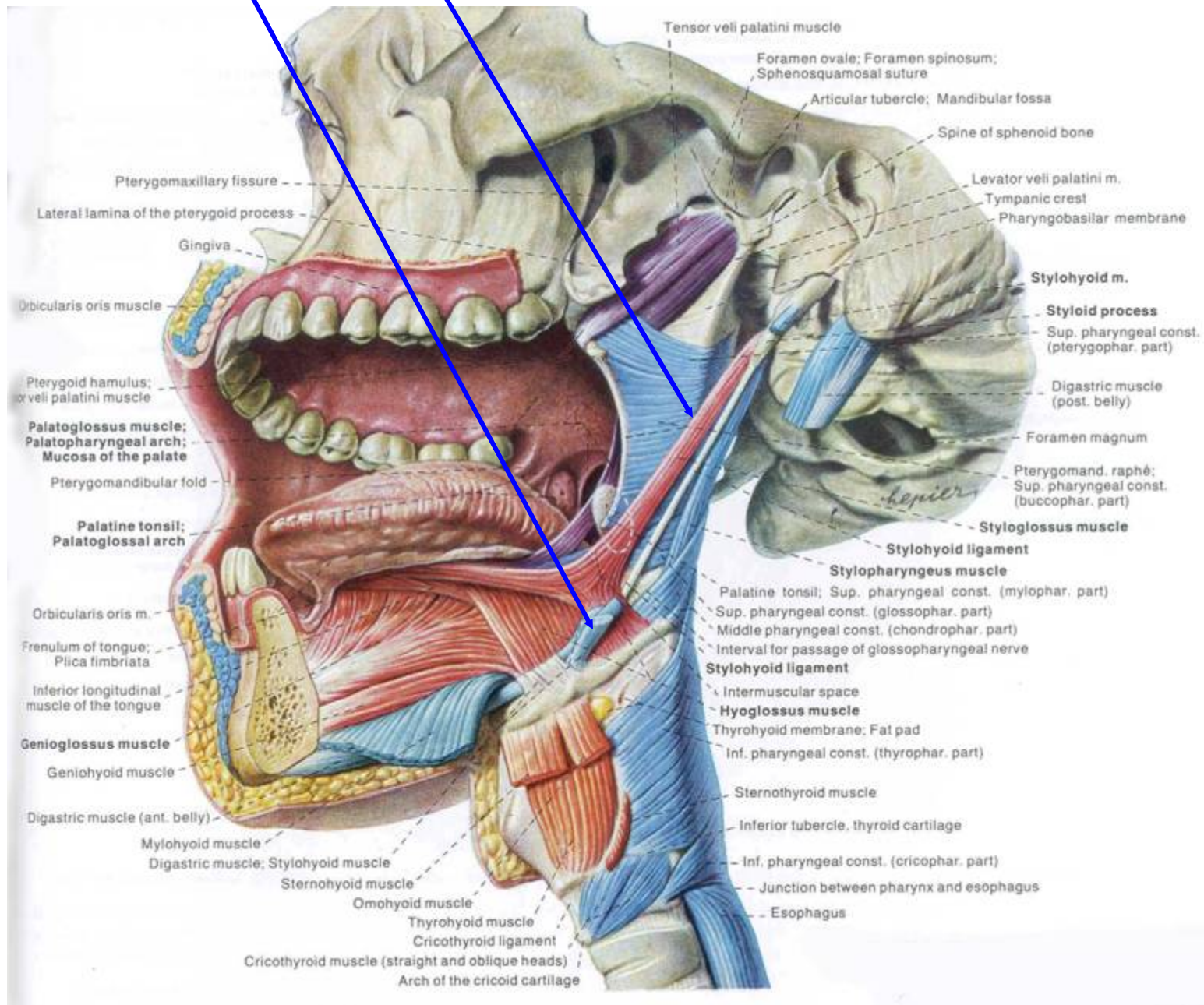
Anterior belly – innervated by Mandibular (V<sub>3</sub>) nerve

