An autonomic pathway from the central nervous system to the lacrimal gland includes a synapse in the

A. geniculate ganglion.
B. ciliary ganglion.
C. otic ganglion.
D. submandibular ganglion.
E. pterygopalatine ganglion.
Answer = E

All of the following statements concerning the orbicularis oculi muscle are correct EXCEPT that it

A. is involved in the blink response to irritation of the cornea.
B. has a smooth muscle component that assists in raising the eyelid.
C. receives motor supply from the facial nerve.
D. contains a deep portion that alters pressure in the lacrimal sac.
E. is necessary to prevent drying of the conjunctiva over the eyeball.
Answer = B

All of the following statements concerning the glossopharyngeal nerve are correct EXCEPT that it

A. contains preganglionic parasympathetic fibers
B. contains fibers that conduct taste information from the posterior one third of the tongue.
C. contains sensory information from the carotid sinus.
D. has a branch that joins the lingual nerve.
E. leaves the cranial cavity through the jugular foramen.
Answer = D.

All of the following statements concerning the superior sagittal sinus are correct EXCEPT that it

A. Most often empties into the right transverse sinus.
B. receives emissary, diploic, and cerebral veins.
C. is a vascular channel between two layers of dura mater.
D. receives the superior opthalmic veins.
E. receives CSF via arachnoid granulations.
Answer = D

Sympathetic and parasympathetic fibers within the orbit. All of the following statements regarding fibers are correct EXCEPT

A. the ciliary ganglion contains postganglionic cell bodies.
B. the short ciliary nerves contain both postganglionic sympathetic and parasympathetic fibers.
C. the lacrimal nerve contains autonomic fibers that originate in the fifth cranial nerve.
D. sympathetic fibers travel to the orbit on blood vessels.
E. postganglionic parasympathetic fibers from the ciliary ganglion affect accommodation for near vision.
Answer = C

A patient is bleeding profusely from a knife wound to the scalp. What layer of the scalp contains the vessels that are the source of this bleeding?

A. pericranium
B. aponeurosis
C. loose connective tissue
D. dense connective tissue
E. skin
Answer = D

The stapes

A. is attached to the tympanic membrane.
B. serves as an attachment for the tendon of the tensor tympani muscle.
C. has an opening at its base for the chorda tympani nerve.
D. is connected directly to the malleus.
E. is derived from second branchial arch artilage.
Answer = E

The nasal cavity receives arterial supply from branches of all of the following EXCEPT the

A. sphenopalatine.
B. anterior ethmoidal.
C. posterior ethmoidal.
D. facial.
E. ascending pharyngeal.
Answer = E

The tentorium cerebelli

A. contains the sigmoid sinus.
B. is attached to the crista gallis.
C. contains the facial nerve.
D. is supplied by branches of the ophthalmic nerve.
E. separates the right and left lobes of the cerebellum.
Answer = D.

All of the following nerves supply the skin or muscles of the external surface of the nose EXCEPT the

A. supraorbital.
B. infraorbital.
C. facial.
D. nasociliary.
E. infratrochlear.
Answer = A

The bones that contribute to the orbit include all of the following EXCEPT the

A. ethmoid.
B. maxilla.
C. greater wing of the sphenoid.
D. frontal.
E. parietal.
Answer = E

All of the following regions have venous channels that communicate with or drain into the pterygoid venous plexus EXCEPT the

A. orbit.
B. nasal cavity.
C. cranial cavity.
D. pharynx.
E. larynx.
Answer = E

The facial nerve innervates all of the following muscles EXCEPT the

A. orbicularis oris.
B. emporalis.
C. buccinator.
D. levator labii superioris.
E. platysma.
Answer = B
All of the following statements about the posterior third of the tongue are correct EXCEPT:
A. it is located posterior to the sulcus terminalis.
B. it receives general sensory supply via the glossopharyngeal nerve.
C. it is located in the oropharynx.
D. it is derived from the first branchial arch.
E. it contains muscle fibers that are innervated by the hypoglossal nerve.
Answer = D

The straight sinus
A. is found in the falx cerebri.
B. connects the two transverse sinuses.
C. is connected to the pterygoid plexus.
D. drains the cavernous sinus.
E. receives the inferior sagittal sinus.
Answer = E.

The infratemporal fossa is related to all of the following EXCEPT the:
A. foramen spinosum.
B. otic ganglion.
C. chorda tympani nerve.
D. deep petrosal nerve.
E. lesser petrosal nerve.
Answer = D

The facial artery crosses the mandible at the anterior border of the:
A. buccinator.
B. parotid gland.
C. sublingual gland.
D. platysma.
E. masseter.
Answer = E.

The sixth cranial nerve
A. has a parasympathetic component.
B. travels in the lateral wall of the cavernous sinus.
C. if injured bilaterally, can result in "crossed eyes".
D. enters the orbit outside of the common tendinous ring.
E. innervates the muscle that adducts the eyeball.
Answer = C

All of the following are found in the sphenoid bone EXCEPT the:
A. optic foramen.
B. inferior orbital fissure.
C. foramen ovale.
D. superior orbital fissure.
E. foramen rotundum.
Answer = B.

The auriculotemporal nerve
A. carries parasympathetic fibers for innervation of the submandibular gland.
B. accompanies the posterior auricular artery.
C. is the motor nerve to the frontalis muscle.
D. carries sensory nerves to the inner surface of the tympanic membrane.
E. usually encircles the middle meningeal artery.
Answer = E

While preparing for surgery in the infratemporal fossa, you remind yourself that the chorda tympani nerve
A. has fibers that synapse in the pterygopalatine ganglion.
B. is a branch of the glossopharyngeal nerve.
C. joins the deep petrosal nerve.
D. carries taste and preganglionic parasympathetic fibers to the lingual nerve.
E. exits the cranial cavity through the stylomastoid foramen.
Answer = D

All of the following statements concerning the retropharyngeal space are correct EXCEPT that it:
A. is located posterior to the visceral compartment of the neck.
B. extends superiorly to the base of the skull.
C. is located anterior to the prevertebral fascia.
D. permits spread of infection from the neck into the middle mediastinum.
E. is located posterior to the buccopharyngeal fascia.
Answer = D

All of the following empty into the middle nasal meatus EXCEPT the:
A. frontal sinus.
B. maxillary sinus.
C. sphenoid sinus.
D. anterior ethmoid sinus.
E. middle ethmoid sinus.
Answer = C

In the surgical removal of the palatine tonsils there may be hemorrhage of branches of any of the following arteries EXCEPT the:
A. ascending pharyngeal.
B. maxillary.
C. lingual.
D. facial.
E. sphenopalatine.
Answer = E

Which of the following muscles participates in elevation of the larynx during swallowing?
A. cricopharyngeus
B. levator veli palatini
C. superior pharyngeal constrictor
D. cricothyroid
E. palatophryngeus
Answer = E

The carotid triangle in the neck contains all of the following structures EXCEPT the:
A. superior thyroid artery.
B. recurrent laryngeal nerve.
C. carotid body.
D. superior root of the ansa cervicalis.
E. lingual vein.
Answer = B

A forceful blow to the face fractures the floor of the orbit and the eyeball drops inferiorly (blow-out fracture). All of the following are likely correct EXCEPT that:
A. the maxillary bone is fractured.
B. the periorbita could be torn.
C. the infratrochlear nerve is damaged.
D. there is hemorrhage of the infraorbital artery.
E. the upper incisive teeth may lose their sensory innervation.
Answer = C

The straight sinus
A. is found in the falx cerebelli.
B. connects the two transverse sinuses.
C. is connected to the pterygoid plexus.
D. drains the cavernous sinus.
E. receives the inferior sagittal sinus.
Answer = E.

The infratemporal fossa is related to all of the following EXCEPT the:
A. foramen spinosum.
B. otic ganglion.
C. chorda tympani nerve.
D. deep petrosal nerve.
E. lesser petrosal nerve.
Answer = D

The facial artery crosses the mandible at the anterior border of the:
A. buccinator.
B. parotid gland.
D. sublingual gland.
D. platysma.
E. masseter.
Answer = E.
All of the following statements concerning the thyroid gland are correct EXCEPT that it
A. has right and left lobes located posterior to the sternothyroid muscles.
B. is derived from the third pharyngeal pouch.
C. has right and left lobes located medial to the carotid sheaths.
D. is usually drained by superior, middle, and inferior thyroid veins.
E. is supplied by superior and inferior thyroid arteries.
Answer = B

Openings into the pterygopalatine fossa include all of the following EXCEPT the
A. foramen rotundum.
B. foramen ovale.
C. pterygomaxillary fissure.
D. greater palatine canal.
E. pterygoid canal.
Answer = B

The pharyngeal constrictor muscles
A. are covered externally by pharyngobasilar fascia.
B. are innervated by the glossopharyngeal nerve.
C. are drained by a plexus of veins that frequently empty into the pterygoid plexus.
D. include a superior constrictor that originates from the greater and lesser horns of the hyoid bone.
   include a middle constrictor that terminates, in part, at the pharyngeal tubercle.
Answer = C

Surgery to repair an aneurysm of the right subclavian artery medial to the anterior scalene muscle can result in all of the following EXCEPT that it
A. affect adjacent structures and breathy voice.
B. paralysis of the right side of the diaphragm.
C. a drooping of the right eyelid.
D. a constricted right pupil.
E. paralysis of the right cricothyroid muscle.
Answer = E

