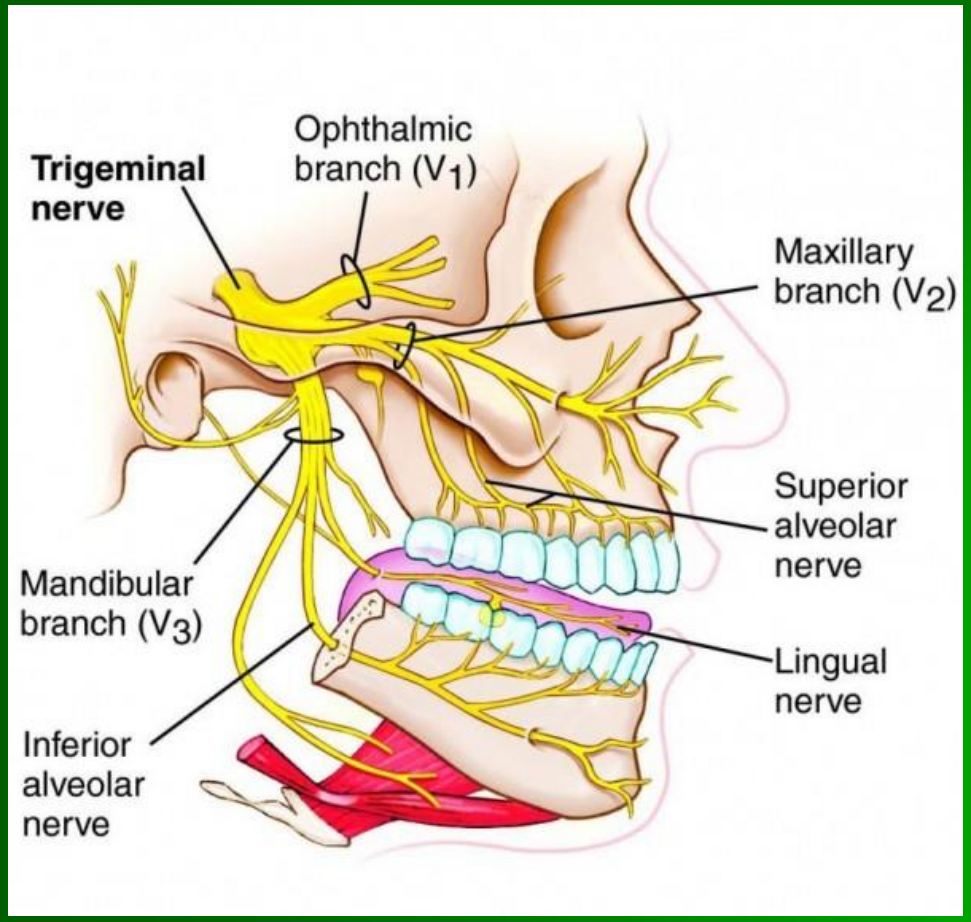
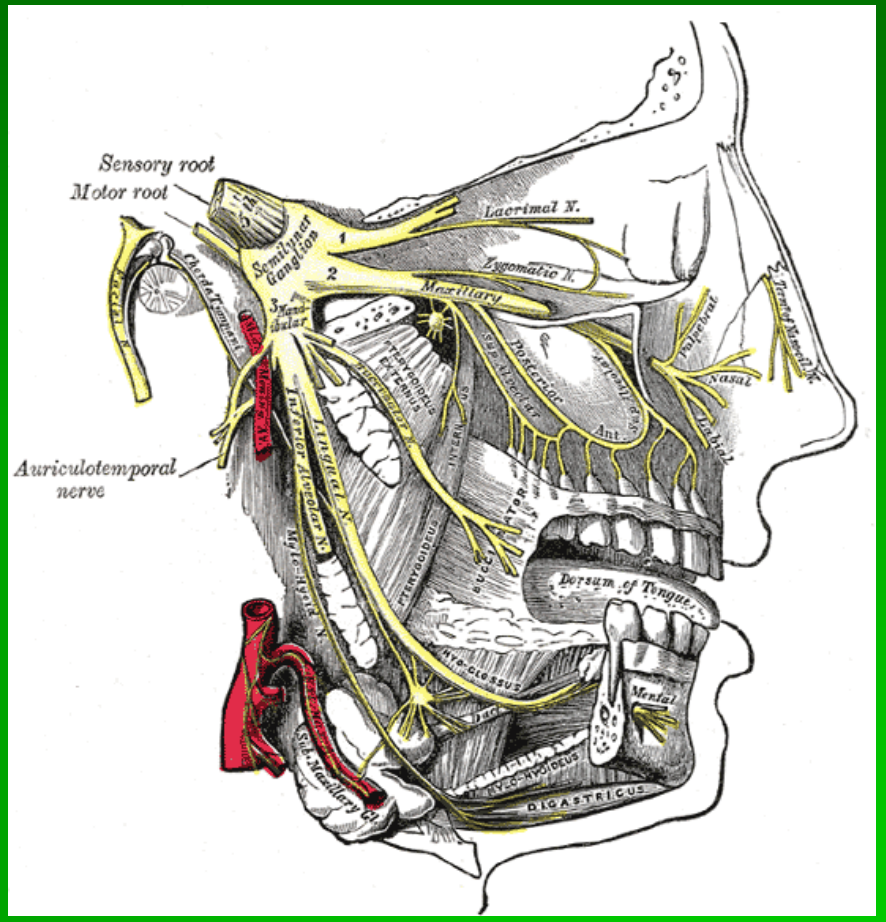