Posterior belly – innervated by Facial (VII) nerve

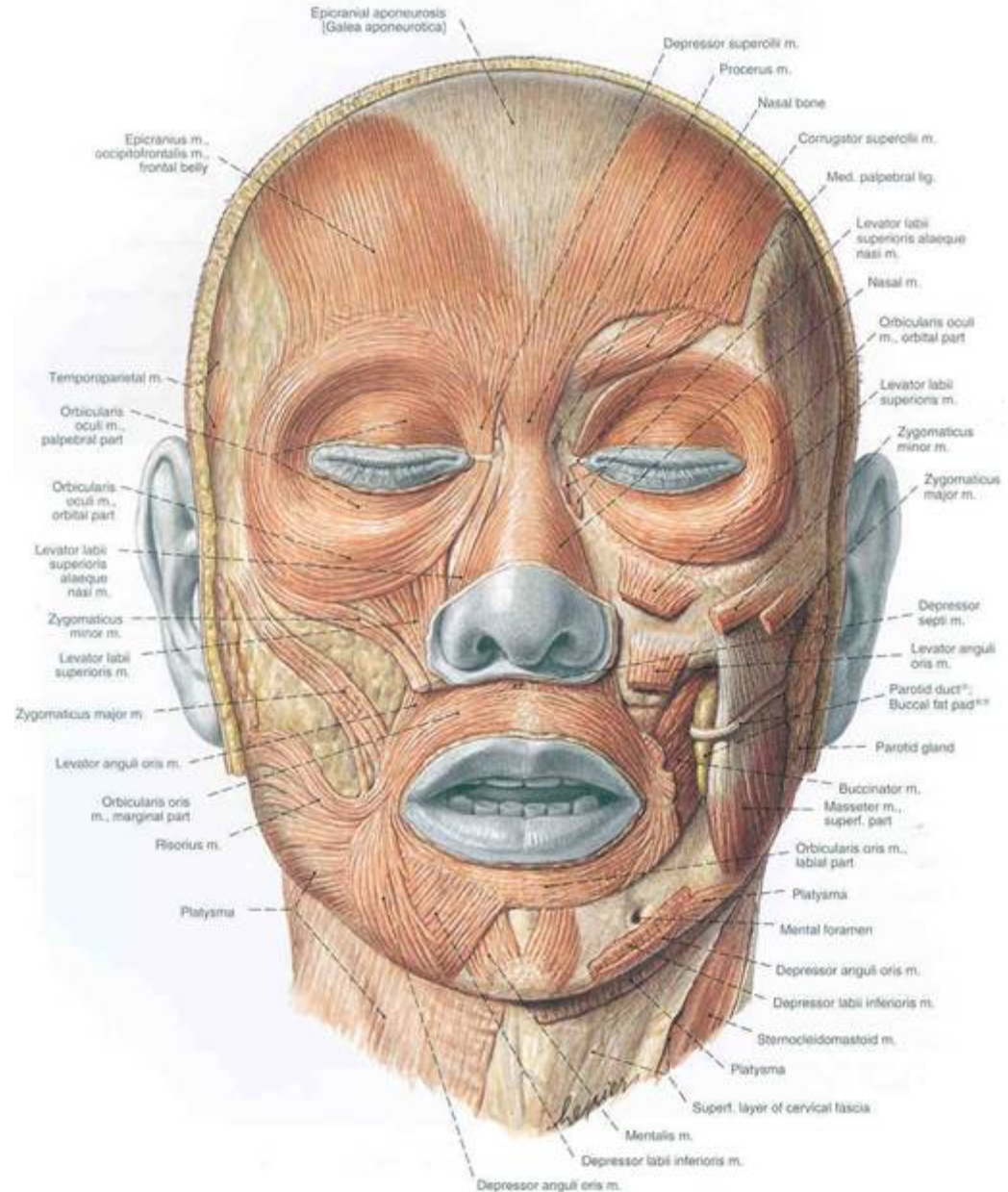




Note! Stylohyoid, styloglossus, tongue muscles in general.



