Name: Gross Anatomy Exam - May 20, 2002

Description:

Instructions: For the following questions, indicate the letter that corresponds to the SINGLE MOST APPROPRIATE ANSWER.

<table>
<thead>
<tr>
<th>Question</th>
<th>Multiple Choice</th>
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<td><strong>Question 1</strong></td>
<td><strong>Multiple Choice</strong></td>
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<td>Question: On examination of an MRI through the neck at the level of the cricoid cartilage, a third year medical student observed all of the following EXCEPT for the</td>
<td>Answer: A. internal jugular vein. B. pharynx. C. thyroid gland. D. external carotid artery. E. sternohyoid muscle.</td>
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<td><strong>Question 2</strong></td>
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<td>Question: During exploratory surgery of the posterior triangle of the neck, a surgeon expects to find all of the following structures within the triangle EXCEPT for the</td>
<td>Answer: A. accessory nerve. B. lesser occipital nerve. C. transverse cervical artery. D. posterior belly of the digastric muscle. E. inferior belly of the omohyoid muscle.</td>
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<td><strong>Question 3</strong></td>
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<td>Question: While removing a tumor that has invaded the apex of the lung, the surgeon observes the anterior scalene muscle. He questions his third year medical student about this muscle. The student recalls that all of the following statements about this muscle are correct EXCEPT that it</td>
<td>Answer: A. inserts onto the first rib. B. is crossed anteriorly by the subclavian vein. C. is posterior to the roots of the brachial plexus. D. is crossed anteriorly by the transverse cervical artery. E. lies anterior to the subclavian artery.</td>
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<td><strong>Question 4</strong></td>
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<td>Question: The axillary sheath is a continuation of which of the following layers of cervical fascia?</td>
<td>Answer: A. Investing fascia B. Carotid sheath C. Buccopharyngeal fascia D. Prevertebral fascia E. Pretracheal fascia</td>
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Question: A patient came to the emergency department with a laceration on the side of the neck, as shown in the figure below. Which of the following symptoms would she have?

Answer: 
A. Loss of sensation from the skin below the chin  
B. Loss of sensation from the skin over the region of the parotid gland  
C. Loss of sensation from the skin above the sternal notch  
D. Unable to bring her chin to face upwards and to the left  
E. Unable to shrug her shoulders equally on both sides

Question: An inexperienced nurse was trying to thread a catheter into the right subclavian vein. Unfortunately, in the process she injured a nerve lying on the anterior surface of the anterior scalene muscle. What could be a result of this injury?

Answer: 
A. Loss of sensation from the posterior area of the right auricle  
B. Inability to flex the head against resistance  
C. Loss of muscle tone of the right side of the diaphragm  
D. Inability to initiate abduction of the arm  
E. Inability to point her finger at the ceiling

Question: A student had a bad infection after a lower right molar tooth was taken out. The lymph nodes that would be enlarged initially as a result of the infection would be found in a cervical triangle whose boundaries are formed by the

Answer: 
A. trapezius, sternocleidomastoid and clavicle.  
B. anterior and posterior bellies of the digastric and mandible.  
C. anterior bellies of the digastric and hyoid bone.  
D. sternocleidomastoid, superior belly of omohyoid and posterior belly of digastric.  
E. sternocleidomastoid, superior belly of omohyoid and midline of the neck.

Question: All of the following drain directly into the internal jugular vein EXCEPT for the

Answer: 
A. sigmoid sinus.  
B. common facial vein.  
C. superior thyroid vein.  
D. inferior thyroid vein.  
E. middle thyroid vein.
Multiple Choice  

Question: During a thyroidectomy to remove a benign thyroid tumor, the surgeon first had to ligate the superior thyroid artery. Unfortunately, he also accidentally ligated a nerve alongside the artery causing paralysis of the

Answer:  
A. sternothyroid muscle.  
B. sternothyroid muscle.  
C. thyrohyoid muscle.  
D. omohyoid muscle.  
E. cricothyroid muscle.

Multiple Choice  

Question: Sound waves are transmitted from the tympanic membrane to the inner ear. All of the following statements are correct about the middle ear EXCEPT that

Answer:  
A. the malleus, incus and stapes form a chain from the tympanic membrane to the oval window.  
B. the tendon of the tensor tympani muscle is inserted into the round window.  
C. paralysis of the stapedius muscle will result in increased sensitivity to loud sounds.  
D. synovial joints are present between the auditory ossicles.  
E. in otosclerosis, the stapes becomes immobile, resulting in deafness.

