Parotidectomy

How I do it

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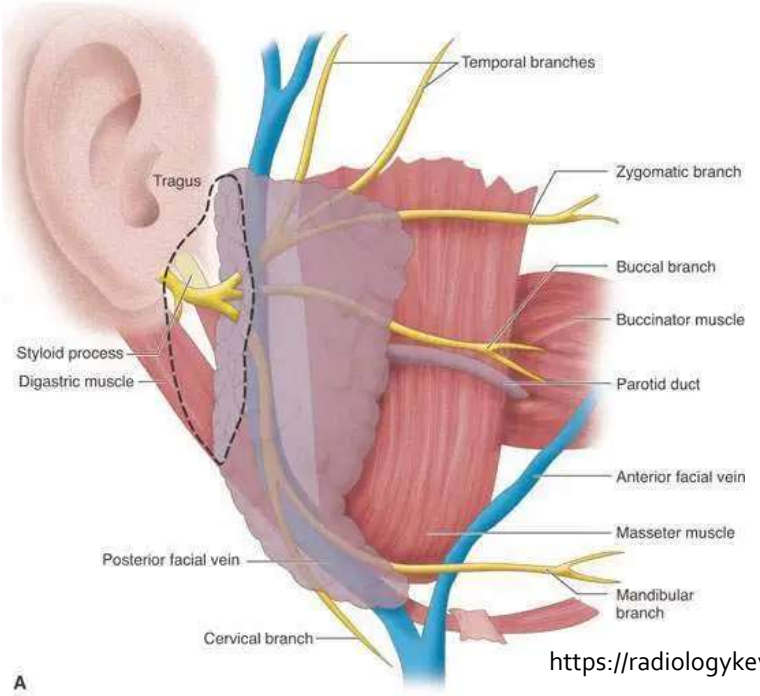
Disclosure

- Nothing to disclose

Parotidectomy

- Parotidectomy is a surgery performed to remove (resection) either a small portion or the entire parotid gland
- Superficial parotidectomy with dissection and preservation of the facial nerve is the most common operation used for neoplasms located in the superficial lobe of the parotid gland



https://radiologykey.com/

Classification

- Superficial/ partial Parotidectomy
  - Superficial parotidectomy describes removal of all or a portion of the parotid gland superficial to the facial nerve.
- Total Parotidectomy
  - This involves resection of the entire parotid gland (additional complete resection of the deep portion) usually with preservation of the facial nerve