All of the following statements concerning the hard palate are correct EXCEPT it
A. it forms a part of the floor of the nasal cavity.
B. its major blood supply is from the lesser palatine arteries.
C. it is formed, in part, by the horizontal plate of the palatine bone.
D. it is lined with mucosa that is innervated by the greater palatine nerve.
E. it contains a foramen for passage of the nasopalatine nerve.
Answer = B

Pain associated with a middle ear infection results from impulses carried along the
A. chorda tympani nerve.
B. vagus nerve.
C. carotid plexus.
D. glossopharyngeal nerve.
E. maxillary branch of the trigeminal nerve.
Answer = D

Which of the following lymph nodes is most likely to swell following a sore throat?
A. retromandibular
B. superficial cervical
C. jugulo-omohyoid
D. jugulodigastric
E. retroauricular
Answer = D

All of the following statements concerning the middle ear cavity are correct EXCEPT that it
A. contains the stapedius muscle that is innervated by the facial nerve.
B. communicates with the nasopharynx via the auditory tube.
C. contains ear ossicles that are joined by synovial joints.
D. contains a tympanic plexus that includes fibers from the vagus nerve.
E. is located anterior to the mastoid air cells.
Answer = D

All of the following statements concerning the superior thyroid artery are correct EXCEPT that it
A. could receive blood flow from the inferior thyroid artery following occlusion of the common carotid artery.
B. has a branch that pierces the thyrohyoid membrane.
C. travels parallel to the external laryngeal nerve for part of its course.
D. is a branch of the external carotid artery.
E. has a deep cervical branch that anastomoses with the occipital artery.
Answer = E

All of the following are found in the infratemporal fossa EXCEPT the
A. lingual nerve.
B. otic ganglion.
C. middle meningeal artery.
D. pterygoid venous plexus.
E. lingual artery.
Answer = E

A patient with a gradual occlusion of the bifurcation of the left common carotid artery may not present with any cerebral deficits because blood may be shunted to the brain via all of the following arteries EXCEPT the
A. right carotid.
B. left vertebral.
C. right vertebral.
D. right ascending pharyngeal.
Answer = D

The nerve of the pterygoid canal
A. is a branch of the glossopharyngeal nerve.
B. contains preganglionic parasympathetic fibers.
C. exits the cranial cavity through foramen rotundum.
D. contains preganglionic sympathetic fibers.
E. terminates in the otic ganglion.
Answer = B
All of the following statements concerning the hyoglossus muscle are correct EXCEPT that
A. it is an extrinsic muscle of the tongue.
B. the hypoglossal nerve is located on its lateral surface.
C. it is derived from the pharyngeal arch mesoderm.
D. the lingual nerve is located on its lateral surface.
E. it is innervated by the hypoglossal nerve.
Answer = C

All of the following are branches of the maxillary artery EXCEPT the
A. anterior deep temporal.
B. superficial temporal.
C. sphenopalatine.
D. middle meningeal.
E. posterior superior alveolar.
Answer = B

All of the following are branches of the facial nerve EXCEPT the
A. greater petrosal nerve.
B. nerve to the stapedius muscle.
C. chorda tympani nerve.
D. nerve to the tensor tympani muscle.
E. nerve to the stylohyoid muscle.
Answer = D

All of the following statements concerning the inferior pharyngeal constrictor muscle are correct EXCEPT that is
A. consists of muscle fibers derived from branchial arches.
B. includes fibers that function as the sphincter of the pharynx.
C. is located immediately lateral to the palatine tonsil.
D. originates partly from the oblique line of the thyroid cartilage.
E. is innervated by motor fibers carried in the vagus nerve.
Answer = C

All of the following statements concerning the middle ear are correct EXCEPT that it
A. is connected to the nasopharynx by the auditory tube.
B. is located superior to the jugular foramen.
C. is separated from the middle cranial fossa by the tegmen tympani.
D. contains a bulge on its medial wall that is caused by the basal turn of the cochlea.
E. is traversed by the deep petrosal nerve.
Answer = E

All of the following statements concerning the middle meningeal artery are correct EXCEPT that it
A. is usually surrounded by fibers of the auricular temporal nerve.
B. is a branch of the maxillary artery.
C. passes through the foramen spinosum.
D. supplies most of the dura mater of the falx cerebri.
E. passes medial (deep) to the lateral pterygoid muscle as it enters the cranial cavity.
Answer = D

All of the following are features of the petrous portion of the temporal bone EXCEPT that it
A. has a hiatus for passage of the greater petrosal nerve.
B. has an eminence produced by a semicircular canal.
C. houses the middle ear and inner ear.
D. contains the foramen spinosum.
E. contains a canal for passage of the facial nerve.
Answer = E

An autonomic pathway from the central nervous system to the mucous membrane of the inferior nasal concha would include a synapse in the
A. geniculate ganglion.
B. ciliary ganglion.
C. otic ganglion.
D. trigeminal ganglion.
E. pterygopalatine ganglion.
Answer = E

All of the following statements about the lacrimal gland are true EXCEPT that it
A. is located in a fossa in the frontal bone.
B. secretes fluid into the superior fornix of the conjunctival sac.
C. secretes fluid that drains into the lacrimal sac.
D. receives blood supply from a branch of the ophthalmic artery.
E. receives parasympathetic innervation from the oculomotor nerve.
Answer = E
All of the following are true concerning the jugular foramen EXCEPT that it
A. transmits cranial nerves IX, X and XI.
B. is anterior to the entry of the internal carotid artery into the carotid canal.
C. is the location of termination of the sigmoid sinus.
D. is the location of the origin of the internal jugular vein.
E. is the foramen that transmits most intracranial venous blood.
Answer = B

Pulsations felt just above the zygomatic arch and in front of the ear are in the
A. facial artery.
B. internal jugular vein.
C. superficial temporal artery.
D. retromandibular vein.
E. maxillary artery.
Answer = C

The floor of the sella turcica is also the
A. diaphragma sella.
B. roof of the sphenoid sinuses.
C. medial wall of the temporal fossa.
D. roof of the nasal cavity.
E. site of attachment of the superior pharyngeal constrictor muscle.
Answer = B

What accompanies the optic nerve in the optic canal?
A. cranial nerves III, IV and VI
B. ophthalmic nerve, artery and veins
C. meninges and ophthalmic artery
D. ophthalmic artery and ophthalmic veins
none of the above
Answer = C

The sensory supply to the skin over the lower eyelid comes from the
A. mental nerve.
B. maxillary division of the trigeminal.
C. auriculotemporal nerve.
D. buccal branch of the trigeminal nerve.
E. ophthalmic division of the trigeminal.
Answer = B

The pterygomandibular raphe serves as a point of attachment for two important muscles. They are the
A. superior constrictor and buccinator.
B. masseter and inferior constrictor.
C. medial pterygoid and lateral pterygoid.
D. buccinator and medial pterygoid.
E. lateral pterygoid and superior constrictor.
Answer = A

An important source of collateral circulation in the neck following ligation of the common carotid artery on one side is by means of the
A. facial arteries.
B. lingual arteries.
C. thyroid arteries.
D. suprascapular arteries.
E. ascending pharyngeal arteries.
Answer = C

Which statement(s) describe(s) the superior laryngeal nerve?
A. Its sensory branch can become activated and initiate the cough reflex if food or water enters the laryngeal inlet.
B. Its external branch innervates the cricothyroid muscle, whose action is to alter the pitch of the voice.
C. Its internal branch provides sensory innervation to the larynx below the vocal cords.
All of the above statements are correct.
E. Statements A and B are correct.
Answer = E

Impaired function of which of the following muscles would result in difficulty in protruding the lower jaw?
A. digastric
B. lateral pterygoid
C. medial pterygoid
D. masseter
E. temporalis
Answer = B

During thyroid surgery
A. a logical anatomic approach involves a skin incision in the posterior triangle of the neck.
B. the pharyngobasilar fascia is usually incised in approaching the thyroid lobe.
C. one explores for parathyroid tissue along the anterior surface of the lobes of the thyroid gland.
D. the superior cervical ganglion can be injured during manipulation of the inferior thyroid artery.
E. the recurrent laryngeal nerve can be injured during manipulation of the inferior thyroid artery.
Answer = E

The palatopharyngeus muscle
A. forms the anterior pillar of the palatine tonsil.
B. inserts into the posterior border of the cricoid cartilage.
C. arises from the lower border of the auditory tube.
D. functions in elevating the larynx during swallowing.
E. consists of musculature derived from somites.
Answer = D
The cell bodies for the sensory fibers that convey pain, touch, and temperature from the posterior one-third of the tongue are located in the

- A. geniculate ganglion.
- B. pterygopalatine ganglion.
- C. semilunar (trigeminal) ganglion.
- D. otic ganglion.
- E. none of the above

Answer = E

Which nerve innervates the muscle necessary for tight closure of the eyelids?

- A. facial
- B. oculomotor
- C. sympathetics
- D. trigeminal
- E. vagus

Answer = A

The thyrohyoid membrane is

- A. attached to the oblique line of the thyroid cartilage.
- B. pierced by the recurrent laryngeal nerve.
- C. located medial (deep) to the piriform recess.
- D. attached to the oblique line of the thyroid cartilage.
- E. covered laterally by the superior pharyngeal constrictor muscle.