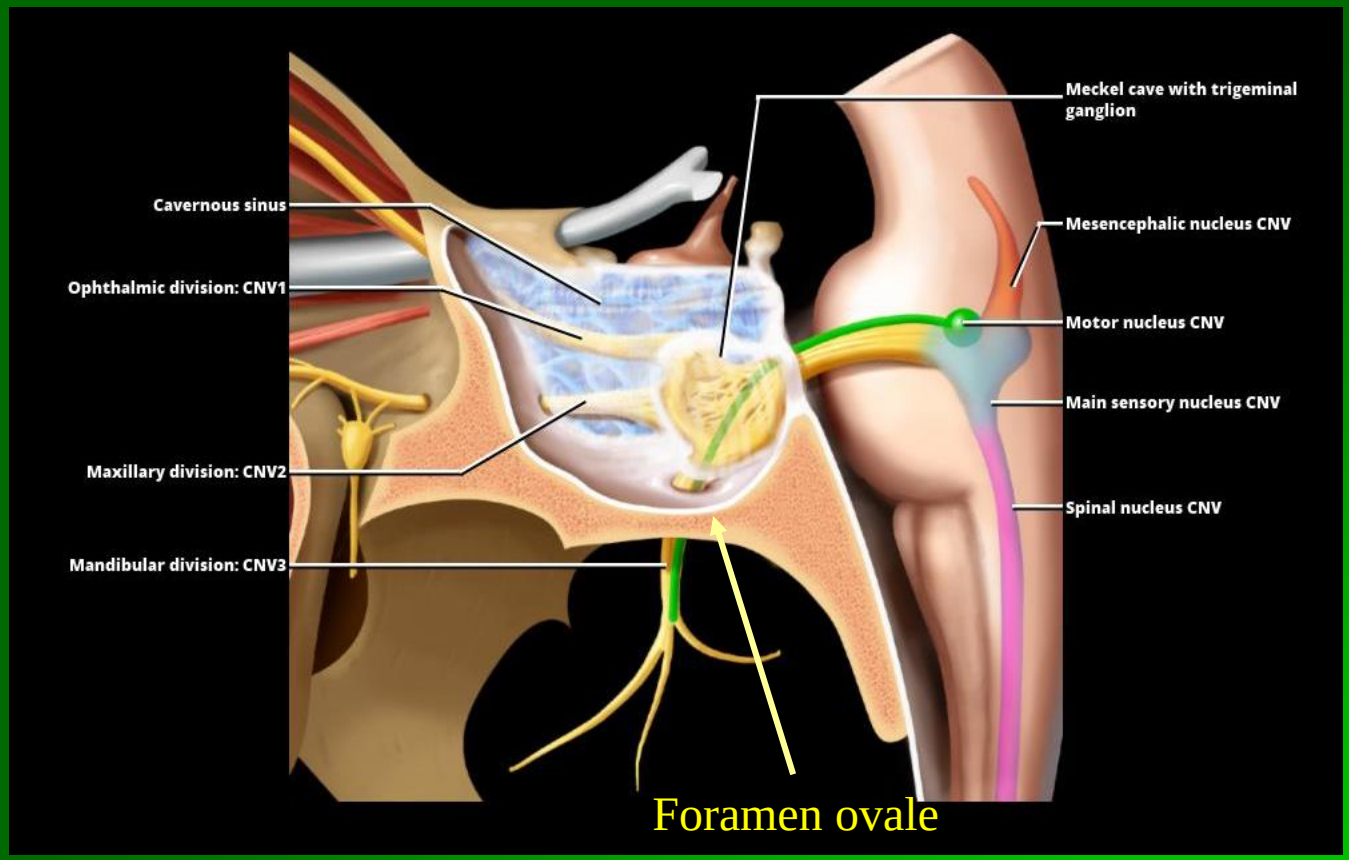
Trigeminal nerve (5th cranial nerve)