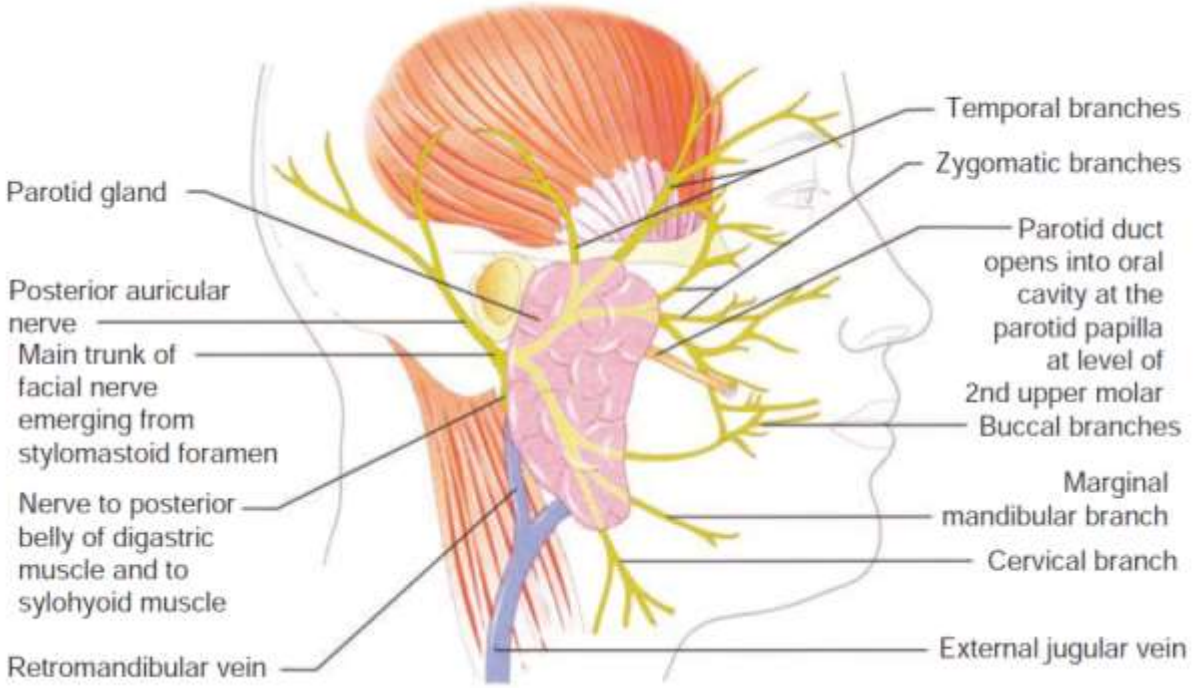
Indication

- Tumors of parotid gland
- Metastases to parotid lymph nodes from adjacent sites of skin cancer or melanoma, or from cancer of the external auditory meatus
- Sialolithiasis or chronic sialadenitis of the gland that has not responded to conservative therapy.
- First branchial cleft cyst resection

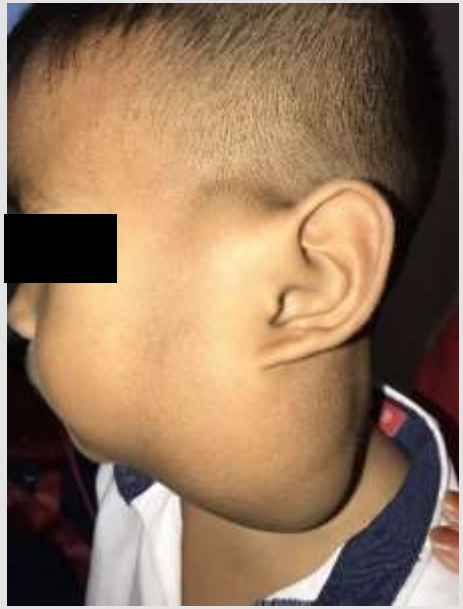
Goal of Treatment

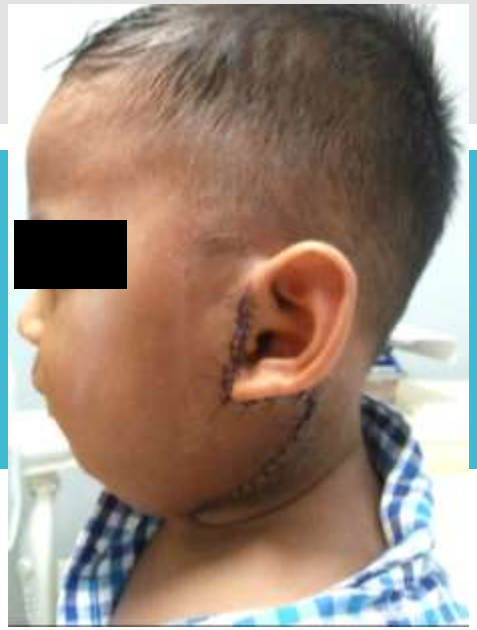
- The primary goal for treatment of patients with benign or malignant tumors of parotid glands is total removal of the tumor for local control to reduce the risk of local recurrence.
- Preservation of function of the facial nerve and its branches.
- if a parotid tumor is confined to the superficial lobe of the parotid gland and the facial nerve is not directly infiltrated by the tumor, a superficial parotidectomy with preservation of the facial nerve is indicated.
- Sacrifice of a functioning, uninvolved facial nerve is rarely necessary for resection of malignant tumors of the parotid gland.