Answer = D

The vocal ligaments are

- A. attached to the vocal process of the arytenoid cartilage.
- B. superior to the vestibular folds.
- C. brought together (adducted) by the action of the posterior cricoarytenoid muscles.
- D. tensed by the thyroarytenoid muscles.
- E. the same as the false vocal cords.

Answer = A

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

- A. loss of sensation to the chin, mandible, and lower teeth.
- B. paralysis of the levator veli palatini.
- C. paralysis of the lateral and medial pterygoid muscles.
- D. loss of general sensation to the anterior two-thirds of the tongue.
- E. paralysis of the tensor tympani muscle.

Answer = B

The lateral wall of the ethmoid sinus is also part of the medial wall of the

- A. nasal cavity
- B. orbit
- C. anterior cranial fossa
- D. oropharynx
- E. nasopharynx

Answer = B

Which statement is TRUE of the palate and associated structures?

- A. The hard palate is properly within the pharynx.
- B. The palate receives palatine nerves and arteries via palatine canals.
- C. The palate is innervated by cranial nerve V3.
- D. The tensor veli palatini is innervated by cranial nerve V2.
- E. The musculus uvulae is innervated by cranial nerve V3.

Answer = B

The nasopharynx

- A. is superior to the uvula and soft palate.
- B. contains the palatine tonsils.
- C. receives sensory innervation by the vagus nerve.
- D. is drained by superficial cervical lymph nodes.
- E. receives the nasolacrimal duct.

Answer = A

Each of the following is characteristic of the maxillary sinus EXCEPT

- A. oculomotor nerve
- B. internal carotid artery
- C. ophthalmic division of the trigeminal nerve
- D. mandibular division of the trigeminal nerve
- E. abducens nerve

Answer = D

All of the following structures are located within the walls or cavity of the cavernous sinus EXCEPT the

- A. oculomotor nerve
- B. internal carotid artery
- C. ophthalmic division of the trigeminal nerve
- D. mandibular division of the trigeminal nerve
- E. abducens nerve

Answer = D

The facial nerve

- A. exits the cranium through the foramen ovale
- B. provides the primary parasympathetic supply to the parotid gland
- C. supplies taste fibers to the posterior 1/3 of the tongue
- D. supplies motor fibers to the medial pterygoid muscle.
- E. supplies motor fibers to the stapedius muscle.

Answer = E

The superior sagittal sinus

- A. drains into the straight sinus
- B. is attached to the petrous temporal bone
- C. receives emissary veins
- D. communicates with the cavernous sinus
- E. receives the superior petrosal sinus

Answer = C
The tympanic plexus is found on the
A. floor of the middle ear
B. pyramid of the middle ear
C. medial surface of the tympanic membrane
D. promontory of the middle ear
E. mucous membrane lining the vestibule of the inner ear
Answer = D

All of the following statements about the orbicularis oculi muscle are true EXCEPT
A. It is derived from mesenchyme of the first brachial arch.
B. It is involved in the blink response to irritation of the cornea.
C. It is necessary to prevent drying of the conjunctiva over the eyeball.
D. It receives motor supply from the facial nerve.
E. It contains a deep portion that alters pressure in the lacrimal sac.
Answer = A

The chorda tympani nerve
A. is part of the nerve of the pterygoid canal
B. contains postganglionic parasympathetic fibers for the parotid gland
C. contains sensory fibers from the tympanic membrane
D. joins the auriculotemporal nerve
E. carries parasympathetic fibers to the submandibular ganglion
Answer = E

The superior cervical ganglion has branches that include all of the following EXCEPT
A. white rami to upper 4 cervical nerves
B. gray rami to upper 4 cervical nerves
C. fibers to the internal carotid plexus
D. fibers to an external carotid plexus
E. a pharyngeal branch
Answer = A

The foramen spinosum
A. is closed by a cartilagenous disc in life
B. is found in the petrous temporal bone
C. usually transmits the maxillary nerve
D. is located in the posterior cranial fossa
E. transmits the middle meningeal artery
Answer = E

Upon examining a sick child you notice pus draining from the middle meatus of the nasal cavity. You look for evidence of an infection originating in the
A. nasolacrimal duct
B. sphenoidal sinus
C. maxillary sinus
D. mastoid sinus
E. posterior ethmoidal air cells
Answer = C

The lacrimal gland receives its parasympathetic nerve supply from
A. the nasociliary nerve
B. the greater petrosal nerve
C. the supraorbital nerve
D. the anterior ethmoid nerves
E. the lesser petrosal nerve
Answer = B

A structure that can easily be inured during ligation of the superior thyroid artery is the
A. inferior laryngeal branch of the recurrent laryngeal nerve
B. ascending pharyngeal artery
C. superior parathyroid gland
D. transverse colli nerve
E. external branch of the superior laryngeal nerve
Answer = E

The middle ear is lined with mucosa that receives sensory supply from
A. the glossopharyngeal nerve
B. the trigeminal nerve
C. the facial nerve
D. cervical nerves 1-3
E. the vagus nerve
Answer = A

The internal jugular vein
A. is located medial to the common and internal carotid arteries.
B. originates at the junction of the retromandibular and posterior auricular veins
C. usually receives the superior and inferior thyroid veins
D. is surrounded by visceral fascia
E. usually receives the middle thyroid vein
Answer = E
The middle pharyngeal constrictor muscle
A. originates from the hyoid bone
B. receives its motor supply from the glossopharyngeal nerve
C. terminates, in part, at the pharyngeal tubercle of the basiocciput
D. receives its blood supply primarily from the vertebral artery
functions in depression of the epiglottic cartilage
Answer = A

The nasal cavity is closed off from the oropharynx during swallowing by
A. elevation of the tongue to the roof of the mouth
B. contraction of the aryepiglottic muscles
C. contraction of the tensor and levator veli palatini muscles
D. relaxation of the pharyngeal constrictors
E. bending the epiglottis
Answer = C

The posterior triangle of the neck
A. allows access to the external carotid artery
B. is bounded by the inferior belly of the omohyoid muscle
C. contains the greater occipital nerve
D. is located between the sternocleidomastoid muscle and the midline of the neck
E. allows access to the cervical plexus
Answer = E

Lymphatic drainage of the vestibule of the larynx is by way of channels that drain into the
A. superficial cervical nodes
B. upper deep cervical nodes
C. lower deep cervical nodes
D. paratracheal nodes
E. pretracheal nodes
Answer = B

The muscle that opens the rima glottidis
A. is innervated by the internal laryngeal nerve
B. is innervated by the external laryngeal nerve
C. extends from the thyroid to the arytenoid cartilage
D. extends from the cricoid to the arytenoid cartilage
E. extends from the arytenoid cartilage of one side to the arytenoid cartilage of the contralateral side
Answer = D

The nerve involved in the afferent limb of the cough reflex is the
A. internal branch of the superior laryngeal nerve
B. pharyngeal branch of the glossopharyngeal nerve
C. pharyngeal branch of the vagus nerve
D. tympanic branch of the glossopharyngeal nerve
E. external branch of the superior laryngeal nerve
Answer = A

A muscle that protrudes the tongue is the
A. styloglossus
B. hyoglossus
C. genioglossus
D. palatoglossus
E. mylohoid
Answer = C

Muscles innervated by the ansa cervicalis include all of the following EXCEPT
A. sternothyroid
B. superior belly of the omohyoid
C. inferior belly of the omohyoid
D. sternothyroid
E. cricothyroid
Answer = E

The thyrohyoid membrane is pierced by the
A. hypoglossal nerve
B. internal branch of the superior laryngeal nerve
C. external branch of the recurrent laryngeal nerve
D. ansa cervicalis
E. inferior laryngeal artery
Answer = B

Which of these muscles particularly attaches to the articular disc of the temporomandibular joint?
A. medial pterygoid
B. anterior fibers of temporalis
C. masseter
D. buccinator
E. lateral pterygoid
Answer = E

Most of the lateral surface of the cerebral hemisphere receives arterial supply from the
A. vertebral artery
B. internal carotid artery
C. anterior cerebral artery
D. middle cerebral artery
E. posterior cerebral artery
Answer = D

The glands located in the mucous membrane covering the uvula are nonfunctional in your patient. You suspect that there may be a compression of the
A. pterygopalatine ganglion
B. geniculate ganglion
C. otic ganglion
D. submandibular ganglion
E. trigeminal ganglion
Answer = A

All of the following statements concerning the thyroid gland are true EXCEPT
A. it develops as a median outgrowth of the pharynx, marked after birth by the foramen caecum of the tongue.
B. It is encased in prevertebral fascia.
C. It receives arterial supply from vessels that are branches of the superior and inferior thyroid arteries.
D. It includes an isthmus that usually covers the 3rd tracheal ring.
E. It frequently includes a pyramidal lobe that extends superiorly toward the hyoid bone.
Answer = B

The cell bodies for pain fibers from the anterior 2/3 of the tongue are located in the
A. pterygopalatine ganglion
B. otic ganglion
C. trigeminal ganglion
D. geniculate ganglion
E. inferior ganglion of the glossopharyngeal nerve
Answer = C
The glossopharyngeal nerve innervates which one of the following muscles?