Multiple Choice  

Question: Which of the following bony structures forms part of the medial wall of the infratemporal fossa?

Answer:  
A. Ramus of the mandible  
B. Lateral pterygoid plate  
C. Coronoïd process  
D. Condylar process  
E. Zygomatic arch

Multiple Choice  

Question: An infection limited to the structures in the infratemporal fossa could affect all of the following EXCEPT for the

Answer:  
A. sensory supply to the dura mater.  
B. innervation of the parotid gland.  
C. sensory supply to the lower eyelid  
D. lingual nerve.  
E. pterygoid plexus of veins.

Multiple Choice  

Question: A 25-year-old man was in a head-on collision, resulting in a fracture of the left ramus of his mandible. This injury led to major bleeding in his infratemporal fossa. Arteries found in this fossa would include all of the following EXCEPT for the

Answer:  
A. deep temporal.  
B. middle meningeal.  
C. inferior alveolar.  
D. superficial temporal.  
E. posterior superior alveolar.
Question 14

Multiple Choice 5 Points

Question: An oral surgeon treated a 40-year-old woman who had a dislocated temporomandibular joint. He recalled that there is a muscle that attaches to the articular disc of this joint and that this muscle

Answer:
A. protrudes the mandible.
B. closes the mandible.
C. retracts the mandible.
D. inserts on the angle of the mandible.
E. has the mandibular nerve superficial to it.

Question 15

Multiple Choice 5 Points

Question: A misplaced injection in the infratemporal fossa damaged the inferior alveolar nerve. This would disrupt the innervation to which of the following structures?

Answer:
A. Tongue
B. Buccinator muscle
C. Cranial dura
D. Mylohyoid muscle
E. Medial pterygoid muscle

Question 16

Multiple Choice 5 Points

Question: Which of the following muscle and action pairs is correct?

Answer:
A. Medial pterygoid muscle?opens the jaw
B. Lateral pterygoid muscle?retracts the jaw
C. Temporalis muscle ?protrudes the jaw
D. Masseter muscle ?closes the jaw
E. Temporalis muscle ?opens the jaw

Question 17

Multiple Choice 5 Points

Question: An otolaryngologist was examining the tympanic membrane of a patient with a middle ear infection. She recalled that the tympanic membrane

Answer:
A. is crossed on its lateral surface by the chorda tympani nerve.
B. is attached to the malleus.
C. is innervated on its external surface by fibers from the glossopharyngeal nerve (CN IX).
D. forms most of the medial wall of the middle ear cavity.
E. transmits air-born vibrations to the round window.

Question 18

Multiple Choice 5 Points

Question: Little Tommy, aged 1, was brought to the pediatrician with a fever and a purulent discharge (pus) from the right ear. He was started on antibiotics to eradicate the infection. The doctor knew that an uncontrolled infection can spread from the middle ear.

Answer:
A. posteriorly, through the tegmen tympani.
B. anteriorly, into the mastoid air cells.
C. inferiorly, into the jugular bulb.
D. laterally, into the facial canal.
E. medially, into the auditory tube.
Multiple Choice

Question: Following an injection of a local anesthetic agent around the mandibular division of the trigeminal nerve (CN V3) as it exits the skull, all of the following would occur EXCEPT

Answer:  
A. loss of sensation to the chin, mandible, and lower teeth  
B. paralysis of the stapedius muscle.  
C. paralysis of the lateral and medial pterygoid muscles.  
D. loss of general sensation to most of the tongue.  
E. paralysis of the tensor tympani muscle.

Multiple Choice

Question: In a futuristic setting, a 34-year-old woman arrives at your clinic, complaining that she is pregnant. After consulting with the database containing the genomes of your patient and her husband, you conclude that it is highly likely that the developing fetus will be born deaf. Since the fetus is only three weeks old, you use a highly sophisticated technology to introduce a therapeutic (transgenic) gene into mesenchymal cells of the second pharyngeal arch of the fetus. When the fetus is born, the transgenic gene hopefully will be expressed in cells of the

Answer:  
A. semicircular canals.  
B. tensor tympani muscle.  
C. stapes.  
D. cochlear duct  
E. inner lining of the tympanic membrane

Answers: 1d2d3c4d5e6c7b8d9e10b11b12c13d14a15d16d17b18c19b20c

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