Final Exam
Dental Neuroanatomy

April 14, 2010

1:00 – 2:30 p.m.

4th Floor Student Faculty Center

Please fill out the bubble sheet with your name, Student ID number and under instructor put Marino. For course please enter Dental Neuroanatomy D 204. Make sure you carefully fill in all the answers in the circles.

1. The cerebral crus, substantia nigra and the adjacent tegmentum are located in the:
    a. Tectum
    b. Cerebellar peduncles
    c. Pons
    d. Cerebral peduncles

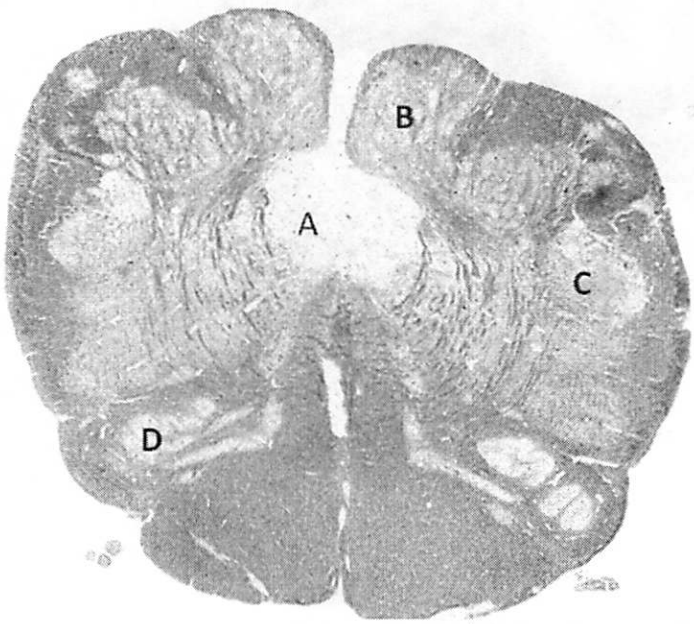
2. The central sulcus separates the:
    a. Temporal and frontal lobes.
    b. Temporal and occipital lobes.
    c. Parietal and occipital lobes
    d. Parietal and frontal lobes.

3. The cerebrospinal fluid-filled cavity found in the midbrain is the:
    a. 3rd ventricle
    b. 4th ventricle
    c. Cerebral aqueduct
    d. Lateral ventricle

4. Which cranial nerve nuclei are found in the pons?
    a. Abducens and trigeminal.
    b. Trigeminal and Dorsal motor nuclei.
    c. Oculomotor and Abducens.
    d. Nucleus ambiguous and Hypoglossal

5. With a loss of upper motor neurons a patient would have:
    a. Flaccid paralysis.
    b. Spastic paralysis.
    c. Sensory deficits.
    d. Normal motor function

6. In the diagram above the arrow points to the region where the lower motor neurons would innervate the:
   a. Finger muscles.
   b. Trunk muscles
   c. Upper limb muscles
   d. Lower limb muscles

