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Head and Neck

Superficial and Deep Face

This worksheet will help review muscles, vasculature, and nerve supply of the face.

Part I. Matching: Use the bank and indicate the appropriate letter next to each description. Some options may be used more than once or not at all.

Bank:

A. Anterior tympanic artery
B. Auriculotemporal nerve
C. Buccal branch of CN VII
D. Buccal nerve of CN V
E. Buccinator muscle
F. Chorda tympani nerve
G. Ciliary ganglion
H. Corrugator supercilii
I. Curve of Spee
J. Curve of Wilson
K. Deep auricular artery
L. Deep petrosal nerve
M. Descending palatine artery
N. Facial nerve
O. Facial nerve proper
P. Frontal nerve
Q. Frontalis muscle
R. Greater petrosal nerve

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S. Inferior alveolar artery
T. Inferior alveolar nerve
U. Infratemporal surface of sphenoid and temporal bones
V. Lacrimal nerve
W. Lateral pterygoid muscle
X. Lesser petrosal nerve
Y. Levator labii superioris muscle
Z. Lingual nerve
AA. Masseter muscle
BB. Medial pterygoid muscle
CC. Middle meningeal artery
DD. Mixed ganglion
EE. Motor ganglion
FF. Orbicularis oculi muscle
GG. Otic ganglion
HH. Nasociliary nerve
II. Parasympathetic ganglion
JJ. Parotid gland
KK. Pharyngeal Arch 1
LL. Pharyngeal Arch 2
MM. Pharyngeal artery
NN. Posterior auricular branch of CN VII
OO. Posterior surface of maxilla
PP. Pterygoid artery
QQ. Pterygopalatine ganglion
RR. Ramus of mandible
SS. Semilunar ganglion
TT. Sensory ganglion
UU. Sphenomandibular ligament
VV. Sphenopalatine artery
WW. Stenson's duct
XX. Styloid process of temporal bone
YY. Stylomandibular ligament
ZZ. Submandibular ganglion
AAA. Submandibular and sublingual glands
BBB. Submandibular duct
CCC. Superficial temporal artery
DDD. Temporal branch of CN VII
EEE. Temporalis muscle
FFF. Temporomandibular ligament- deep horizontal part
GGG. Temporomandibular ligament- outer oblique part
HHH. Treacher-Collins Syndrome
III. Trigeminal neuralgia
JJJ. None of the above

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Matching Questions:

1. Nerve that descends in the facial canal to stylomastoid foramen.
2. The second most proximal branch from the mandibular portion of the maxillary artery.
3. Structure that travels medially before piercing the buccinator muscle to open into the oral cavity at a papilla.
4. Branch of V1 that gives off short and long ciliary branches, as well as anterior and posterior ethmoidal branches.
5. Sensory disorder characterized by persistent unilateral electric, shock-like pain.
6. A muscle of mastication that depresses the mandible.
7. Parasympathetic ganglion associated with facial nerve that innervates lacrimal and nasal glands.
8. Chorda tympani nerve joins what nerve of V3 to provide sensation (GSA) to the anterior ⅔ of the tongue?
9. Ligament that provides primary passive support for the mandible by serving as a fulcrum for movement of the mandible at the TMJ.
10. Parasympathetic ganglion associated with CN III and innervates pupillary muscles and ciliary body.
11. A branch of facial nerve proper that does *not* enter the parotid gland.
12. Anterior boundary of the infratemporal fossa.
13. Glands that the submandibular ganglion innervates.
14. Type of ganglion that the geniculate ganglion is.
15. The greater petrosal nerve joins this nerve to form the “vidian nerve”.
16. Muscle that furrows brows and works with the procerus muscle.
17. Nerve with presynaptic parasympathetic fibers that ultimately result in parotid stimulation.
18. Ligament that runs horizontally from articular tubercle to lateral part of condyle disc, and limits posterior movement of articular disc and condyle.
19. An imaginary bilateral and mediolateral curve that contacts the buccal and lingual cusp tips of the mandibular teeth on each side of the arch.
20. Pharyngeal arch that the muscles of mastication derive from.
21. The maxillary artery is divided into three parts based on its relation to what structure?
22. Branch from the maxillary artery that supplies the frontal, ethmoidal, sphenoid, and maxillary sinuses.
23. This artery passes through a loop formed by the auriculotemporal nerve.
24. Sensory branch from CN V3 that gives off nerve to mylohyoid.
25. Branch of CN V3 that innervates the buccinator muscle.

Part II. True or False? If the statement is false, correct it to make it true.

26. Since CN V (Trigeminal nerve) has both sensory and motor terminal branches, the semilunar ganglion is a mixed ganglion.
27. The geniculate ganglion is a sensory ganglion; therefore, synapses occur here.
28. Both the trigeminal and facial nerves have motor parasympathetic pathways.
29. The ophthalmic division of CN V has three main branches: nasociliary, frontal, and lacrimal nerves.

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30. The prime mover to depress the mandible is the lateral pterygoid muscle.
31. The greater petrosal nerve is associated with CN VII, whereas the lesser petrosal nerve is associated with CN IX.
32. The main muscle of mastication that helps retrude the mandible is the temporalis muscle.
33. The pterygoid plexus anastomoses anteriorly with the facial vein via the emissary veins, and anastomoses with the cavernous sinus via the deep facial vein.
34. There are no valves in the venous system of the head.
35. There are three nerves that immediately branch from the geniculate ganglion of CN VII: the greater petrosal nerve, the chorda tympani nerve, and facial nerve proper.

Part III. Short Answer

36. Complete the table with the origins and insertions of the pterygoid muscles.

	Origin	Insertion
Medial Pterygoid Superficial Head		
Medial Pterygoid Deep Head		
Lateral Pterygoid Upper Head		
Lateral Pterygoid Lower Head		

37. Complete the table with information about the ganglia in CNs V and VII.

Cranial Nerve	Ganglion	Functional Column(s)
CN V		
CN VII		

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38. For the following ganglia, explain the *presynaptic* and *postsynaptic* pathways associated with them.
    a. Ciliary ganglion
    b. Pterygopalatine ganglion
    c. Submandibular ganglion
    d. Otic ganglion

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39. Draw the branches of CN V.

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40. Draw the branches of CN VII.

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41. BONUS: Draw diagrams of the arterial supply and venous drainage of the superficial and deep face.