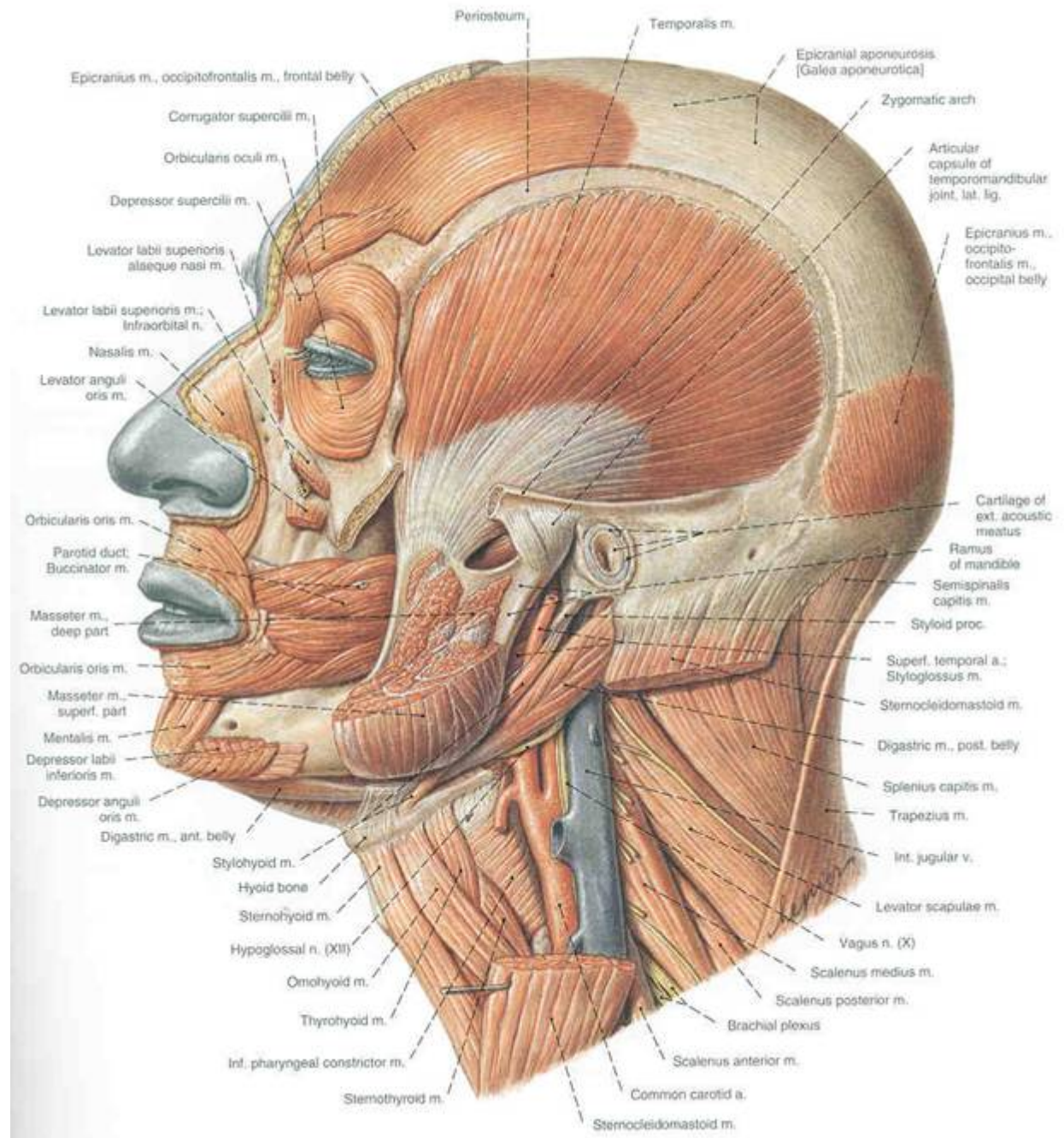
# Superficial Facial Muscles (all innervated by VII)





Some  
muscles of  
mastication  
(Innervated  
by V<sub>3</sub>)