A. tensor tympani  
B. superior constrictor of the pharynx  
C. tensor veli palatini  
D. stylopharyngeus  
E. palatopharyngeus  
Answer = D

All of the following arteries participate in the formation of the cerebral arterial circle (of Willis) EXCEPT the

A. anterior cerebral  
B. middle cerebral  
C. anterior communicating  
D. posterior communicating  
E. posterior cerebral  
Answer = B

The pulse found immediately anterior to the upper part of the external ear is from the

A. transverse facial artery.  
B. facial artery.  
C. superficial temporal artery.  
D. deep auricular artery.  
E. maxillary artery.  
Answer = C

After a car accident, cerebrospinal fluid escapes from the nose of the patient. The most likely cause is fracture of the

A. frontal bone.  
B. ethmoid bone.  
C. nasal bone.  
D. lacrimal bone.  
E. temporal bone.  
Answer = B

During excessive lacrimation, as in crying, tears drain into the nasal cavity at the

A. sphenoethmoidal recess.  
B. middle nasal meatus.  
C. superior nasal meatus.  
D. inferior nasal meatus.  
E. hiatus semilunaris.  
Answer = D

Branches of the infratemporal portion of the maxillary artery include all of the following EXCEPT the

A. middle meningeal artery.  
B. inferior alveolar artery.  
C. lingual artery.  
D. anterior deep temporal artery.  
E. accessory meningeal artery.  
Answer = C

Injury to the facial nerve in the facial canal can result in

A. loss of secretion of the parotid gland.  
B. lateral deviation of the protruded mandible.  
C. accumulation of food in the space between the teeth and the cheek.  
D. loss of taste to the posterior 1/3 of the tongue.  
E. loss of secretion of the ipsilateral lacrimal gland.  
Answer = C

The most extensive arterial supply to the cranial dura mater is derived from the

A. anterior meningeal artery.  
B. middle meningeal artery.  
C. posterior meningeal artery.  
D. middle cerebral artery.  
E. internal carotid artery.  
Answer = B

In treating a small child with a safety pin lodged in the piriform recess, you remember that this recess is located

A. superior to the pharyngeal tonsil.  
B. between the palatoglossal and palatopharyngeal folds.  
C. in the laryngopharynx, on either side of the laryngeal inlet.  
D. in the nasopharynx, posterior to the salpingopharyngeal fold.  
E. lateral to the 2nd tracheal ring.  
Answer = C

The pterygoid venous plexus drains directly into the

A. maxillary vein.  
B. internal jugular vein.  
C. posterior auricular vein.  
D. external jugular vein.  
E. superficial temporal vein.  
Answer = A

After administration of an anesthetic agent in the infratemporal fossa to anesthetize the lower teeth, the ipsilateral tongue and skin of the lip become "numb" in addition to the lower teeth. These findings suggest a drug action on all of the following nerves EXCEPT the

A. auriculotemporal.  
B. mental.  
C. inferior alveolar.  
D. lingual.  
Answer = A

The thyrohyoid membrane is pierced by the

A. vagus nerve and the superior thyroid artery.  
B. recurrent laryngeal nerve and the inferior thyroid artery.  
C. external branch of the superior laryngeal nerve and the superior thyroid artery.  
D. internal branch of the superior laryngeal nerve and the superior laryngeal artery.  
E. hypoglossal nerve and the lingual artery.  
Answer = D

The common carotid artery bifurcates into its two terminal branches at the level of the

A. lower border of the cricoid cartilage.  
B. lower border of the mandible.  
C. isthmus of the thyroid gland.  
D. upper border of the thyroid cartilage.  
E. 6th cervical vertebra.  
Answer = D
To enhance drainage of the maxillary sinus, an otolaryngologist wishes to produce an opening in the inferior nasal meatus. To anesthetize the mucous membrane around this area, a local anesthetic is infused in the connective tissue around the

A. posterior ethmoidal nerve.
B. olfactory nerve.
C. pterygopalatine ganglion.
D. nasopalatine nerve.
E. anterior superior alveolar nerve.
Answer = C

The superior border of the conus elasticus is associated with the

A. vocal ligament.
B. vestibular fold.
C. aryepiglottic fold.
D. thyroepiglottic ligament.
E. thyrohyoid membrane.
Answer = A

"Shingles" is a painful skin disorder that results from a viral infection in the cell bodies of sensory neurons. In a patient with skin blisters over the lower jaw, upper external ear and temporal region, the viral infection is located in the

A. otic ganglion.
B. trigeminal ganglion.
C. submandibular ganglion.
D. pterygopalatine ganglion.
E. geniculate ganglion.
Answer = B

The parotid duct reaches the vestibule of the oral cavity by piercing the

A. masseter muscle.
B. zygomaticus major muscle.
C. levator anguli oris muscle.
D. superior pharyngeal constrictor muscle.
E. buccinator muscle.
Answer = E

Choose the correct match of nerves of the orbit and their action.

A. short ciliary nerve - entirely sensory from the eyeball
B. lacrimal nerve -- sensory from the medial part of the upper eyelid
C. frontal nerve -- sensory from the forehead
D. superior division of the oculomotor nerve -- contraction of the ciliary muscle.
E. nasociliary nerve -- parasympathetic innervation of the superior tarsal muscle
Answer = C

In the surgical removal of the thyroid gland, paralysis of the posterior cricoarytenoid muscle is usually the result of injury to the

A. recurrent laryngeal nerve.
B. external branch of the superior laryngeal nerve (external laryngeal nerve).
internal branch of superior C. laryngeal nerve (internal laryngeal nerve).
D. pharyngeal branches of the vagus nerve.
E. pharyngeal branches of the glossopharyngeal nerve.
Answer = A

Select the correct match of eye muscle and anatomical movement of the eyeball.

A. superior rectus muscle -- elevate and abduct
B. inferior oblique muscle -- depress and adduct
C. superior oblique muscle -- depress and adduct
D. inferior rectus muscle -- depress and adduct
E. medial rectus muscle -- elevate and abduct
Answer = D

All of the following statements concerning the auditory (pharyngotympanic) tube are correct EXCEPT that it

A. has a medial opening into the nasopharynx.
B. has a lateral opening into the anterior wall of the middle ear.
C. is lined by mucous membrane that receives most of its sensory supply from the glossopharyngeal nerve.
D. can be obstructed by enlarged pharyngeal tonsils.
E. is located immediately posterior to the middle nasal concha.
Answer = E

The nerve that is sensory to the mucosa of the larynx below the level of the vocal cords is the

A. glossopharyngeal.
B. internal laryngeal.
C. external laryngeal.
D. nerve to the thyrohyoid muscle.
E. recurrent laryngeal.
Answer = E

All of the following statements concerning the thyroid gland are correct EXCEPT that it

A. is supplied by branches of the external carotid artery and the thyrocervical trunk.
B. is drained by veins that enter the internal jugular and brachiocephalic veins.
C. often has a pyramidal lobe located anterior to the thyroid cartilage.
D. develops from the third pharyngeal pouch.
E. is covered superficially by the sternothyroid muscle.
Answer = D

The larynx is elevated during the process of swallowing by all of the following muscles EXCEPT the

A. stylopharyngeus.
B. salpingopharyngeus.
C. palatopharyngeus.
D. omohyoid.
E. stylohyoid.
Answer = D

Vessels that travel for a part of their course in the carotid triangle include all of the following EXCEPT the

A. ascending pharyngeal artery.
B. occipital artery.
C. inferior thyroid artery.
D. lingual artery.
E. facial artery.
Answer = C

Posteriorly, the falx cerebri is directly continuous with or attached to the

A. diaphragma sellae.
B. crista galli.
C. tentorium cerebelli.
D. posterior clinoid processes.
E. dura of the cavernous sinuses.
Answer = C
Pain associated with an infection of the middle ear cavity results from impulses carried along the
A. chorda tympani nerve.
B. great auricular nerve.
C. internal carotid plexus.
D. glossopharyngeal nerve.
E. maxillary division of the trigeminal nerve.
Answer = D

Two muscles that elevate the eyeball are the
A. inferior oblique and medial rectus.
B. superior oblique and superior rectus.
C. inferior oblique and superior rectus.
D. inferior oblique and lateral rectus.
E. superior oblique and inferior oblique.
Answer = C

The lymph node(s) most likely to swell as a result of an inflammation of the palatine tonsil is (are) the
A. parotid.
B. superficial cervical.
C. jugulo-omohyoid.
D. jugulodigastric.
E. retroauricular.
Answer = D

An autonomic pathway from the central nervous system to the mucous membrane of the inferior nasal concha would include a synapse in the
A. geniculate ganglion.
B. ciliary ganglion.
C. otic ganglion.
D. trigeminal ganglion.
E. pterygopalatine ganglion.
Answer = E

The nasopharynx
A. has an outer layer named the pharyngobasilar fascia.
B. has an inner mucosa that receives sensory innervation from the vagus nerve.
C. contains the palatine tonsils.
D. is drained by superficial cervical lymph nodes.
E. contains an orifice for the auditory (pharyngotympanic) tube.
Answer = E

