

Superficial Parotidectomy

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A. General Considerations

i. Indications

a. Superficial parotidectomy is commonly performed for patients with benign neoplasms in the superficial parotid gland. Malignant neoplasms that are localized to the superficial lobe are also managed with superficial parotidectomy, although may also require a deep lobe dissection or neck dissection. Metastatic lymphadenopathy in the parotid gland from skin malignancies is also a fairly common indication. Chronic parotitis or other long-standing salivary disorders are less common indications for this procedure.

ii. Contraindications

- a. A patient who is a poor surgical candidate due to medical or psychiatric comorbidities. These patients must be thoroughly counseled prior to undergoing surgery for benign neoplasms.
- b. Deep lobe involvement of a parotid neoplasm or involvement of the parapharyngeal space.
- c. Patients with distant metastases

iii. Anatomic considerations

- a. A thorough knowledge of the landmarks used to identify the facial nerve trunk is critical.
 - 1. tympanomastoid suture line
 - 2. tragal pointer
 - 3. the posterior belly of the digastric muscle
 - 4. vertical segment of the facial nerve via mastoidectomy
 - 5. distal branches of the extratympanic facial nerve
- b. The facial nerve trunk can be found approximately 1 cm deep and 1cm inferior to the tragal pointer
- c. The tympanomastoid suture line is the most reliable landmark for the facial nerve trunk. The nerve lies directly deep to this suture line.

B. Complications

- i. Facial nerve injury is a rare, but morbid, complication of superficial parotidectomy. Temporary weakness of facial nerve branches is more common than permanent weakness and may result from thermal injury or stretch injury from retraction.
- ii. Flap necrosis can occur in the distal skin flap. A thick skin flap and wide base can help to avoid this complication.
- iii. Seroma
- iv. Sialocele
- v. Frey's syndrome results from the aberrant cross-innervation of postganglionic parasympathetic neurons to sympathetic neurons that innervate sweat glands and blood vessels. This results in gustatory sweating and flushing.

C. Operative Dictation Template

A modified blair incision is performed with a 15-blade. In her case, the superior aspect of the incision was placed posterior to the tragus. The skin flap is elevated in a plane just deep to the SMAS, with care to keep the parotid fascia intact. The inferior aspect of the flap is elevated in a sub-platysmal plane.

Next, the greater auricular nerve is identified. Often a posterior branch of this nerve can be identified and retracted posteriorly to preserve sensation to the ear lobe. The anterior aspect of the sternocleidomastoid muscle is dissected and retracted posteriorly. Using blunt dissection, the posterior belly of the digastric muscle is then identified. This is the level or plane at which the facial nerve trunk can be identified.

The parotid gland is dissected off the cartilaginous aspect of the external auditory canal. There is an avascular plane that can be broadly dissected down to the tragal pointer of the external auditory canal. Once the tragal pointer is identified, a McCabe dissector or fine tonsil and bipolar cautery should be used to find the facial nerve trunk approximately 1 cm deep and 1 cm inferior to the tragal pointer. The tympanomastoid suture line is also a reliable landmark for identifying the facial nerve trunk. The facial nerve lies directly deep to this suture line and in the plane of the digastric muscle.

Once the facial nerve trunk is identified, the McCabe is used to dissect along the nerve trunk until the pes anserinus is identified. Care must be taken to fully visualize the nerve branches at all times. Either bipolar cautery with a 12-blade, tenotomy scissors, or a 15-blade can be used to dissect parotid tissue. Only those nerve branches in the region of the tumor should be dissected, other branches should be left uncovered when possible. Here you can see the temporal, zygomatic, buccal and marginal mandibular branches of the facial nerve. The tumor is dissected off of the marginal mandibular branch of the facial nerve with tenotomies or a 15 blade. Care is taken to avoid violating the tumor capsule.

Once the neoplasm is removed, the wound is irrigated with normal saline, a drain is placed, and the incision is closed in a layered fashion.

D. Post-operative care

- i. A drain is typically placed following superficial parotidectomy and can be removed once the drainage is less than approximately 30cc over 24 hours. Patients can be discharged on a regular diet with light activity for 1-2 weeks.
- ii. Post-operative imaging and surveillance depend on the histology of the parotid neoplasm and extent of surgery.

E. Suggested Reading

i. Oh YS, Russell MS, Eisele DW. Salivary Gland Neoplasms. In Bailey's Head & Neck Surgery Otolaryngology, 5th Edition. Eds. Johnson JT & Rosen CA. 2014. p1760-1787.

ii. Galati L. Superficial Parotidectomy. In Operative Otolaryngology Head and Neck Surgery, 3rd Edition. Eds. Myers EN & Snyderman CH. 2018. p613-617.

F. CPT Code

i. Superficial parotidectomy with facial nerve dissection – CPT 42415

ii. Superficial parotidectomy without facial nerve dissection – CPT 42410

iii. Total parotidectomy with facial nerve dissection – CPT 42420

iv. Total parotidectomy with facial nerve sacrifice – CPT 42425