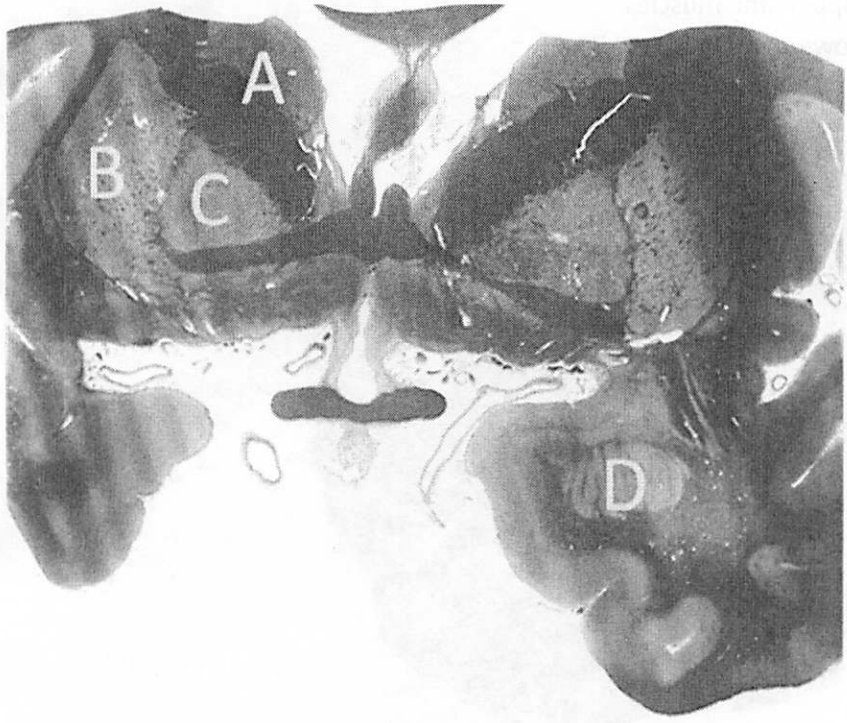


7. In the image above where is the 12th nucleus?
   a.
   b.
   c.
   d.

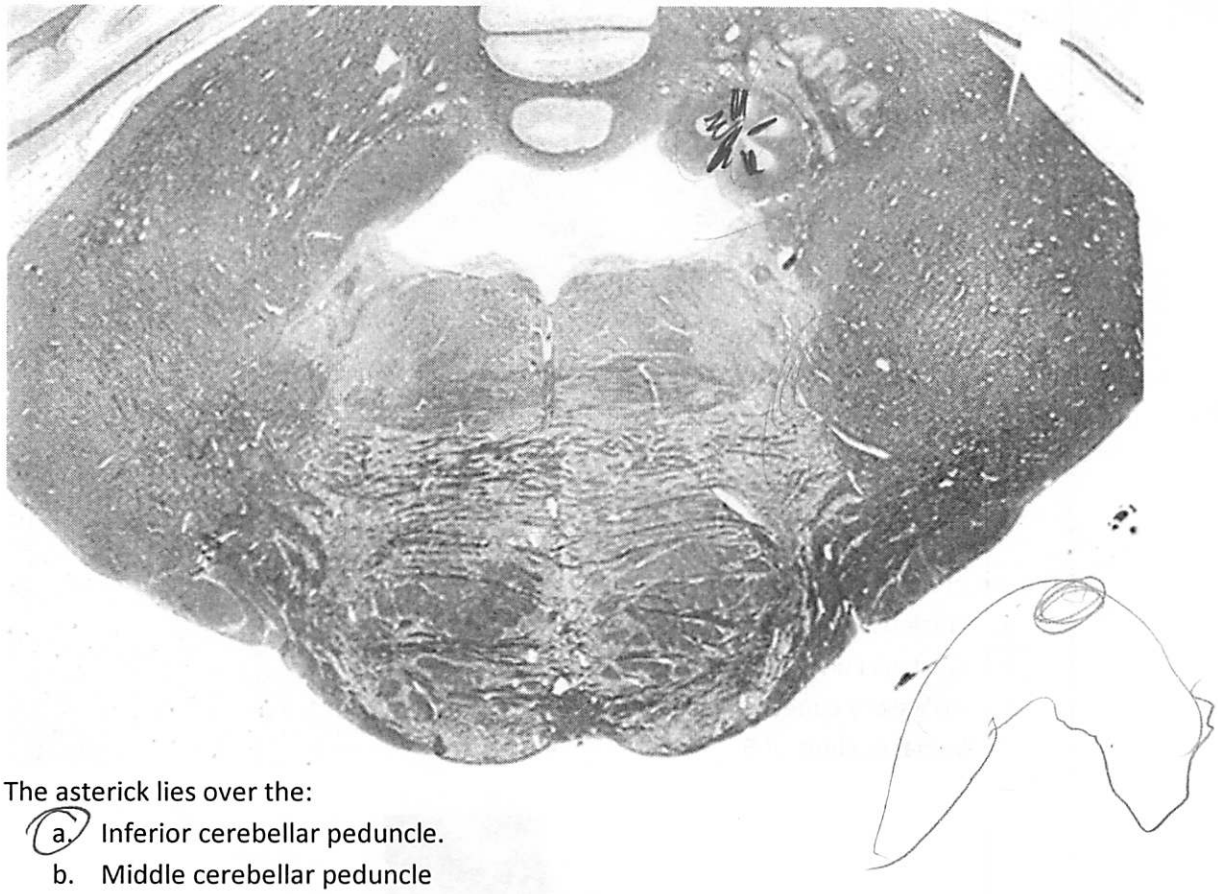
8. Which would give you pronounced and rapid atrophy if lesioned?
   a. Pyramidal tract.
   b. Lower motor neurons.
   c. Vestibulospinal tract.
   d. Upper motor neurons.

