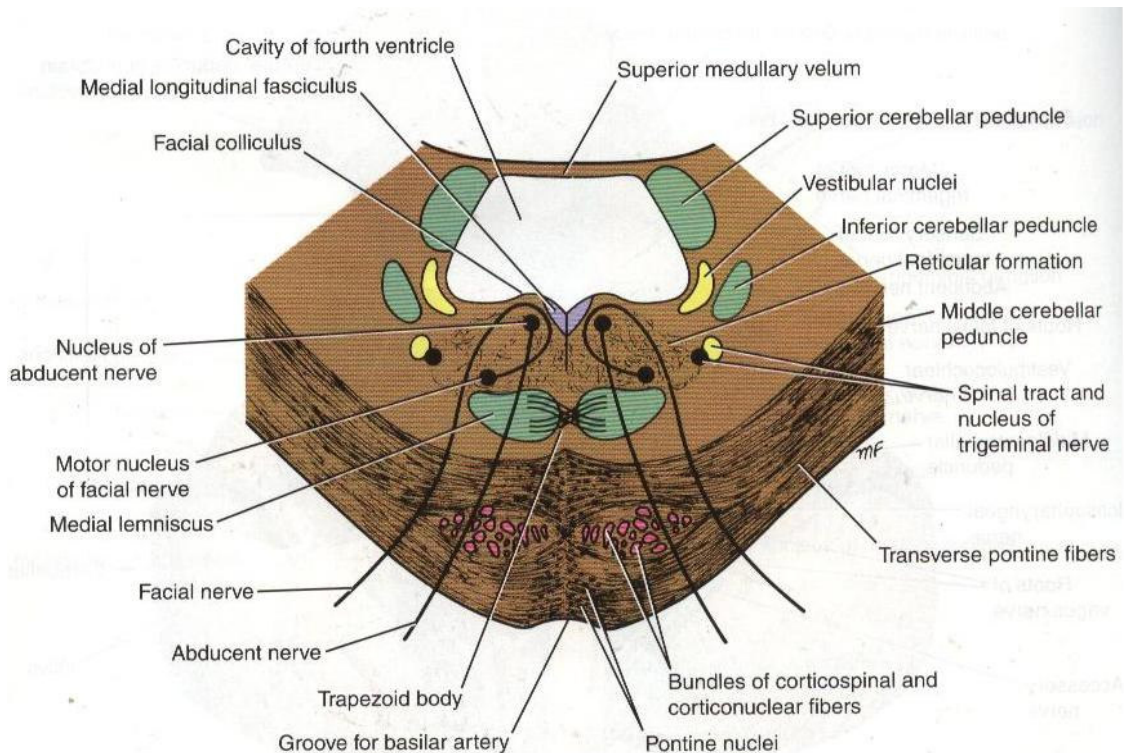
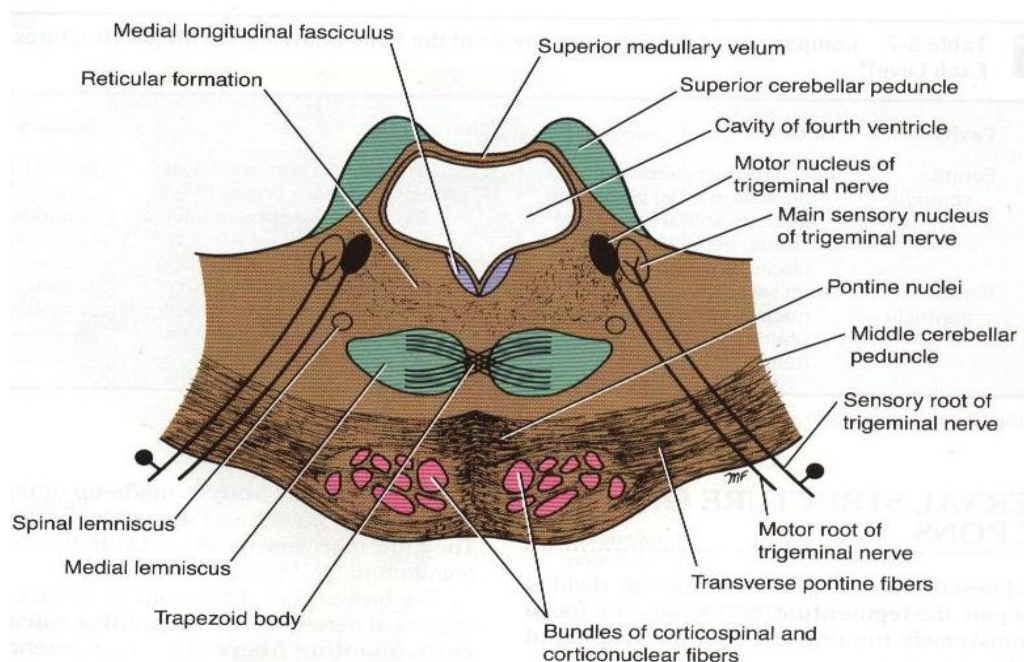