Trigeminal nerve

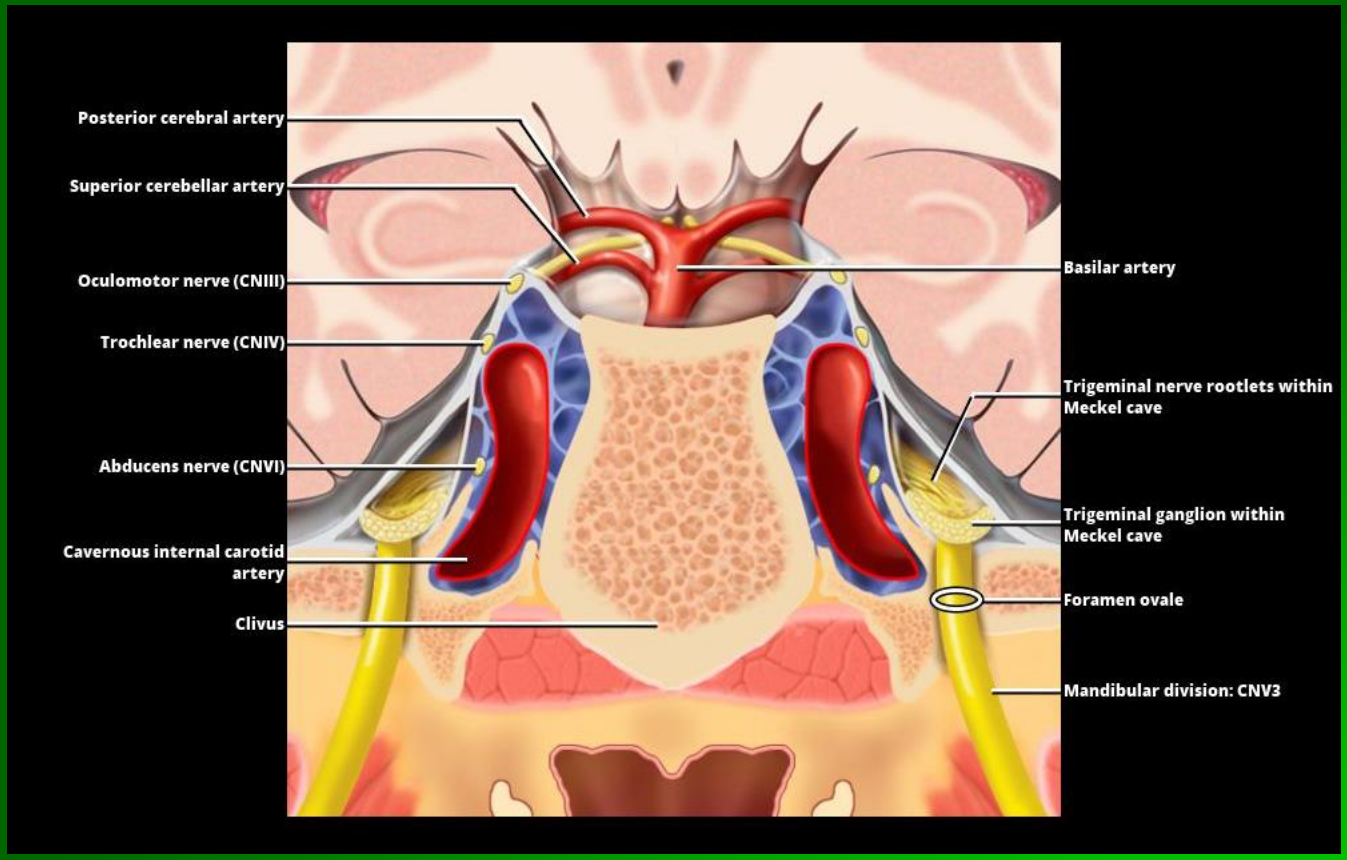
- Great sensory cranial nerve of head and face
- Motor nerve for muscles of mastication
- Divisions
  - Ophthalmic division - CNV1
  - Maxillary division - CNV2
  - Mandibular division - CNV3
- Standing V1 - Superior orbital fissure
- Room V2 – Foramen Rotundem
- Only V3 – Foramen Ovale