9. Which symptom is found in Upper Motor Neuron Syndrome?
   a. Spastic paralysis
   b. Hypotonia
   c. Rapid atrophy
   d. Decreased or absent reflexes.

10. A tremor at rest would indicate:
   a. Basal Ganglia disease
   b. Posterior lobe of the cerebellum syndrome
   c. Anterior lobe of the cerebellum syndrome.
   d. Flocculonodular lobe of the cerebellum syndrome



11. In the image above, the globus pallidus nucleus is found at:
   a.
   b.
   c.
   d.

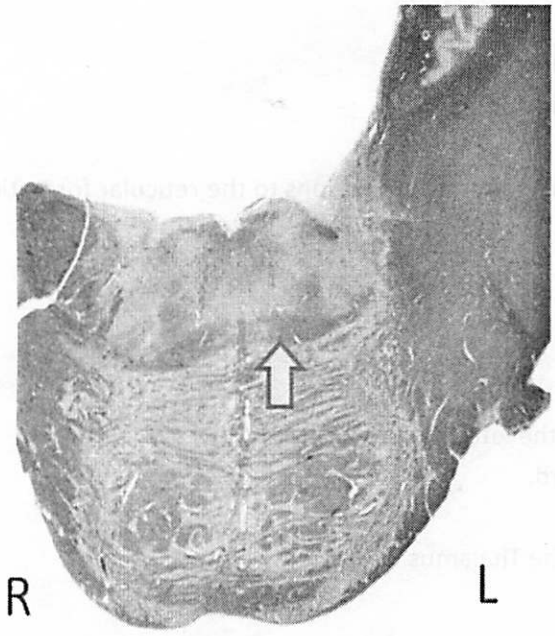


12. The asterick lies over the:
    a. Inferior cerebellar peduncle.
    b. Middle cerebellar peduncle
    c. Superior cerebellar peduncle

13. Which nucleus of the cerebellum sends its projections to the reticular formation of the medulla?
    a. Interposed
    b. Fastigial
    c. Dentate
    d. Subthalamic.

14. Where is the pain pathway for the left little toe located?
    a. Right cervical spinal cord.
    b. Left medial lemniscus.
    c. Right VPM nucleus of the Thalamus
    d. Left postcentral gyrus.

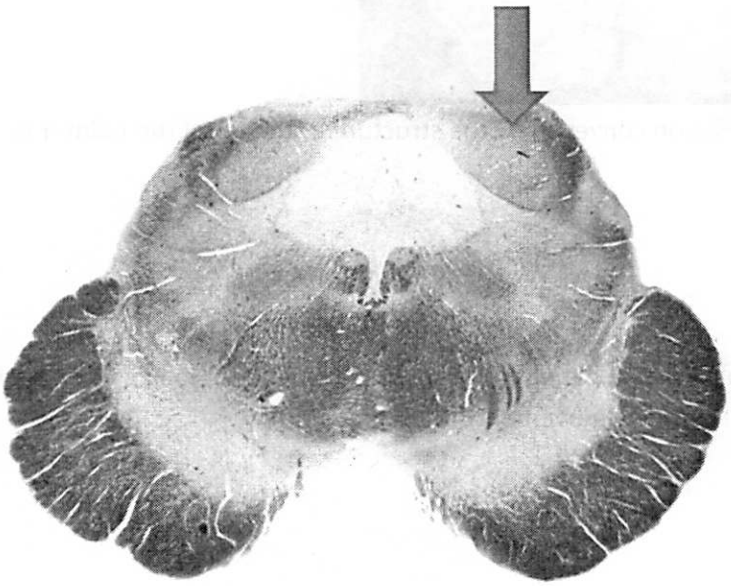
15. The structure at the pointer is the:
    a. Nucleus gracilis
    b. Nucleus cuneatus
    c. Accessory cuneate nucleus
    d. Spinal nucleus of 5