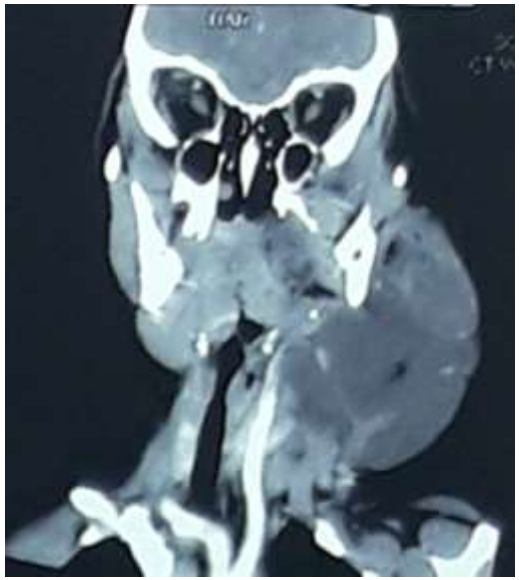
Anatomy

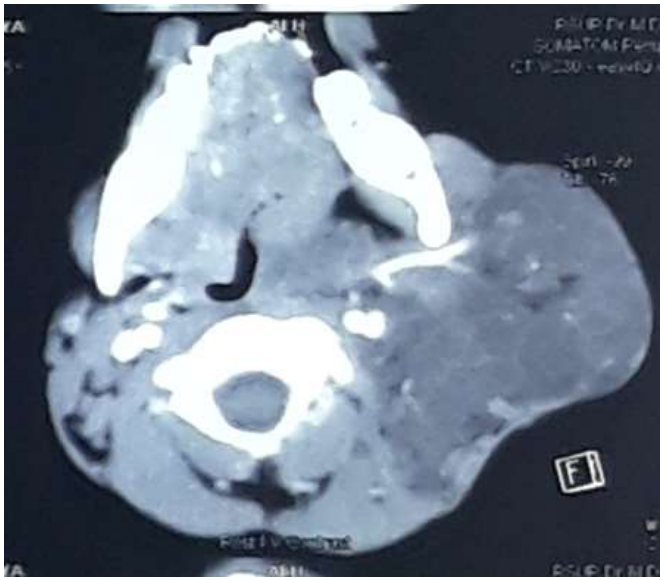

Temporal branches
Zygomatic branches
Parotid gland
Parotid duct opens into oral cavity at the parotid papilla at level of 2nd upper molar
Posterior auricular nerve
Main trunk of facial nerve emerging from stylomastoid foramen
Buccal branches
Marginal mandibular branch
Nerve to posterior belly of digastric muscle and to sylohyoid muscle
Cervical branch
External jugular vein
Retromandibular vein