From superior to inferior, note the mesencephalic nucleus in the midbrain, the motor nucleus and main sensory nucleus in the pons, and the spinal nucleus extending from the lower pons into the upper cervical spinal cord.

The motor root of CNV sends fibers along the mandibular division only.

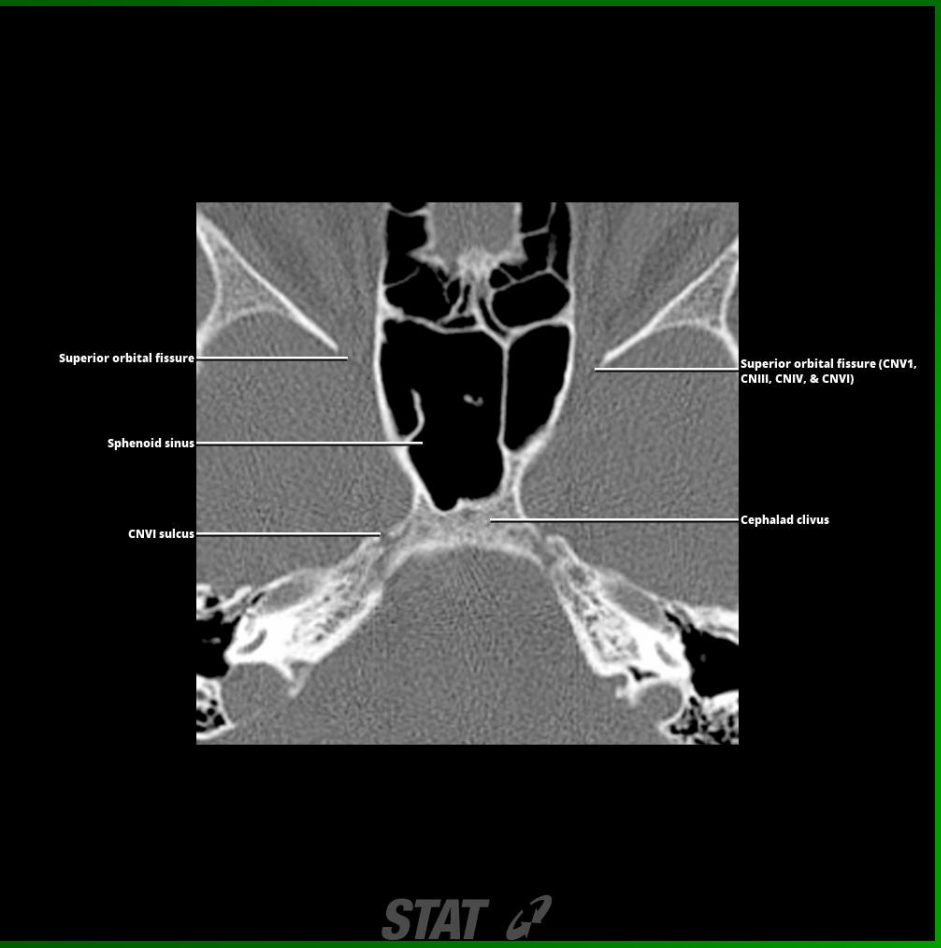
From Meckel cave, the ophthalmic and maxillary divisions of CNV pass anteriorly through the cavernous sinus while the mandibular division exits inferiorly to foramen ovale.



