

# Muscles of the Head and Neck

Nathaniel Yomogida, SPT

Chloë Kerstein, SPT

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## 0.1 Muscles of Facial Expression

Table 1: Muscles of Facial Expression OIAN

Muscle	Origin	Insertion	Nerve	Action
<b>Calvaria</b>				
<b>Occipitofrontalis</b> (Frontal belly)	Epicranial aponeurosis	Skin and subcutaneous tissue of eyebrows and forehead	<b>Facial Nerve CN VII</b>	Elevates eyebrows; wrinkles skin of forehead
<b>Palpebral Fissure and Nose</b>				
<b>Procerus</b>	Nasal bone, Lateral nasal cartilage (upper part)	Skin of lower forehead between eyebrows	<b>Facial Nerve CN VII</b>	Pulls medial angle of eyebrows inferiorly, producing transverse wrinkles over bridge of nose

Muscle	Origin	Insertion	Nerve	Action
Orbicularis Oculi	Medial orbital margin, medial palpebral ligament, lacrimal bone	Skin around margin of orbit, superior and inferior tarsal plates	Facial Nerve CN VII	Acts as orbital sphincter (closes eyelids): Palpebral portion gently closes, orbital portion tightly closes (winking)
Nasalis	Maxilla (superior region of canine ridge)	Nasal cartilages	Facial Nerve CN VII	Flares nostrils by drawing ala (side) of nose toward nasal septum
Levator Labii superioris alaeque nasi	Maxilla (Frontal process)	Alar cartilage of nose and upper lip	Facial Nerve CN VII	Elevates upper lip; Opens nostril
<b>Ear</b>				
Anterior Auricular Muscle	Temporal fascia (ant. portion)	Helix of the ear	Facial Nerve CN VII	Pulls ear superiorly and anteriorly
Muscle	Origin	Insertion	Nerve	Action
Superior Auricular Muscle	Epicranial aponeurosis on side of head	Upper portion of auricle	Facial Nerve CN VII	Elevates ear
Posterior Auricular Muscle	Mastoid process	Convexity of concha of ear	Facial Nerve CN VII	Pulls ear superiorly and posteriorly
<b>Mouth</b>				
Zygomaticus major	Zygomatic bone (lateral surface, post. part)	Skin at the corner of the mouth	Facial Nerve CN VII	Pulls corner of mouth superiorly and laterally
Zygomaticus Minor	Zygomatic bone (Lat surface, post. part)	Upper lip just medial to corner of the mouth	Facial Nerve CN VII	Pulls upper lips superiorly
Levator Labii superioris alaeque nasi	Maxilla (Frontal process)	Alar cartilage of nose and upper lip	Facial Nerve CN VII	Elevates upper lip; Opens nostril

Muscle	Origin	Insertion	Nerve	Action
Levator Labii superioris	Maxilla (Frontal process) and infraorbital region	Skin of upper lip, Alar cartilages of nose	Facial Nerve CN VII	Elevates upper lip, Dilates nostril, Raises angle of mouth
Depressor labii inferioris	Mandible (ant portion of oblique line)	Lower lip at midline; blends with muscle from opposite side	Facial Nerve CN VII	Pulls lower lip inferiorly and laterally
Levator Anguli Oris	Maxilla (below infraorbital foramen)	Skin at corner of mouth	Facial Nerve CN VII	Raises angle of mouth, Helps form nasolabial furrow
Depressor Anguli Oris	Mandible (oblique line below canine, premolar, and 1st molar teeth)	Skin at corner of the mouth; Blends with orbicularis oris	Facial Nerve CN VII	Pulls angle of mouth inferiorly and laterally
Buccinator	Mandible, Alveolar process of maxilla and mandible, Pterygomandibular raphe	Angle of mouth, Orbicularis Oris	Facial Nerve CN VII	<b>BIL:</b> Presses cheek against molar teeth, working with tongue to keep food between occlusal surfaces and out of oral vestibule; expels air from oral cavity/resists distension when blowing; <b>UNIL:</b> Draws mouth to one side

Muscle	Origin	Insertion	Nerve	Action
Orbicularis Oris	Deep surface of skin; <b>Superiorly:</b> maxilla (median plane); <b>Inferiorly:</b> mandible	Mucous membrane of lips	Facial Nerve CN VII	Acts as oral sphincter: Compresses and protrudes lips (whistling, sucking, kissing); Resists distension (when blowing)
Risorius	Fascia over masseter	Skin of corner of the mouth	Facial Nerve CN VII	Retracts corner of mouth as in grimacing
Mentalis muscle	Mandible (incisive fossa)	Skin of chin	Facial Nerve CN VII	Elevates and protrudes lower lip
<b>Neck</b> Platysma muscle	Skin over lower neck and upper lateral thorax	Mandible (inferior border), Skin over lower face, Angle of mouth	Facial Nerve CN VII	Depresses and wrinkles skin of lower face and mouth; Tenses skin of neck; Aids in forced depression of the mandible

### **i** Innervation

\*There are no bony insertions for the muscles of facial expression<sup>1</sup>

\*\*All muscles of facial expression are innervated by the facial nerve (CN VII) via temporal, zygomatic, buccal, mandibular, or cervical branches arising from the parotid plexus<sup>1</sup>