The nerve of the pterygoid canal
A. is a branch of the glossopharyngeal nerve.
B. contains preganglionic parasympathetic fibers.
C. exits the cranial cavity through the foramen rotundum.
D. contains preganglionic sympathetic fibers.
E. terminates in the otic ganglion.
Answer = B

The cell bodies for pain fibers from the anterior portion of the tongue are located in the
A. superior ganglion of the vagus nerve.
B. otic ganglion.
C. trigeminal ganglion.
D. geniculate ganglion.
E. submandibular ganglion.
Answer = C

During surgical removal of the palatine tonsil, all of the following are vulnerable to injury EXCEPT
A. the glossopharyngeal nerve.
B. the superior pharyngeal constrictor muscle.
C. the hypoglossal nerve.
D. branches of the facial artery.
E. branches of the ascending pharyngeal artery.
Answer = C

All of the following statements concerning the orbicularis oculi muscle are correct EXCEPT that it
A. is involved in the blink response to irritation of the cornea.
B. has a smooth muscle component that assists in raising the eyelid.
C. receives motor innervation from the facial nerve.
D. includes a portion that is located in the eyelids.
E. has an action that assists in moistening the cornea.
Answer = B

The facial nerve innervates all of the following muscles EXCEPT the
A. posterior belly of the digastric.
B. temporalis.
C. buccinator.
D. stapedius.
E. platysma.
Answer = B

All of the following statements regarding components of the autonomic nervous system in the orbit are correct EXCEPT that
A. the ciliary ganglion contains postganglionic cell bodies.
B. the short ciliary nerves contain both postganglionic sympathetic and parasympathetic fibers.
C. the lacrimal nerve contains autonomic fibers that originate as a component of the fifth cranial nerve.
D. sympathetic fibers travel to the orbit on blood vessels.
E. postganglionic parasympathetic fibers from the ciliary ganglion affect pupillary constriction.
Answer = C

All of the following statements concerning the hard palate are correct EXCEPT that
A. it forms a part of the floor of the nasal cavity.
B. its major blood supply is from the lesser palatine arteries.
C. it is formed, in part, by the horizontal plate of the palatine bones.
D. it is lined with mucosa that is innervated by the greater palatine nerves.
E. it contains a foramen for passage of the nasopalatine nerves.
Answer = B

The medial wall of the ethmoidal sinuses is also a part of the lateral wall of the
A. orbit.
B. nasal cavity.
C. oral cavity.
D. infratemporal fossa.
Answer = B
The afferent limb of the cough reflex is usually mediated by the

A. external laryngeal nerve.  
B. internal laryngeal nerve.  
C. lingual nerve.  
D. glossopharyngeal nerve.  
E. pharyngeal plexus.  
Answer = B

The vocal ligaments are

A. attached to the vocal processes of the arytenoid cartilage.  
B. superior to the vestibular folds.  
C. adducted by the action of the posterior cricoarytenoid muscles.  
D. tensed by the action of the thyroarytenoid muscles.  
E. the same as the false vocal cords.  
Answer = A

Lymphatic drainage of the vestibule of the larynx is primarily by way of channels that drain into the

A. superficial cervical nodes.  
B. upper deep cervical nodes.  
C. lower deep cervical nodes.  
D. paratracheal nodes.  
E. pretracheal nodes.  
Answer = B

The external laryngeal nerve innervates the

A. posterior cricoarytenoid muscle.  
B. mucosa of the piriform recess.  
C. lateral cricoarytenoid muscle.  
D. cricothyroid muscle.  
E. mucosa of the infraglottic cavity.  
Answer = D

The chorda tympani nerve

A. has fibers that synapse in the pterygopalatine ganglion.  
B. is a branch of the glossopharyngeal nerve.  
C. joins the deep petrosal nerve.  
D. carries taste and preganglionic parasympathetic fibers to the lingual nerve.  
E. exits the cranial cavity through the stylomastoid foramen.  
Answer = D

All of the following structures are located within the walls or cavity of the cavernous sinus EXCEPT the

A. oculomotor nerve.  
B. internal carotid artery.  
C. ophthalmic division of the trigeminal nerve.  
D. mandibular division of the trigeminal nerve.  
E. abduces nerve.  
Answer = D

Epidural hemorrhage usually results from rupture of

A. superficial cerebral veins.  
B. emissary veins.  
C. the middle meningeal artery.  
D. diploic veins.  
E. the middle cerebral artery.  
Answer = C

A patient had an upper third molar tooth extracted. Two days later he developed an infection that led to thrombosis of the cavernous sinus. The most likely route for the infection to reach the cavernous sinus was via the

A. angular vein.  
B. pterygoid venous plexus.  
C. superior ophthalmic vein.  
D. inferior alveolar vein.  
E. superior labial vein.  
Answer = B

A fracture of the sphenoid bone could injure all of the following EXCEPT the

A. mandibular division of V.  
B. middle meningeal artery.  
C. auditory nerve.  
D. nerve of the pterygoid canal.  
E. maxillary division of V.  
Answer = C

Narrowing of the jugular foramen due to a tumor could result in all of the following EXCEPT

A. dry eye.  
B. parotid gland dysfunction.  
C. difficulty in swallowing.  
D. drooping of the shoulder on the same side.  
Answer = A

The pterygomandibular raphe serves as a point of attachment for

A. superior constrictor and buccinator muscles.  
B. masseter and medial pterygoid muscles.  
C. lateral pterygoid and medial pterygoid muscles.  
D. buccinator and medial pterygoid muscles.  
E. lateral pterygoid superior constrictor muscles.  
Answer = A

An infection in the infratemporal fossa could reach the pterygopalatine fossa through the

A. inferior orbital fissure.  
B. pterygoid canal.  
C. foramen rotundum.  
D. superior orbital fissure.  
E. pterygomaxillary fissure.  
Answer = E

A muscle that attaches to the articular disc of the temporomandibular joint is the

A. medial pterygoid.  
B. temporalis.  
C. masseter.  
D. buccinator.  
E. lateral pterygoid.  
Answer = E

During swallowing, food is prevented from entering the nasopharynx from the oropharynx by actions that include contraction of the

A. palatoglossus muscles.  
B. hyoglossus muscles.  
C. posterior belly of the digastric muscles.  
D. levator veli palatini muscles.  
E. mylohyoid muscles.  
Answer = D
All of the following statements concerning the auditory ossicles are correct except that they:
A. are united by synovial joints.
B. are covered with mucous membrane.
C. include a malleus on which is inserted the tendon of the tensor tympani muscle.
D. transmit acoustic vibrations to the oval window.
E. include a stapes that has a process that attaches to the tympanic membrane.
Answer = E

All of the following statements concerning Horner's syndrome are correct except that it can:
A. include ptosis of the upper eyelid.
B. include pupillary constriction.
C. be caused by injury to the superior cervical ganglion.
D. be caused by a regional anesthetic block of the sympathetic chain at the level of the sixth cervical vertebra.
E. include pale, moist skin of the face.
Answer = E

The inferior sagittal sinus normally drains directly into the
A. superior sagittal sinus.
B. sigmoid sinus.
C. sphenoparietal sinus.
D. left transverse sinus.
E. straight sinus.
Answer = E

Occasionally, severe infection of the middle ear (otitis media) spreads through a thin inferior wall (floor) into the
A. maxillary sinus.
B. auditory tube.
C. cochlea.
D. internal jugular vein (bulb).
E. temporal lobe of a cerebral hemisphere.
Answer = D

All of the following statements concerning the mylohyoid muscle are correct except that it
A. is innervated by a branch of the inferior alveolar nerve.
B. forms most of the floor of the oral cavity.
C. protrudes the tongue.
D. originates from the body of the mandible.
E. separates the superficial and deep parts of the submandibular gland.
Answer = C

As it leaves the brain stem, the oculomotor nerve contains all of the following except
A. preganglionic parasympathetic fibers.
B. motor fibers to the elevator of the eyelid.
C. fibers that cause dilation of the pupil.
D. fibers that terminate on the inferior oblique muscle.
Answer = C

All of the following usually receive arterial supply from branches of the maxillary artery except
A. the temporalis muscle.
B. a portion of the skin of the cheek.
C. the lower teeth.
D. the nasal septum.
E. the sublingual gland.
Answer = E

All of the following statements concerning the submandibular gland are correct except that it
A. receives postganglionic sympathetic fibers from the superior cervical ganglion.
B. receives parasympathetic fibers whose preganglionic segments travel in the chorda tympani nerve.
C. receives postganglionic sympathetic fibers that travel along branches of the external carotid artery.
D. receives postganglionic parasympathetic fibers from the otic ganglion.
E. has a duct that empties into the sublingual region near the frenulum of the tongue.
Answer = D

Following occlusion of the origin of the left external carotid artery, blood can reach the left occipital artery by way of substantial collateral paths involving all of the following sequences except:
A. left inferior thyroid -} left superior thyroid-} left external carotid -} left occipital
B. left internal carotid -} left middle meningeal -} left occipital
C. left costocervical trunk -} left deep cervical -} left occipital
D. right superior thyroid -} left superior thyroid-} left external carotid -} left occipital
Answer = B

Preganglionic parasympathetic fibers to the lacrimal gland travel in the
A. mandibular nerve.
B. lacrimal nerve.
C. ophthalmic nerve.
D. greater petrosal nerve.
E. chorda tympani nerve.
Answer = D

