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| **Group:** |
| 10B-1 |
| **Basic Science Question:** |
| Discuss the anatomy of the muscles of mastication. |
| **Report:** |
| The four true muscles of mastication are the medial and lateral pterygoid muscles, the temporalis, and the masseter. These muscles are all innervated by cranial nerve 5 (CN V), specifically the mandibular division of the trigeminal nerve.  The medial pterygoid muscle originates on the medial surface of the lateral pterygoid plate and the pterygoid fossa, and it inserts into the medial surface of the ramus and the angle of the mandible. This muscle elevates the mandible. The lateral pterygoid muscle has two heads, with the superior head originating on the infratemporal crest on the great wing of the sphenoid bone and the inferior head originating on the lateral surface of the lateral pterygoid plate. This muscle inserts into the articular disc of the temporomandibular joint (TMJ) as well as the neck of the mandibular condyle. The lateral pterygoid muscle is involved in protraction and lateral deviation of the mandible. It is also the only muscle of mastication that can depress the mandible.  The temporalis muscle originates on the temporal line of the temporal fossa and inserts into both the coronoid process of the mandible and the anterior border of the mandibular ramus. The vertical fibers elevate the mandible, while the horizontal fibers are involved with retrusion of the jaw.  The masseter has both a superficial and deep part to it. The superficial part of the masseter originates on the zygomatic process of the maxilla and the anterior 2/3 of the inferior border of the zygomatic arch and inserts into the angle and lower lateral ramus of the mandible. This part of the masseter is involved in elevation of the mandible. The deep part of the masseter originates on the inner surface of the posterior 1/3 of the zygomatic arch and inserts into the superior part of the mandibular ramus and lateral surface of the coronoid process of the mandible. This part of the masseter is involved in retrusion. The masseter is one of the strongest muscles in the body and is a commonly involved muscle in myofascial pain. According to Dr. Travell, the mother of trigger point injections, the superficial portion of the masseter is the most commonly involved muscle in patients with myofacial pain, while the deep masseter is the fifth most commonly involved. |
| **References:** |
| Donnelly JM, Simons DG. Travell, Simons & Simons’ Myofascial Pain and Dysfunction: The Trigger Point Manual. Vol Third edition. Wolters Kluwer Health, 2019.  Netter, Frank H. *Atlas of Human Anatomy*. Elsevier Health Sciences, 2015. |