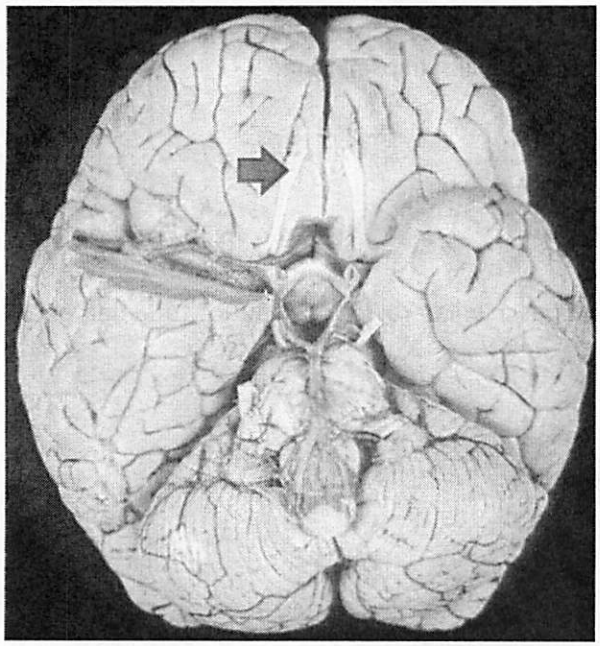
16. The arrow points to the tract carrying pressure sense from the:
    a. Right arm
    b. Left arm
    c. Right face
    d. Left face

17. Touch sensation fibers from the teeth will synapse in the:
    a. Trigeminal ganglion
    b. Spinal nucleus of 5.
    c. Mains sensory nucleus of 5.
    d. Mesencephalic nucleus of 5.

18. Where in the auditory pathway does a unilateral lesion produce total deafness?
    a. Cochlear nucleus
    b. Inferior colliculus
    c. Medial geniculate
    d. Transverse temporal gyri.



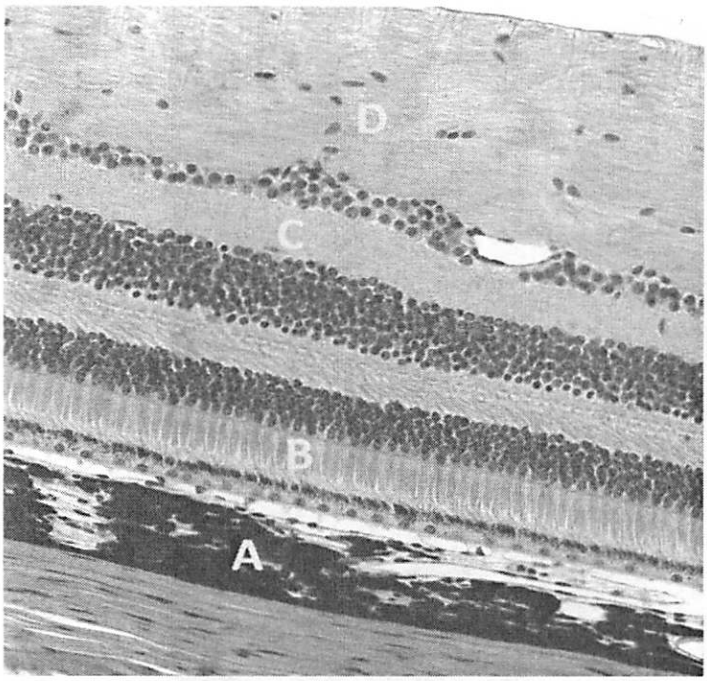
19. In the image above, identify the structure at the arrow.
    a. Inferior colliculus
    b. Superior colliculus
    c. Medial geniculate
    d. Lateral geniculate



20. In the image above the sensation conveyed by the structure at the tip of the pointer is:
    a. Taste
    b. Vision
    c. Smell
    d. Balance