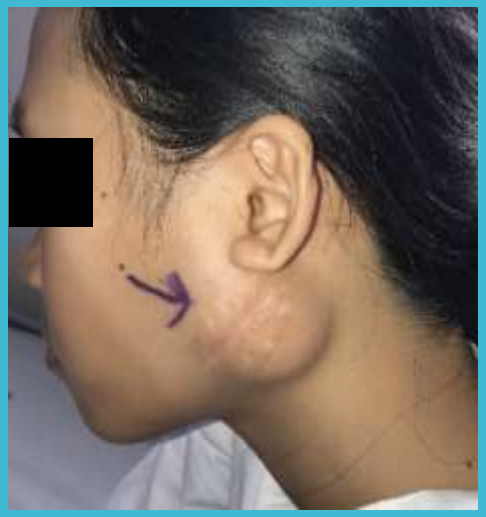
Case

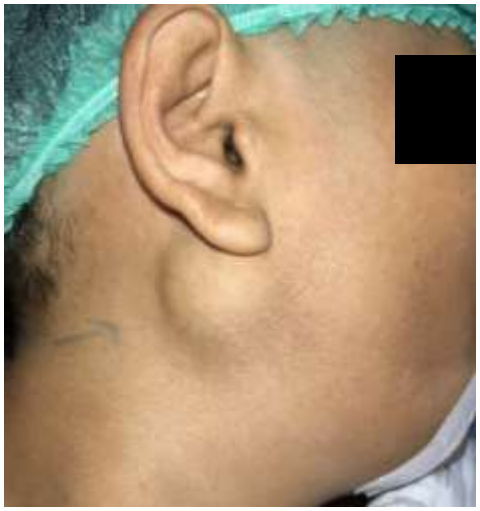


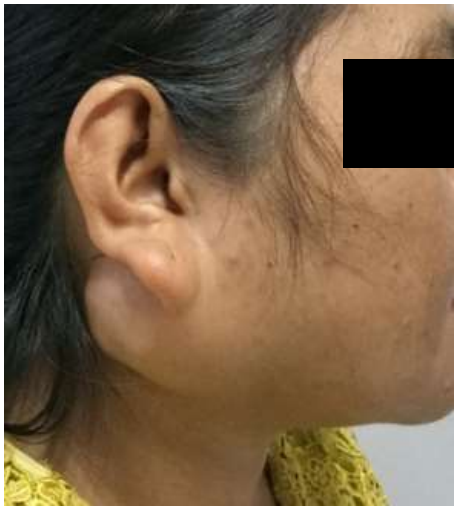


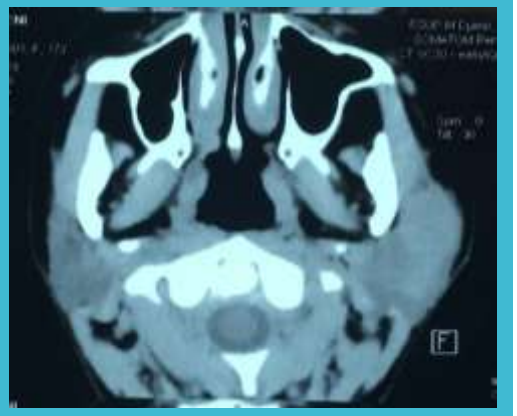


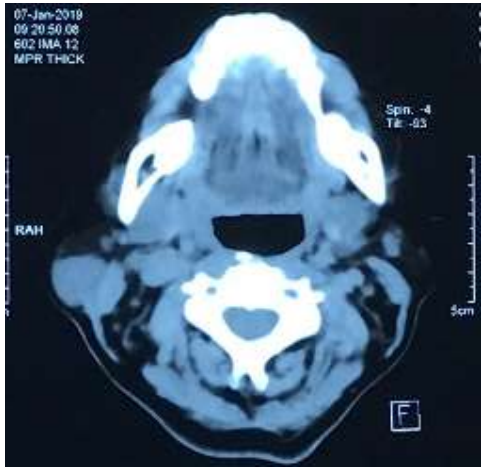








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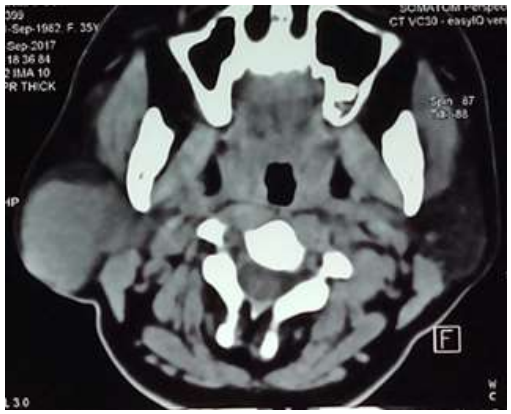
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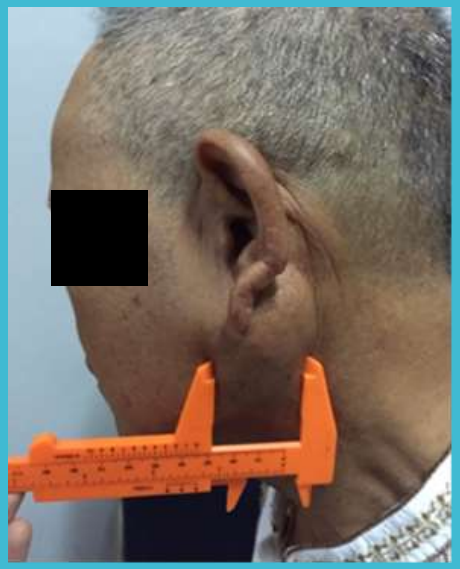