INTERNAL FEATURES OF THE PONS

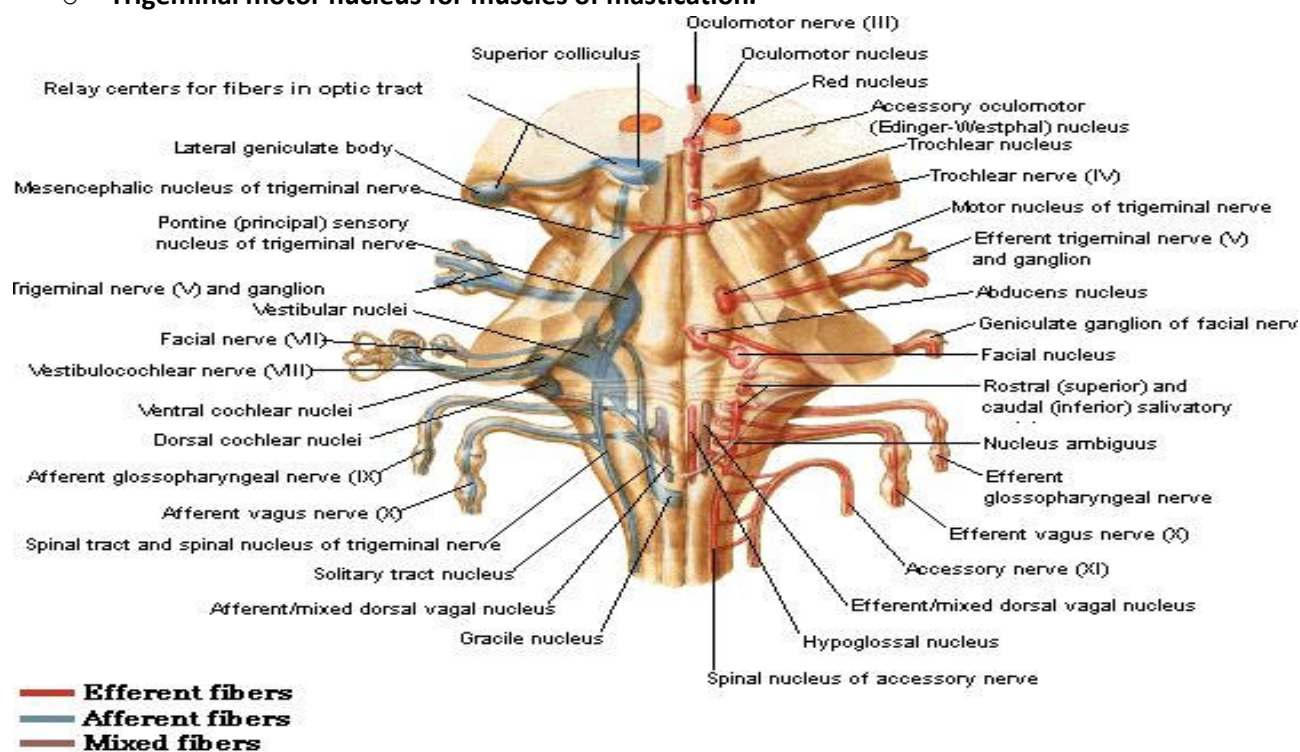
- The Pons may be divided into ventral or basal portion and a dorsal portion, also known as **tegmentum**.
- The ventral portion is marked by numerous transversely oriented fascicles of pontocerebellar fibres that originate from scattered cell groups, the **pontine nuclei**.