## 0.2 Muscles of Mastication

Table 2: Muscles of Mastication OIAN

Muscle	Origin	Insertion	Nerve	Action
Masseter muscle	<b>SF layer:</b> zygomatic arch (ant 2/3); <b>Deep layer:</b> Zygomatic arch (post. 1/3)	Mandibular angle (Masseteric tuberosity)	Trigeminal CN V: Mandibular (V <sub>3</sub> )	<b>Entire muscle:</b> Elevates mandible; <b>SF Fibers:</b> Protrude mandible
Temporalis muscle	Temporal fossa (inferior temporal line)	Coronoid process of mandible (apex and medial surface)	Mandibular (V <sub>3</sub> ) divison of CN V via deep temporal nn	<b>Vertical fibers:</b> Elevate mandible; <b>Horizontal Fibers:</b> Retract (retrude) mandible; <b>Unilateral Fibers:</b> Lateral movement of mandible (chewing)
Lateral Pterygoid	<b>Superior Head:</b> Greater wing of sphenoid bone (infratemporal crest); <b>Inferior head:</b> Lateral surface of pterygoid plate (lat surface)	<b>Superior Head:</b> Tem- pormandibular joint (articular disc); <b>Inferior head:</b> Mandible (condylar process)	Mandibular (V <sub>3</sub> ) divison of CN V via lateral pterygoid n.	<b>BIL:</b> Protrudes mandible (pulls articular disk forward); <b>UNIL:</b> Lateral movements of mandible (chewing)
Medial Pterygoid	<b>SF Head:</b> Maxilla (tuberosity); <b>Deep head:</b> Medial surface of lateral pterygoid plate and pterygoid fossa	Pterygoid tuberosity on medial surface of the mandibular angle	Mandibular (V <sub>3</sub> ) divison of CN V via medial pterygoid n.	<b>BIL:</b> Elevates mandible with masseter and contributes to protrusion; <b>UNIL:</b> Small grinding movements

## 0.3 Muscles of the Neck

### 0.3.1 Superficial Neck Muscles

- Platysma
- Sternocleidomastoid
- Trapezius

### 0.3.2 Nuchal muscles (Intrinsic back muscles)

Table 3: Nuchal muscles (Intrinsic back muscles)

Muscle	Origin	Insertion	Nerve	Action
<a href="#">Semispinalis Capitis</a>	C4-T7 (TP and Articular process)	Occipital bone (between superior and inferior nuchal lines)	<a href="#">Spinal nn. (Posterior Rami)</a>	<b>BIL:</b> Extends thoracic and cervical spines and head (stabilizes craniovertebral jt); <b>UNIL:</b> I/L SB of head, cervical, and thoracic spine; C/L Rotation
<a href="#">Semispinalis Cervicis</a>	T1-T6 (TP)	C2-C5 (SP)	<a href="#">Spinal nn. (Posterior Rami)</a>	<b>BIL:</b> Extends thoracic and cervical spines and head (stabilizes craniovertebral jt); <b>UNIL:</b> I/L SB of head, cervical, and thoracic spine; C/L Rotation
<a href="#">Splenius Capitis</a>	<a href="#">Nuchal ligament</a> , C7-T3/T4 SP	Lateral 1/3 nuchal line (occipital bone), Mastoid process (temporal bone)	<a href="#">spinal nn.</a> C1-C6 (Post rami, lateral branches)	<b>BIL:</b> Extends C/S and head; <b>UNIL:</b> I/L head SB and Rotation

Muscle	Origin	Insertion	Nerve	Action
Splenius Cervicis	T3-T6/T7 (SP)	C1–C3/4 (TP)	Spinal nn. C1–C6 (Post rami, lateral branches)	<b>BIL:</b> Extends C/S and head; <b>UNIL:</b> I/L head SB and Rotation
Longissimus Capitis	T1-T3 (TP), C4-C7 (TP & articular process)	Temporal bone (Mastoid process)	Spinal nn. C1-L5 (Post rami, lateral branches)	<b>BIL:</b> Extends head; <b>UNIL:</b> Flexes and I/L rotation
Longissimus Cervicis	T1-T6 (TP)	C2-C5 (TP)	Spinal nn. C1-L5 (Post rami, lateral branches)	<b>BIL:</b> Extends spine; <b>UNIL:</b> I/L SB
Iliocostalis cervicis	3rd-7th ribs	C4-C6 TP	Spinal nn. C8-L1 (Post rami, lateral branches)	<b>BIL:</b> Extends spine; <b>UNIL:</b> I/L spine lat-flexion
Rectus Capitis Posterior Major	C2 (SP)	Occipital bone (inferior nuchal line, middle third)	Suboccipital N.	<b>BIL:</b> Extend head; <b>UNIL:</b> I/L head rotation
Rectus Capitis Posterior Minor	C1 (posterior tubercle)	Occipital bone (inferior nuchal line, inner 1/3)	Suboccipital N.	<b>BIL:</b> Extend head; <b>UNIL:</b> I/L head rotation
Obliquus Capitis Superior	C1 (TP)	Occipital bone (inferior nuchal line, middle third)	Suboccipital N.	<b>BIL:</b> Extend head; <b>UNIL:</b> I/L SB, C/L rotation
Obliquus Capitis Inferior	C2 (SP)	C1 TP	Suboccipital N.	<b>BIL:</b> Extend head; <b>UNIL:</b> I/L rotation

1. Gilroy AM, MacPherson BR, Wikenheiser JC, Voll MM, Wesker K, Schünke M, eds. *Atlas of Anatomy*. 4th ed. Thieme; 2020.