All of the following statements concerning the parotid gland are correct except that it
A. is located, in part, lateral to the masseter muscle.
B. receives parasympathetic innervation from fibers that travel along the lingual nerve.
C. has a duct that penetrates the buccinator muscle.
D. has a duct that terminates in the vestibule of the mouth, opposite the upper second molar tooth.
E. has a portion that is wedged between the ramus of the mandible and the mastoid process of the temporal bone.
Answer = B

The infratemporal fossa contains all of the following except the
A. pterygoid plexus of veins.
B. maxillary artery.
C. lingual nerve.
D. pterygopalatine ganglion.
E. inferior alveolar nerve.
Answer = D

All of the following statements concerning the tympanic membrane are true except that
A. its inner surface has sensory fibers from the vagus nerve.
B. the handle of the malleus is attached to its medial surface.
C. it forms most of the lateral wall of the middle ear.
D. its outer surface has sensory fibers from the trigeminal nerve.
E. it is lined medially with mucous membrane.
Answer = A
An infection of the upper area of the nasal cavity will probably first involve swelling of the
A. lower deep cervical lymph nodes.
B. superficial cervical lymph nodes.
C. submandibular lymph nodes.
D. upper deep cervical lymph nodes.
E. sublingual lymph nodes.
Answer = D

All of the following statements concerning the facial nerve are correct EXCEPT that it
A. innervates the posterior belly of the digastric muscle.
B. contains fibers for taste from the anterior 2/3 of the tongue.
C. passes through the internal auditory (acoustic) meatus.
D. has a branch whose fibers synapse in the pterygopalatine ganglion.
E. innervates the tensor veli palatini muscle.
Answer = E

The temporals muscle.
A. is supplied by the auriculotemporal nerve.
B. inserts into the neck of the condylar process of the mandible.
C. has a tendon that passes medial to the zygomatic arch.
D. is a protruder of the jaw.
E. originates only from the temporal bone.
Answer = C

All of the following statements concerning the middle ear are correct EXCEPT that it
A. is lined with mucous membrane.
B. is located superior to the jugular foramen.
C. is separated from the middle cranial fossa by the tegmen tympani.
D. contains a bulge on its medial wall that is caused by the basal turn of the cochlea.
E. is traversed by the deep petrosal nerve.
Answer = E

To test for trochlear nerve damage, have your patient gaze
A. in and then down.
B. in and then up.
C. out and then down.
D. out and then up.
E. up and then down.
Answer = A

When cell bodies of the left trigeminal ganglion are destroyed by a viral infection, the signs and symptoms include
A. weakness in chewing food on the left side.
B. loss of taste from the anterior 2/3 of the left side of the tongue.
C. drooping of the left eyelid.
D. loss of sensation of pain from the anterior 2/3 of the left side of the tongue.
E. loss of parasympathetic innervation to the left sublingual gland.
Answer = D

The cell bodies of neurons conducting sensation from the upper molar teeth are located in the
A. superior cervical ganglia.
B. otic ganglia.
C. geniculate ganglia.
D. trigeminal ganglia.
E. pterygopalatine ganglia.
Answer = D

Correct statements concerning the larynx include all of the following EXCEPT that
A. the opening of the rima glottidis is usually accompanied by rotation of the arytenoid cartilages.
B. the cricothyroid muscles are of importance in controlling vocal pitch.
C. the recurrent laryngeal nerves are both motor and sensory to the larynx.
D. the external laryngeal nerves are motor to the cricothyroid muscles.
E. the internal laryngeal nerve supplies sensory fibers to the mucosa of the infraglottic cavity.
Answer = E

All of the following statements concerning the optic nerve are correct EXCEPT that it
A. enters the orbit through the optic canal.
B. is encircled by the central artery of the retina.
C. is surrounded by the origins of the four rectus muscles as it enters the orbit.
D. is crossed inferiorly by the nasociliary nerve.
E. is surrounded by cerebrospinal fluid within a meningeal sheath.
Answer = D
All of the following statements concerning the ansa cervicalis are correct EXCEPT that it
A. contains fibers from upper cervical nerves.
B. travels within the carotid sheath for a part of its course.
C. contains fibers that innervate infrahyoid muscles.
D. contains fibers that innervate the skin of the anterior surface of the neck.
E. has a superior root (limb) that travels for a part of its course with the hypoglossal nerve.
Answer = D

A bacterial infection in the mucous membrane covering the conus elasticus would most likely initially cause swelling of the
A. superficial cervical nodes.
B. submandibular nodes.
C. lower deep cervical nodes.
D. pretracheal nodes.
E. retropharyngeal nodes.
Answer = D

A tumor restricted to the inferior orbital fissure could compress vessels and nerves that supply all of the following EXCEPT the
A. skin of the upper lip.
B. lacrimal gland.
C. upper teeth.
D. soft palate.
E. skin of the lower eyelid.
Answer = D

You have a patient with thrombophlebitis (venous inflammation with clot formation) of the right cavernous sinus. You are concerned because you know that the venous dural sinuses connect with one another and that the thrombophlebitis could spread directly to all of the following EXCEPT the
A. right superior petrosal sinus.
B. right transverse sinus.
C. right superior ophthalmic vein.
D. anterior intercavernous sinus.
E. right inferior petrosal sinus.
Answer = B

A transverse NMR slice of the neck through the isthmus of the thyroid gland should display the
A. cricoid cartilage.
B. carotid sinus.
C. pharynx.
D. thyroid cartilage.
E. trachea.
Answer = E

In a patient with an aneurysm of the aortic arch, compression of the left recurrent laryngeal nerve could result in
A. deviation of the uvula to the right side.
B. paralysis of the left cricothyroid muscle.
C. loss of sensory supply to the mucosa of the vestibule of the larynx.
D. inability to abduct the vocal fold on the side of the lesion.
E. complete closure of the rima glottidis.
Answer = D

Structures located posterior to the anterior scalene muscle include the
A. subclavian vein.
B. transverse cervical artery.
C. phrenic nerve.
D. ventral ramus of the C5 spinal nerve.
E. thyrocervical trunk.
Answer = D

A biopsy of a tumor that you removed surgically from the superior and middle conchae of the left nasal cavity of a 55-year-old female contained malignant cells. You decide to remove lymph nodes that directly drain the tumor region and excise several
A. submental nodes.
B. submandibular nodes.
C. upper deep cervical nodes.
D. lower deep cervical nodes.
E. preauricular nodes.
Answer = C

As the result of an acute infection of the middle ear (otitis media), bacteria can spread
A. posteriorly, into the bony labyrinth of the inner ear.
B. laterally, into the mastoid antrum.
C. inferiorly, into the jugular bulb.
D. medially, through the tegmen tympani into the middle cranial fossa.
E. inferiorly, into the external auditory meatus.
Answer = D

The patient has symptoms limited to loss of taste and general sensation from the tongue.
A. A lesion of the lingual nerve just distal to its junction with the chorda tympani.
B. A lesion of the facial nerve in the facial canal immediately proximal to the branching of the chorda tympani.
C. A lesion of the chorda tympani as it exits the petrotympanic fissure.
D. A lesion of the facial nerve in the internal auditory meatus proximal to the geniculate ganglion.
E. A lesion of the lingual nerve just distal to the submandibular ganglion.
Answer = E
The patient has symptoms limited to paralysis of the muscles of facial expression, loss of taste from the tongue, and decreased salivary gland secretion.

A. A lesion of the lingual nerve just distal to its junction with the chorda tympani.
B. A lesion of the facial nerve in the facial canal immediately proximal to the branching of the chorda tympani.
C. A lesion of the chorda tympani as it exits the petrotympanic fissure.
D. A lesion of the facial nerve in the internal auditory meatus proximal to the geniculate ganglion.
E. A lesion of the lingual nerve just distal to the submandibular ganglion.

Answer = B

The patient has symptoms limited to loss of taste from the tongue and decreased salivary gland secretion.

A. A lesion of the lingual nerve just distal to its junction with the chorda tympani.
B. A lesion of the facial nerve in the facial canal immediately proximal to the branching of the chorda tympani.
C. A lesion of the chorda tympani as it exits the petrotympanic fissure.
D. A lesion of the facial nerve in the internal auditory meatus proximal to the geniculate ganglion.
E. A lesion of the lingual nerve just distal to the submandibular ganglion.

Answer = C

All of the following statements concerning the submandibular gland are correct EXCEPT that it

A. receives postganglionic sympathetic fibers from the superior cervical ganglion.
B. receives parasympathetic fibers whose preganglionic segments travel for part of their course in the chorda tympani nerve.
C. receives postganglionic sympathetic fibers that travel along branches of the external carotid artery.
D. is penetrated by and completely surrounds the lingual artery.
E. has a duct that empties into the sublingual region near the frenulum of the tongue.

Answer = D

The cell bodies for pain fibers from the posterior one-third of the tongue are located in the

A. vagal ganglia.
B. glossohyrgeal ganglia.
C. trigeminal ganglia.
D. geniculate ganglia.
E. submandibular ganglia.

Answer = B

You examine a patient who comes into your office complaining of a droopy eyelid. Upon examination, you observe that when you elevate the lid forcefully the pupil is directed down and laterally with no superior or medial movement possible. The pupil is dilated and unresponsive to light. You suspect a lesion involving

A. the trochlear and oculomotor nerves.
B. the oculomotor nerve.
C. the superior cervical ganglion.
D. both the trochlear and abducens nerves.
E. the abducens nerve.