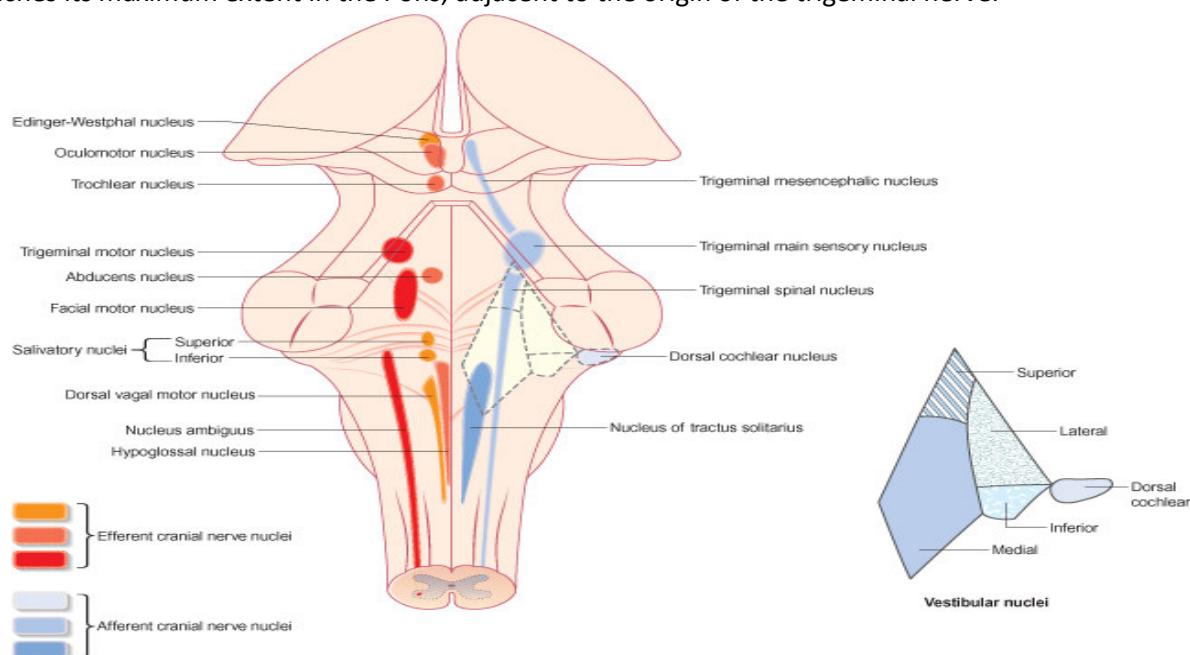
- The pontocerebellar fibres pass to the *contralateral* side of the cerebellum through the massive *middle* cerebellar peduncle (**brachium pontis**).
- Corticospinal fibres (*which continue into medullary pyramid*) appear as small and separate bundles running longitudinally between the fascicles of transverse pontine fibres.
- The ascending fibres of the medial lemniscus become separated from the pyramid and displaced dorsally together with the spinal lemniscus and trigeminothalamic tract, by intervening transverse pontocerebellar fibres.