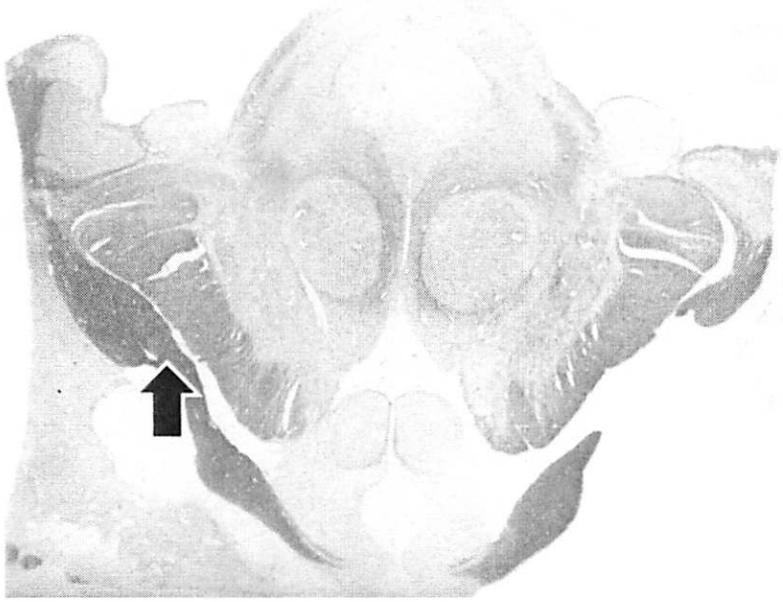
21. A lesion in what nerve would cause a patient to feel a sense of vertigo, falling to one side, nausea, and abnormal, rhythmic eye movements (nystagmus).
    a. Vagus
    b. Glossopharyngeal
    c. Trigemminal
    d. Vestibulocochlear.

22. Which cranial nerve is located in the upper midbrain?
    a. Occulomotor.
    b. Trochlear
    c. Abducens



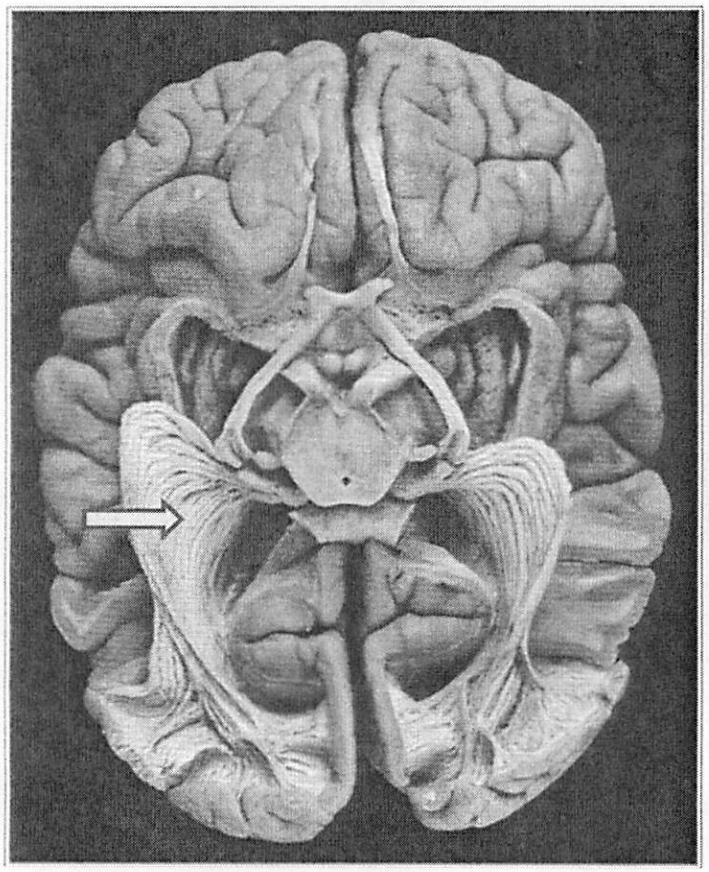
23. In the image above which layer is the nerve fiber layer?

a.
b.
c.
d.



