**Quiz 1**

**1b.)** **Anterior belly of digastric**

(1) *inserts* - internal surface of the mandible

(2) innervation – **nerve to the mylohyoid** off the **inferior alveolar nerve,**

which a branch of the **trigeminal nerve (Cr. N. V)**

c. their action is to *raise* the hyoid bone and assist in opening the jaws

**1c.) Thyrohyoid muscle**

a. *arises* from the oblique line of the lamina of the thyroid cartilage

b. *inserts* on the inferior border of the greater cornu of the hyoid bone

c. draws the hyoid bone inferiorly or thyroid cartilage superiorly

d. innervation – branches of **C1 & 2** via hypoglossal nerve

**1d.) qustion asks about trapezius muscle) Accessory nerve (Cr. N. 11 / Cr. N. XI)**

a. **spinal part**

(1) enters the deep surface of the SCM muscle high in the neck and

supplies that muscle

(2) then crosses the posterior triangle of the neck to supply the

**trapezius muscle**

**2a.) Mylohyoid nerve**

* is on the superficial surface of the mylohyoid muscle and deep to the submandibular gland sending branches to the

(1) **mylohyoid muscle**

(2) **anterior belly** of the **digastric muscle**

**2d.) Lingual Nerve (CN V)**

* at the anterior border of the hyoglossus muscle it is crossed on its lateral side by the lingual nerve; the lingual nerve passes beneath duct and its terminal fibers ascend into the tongue on the medial side of the duct
* also passes between the mylohyoid and hyoglossus muscles

**3d) Internal Jugular Vein**

* facial vein empties into it
* in carotid sheath with vagus nerve and carotid artery
* descends from the posterior compartment of the **jugular foramen** then moves from posterior to lateral in relation to the carotid artery

**3b.)** Vagus Nerve

**(Cr. N. 10 / Cr. N. X)**

a. the main trunk passes through the neck inside the carotid sheath with the

**internal jugular vein** and **carotid artery**

(1) **superior** and **inferior cervical cardiac nerves** – visceral branches of

the cardiac plexuses

(2) **superior laryngeal nerve**

(a) **external branch** – innervates the cricothyroid muscle

(b) **internal branch**

i. passes through the **thyrohyoid membrane**

ii. sensory to the laryngeal mucosa above the true vocal folds

iii. important for the cough reflex

**3a.)** Common Carotid Artery

**. Common carotid artery**

**A.** in the **carotid sheath** with the **internal jugular vein** and **vagus nerve (Cr. N X)**

**B.** at the level of the upper border of the thyroid cartilage it divides into the **internal**

and **external carotid arteries**

**C.** at the bifurcation of the carotid artery are the

1. **carotid body** – deep in the bifurcation

a. has chemoreceptors for oxygen levels in blood and the information is

transmitted to the medulla via the glossopharyngeal and vagus nerves

2. **carotid sinus** – slight dilation at the terminal part of common carotid artery

a. has end organs that sense blood pressure via glossopharyngeal nerve

**4a.)** Hypoglossal Nerve

-Innervates thyrohyoid muscle via branches of C1 and C2

-innervates geniohyoid muscle via branches of C1

- runs forward on the hyoglossus muscle and

deep to the submandibular gland

(1) passes between the mylohyoid and hyoglossus muscles

- carries branches from **C1& 2** to the ansa cervicalis in the cervical plexus

- **motor innervation**: all muscle of the tongue (except palatoglossus) are supplied

by the **hypoglossal nerve**

**4c) Facial Nerve**

-innervates posterior belly of digastric

-innervates stylohyoid muscle

- **pterygopalatine ganglion**

a. parasympathetic ganglion receiving preganglionic fibers from the facial nerve

-***stylomastoid foramen*** *- between styloid process and mastoid process*

*(a) transmits facial nerve - Cr.N. VII*

the cervical branch of the facial nerve

supplies the platysma muscle. The main trunk of the of the facial nerve also

gives fibers to the stylohyoid and posterior belly of the digastric muscles.

**Muscles of facial expression** – all are innervated by the **facial nerve**

**-facial nerve passes through the parotid gland**

**4d.)** Mandibular Division (V3) of Trigeminal Nerve

-located in infratemporal fossa

- tensor veli palatini muscle is supplied by the **mandibular nerve**

**- *foramen ovale*** *- posterior to foramen rotundum (transmits the*

*mandibular (V3) division of Cr.N. V and accessory meningeal artery)*

**5b.) Ansa Cervicalis**

-innervates sternothyroid, sternothyroid, omohyoid

-1. innervation to the infrahyoid muscles

2. forms a loop on anterior surface of the internal jugular vein by connecting

branches of the **hypoglossal** and **cervical nerves**

a. **descendens hypoglossi** or **superior root**

(1) fibers from **C1 & 2** run with the hypoglossal nerve

(2) C1 & 2 fibers directly innervate **thyrohyoid** and **geniohyoid muscles**

(3) innervates the **superior belly of omohyoid muscle** via ansa cervicalis

b. **descendens cervicalis** or **inferior root**

(1) fibers from **C2 & 3**

(2) supplies **sternohyoid, sternothyroid**, and **inferior belly of omohyoid**

**Muscles**

**5d.) Glossopharyngeal Nerve**

- **carotid body** – deep in the bifurcation

a. has chemoreceptors for oxygen levels in blood and the information is

transmitted to the medulla via the glossopharyngeal and vagus nerves

- **carotid sinus** – slight dilation at the terminal part of common carotid artery