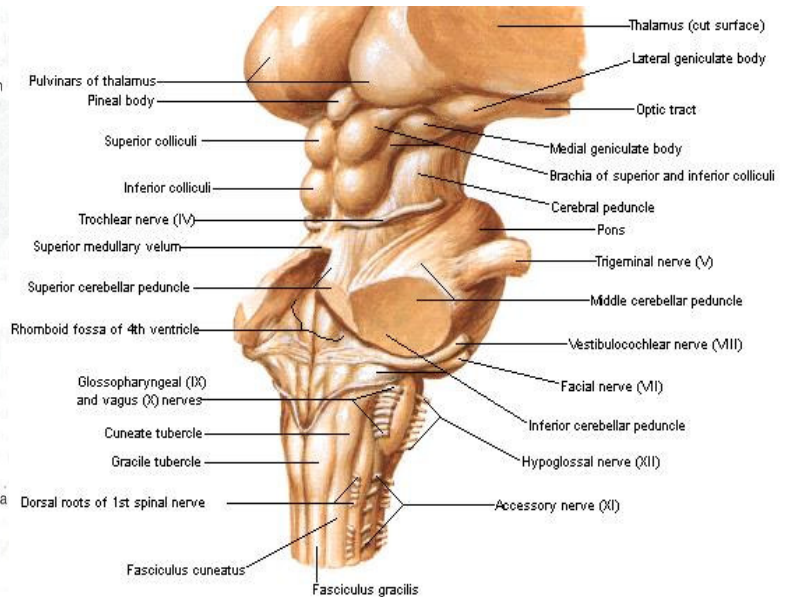
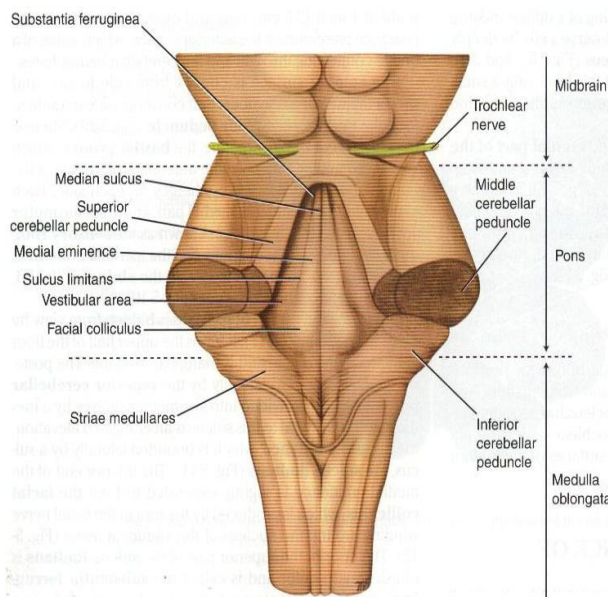
- The medial lemniscus also rotates through 90° so that it lies almost horizontally, marking the boundary between ventral and tegmental portions of Pons.
- In the caudal Pons, an additional group of transversely running fibres is located ventral to the ascending lemniscal fibres but dorsal to the pontocerebellar fibres.
- This is the **trapezoid body** which consists of acoustic fibres crossing the brain stem from the cochlear nuclei.
- They ascend into the midbrain as the lateral lemniscus and terminate in the inferior colliculus.
- Beneath the floor of the fourth ventricle, in the **pontine tegmentum** lie a number of cranial nerve nuclei.
- **These nuclei include :**
 - **Abducens nucleus** for lateral rectus muscle.
 - **Facial motor nucleus** for muscles of facial expression.
 - **Trigeminal motor nucleus** for muscles of mastication.