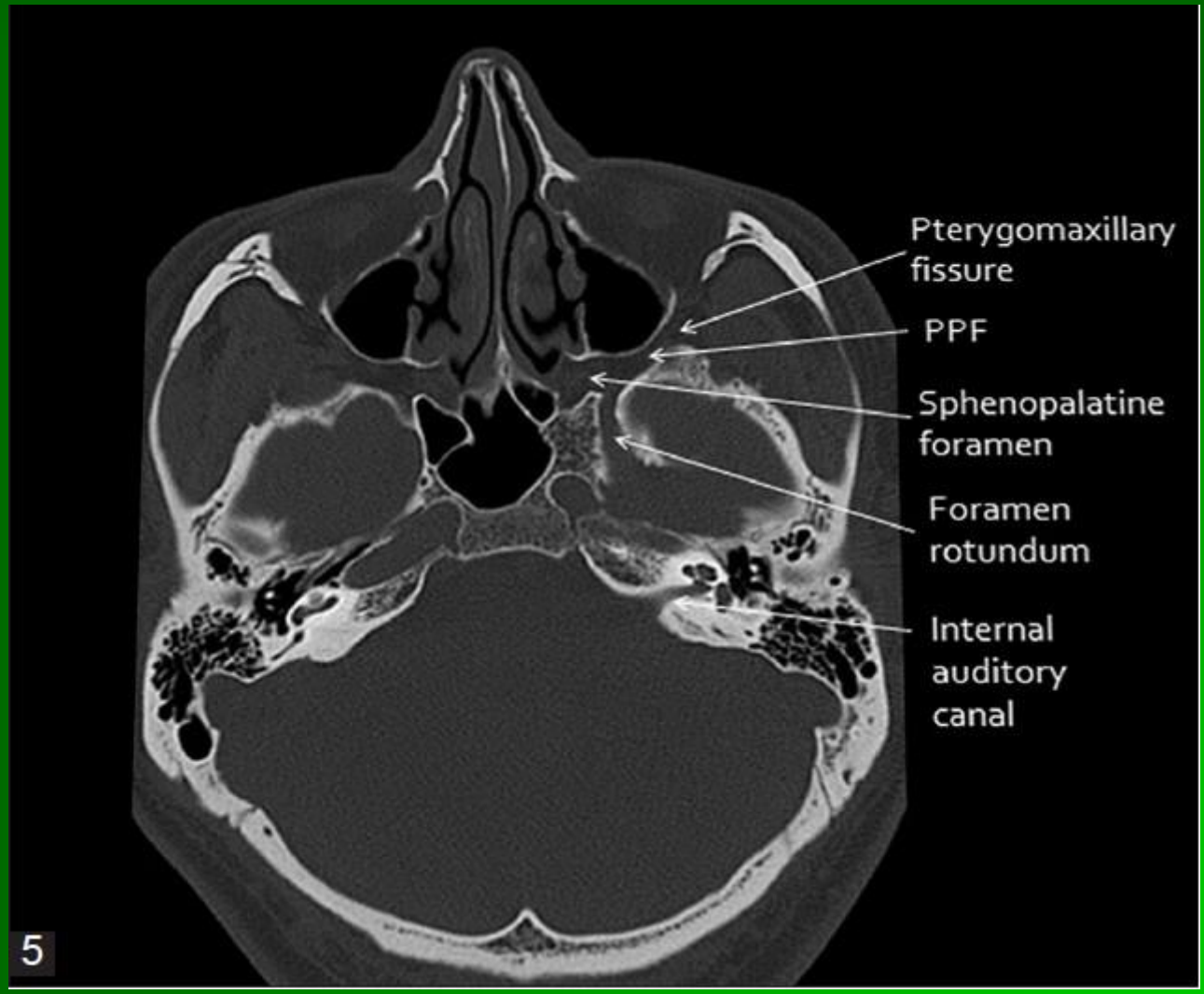
Coronal graphic depicting the fact that the mandibular division of the trigeminal nerve (CNV3) never enters the cavernous sinus.

