

1. Innervated by mandibular division of the fifth cranial nerve; the trigeminal nerve(V3)

<u>Muscle of Mastication</u>	<u>Origin</u>	<u>Insertion</u>	<u>Action</u>	<u>Additional comments</u>
<u>Masseter Muscle</u>	Zygomatic arch Superficial Head=anterior 2/3 of lower zygo. arch Deep Head= posterior 1/3 and medial of zygomatic arch	on the mandible SH=on lateral of mand. angle DH=on ramus superior to mand. angle	elevate mandible	rectangular on each side, anterior to parotid saliva gland. *Palpations= ask to clench teeth. submass. space
<u>Temporalis Muscle</u>	Temporal fossa, bound at top by inferior temp line and bottom by infra temp crest	coronoid process of mandibular	elevate mandible(move back, retracts)	only elevates if posterior contracts, fan shape each side, fills temp fossa, superior to zygo arch
<u>Medial Pterygoid</u>	Pterygoid fossa on medial of lateral ptery. of sphenoid	medial of mandibular angle	elevate mandible(weaker than mass muscle)	internal(deep) pterygoid Pterygoid space= medial +lateral +ramus=> site for inferior alveolar local anesthetic block
<u>Lateral Pterygoid</u>	sphenoid bone Superior Head=inferior of sphenoid bone greater wing Inferior Head= lateral of lateral pterygoid of sphenoid bone	Two heads unite and insert on anterior of mandibular condyle neck at pterygoid fovea	depress mandible(move forward, protrude)	external pterygoid, within infra temp fossa, deep to temp muscle If one muscle contracts, shifts jaw to other side

Table 1 Muscles of Mastication

<p><u>Maxillary First Premolar</u> two roots(buccal and palatal) extracted more often succedaneous for the deciduous first molars angle crown with sharp outlines two pulp canals two sharp defined cusp(buccal and lingual) buccal cusp is 1mm higher and sharper than lingual cusp mesial marginal groove mesial depression can be a fused root or trifurcated three root(two buccal and on lingual) widest crown at contact area, narrows at CEJ longer mesial cusp slope concavity of medial root from contact area to bifurcation</p>	<p><u>Both</u> shorter crown than anterior round buccal with vertical ridge at center crest curvature at cervical third of buccal height contour at middle third of lingual bicupsid marginal&triangular ridges developmental grooves, occlusal pit used for grinding as well as tearing and for speech vertically support facial muscles erupt at 10-11yrs old average root completion at 12-14yrs old average two pulp horns lingual cusp leans to mesial straight outlines of mesial and distal at contact area to CEJ with mesial being rounded rounded lingual surface, smaller than buccal trunk is half length of root (other half is the root branches)</p>	<p><u>Maxillary Second Premolar</u> one root, longer extracted less often succedaneous for the deciduous second molars rounded crown one pulp canal buccal cusp is same height and sharpness as lingual lingual cusp is larger no mesial marginal groove no mesial depression short central groove,ends in medial and distal pit can be a bifurcated root difficulty in eruption with narrow leeway space in arch</p>
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Table2 Compare and contrast maxillary first premolar and maxillary second premolar

Saliva composition(99%water, 1%electrolytes,mucus,glycoprotein,enzymes,antibacterial):
histatin(mineralization, anti-fungal, anti-bacterial, buffering),
statherin(tissue coating, mineralization, lubrication and viscoelasticity),
lysozyme(antimicrobial)
proline rich protein(mineralization, tissue coating, lubrication and viscoelasticity),
carbonic anhydrides,(buffering)
amylase(anti-bacterial, tissue coating, digestion),
peroxidase(anti-bacterial),
lactoferrin(antimicrobial)
mucin(anti-bacterial, antiviral, tissue coating, digestion, lubrication and viscoelasticity),
sialoperoxidase(antimicrobial)
cystatins(mineralization, anti-bacterial, antiviral, tissue coating),
lipase(digestion)