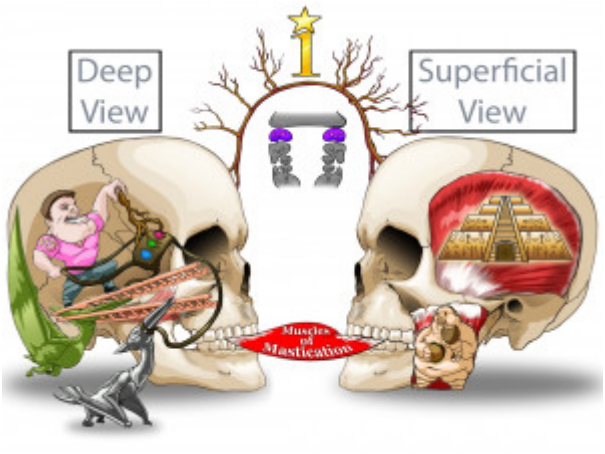
Muscles of Mastication

There are four main muscles of mastication. Three muscles used to adduct the jaw, or bite down/elevate mandible; the temporalis, masseter and medial pterygoid. The main muscle of jaw abduction is the lateral pterygoid.



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Temporalis
Temple-of-muscle
The temporalis is one of the main muscles of mastication. It is a broad, fan-shaped muscle on each side of the head that fills the temporal fossa, superior to the zygomatic arch, so it covers much of the temporal bone. The temporalis derives from the first pharyngeal arch in development and, as with the other muscles of mastication, control of the temporal muscle comes from the third (mandibular) branch of the trigeminal nerve.

Masseter
Massive-eater
The masseter is the most obvious muscle of mastication since it is the most superficial and one of the strongest. The action of the muscle during bilateral contraction of the entire muscle is to elevate the mandible, raising the lower jaw. Elevation of the mandible occurs during the closing of the jaws. The masseter parallels the actions of the medial pterygoid muscle, but it is stronger.

Medial Pterygoid
Metal Pterodactyl
The medial pterygoid is a thick, quadrilateral muscle of mastication. It is innervated by the mandibular branch of the fifth cranial nerve, the trigeminal nerve. Its actions include elevation of the mandible (closes the jaw), protrusion of the mandible, and assistance in mastication.

Lateral Pterygoid
Ladder Pterodactyl
Unlike the other three muscles of mastication, the lateral pterygoid is the only muscle that assists in depressing the mandible (opening the jaw). The mandibular branch of the fifth cranial nerve, the trigeminal nerve, innervates the lateral pterygoid muscle.

Innervation

Mandibular Branch (V3) of Trigeminal Nerve
Mandible-man with V3 Tri-gem Branch
The mandibular branch of the fifth cranial nerve, the trigeminal nerve, innervates the muscles of mastication.

Embryology

1st Branchial Arch
(1) Wand Branching Arch
These muscles have a shared embryological origin and are derived from the first pharyngeal arch in development.

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