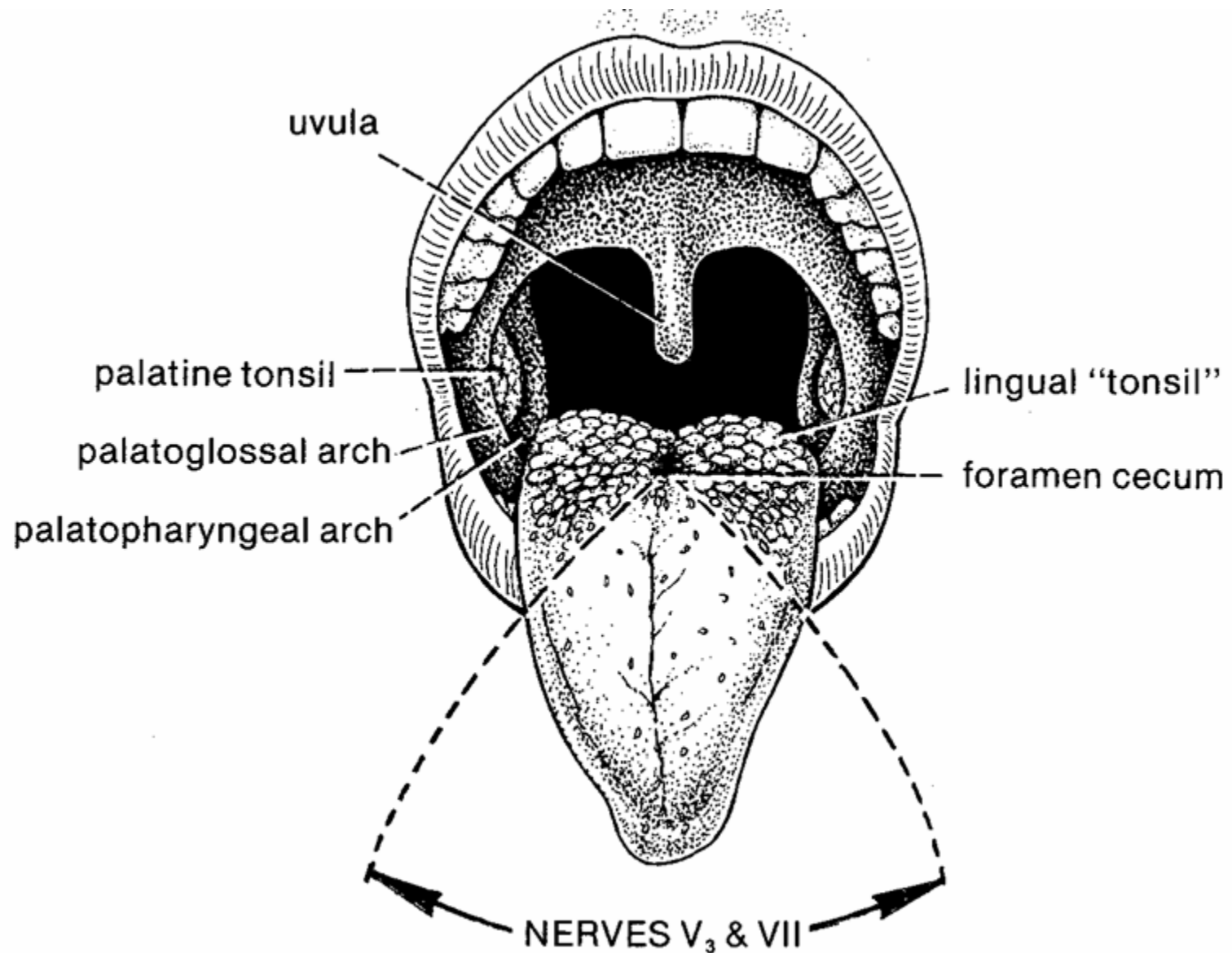
Deeper Facial  
Muscles (All  
innervated by  
VII)