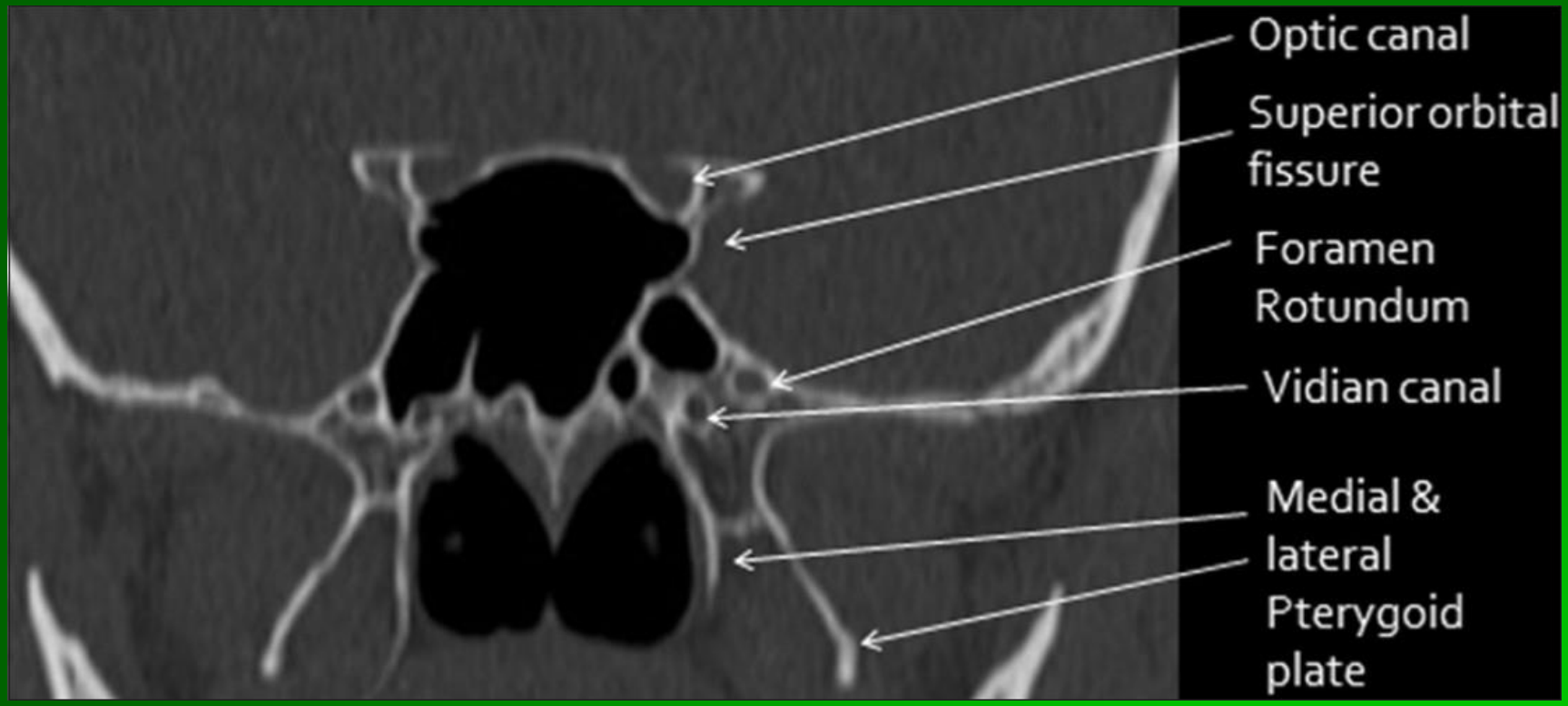
Instead, CNV3 exits directly from Meckel cave, passing inferiorly through foramen ovale into the nasopharyngeal masticator space.