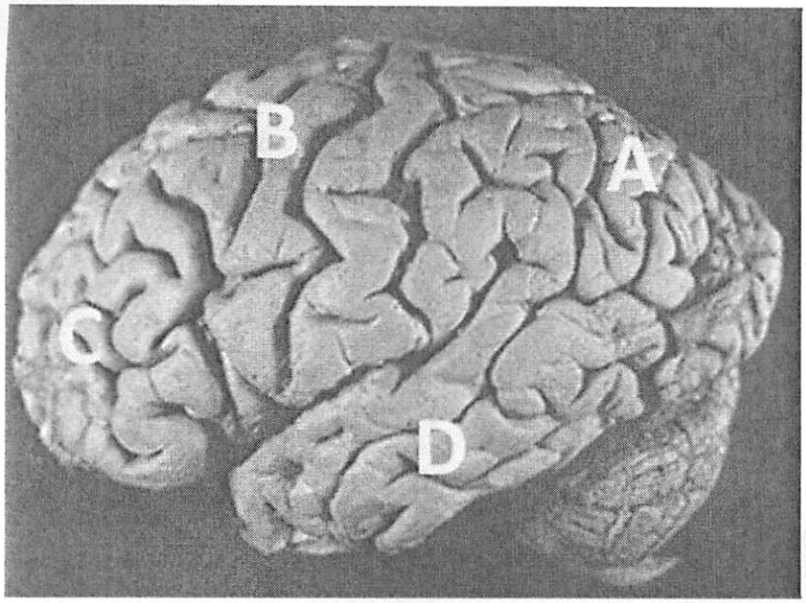
24. In the image above the arrow points to the:

a. Optic nerve
b. Optic chiasm
c. Optic tract



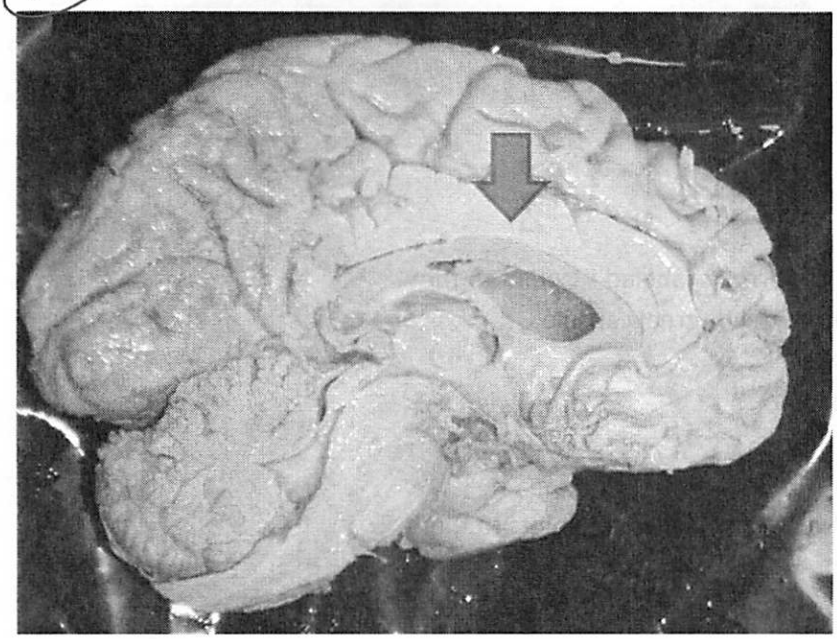
25. In the image above the arrow points to the:
    a. Optic nerve.
    b. Optic tract
    c. Cuneus.
    d. Optic radiations

26. The inability to communicate would be:
    a. Apraxia
    b. Aphasia.
    c. Agnosia
    d. Acalculia



27. In the image above, the area important for object identification is:

a.
b.
c.
d.

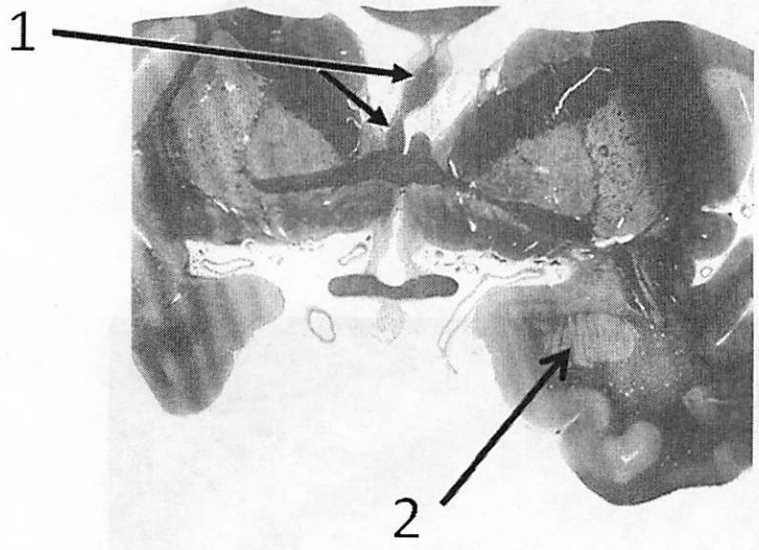


28. In the image above the arrow points to the:

a. Cingulate gyrus.
b. Cuneate gyrus.
c. Lateral frontal gyrus.
d. Orbitofrontal cortex