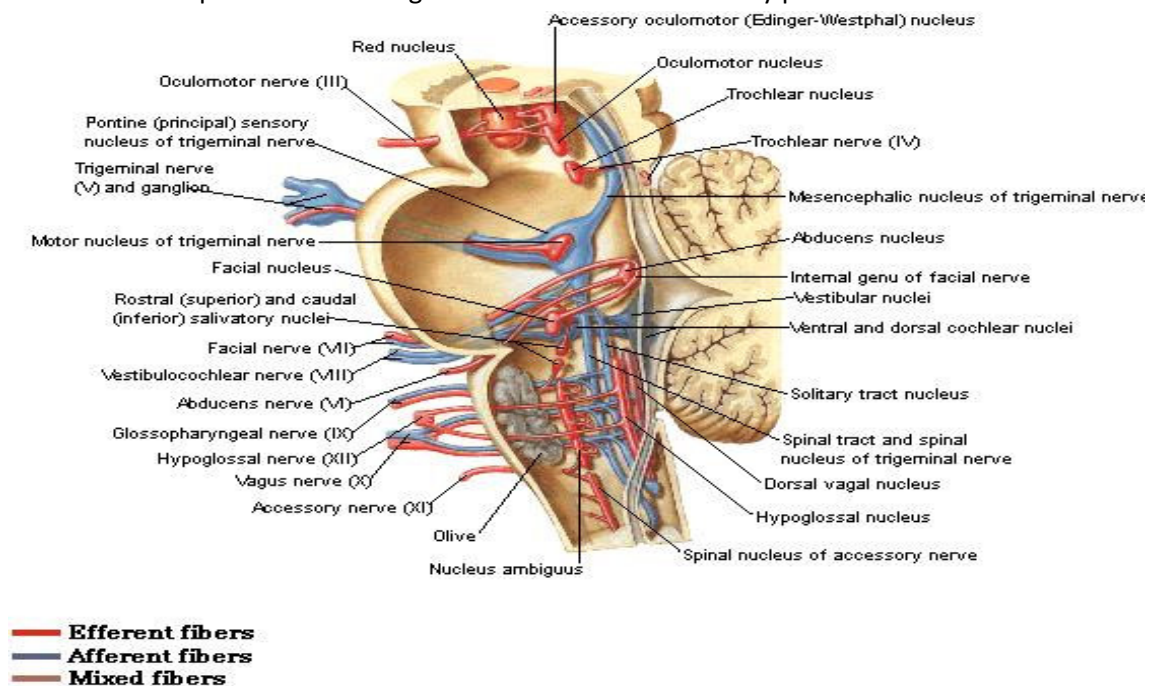
- Each nucleus supply to their respective cranial nerves.
- Trigeminal sensory nucleus encountered in the medulla.
- It reaches its maximum extent in the Pons, adjacent to the origin of the trigeminal nerve.



- In the rostral part of the Pons, the superior cerebellar peduncles form the lateral walls of the fourth ventricle.
- The thin **superior medullary velum** spanning between them to form its roof.
- The superior peduncle contains some cerebellar afferent fibres, the ventral spinocerebellar tract, which conveys proprioceptive information from the limbs.



- It consists mainly of ascending cerebellar efferents concerned with the coordination of movement that are destined for red nucleus of mid brain and ventral lateral nucleus of the thalamus.
- The superior cerebellar peduncles converge towards the midline as they pass into the midbrain.



THE END

LoveTomy Team 426

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!! ابتسم همي بروحي

M.A.M Abo Slo7 Cute Killer



SELF QUIZ

1- Concerning the Pons, one is CORRECT :

- a. The main sensory nucleus of the trigeminal nerve is located in the medulla oblongata.
- b. Above the floor of the fourth ventricle in the pons tegmentum lie a number of cranial nerve nuclei.
- c. In the caudal part of the Pons, the superior cerebellar peduncles form the lateral walls of fourth ventricle.
- d. The fibers of the trapezoid body ascend into the midbrain as lateral lemniscus.
- e. Lateral lemniscus is marking the boundary between the ventral and tegmental portion of the Pons.

2- Unconscious proprioception is mediated through :

- a. Dorsal spinocerebellar tract.
- b. Spino-olivary tract.
- c. Ventral spinocerebellar tract.
- d. All of the above.
- e. A and C only.

3- The superior cerebellar peduncle contains one of the following tracts :

- a. Ventral spinocerebellar tract.
- b. Dorsal spinocerebellar tract.
- c. Olivocerebellar tract.
- d. Cuneocerebellar tract.
- e. Pontocerebellar tract.

4- The middle cerebellar peduncle connects the cerebellum with the :

- a. Restiform body.
- b. Inferior olive.
- c. Medulla.
- d. Midbrain.
- e. Pons.

5- The lateral wall of the fourth ventricle is formed by the :

- a. Superior medullary velum.
- b. Inferior medullary velum.
- c. Superior cerebellar peduncles.
- d. Cerebellum.
- e. None of the above.

1. d	2. d	3. a	4. e	5. c
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