Meckel cave is actually a "pseudopod" of the lateral prepontine cistern, containing both the trigeminal nerve rootlets and the trigeminal ganglion. Remember, it is CNV3 that possesses the motor fibers of the trigeminal nerve.

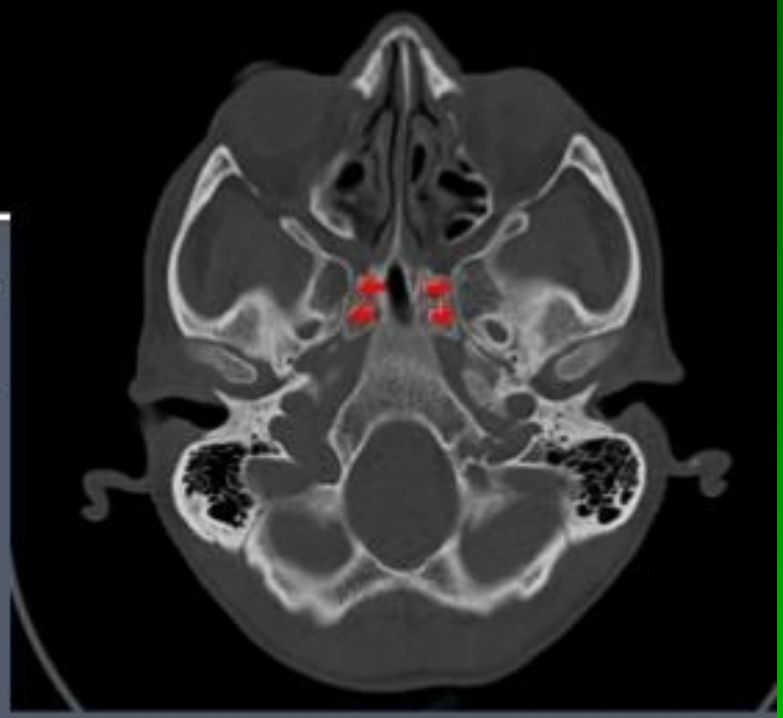

Superior orbital fissure
Superior orbital fissure (CNV1, CNIII, CNIV, & CNVI)
Sphenoid sinus
CNVI sulcus
Cephalad clivus


Maxillary sinus
Inferior orbital fissure
Pterygopalatine fossa
Pterygopalatine fossa
Foramen rotundum (CNV2)
Vidian canal (pterygoid nerve & artery)
Foramen ovale (CNV3)
Foramen spinosum (middle meningeal artery, vein, & meningeal branch of CNV3)
Clivus


Pterygomaxillary fissure
PPF
Sphenopalatine foramen
Foramen rotundum
Internal auditory canal
5


Optic canal
Superior orbital fissure
Foramen Rotundum
Vidian canal
Medial & lateral Pterygoid plate

Vidian Canal



The vidian canal (pterygoid canal) is located in the floor of the sphenoid sinus at the junction of the pterygoid process and the sphenoid body connecting the pterygopalatine fossa anteriorly and the foramen lacerum posteriorly.

Contents :-

- Vidian Artery (Br. Of Maxillary Artery).
- Vidian Nerve (greater superficial petrosal nerve and deep petrosal nerve)

Coronal Anatomy (posterior)

FIG. 72.
1. foramen ovale
2. sphenoid sinus
3. nasopharynx

Foramen ovale