The muscles of the jaw are some of the strongest in the human body. They aid in chewing and speech by allowing us to open and close our mouths.

Ready to unlock the mysteries of mastication? Then read on!
OF MASSETERS AND MANDIBLES

The deep and superficial masseter muscles enable mastication (chewing) by pulling the mandible (jawbone) up towards the maxillae.

Factoid!
Humans’ jaws are able to bite with a force of about 150-200 psi (890 Newtons). In contrast, a saltwater crocodile can bite with a force of 3,700 psi (16,400 Newtons)!
MORE MASSETER FACTS

The deep masseter’s origin is the zygomatic arch and the superficial masseter’s origin is the zygomatic bone. Both masseters insert into the ramus of the mandible, though the deep masseter’s insertion point is closer to the temporomandibular joint.

The mandible is the only bone in the skull that we can consciously move (with the help of muscles, of course).
The temporalis muscles sit on either side of the head. Their job is to elevate and retract the mandible against the maxillae.

They originate at the temporal fossa and temporal fascia and insert at the coronoid process and ramus of the mandible.
The lateral pterygoids draw the mandibular condyle and articular disc of the temporomandibular joint forward.

Each lateral pterygoid has two heads. The superior head originates at the sphenoid and infratemporal crest and the inferior head originates at the lateral pterygoid plate. They insert at the condyle of the mandible and front margin of the articular disk of the temporomandibular articulation.
The medial pterygoids assist the lateral pterygoids and draw the mandible forward.

They originate at the lateral pterygoid plate and the pyramidal process of the palatine. They insert at the ramus and angle of the mandible.

**Factoid!**

Pterygoid comes from the Greek word *pterygoeidēs*, which means “resembling a wing” or “wing-shaped.”
The muscles of mastication are innervated by the mandibular branch of the trigeminal nerve (CN V).

**Factoid!**
The trigeminal nerve is the largest cranial nerve. In addition to innervating the jaw muscles, it carries somatosensory information from the head and face to the brain.
The anterior and posterior deep temporal arteries supply blood to the temporalis.

The masseters are supplied by the masseteric artery (a branch of the maxillary artery).

The lateral and medial pterygoids are supplied by the pterygoid branches of the maxillary artery.
MANDIBLES IN MOTION: ELEVATION

Mandible elevation is the standard “chewing” motion. The jaw muscles contract, pulling the mandible up towards the maxillae.

The joint involved is the temporomandibular joint. TMD (temporomandibular joint dysfunction, aka TMJ) as a clinical term often refers to pain/inflammation in this joint or the muscles of the jaw.
The superficial jaw muscles (the superficial masseter and the pterygoids) also participate in an action called protraction, in which the mandible extends outward beyond its normal position.

The endpoint of protraction (pictured) looks like an underbite.
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