

Facial Nerve and Parotid Gland Anatomy



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KEYWORDS

- Parotid gland • Facial nerve • Salivary gland anatomy and physiology
- Parotidectomy • Facial paralysis

KEY POINTS

- This article provides an overview of important anatomic and functional anatomy associated with the parotid gland and facial nerve for the practicing otolaryngologist–head and neck surgeon, facial plastic surgeon and plastic surgeon.
- The discussion includes the important anatomic relationships and physiology related to the parotid gland and salivary production.
- A comprehensive description of the path of the facial nerve, its branches, and important anatomic landmarks also are provided.

INTRODUCTION

The parotid gland and facial nerve have a unique anatomic and functional relationship. The parotid gland is the largest of 3 paired major salivary glands in the head and neck. The major function of the parotid and other salivary glands is to secrete saliva, which plays a significant role in lubrication, digestion, immunity, and the overall maintenance of homeostasis within the human body. The facial nerve (CN VII) originates in the brainstem and travels through the temporal bone before exiting the stylomastoid foramen. The extratemporal branches of the facial nerve are located within the body of the parotid gland and divide it into superficial and deep lobes before innervating the muscles of facial expression (**Fig. 1**). A thorough understanding of the anatomy of the parotid gland and facial nerve is essential for safe management of related pathology.

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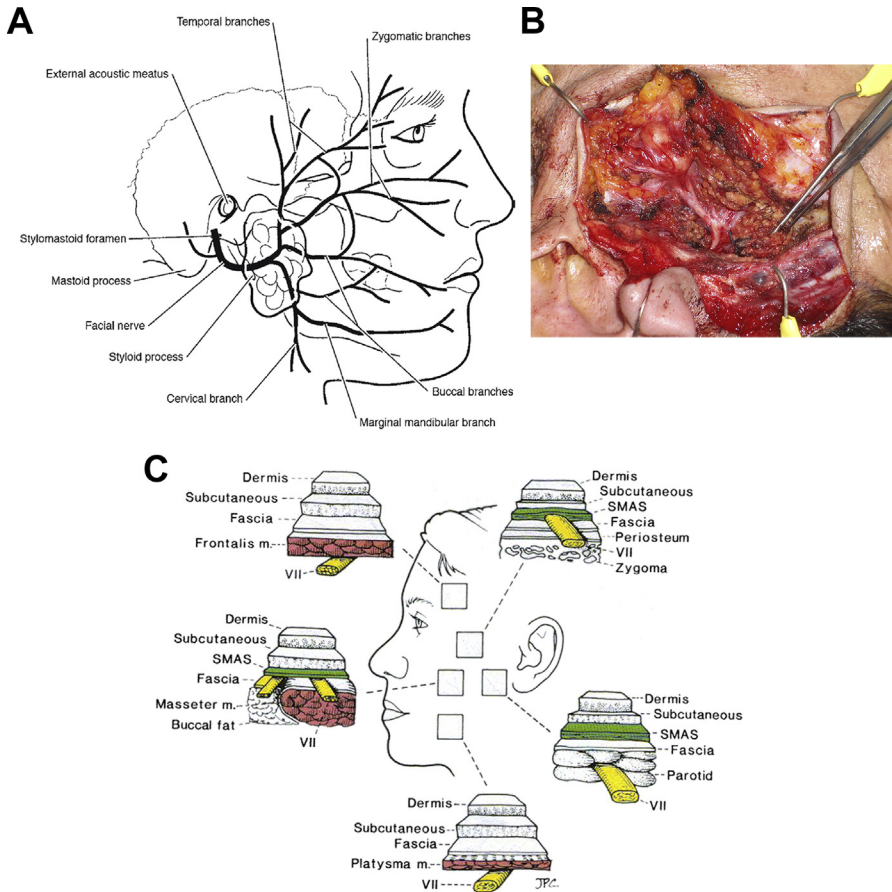


Fig. 1. Parotid gland and extratemporal branches of the facial nerve. (A) Artist's rendition. (B) Surgical image of facial nerve dissection. (C) Cross-sectional relationships of the facial nerve to various layers of the face in each repair. (From [A] Holsinger FC. *Anatomy, function, and evaluation of the salivary glands*. Springer; 2007, with permission; and [C] May M, Sobol SM, Mester SJ. *Managing segmental facial nerve injuries by surgical repair*. *Laryngoscope* 1990;100:1062–7, with permission.)

THE PAROTID GLAND

Anatomy

The paired parotid glands are the largest of the major salivary glands. They are each located in the preauricular region and span from the masseter to the posterior surface of the mandible. The gland is divided into superficial and deep lobes by the facial nerve. The superficial lobe is defined as the part of the gland lateral to the nerve and overlies the lateral surface of the masseter muscle. The deep lobe is located medial to the facial nerve and lies between the mastoid process of the temporal bone and the mandibular ramus with deep margins resting in the prestyloid compartment of the parapharyngeal space (PPS).

Most benign neoplasms are found within the superficial lobe and can be removed with a superficial parotidectomy. A tumor of the deep lobe may go unnoticed, as it

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