29. For language:
    a. Only Broca's area is necessary
    b. Only Wernicke's area is necessary
    c. Only the connection between Broca's and Wernicke's area is necessary
    d. All of the above are necessary.

30. The object recognition network is largely associated with the:
    a. Frontal lobe
    b. Parietal lobe.
    c. Occipital lobe.
    d. Temporal lobe.

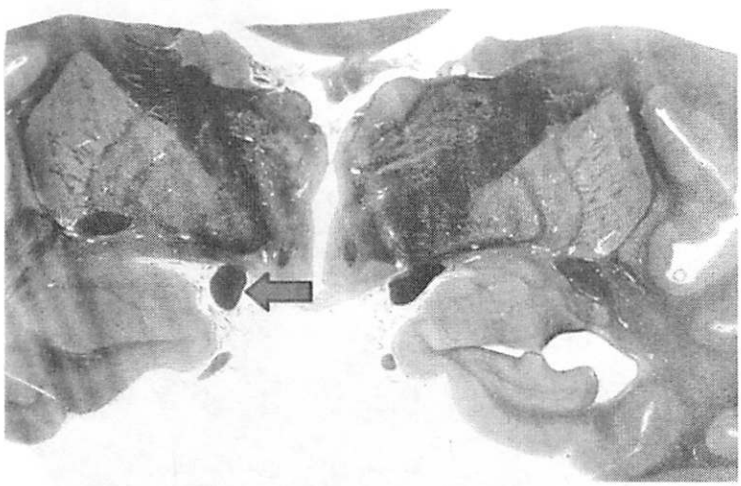


31. In the image above, the arrows labeled #1 point to the:
    a. Anterior limb of the internal capsule.
    b. Hypothalamus
    c. Corpus callosum
    d. Fornix

32. In the same image, the arrow labeled #2 points to the:
    a. Hippocampus
    b. Uncus
    c. Amygdala
    d. Caudate nucleus

33. With loss of the hippocampus on both sides of the brain your patient would have lost:
    a. Short term or working memory.
    b. Memory of past episodes.
    c. Future memories.
    d. Procedural memory.

34. Declarative memory involves the cerebral cortex and the:
    a. Cerebellum
    b. Amygdala
    c. Hippocampus
    d. Prefrontal cortex



35. In the image above, identify the structure at the tip of the pointer.
    a. Olfactory tract.
    b. Olfactory nerve.
    c. Optic nerve
    d. Optic tract

