

## Relationships

- The **parotid duct** passes lateral (superficial) and anterior to the masseter muscle.
- The **parotid gland** is positioned posterior and lateral (superficial) to the masseter muscle.
- The **branches of the facial nerve** pass lateral (superficial) to the masseter muscle.
- The **facial artery** passes lateral (superficial) to the mandible (body).
- On the face, the **facial vein** is positioned posterior to the facial artery.
- The **sternocleidomastoid muscle** is positioned superficial to both the omohyoid muscle and the carotid sheath.
- The **external jugular vein** passes lateral (superficial) to the sternocleidomastoid muscle.
- The **great auricular** and transverse cervical nerves pass posterior and lateral (superficial) to the sternocleidomastoid muscle.
- The **lesser occipital nerve** passes posterior to the sternocleidomastoid muscle.
- The **accessory nerve** passes medial (deep) and then posterior to the sternocleidomastoid muscle.
- The **hyoid bone** is positioned superior to the thyroid cartilage.
- The **omohyoid muscle** is positioned anterior-lateral to the sternohyoid muscle and passes superficial to the carotid sheath.
- At the level of the thyroid cartilage, the **sternohyoid muscle** is positioned deep and lateral to the sternohyoid muscle.
- The **submandibular gland** is positioned posterior and inferior to the mylohyoid muscle.
- The **digastric muscle (anterior belly)** is positioned superficial (inferior-lateral) to the mylohyoid muscle.
- The **thyroid cartilage** is positioned superior to the cricoid cartilage.
- The **thyroid gland (isthmus)** is positioned directly anterior to the trachea.
- The **thyroid gland (lobes)** is positioned directly lateral to the trachea.
- The **ansa cervicalis (inferior root)** is positioned lateral (superficial) to the internal jugular vein.
- The **ansa cervicalis (superior root)** is positioned anterior to the internal jugular vein.
- The **vagus nerve** is positioned posterior-medial to the internal jugular vein and posterior-lateral to the common carotid artery.
- The **internal jugular vein** is positioned lateral to the carotid artery.
- The **external carotid artery** is positioned anterior to the internal carotid artery.
- The **facial artery** passes medial (deep) to the stylohyoid muscle and the intermediate tendon of the digastric muscle.
- The **hypoglossal nerve** passes medial (deep) to the stylohyoid muscle and the intermediate tendon of the digastric muscle and lateral (superficial) to the hyoglossus muscle.
- During its posterior course, the **occipital artery** first passes medial (deep) and then lateral (superficial) to the hypoglossal nerve.
- The **subclavian artery** passes directly posterior to the anterior scalene muscle.
- The **phrenic nerve and subclavian vein** pass directly anterior to the anterior scalene muscle.
- The **suprascapular and transverse cervical arteries** typically pass directly anterior to the anterior scalene muscle.
- The **brachial plexus (roots)** are positioned directly anterior to the middle scalene and directly posterior to the anterior scalene muscles.
- The **left brachiocephalic vein** passes anterior to both the left common carotid and brachiocephalic arteries.
- The **left phrenic nerve** passes posterior to the left brachiocephalic vein.
- The **inferior thyroid artery** passes deep (posterior-medial) to the common carotid artery.
- The **ascending cervical artery** is positioned directly anterior to the anterior scalene muscle.
- The **thoracic duct** passes posterior to the left brachiocephalic vein.
- The **trachea** is positioned directly anterior to the esophagus.
- The **recurrent laryngeal nerve** is positioned lateral to the trachea.
- The **right recurrent laryngeal nerve** passes inferior and posterior to the right subclavian artery.
- The **vagus nerves** pass directly anterior to the subclavian arteries.
- The **splenius capitis muscle** is positioned superficial to the semispinalis capitis muscle.
- The **splenius cervicis muscle** is positioned superficial to the longissimus capitis muscle.
- The **greater occipital nerve** passes inferior and posterior to the inferior oblique muscle.
- The **masseter muscle** is positioned lateral (superficial) to the mandible (ramus) and inferior to the zygomatic arch.
- The **temporalis muscle** passes medial (deep) to the zygomatic arch.
- The **lateral pterygoid muscle** is positioned superior to the medial pterygoid muscle and anterior to the head and neck of the mandible.
- The **lingual nerve** passes medial to the mandible and lateral to the medial pterygoid muscle and is positioned

