

Chapter 3

Surgical Anatomy of the Parotid Gland

ABSTRACT

The parotid gland consists of two lobes: superficial and deep with regard to its relation with the facial nerve. It is wrapped around the mandibular ramus and secretes saliva through the parotid (Stensen's) duct. It is a paired organ, weighing 15-30g each. Its superficial lobe overlies the lateral surface of the masseter muscle and is bounded superiorly by the zygomatic arch, while its deep lobe is located in the pre-styloid compartment of the parapharyngeal space between the mastoid process posteriorly, ramus of mandible anteriorly, and external auditory meatus superiorly. Medially, the gland reaches to the styloid process. Inferiorly, the parotid tail extends down to the anteromedial margin of sternocleido-mastoid muscle. Several structures run through the parotid gland, namely, terminal segment of external carotid artery, retro-mandibular vein, parotid lymph nodes, and facial nerve, which soon gives two divisions (temporo-facial and cervico-facial) that give off five branches inside the gland radiating forwards. This chapter explores the surgical anatomy of the parotid gland.

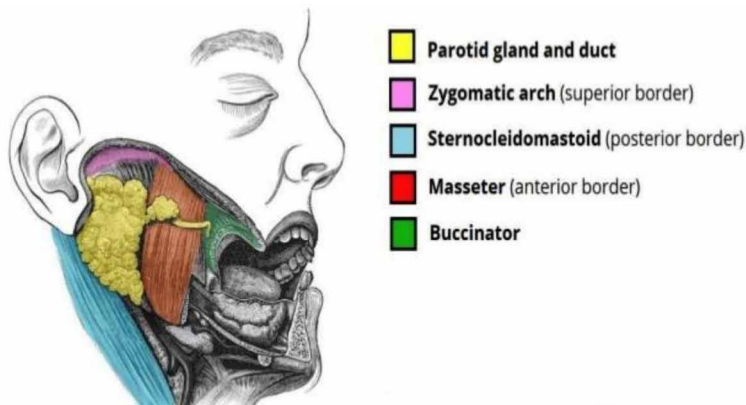
INTRODUCTION

The parotid gland is the largest of the three major salivary glands. It is superficial in location and enclosed by the superficial layer of the deep cervical fascia where it forms the aptly named parotid space. The parotid space is located

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postero-lateral to the masticator space, lateral to the para-pharyngeal space, and antero-lateral to the carotid space [Figure 1]. In addition to the gland itself, the parotid space contains also the facial nerve, auriculotemporal branches of the mandibular division of the trigeminal nerve, intraparotid lymph nodes (LNs), the external carotid artery (ECA), and the retromandibular vein (Som, 2011; Grossman, 2010; Rastogi, 2012). Although not a true fascial plane, the intraparotid facial nerve separates the parotid gland into superficial and deep portions, an important distinction to make when describing a lesion's location before excision (Kessler & Bhatt, 2018).

Figure 1. The parotid duct dives at an angle of 90° at the anterior border of masseter to pierce the buccal pad of fat, buccopharyngeal fascia, and then buccinators



PAROTID FASCIA

The deep cervical fascia continues superiorly to form the parotid fascia which is split into superficial and deep layers to enclose the parotid gland. The thicker adherent, inelastic, superficial fascia extends up to be attached to the zygomatic arch while the thinner deep one is attached to the styloid process, angle and posterior border of the ramus of the mandible and tympanic plate. A portion of the deep lamina thickens to form the stylo-mandibular ligament, which separates the parotid gland from the submandibular gland.

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