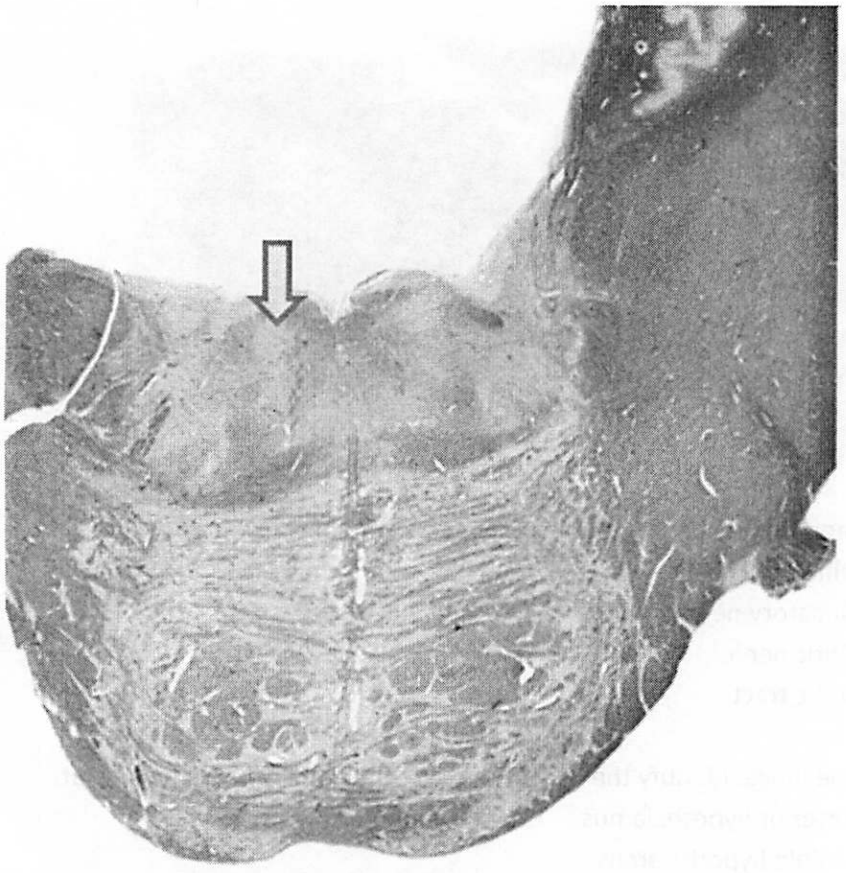
36. In the same image identify the part of the hypothalamus you are looking at.
    a. Anterior hypothalamus
    b. Middle hypothalamus
    c. Posterior hypothalamus

37. The secretory products of acidophils act on the: FLAT PI6
    a. Mammary gland
    b. Testis

c. Thyroid
d. Kidney

38. The parasympathetic preganglionic nerve fibers arise from the:
    a. Upper cervical spinal cord.
    b. Upper thoracic spinal cord
    c. Middle lumbar spinal cord.
    d. Middle sacral spinal cord.

39. What cranial nerve nucleus would be found in the pons?
    a. Dorsal motor nucleus
    b. Nuc. Ambiguous
    c. Olive
    d. Spinal nucleus of 5



40. In the image above identify the nucleus at the tip of the pointer.
    a. Hypoglossal
    b. Motor nucleus of 5
    c. Facial
    d. Abducens

41. Damage to which cranial nerve would lead to a weak and hoarse voice accompanied by sagging of the left soft palate?
    a. Trigeminal
    b. Glossopharyngeal
    c. Vagus
    d. Hypoglossal.

42. Weakness in adduction of the right eye could most like be caused by which cranial nerve:
    a. Occulomotor
    b. Trochelear
    c. Abducens

43. Damage to which cranial nerve would lead to the tongue deviating to the left upon protrusion?
    a. Left hypoglossal
    b. Right hypoglassal
    c. Left trigeminal
    d. Right trigeminal

44. You are examining a patient and you notice the lack of sensation on the left cheek. You suspect that this could be caused by a lesion of the:
    a. Trigeminal nerve
    b. Facial nerve.
    c. Glossopharyngeal nerve
    d. Vagus.

45. Your patient has lost taste to the anterior two thirds of the tongue. He also has hyperacusis and loss of lacrimation. This could most likely be a result of the loss of the:
    a. Trigeminal nerve.
    b. Facial nerve.
    c. Glossopharyngeal nerve.
    d. Vagus

46. Your patient has atrophy of the muscles of mastication. This could be caused by all of the following except a lesion of the:
    a. Mandibular division of the 5th cranial nerve.
    b. The fifth nerve as it exits the pons.
    c. The motor nucleus of the trigeminal nerve.
    d. Corticobulbar tracts in the midbrain.

47. The blink reflex is carried out by:
    a. Cranial nerve 7 only.
    b. Cranial nerve 5 only.
    c. Cranial nerves 5 and 7.
    d. Cranial nerves 5. 6, and 7.

48. The parotid gland is innervated by fibers that arise in the:
    a. Otic ganglion
    b. Submandibular ganglion.
    c. Pterygopalatine ganglion
    d. Geniculate ganglion.

49. The afferent limb of the gag reflex travels with cranial nerve:
    a. 5
    b. 7
    c. 9
    d. 10

50. Swallowing and vocalization are mostly carried out by structures innervated by cranial nerve:
    a. 5
    b. 7
    c. 9
    d. 10