Answer = B

All of the following statements concerning Horner's syndrome are correct EXCEPT that it can

A. include ptosis of the eyelid due to loss of innervation to the superior tarsal muscle.
B. include pupillary constriction due to loss of innervation to the dilator pupillae muscle.
C. be caused by injury to the superior cervical ganglion.
D. be caused by injury to the sympathetic chain (trunk) at vertebral level C6.
E. result in vasoconstriction on the skin of the face.

Answer = E
During your third year rotation in surgery you are going to assist on a parotidectomy. In a presurgical conference you are asked various questions about the parotid gland. Which of the following statements concerning the parotid gland is NOT correct?

A. It is located, in part, lateral to the masseter muscle.
B. It receives parasympathetic innervation from fibers that travel in the lingual nerve.
C. It has a duct that penetrates the buccinator muscle.
D. It has a duct that terminates in the vestibule of the mouth, opposite the upper second molar tooth.
E. It has a portion that is wedged between the ramus of the mandible and the mastoid process of the temporal bone.

Answer = B

It is possible for a fracture line passing through the body of the sphenoid bone to damage the

A. nasociliary nerve.
B. nerve of the pterygoid canal.
C. supraorbital nerve.
D. anterior ethmoidal nerves.
E. lesser petrosal nerve.

Answer = B

During a surgical procedure in the anterior triangle of the neck, a nerve bundle was injured, resulting in paralysis of the sternohyoid muscle. This structure was probably the

A. vagus nerve.
B. phrenic nerve.
C. ansa cervicalis.
D. middle trunk of the brachial plexus.
E. superior laryngeal nerve.

Answer = C

At a clinical correlation conference, you are asked to discuss the blood supply to the face. You begin your discussion by stating that the facial artery

A. is a branch of the internal carotid artery.
B. arises at the lower border of the thyroid cartilage.
C. passes deep to the masseter muscle.
D. supplies the muscles of the temporal area.
E. crosses the mandible deep to the skin and platysma muscle.

Answer = E

You are involved in a surgical procedure in which you enter the ethmoidal sinus through its medial wall. Inadvertently, you drill through its lateral wall and enter the

A. nasal cavity.
B. orbit.
C. anterior cranial fossa
D. oropharynx.
E. nasopharynx.

Answer = D

You and a classmate are having a contest in which one person finds a pulse and the other has to identify the vessel involved. You identify the pulse found immediately anterior to the upper part of the external ear. Which artery should your classmate identify?

A. Occipital
B. Facial
C. Superficial temporal
D. Deep auricular
E. Maxillary

Answer = C

In order to test for the function of the hypoglossal nerve in a neurologic exam, you ask the patient to perform an action that is accomplished primarily by the

A. styloglossus muscle.
B. hyoglossus muscle.
C. genioglossus muscle
D. palatoglossus muscle.
E. suprahyoid muscles.

Answer = C

In examining an MRI of a transverse (cross) section through the neck at the level of the cricoid cartilage, the radiologist expected to see the

A. external carotid artery.
B. vertebral artery.
C. thyrohyoid membrane.
D. isthmus of the thyroid gland.
E. vocal folds.

Answer = B

A patient with a compression injury of a neural structure had numerous symptoms that included a loss of pain from the anterior part of the tongue. The lesion may have been in the

A. stellate ganglion.
B. otic ganglion.
C. trigeminal ganglion.
D. geniculate ganglion.
E. inferior vagal ganglion.

Answer = C

During surgery of the cavernous sinus, you are reminded that all of the following structures are located within the walls or cavity of the sinus EXCEPT the

A. oculomotor nerve.
B. internal carotid artery.
C. ophthalmic division of the trigeminal nerve.
D. mandibular division of the trigeminal nerve.
E. abducens nerve.

Answer = D

The lymph node(s) most likely to swell initially, following a "sore throat" (inflammation of the oropharynx), is/are the

A. retromandibular.
B. juguloomohyoid.
C. retroauricular.
D. upper deep cervical.
E. superficial cervical.

Answer = D

During your neurology rotation you are asked a series of questions about the sixth cranial nerve. You did well because you knew that the sixth cranial nerve

A. has a parasympathetic component.
B. travels in the lateral wall of the cavernous sinus.
C. if injured bilaterally, can result in "crossed eyes".
D. enters the orbit outside of the common tendinous ring.
E. innervates a muscle that adducts the eyeball.

Answer = C

During removal of the palatine tonsils, the surgeon attempted to avoid injury to the closely related structures, which included all of the following EXCEPT the

A. hypoglossal nerve.
B. superior pharyngeal constrictor muscle.
C. styloglossus muscle.
D. branches of the facial artery.
E. glossopharyngeal nerve.

Answer = A
During surgery to remove a vocal fold containing a malignant tumor, you remove the attachments of the vocal ligaments from the

A. thyroid and cricoid cartilages.
B. cricoid and arytenoid cartilages.
C. thyroid and arytenoid cartilages.
D. arytenoid and epiglottic cartilages.
E. cricoid and epiglottic cartilages.
Answer = C

During surgery to remove a plaque in the internal carotid artery, the superior cervical ganglion was damaged. This could result in all of the following EXCEPT

A. decreased facial sweating (anhidrosis).
B. pupillary constriction.
C. constriction to the branches of the superficial temporal artery.
D. inability to maintain a fully raised upper eyelid.
Answer = C

A meningioma of the floor of the cranial cavity compressed structures in the intracranial opening of the foramen rotundum. Peripheral structures that would probably lose innervation from this lesion include

A. secretory cells in the submandibular gland.
B. pain receptors in the mucous membrane of the ethmoidal sinuses.
C. pain receptors in the skin of the chin.
D. secretory cells in the lacrimal gland.
E. pain receptors in the membrane of the lateral wall of the nasal cavity.
Answer = E

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

A. is crossed on its lateral surface by the chorda tympani nerve.
B. is attached to the malleus.
C. is a partition between the external and internal auditory meatuses.
D. forms most of the medial wall of the tympanic cavity.
E. transmits air-borne vibrations to the round window.
Answer = B

While treating a patient with a fracture of the ramus of the mandible, the oral surgeon recalled that there was a large muscle located medial to the ramus which inserts on the angle of the mandible. He knew that this muscle

A. retracts the mandible.
B. is innervated by the maxillary division of the trigeminal nerve.
C. is a muscle of facia expression.
D. passes medial to the inferior alveolar nerve.
E. arises, in part, from the medial pterygoid plate.
Answer = D

Following a laceration of the scalp immediately anterior to the auricle, the emergency room physician observed a cutaneous nerve traveling with an artery. He knew that the nerve

A. supplies the temporalis muscle.
B. travels with the occipital artery.
C. is a branch of the maxillary nerve.
D. surrounds the middle meningeal artery in a part of its course.
E. parasympathetic fibers in a part of its course.
Answer = D

An examination of a 45-year-old man indicates that a large tumor is blocking the middle meatus of the nasal cavity. The drainage from which of the following structures would be blocked in this situation?

A. Frontal sinus
B. Posterior ethmoidal sinus (air cells)
C. Sphenoidal sinus
D. Nasolacrimal duct
E. Auditory tube
Answer = A

Following an injection of a local anesthetic surrounding the mandibular division of the trigeminal nerve as it exits the skull, all of the following would occur EXCEPT

A. loss of sensation to part of the cranial dura mater.
B. paralysis of the levator veli palatini muscle.
C. paralysis of the lateral and medial pterygoid muscles.
D. loss of general sensation to the anterior two-thirds of the tongue.
E. paralysis of the anterior belly of the digastric muscle.
Answer = B

During a surgical procedure on a 56-year-old woman with otosclerosis, Dr. Friedman remembered that the stapes

A. is attached to the tympanic membrane.
B. serves as an attachment for the tendon of the tensor tympani muscle.
C. has an opening at its base for the chorda tympani nerve.
D. is connected directly to the malleus.
E. fits into the oval window.
Answer = E

During a physical examination on a 73-year-old woman, you discover a large tumor blocking and limited to the sphenopalatine foramen. You suspect that innervation has been disrupted to the

A. floor of the orbit.
B. lacrimal gland.
C. upper teeth.
D. nasal cavity.
E. oropharynx.
Answer = D

Pain associated with an infection limited to the middle ear cavity results from impulses carried along the

A. chorda tympani nerve.
B. great auricular nerve.
C. vagus nerve.
D. glossopharyngeal nerve.
E. mandibular division of the trigeminal nerve.
Answer = D

A 73-year-old woman has difficulty elevating her tongue during swallowing. All of the following muscles are involved in this process EXCEPT the

A. anterior belly of the digastric.
B. hyoglossus.
C. intrinsic muscles of the tongue.
D. styloglossus.
E. mylohyoid.
Answer = B
A dye used for tracing the flow of blood was placed into the superior petrosal sinus. You would expect that following a normal drainage pattern, the dye would first be detectable in the