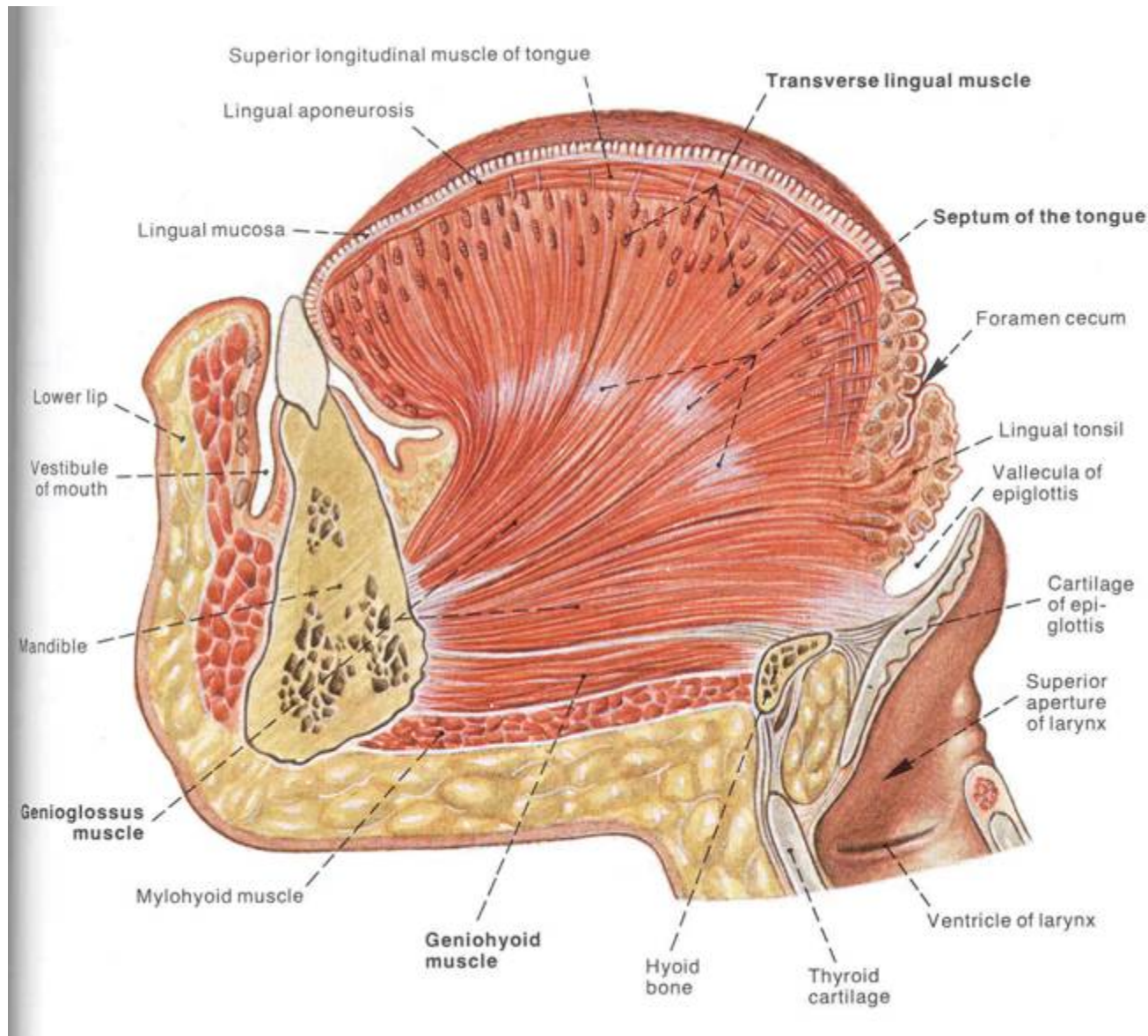
# Facial Muscles You Have to Remember:

- Obicularis Oris
- Obicularis Occuli
- Frontalis
- Buccinator
- Platysma
- Zygomaticus Major
- Depressor Anguli Oris

# Tongue: Surface



# Extrenisc and Intrensic Tongue Muscles





# Three Glands

