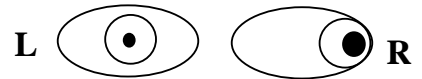


## PRACTICE EXAM 2 QUESTIONS

1. A 50 year-old man was brought to the ED by his partner because he exhibited signs of a stroke. A CT showed an infarcted area in the lateral aspect of the right frontal lobe. Which symptom would this man exhibit:
  - A. left eye turned to the right
  - B. right eye turned to the left
  - C. dilated pupil in the left eye
  - D. constricted pupil in the left eye
  - E. left and right eyes turned to the right
2. A 31 year-old man visited his physician because he experienced headache for the past few days. He said the pain was on the right-sided, extending over his face, around his eye, and down his neck. An MRI indicated dissection of the carotid artery on the right side. Which other symptom is this man likely to have:
  - A. dilated pupil on the right side
  - B. ptosis and miosis on the right side
  - C. intense facial pain triggered by touching the face
  - D. nystagmus
  - E. Lt and Rt eyes in fixed gaze to the left

3. On examination, you find that a patient's eyes have the position shown on the right when asked to look forward. This is most likely due to a lesion of:
  - A. Right cranial nerve VI nucleus
  - B. Left cranial nerve VI nucleus
  - C. MLF
  - D. Left cranial nerve III
  - E. Right cranial nerve III



4. On examining a patient you obtain the following findings: Shining a light into the right eye produces no effect, but shining a light into the left eye causes both the left and right pupils to constrict. This result could be caused by a lesion of:
  - A. right optic tract
  - B. right optic nerve
  - C. right cranial nerve III
  - D. left cranial nerve III
  - E. right pretectal area

5. A 30-year-old woman is unable to localize sound presented to her, but her hearing is normal otherwise. Which of the following structures would **NOT** be the location of a lesion causing this symptom:
- A. auditory cortex
  - B. cochlear nucleus
  - C. inferior colliculus
  - D. lateral lemniscus
  - E. medial geniculate nucleus

6. A 63 year-old patient is seen in a clinic with the following symptoms: a resting tremor in the left hand, slowed movement when using the left arm, difficulty arising from a chair when seated. These symptoms could be caused by a lesion in the:
- A. left subthalamic nucleus
  - B. left motor cortex
  - C. right corticospinal tract
  - D. left substantia nigra
  - E. right substantia nigra

7. The pathology specimen (myelin stain) in the figure was obtained from a 65 year old woman who died from complications of a neurological disorder. Which symptom would she have displayed as a result of the lesioned areas indicated in the figure?
- A. Romberg sign
  - B. suspended sensory loss for pain
  - C. spontaneous tremor
  - D. choreiform movements
  - E. muscle atrophy



8. A 40 year-old man sees his physician because he says he has been “jumpy” lately. His physician notices that as the man sits in his chair he makes nervous, fidgety movements with his hands, his tongue protrudes and retracts periodically, and his legs jerk as if he is restless. His wife says she has noticed that he has been irritable and keeps to himself most of the time whereas he was very outgoing and easy to get along with previously. This man likely has a disorder that involves
- A. alpha synuclein
  - B. inclusions in astrocytes
  - C. TDP-43
  - D. atrophy of the caudate nucleus
  - E. Lewy bodies

9. A 65 year-old hypertensive woman had a stroke damaging her right motor cortex. Which symptom would this woman be expected to have:
- A. weakness or paralysis of right jaw muscles
  - B. weakness or paralysis of left jaw muscles
  - C. difficulty closing the right eye
  - D. difficulty closing the left eye
  - E. none of the above

#### ANSWERS

1. E (The Frontal Eye Field is on the lateral aspect of the frontal lobe. A lesion of the right FEF will cause the eyes to have a fixed gaze to the right due to unbalanced activity from the left FEF.)
2. B (sympathetic fibers for pupillary dilation run along the internal carotid to travel to the eye. This is an ipsilateral pathway. Lesions of the carotid artery can interrupt these fibers to cause Horner's syndrome.)
3. E (The diagram show lateral deviation of the eye, which is caused by weakness of the medial rectus muscles supplied by CN III)
4. B (The finding that light shined into one eye causes no response must be due to a lesion between the eye and the optic chiasm. After that visual information becomes bilateral)
5. B (a lesion of the cochlear nucleus blocks all sound information from one ear resulting in deafness on that side)
6. E (The patient has Parkinson Disease. Each basal ganglia circuit affects motor cortex on the same side, but the corticospinal tract that originates there affects the opposite side of body)
7. A (The stained specimens indicates B12 deficiency)
8. D (the case describes a patient with Huntington Disease)
9. E (these CN nuclei or portions of them are bilaterally innervated)