A. cavernous sinus.
B. inferior petrosal sinus.
C. sphenoparietal sinus.
D. sigmoid sinus.
E. basilar sinus.
Answer = D

All of the following statements concerning the orbicularis oculi muscle are correct EXCEPT that it

A. is involved in the blink response to irritation of the cornea.
B. has a smooth muscle component that assists in raising the eyelid.
C. receives motor innervation from the facial nerve.
D. includes a portion that is located in the eyelids.
Answer = B

During a surgical procedure involving the carotid artery, the ansa cervicalis is damaged. This would cause a disruption in the innervation to all of the following muscles EXCEPT the

A. sternothyroid.
B. superior belly of the omohyoid.
C. inferior belly of the omohyoid.
D. sternohyoid.
E. geniohyoid.
Answer = E

While studying for your "head and neck" final, you finally realize why the petrous portion of the temporal bone is so important clinically. You now appreciate that all of the following are features of the petrous portion of the temporal bone EXCEPT that it

A. has a hiatus for passage of the greater petrosal nerve.
B. has an eminence produced by a semicircular canal.
C. houses the inner ear.
D. contains the foramen spinosum.
E. contains a canal for passage of the facial nerve.
Answer = D

In the neck, the roots of the brachial plexus are covered immediately anteriorly by the

A. subclavian artery.
B. anterior scalene muscle.
C. phrenic nerve.
D. ansa cervicalis.
E. subclavian vein.
Answer = B

A tumor at the internal auditory meatus results in an ipsilateral (same side) loss of all of the following EXCEPT

A. hearing.
B. lacrimal secretion.
C. facial expression.
D. taste to the anterior part of the tongue.
E. parotid gland secretion.
Answer = E

The tentorium cerebelli

A. contains the sigmoid sinus.
B. is attached to the crista galli.
C. is formed by an infolding of the endosteal (periosteal) layer of dura mater.
D. contains the straight sinus.
E. separates the right and left lobes of the cerebellum.
Answer = D

During radical neck surgery, the external laryngeal nerve was accidentally cut. Subsequently, the patient lost innervation to the

A. posterior cricoarytenoid muscle.
B. thyroarytenoid muscle.
C. lateral cricoarytenoid muscle.
D. cricothyroid muscle.
E. mucosa of the infraglottic cavity.
Answer = D

A fracture of the mastoid process that passes through the stylomastoid foramen may result in paralysis of the

A. tensor tympani muscle.
B. anterior belly of the digastric muscle.
C. masseter muscle.
D. buccinator muscle.
E. stapedius muscle.
Answer = D

A 15-year-old boy developed an infection of his ethmoidal sinuses. The otolaryngologist knew that the infection could spread directly through the walls of these sinuses into all of the following EXCEPT the

A. orbit.
B. anterior cranial fossa.
C. nasal cavity.
D. sphenoidal sinuses.
E. oropharynx.
Answer = E

A 54-year-old woman who took daily doses of coumedin suffered frequent nosebleeds. A likely source of the bleeding vessels is from the nasal septum which is supplied by branches of all of the following EXCEPT the

A. anterior ethmoidal artery.
B. posterior ethmoidal artery.
C. sphenopalatine artery.
D. facial artery.
E. ascending pharyngeal artery.
Answer = E

An 8-year-old girl developed an infection and inflammation of tonsillar tissue superior to the opening of her auditory tube. Her pediatrician knew that the bacteria from the infection would spread into the

A. submandibular lymph nodes.
B. submental lymph nodes.
C. posterior auricular lymph nodes.
D. superficial cervical lymph nodes.
E. retropharyngeal lymph nodes.
Answer = E

A 34-year-old mother stopped at McDonalds to buy coffee after dropping her 8-year-old son off at morning soccer practice. She quickly withdrew her tongue after touching its tip on the hot coffee. The pain that she experienced was conducted by fibers whose cell bodies are located in the

A. inferior ganglion of the vagus nerve.
B. otic ganglion.
C. trigeminal ganglion.
D. geniculate ganglion.
E. submandibular ganglion.
Answer = C
In a patient with an aneurysm of the aortic arch, compression of the left recurrent laryngeal nerve could result in

A. deviation of the uvula to the right side.
B. paralysis of the left cricothyroid muscle.
C. loss of sensory supply to the mucosa of the vestibule of the larynx.
D. inability to abduct the vocal fold on the left side.
E. complete closure of the rima glottidis.
Answer = D

A 91-year-old college freshman contracted a severe staphylococcal infection which spread through the posterior wall of her oropharynx into the retropharyngeal space which

A. is posterior to the prevertebral fascia.
B. extends inferiorly into the anterior mediastinum.
C. lies anterior to the buccopharyngeal fascia.
D. extends superiorly to the level of the pharyngeal tubercle.
Answer = D

Injury to the left hypoglossal nerve as it exits the brain stem can result in

A. deviation of the protruded tongue to the left.
B. inability to depress the hyoid bone on the left side.
C. accumulation of food in the space between the teeth and the cheek on the left side.
D. deviation of the uvula to the right.
E. loss of taste from the anterior two-thirds of the tongue.
Answer = A

All of the following statements concerning the optic nerve are correct EXCEPT that it

A. enters the orbit through the optic canal.
B. is supplied by the central retinal artery.
C. is usually encircled by the origins of the four rectus muscles as it enters the orbit.
D. is usually crossed inferiorly by the nasociliary nerve.
E. is surrounded by cerebrospinal fluid within a meningeal sheath.
Answer = D

A violent spill from his horse hurled the ranch hand into a barbed wire fence, severely lacerating the vestibule of his oral cavity. The plastic surgeon repaired the muscle immediately lateral to the mucosa of the vestibule, which is the

A. masseter muscle.
B. superior constrictor muscle.
C. buccinator muscle.
D. medial pterygoid muscle.
E. lateral pterygoid muscle.
Answer = C

A 56-year-old man complains that he is unable to feel his lower eyelid when he touches it. What nerve supplying most of the lower eyelid has probably been damaged?

A. Mental nerve
B. Maxillary division of the trigeminal nerve.
C. Auriculotemporal nerve
D. Buccal branch of the trigeminal nerve
E. Ophthalmic division of the trigeminal nerve
Answer = B

An automobile accident victim has fracture of the base of the skull that interrupts the tympanic branch of CNIX. A structure affected by this injury is the

A. stylopharyngeus muscle.
B. parotid gland.
C. mucosa of the hard palate.
D. mucosa of the posterior one-third of the tongue.
E. superior pharyngeal constrictor muscle.
Answer = B

A 64-year-old man developed calculi in the duct system of his right sublingual gland. The examining internist knew that the sublingual gland

A. is an endocrine gland.
B. has a single duct that opens at the sublingual caruncle.
C. receives postganglionic parasympathetic fibers from the submandibular ganglion.
D. is located in the submandibular triangle.
E. empties saliva directly into the vestibule of the mouth.
Answer = C

During the examination of a patient that suffered a fracture of the greater wing of the sphenoid bone, the physician expected to identify deficits including all of the following EXCEPT

A. sensation to the posterior wall of the oropharynx.
B. sensation to the lateral nasal wall.
C. sensation to the chin.
D. movement of the jaw.
Answer = A

Cincinnati is known as the allergy capitol of the USA. As the pollen level increases each year, the local allergist knows that as the occurrence of allergic agents increase they will violently trigger the afferent limb of the cough reflex which is mediated by the

A. external laryngeal nerve.
B. internal laryngeal nerve.
C. lingual nerve.
D. glossopharyngeal nerve.
E. pharyngeal plexus.
Answer = B

Brett Butler developed a cancerous tumor in his oral cavity following years of chewing tobacco. Some cancerous tissue was removed lateral to his hyoglossus muscle. Structures lateral to the muscle could include all of the following EXCEPT the

A. sublingual gland.
B. hypoglossal nerve.
C. lingual nerve.
D. submandibular duct.
E. lingual artery.
Answer = E

A cervical wound that injured the left superior cervical ganglion could result in all of the following EXCEPT

A. decreased sweating on the left side of the upper neck.
B. increased blood flow through surface vessels of the left side of the face.
C. a dilated left pupil in normal light.
D. a decrease in sympathetic supply to the heart.
E. a modest drooping of the left eyelid.
Answer = C
A 27-year-old medical student developed a maxillary sinus infection six days prior to his final examination in gross anatomy. In hopes of resolving this condition, he reviewed the characteristics of the maxillary sinus and recalled that all of the following statements about the sinus are correct EXCEPT that

A. it is lined with mucous membrane.
B. it drains through an opening under the inferior concha (turbinate).
C. it may become infected from an abscessed tooth.
D. it is located below the floor of the orbit.
E. its lining is innervated by the trigeminal nerve.

Answer = B

On examination of an MRI view of a cross (transverse) section through the neck at the level of the third tracheal ring, a third year medical student observed all of the following EXCEPT the

A. recurrent laryngeal nerve.
B. thyroid gland.
C. sternohyoid muscle.
D. inferior thyroid artery.
E. laryngopharynx.

Answer = E

A tumor restricted to the inferior orbital fissure could compress vessels and nerves that supply all of the following EXCEPT the

A. skin of the upper lip.
B. lacrimal gland.
C. upper teeth.
D. soft palate.
E. skin of the lower eye.

Answer = D