- anterior to the inferior alveolar nerve.
- The **medial pterygoid muscle** is positioned medial (deep) to the mandible (ramus).
- The **maxillary artery** passes medial to the mandible (neck) and lateral to the sphenomandibular ligament. It typically passes lateral to the lateral pterygoid muscle.
- The **retromandibular vein** is positioned posterior to the mandible (ramus).
- The **oculomotor nerve** passes medial to the cerebral peduncle of the midbrain.
- The **oculomotor nerve** passes directly inferior to the posterior cerebral artery and directly superior to the superior cerebellar artery.
- The **glossopharyngeal nerve** passes directly lateral to the medullary olive.
- The **hypoglossal nerve** passes directly lateral to the medullary pyramid.
- The **vagus nerve** passes directly lateral to the medullary olive.
- The **basilar artery** is positioned ventral to the pons.
- The **internal carotid artery** is positioned lateral to the pituitary.
- The **abducens nerve** passes directly lateral to the internal carotid artery.
- The **oculomotor, ophthalmic, and trochlear nerves** all pass lateral to the internal carotid artery.
- The **superior oblique (tendon) muscle** passes inferior to the superior rectus muscle.
- The **superior oblique muscle** is positioned superior to the medial rectus muscle.
- The **nasociliary nerve** passes directly superior to the optic nerve.
- The **nasociliary nerve (anterior ethmoidal and infratrochlear branches)** passes directly superior to the medial rectus muscle and directly inferior to the superior oblique muscle.
- The **ophthalmic artery** passes inferior, lateral and superior to the optic nerve.
- The **inferior oblique muscle** passes inferior to the inferior rectus muscle.
- The **ethmoidal air cells** are positioned directly medial to the orbit.
- The **maxillary sinus** is positioned inferior to the orbit, superior to the upper teeth, and lateral to the nasal cavity (inferior meatus).
- The **infraorbital artery and nerve** pass directly superior to the maxillary sinus.
- The **tonsillar bed** is positioned anterior to the palatopharyngeal arch and posterior to the palatoglossal arch.
- The **tensor veli palatini muscle** is positioned anterior-lateral to the levator veli palatini muscle.
- The **tensor veli palatini muscle (tendon)** passes inferior to the sphenoid bone (hamulus of the medial pterygoid plate).
- The **palatoglossal fold (muscle)** is positioned directly anterior to the tonsillar bed.
- The **palatopharyngeal fold (muscle)** is positioned directly posterior to the tonsillar fold.
- The **sublingual artery** is positioned inferior to the submandibular duct.
- The **sublingual gland** is positioned superior to the mylohyoid muscle and lateral to the genioglossus muscle.
- The **lingual nerve** passes medial to the mandible and lateral to the medial pterygoid and styloglossus muscles.
- The **lingual nerve** passes inferior to the superior constrictor and pterygomandibular raphe.
- The **lingual nerve** passes lateral, inferior and medial to the submandibular duct.
- The **mylohyoid muscle** is positioned inferior to the geniohyoid muscle.
- The **genioglossus muscle** is positioned superior to the geniohyoid muscle.
- The **hyoglossus muscle** is positioned superior to the hyoid bone.
- The **hypoglossal nerve** passes deep (superior-medial) to the mylohyoid muscle and lateral to the hyoglossus muscle.
- The **lingual artery** passes medial (deep) to the hyoglossus muscle.
- The **vallecula** is positioned directly anterior to the epiglottis and posterior to the tongue (root).
- The **epiglottis** is positioned posterior to the tongue (root).
- The **piriform recess** is positioned lateral to the laryngeal inlet.
- The **vocal ligament** is positioned anterior to the arytenoid cartilage.
- The **vocal fold** is positioned inferior to the vestibular fold.
- The **thyroid cartilage** is positioned superior to the cricoid cartilage.
- The **arytenoid cartilage** is positioned superior to the cricoid (lamina) cartilage.
- The **sympathetic trunk** is positioned directly anterior to the prevertebral muscles and directly posterior to the carotid sheath.
- The **hypoglossal nerve** passes lateral to the internal and external carotid arteries, and medial to the internal jugular vein.
- The **superior laryngeal nerve** passes medial to the internal and external carotid arteries.
- The **glossopharyngeal nerve (and pharyngeal branch of the vagus nerve)** passes between the internal and external carotid arteries.