a. has end organs that sense blood pressure via glossopharyngeal nerve

- **general sensation**

b. **posterior 1/3: glossopharyngeal nerve**

**-**. **taste**

b. **posterior 1/3: glossopharyngeal nerve**

**- *myelencephalon (medulla)***

*a. origins of the* ***glossopharyngeal (CN9), vagus (CN10)*** *and the*

*cranial portion of* ***accessory (CN11) nerves***

***- glossopharyngeal nerve*** *and* ***stylopharyngeus muscle*** *pass between the superior*

*and middle constrictor muscles*

*-* ***glossopharyngeal nerve - CN 9***

*1. exits the jugular foramen*

***-innervates stylopharyngeus muscle*** *– motor*

*-* ***pharyngeal plexus*** *formed by fibers from*

*1. glossopharyngeal nerve - CN 9*

*2. vagus nerve - CN 10*

*3. sympathetic trunk*

**6a.) V1-Opthalmic Division of Trigeminal Nerve**

-in cavernous sinus *below trochlear n. in the lateral wal*

*-* innervation of the external nose

1. **supratrochlear** and **infratrochlear nerves** from the ophthalmic division (V1)

of CN 5 supply the skin over the root, bridge, and sides of the upper part of the

nose

- **external nasal nerve** from the anterior ethmoidal branch of the nasociliary nerve

(from the ophthalmic division (V1) of CN 5) supplies the dorsum of the nose

- general sensations of touch, pressure, pain, and temperature (from V1

and V2), plus secretory motor fibers arise from the **pterygopalatine**

**- *superior orbital fissure*** *- between greater and lesser wings of sphenoid*

*(a) transmits Cr.Ns. III, IV, ophthalmic (V1) division of V, VI, and the*

*superior ophthalmic vein*

*-****6c.) See above for Mandibular Division (V3)***

**7a.) Obicularis Oris**

**- obicularis oris muscle** – *important in closing the mouth*

**7b.) Procerus**

- *arises* from lower part of nasal bone and upper part of lateral nasal cartilage;

b. *inserts* into skin over the lower partof the forehead between the two eyebrows

b. *draws medial angle of the eyebrows down* producing transverse nasal wrinkle

and also *enlarges the nares*

**7c.) Risorius**

- *retracts the angle of mouth*

**8a.) Mental Nerve**

- **mental nerve** (off inferior alveolar nerve) – supplies sensory to chin and lower lip

**8c.) Inferior Alveolar Nerve**

-innervates anterior belly f digastric- **nerve to the mylohyoid** off the **inferior alveolar nerve,**

-gives off mental nerve

- **inferior alveolar nerve**

1. enters the mandibular foramen after giving off the **nerve to the**

**mylohyoid**,which gives off a branch to the **anterior belly of the**

**digastric muscle**

1. sensory to the
2. lower teeth

(2) skin on the chin by the **mental nerve**

**9b.) Pterygomandibular Raphe**

- c. **pterygomandibular raphe** – one of the origins of buccinator muscle

(1) connective tissue line attached above to the hamulus of the medial

pterygoid plate and below to the mandible behind the third molar tooth

(2) also serves as *origin* for the **superior pharyngeal constrictor**,

contributing continuity to the cheek and pharyngeal wall

- ***superior pharyngeal constrictor muscle*** *-* origin *from the medial pterygoid plate, hamulus, pterygomandibular raphe*

**9c.) Philtrum**

- vertical, midline groove running from upper lipto nasal septum

**9d.) Vestibule**

- area of oral cavity between cheeks and teeth

- the portion in the confines of the alar cartilages is called the **vestibule** (hairy)

**10a.) Temporal, Zygomatic, Buccal, Marginal Mandibular, and Cervical Bramches**

**-** branches emerging from the supero- antero- inferior margins of the parotid gland

1. **upper division**

a. **temporal branches**

b. **zygomatic branches**

c. **buccal branches**

2. **lower division**

a. **buccal branches**

b. **marginal mandibular branches**

c. **cervical branches**

**10.b) Lesser Occipital and Great Auricular Nerves**

- **anterior primary rami of C2 and C3** of the **cervical plexus**

a. **lesser occipital nerve**

b. **great auricular nerve**

**10.c) auriculotemporal, buccal, and mental nerves**

**mandibular division**

a. **auriculotemporal nerve** – travels with superficial temporal artery

b. **buccal nerve** – enters face passing the anterior border of masseter muscle and

then over the buccinator muscle. Supplies skin over this muscle and mucous

membranes in gums and mouth in this same area.

c. **mental nerve** (off inferior alveolar nerve) – supplies chin and lower lip

- **middle meningeal artery** – sometimes (38%) passes between two roots of the auriculotemporal nerve to enter the foramen spinosum. It is a major

supplier of blood to the dura.

**auriculotemporal nerve**

1. arises by 1 to 4 roots (50% one root): if there are two roots, they will encircle the middle meningeal artery (actually they are upper and lower roots)
2. receives postganglionic parasympathetic fibers from the **otic ganglion**

for the parotid gland (autonomic to gland)

i. preganglionic fibers (**lesser petrosal nerve**) to the otic ganglion exit

the skull through a fissure between sphenoid and petrous part of

temporal bones or through an opening in the greater wing of sphenoid:

1. auriculotemporal nerve is sensory to skin in front of the ear and scalp