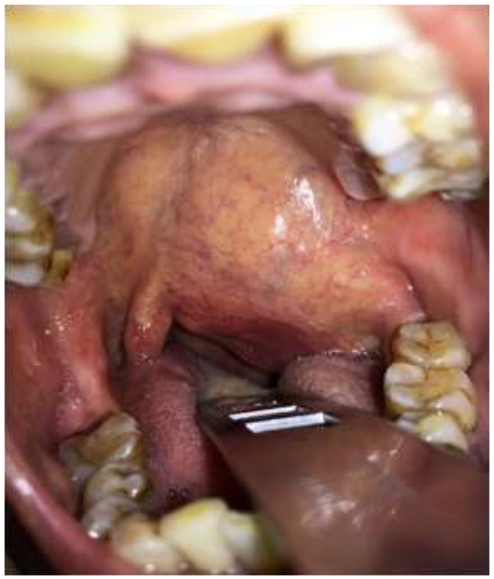

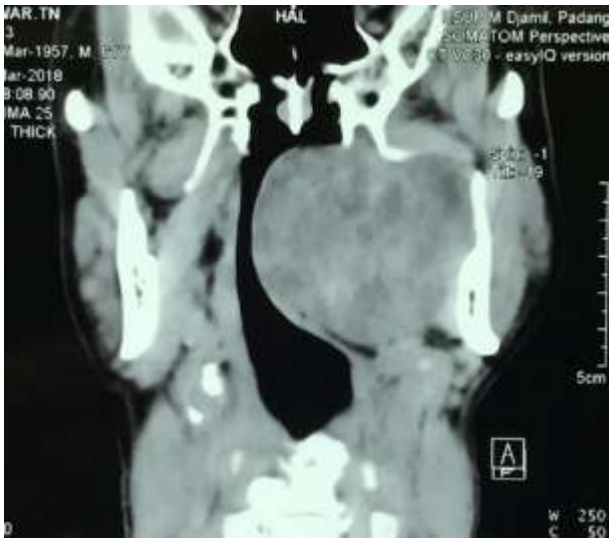
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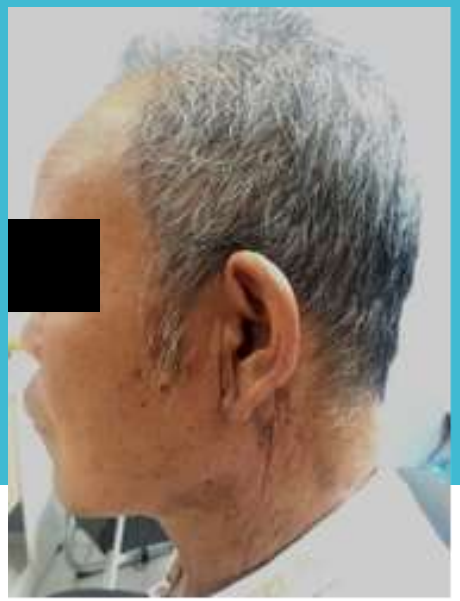
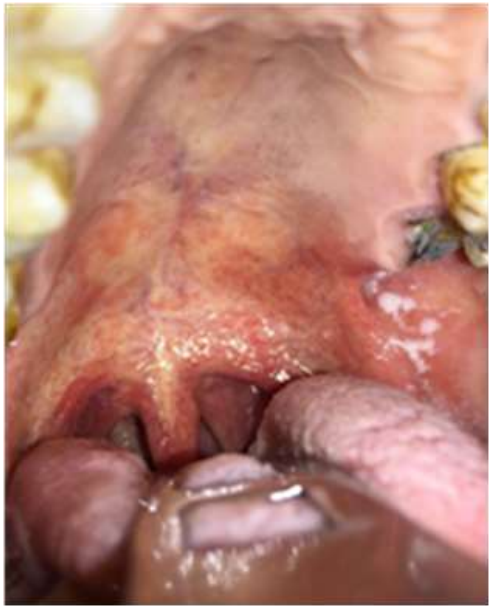
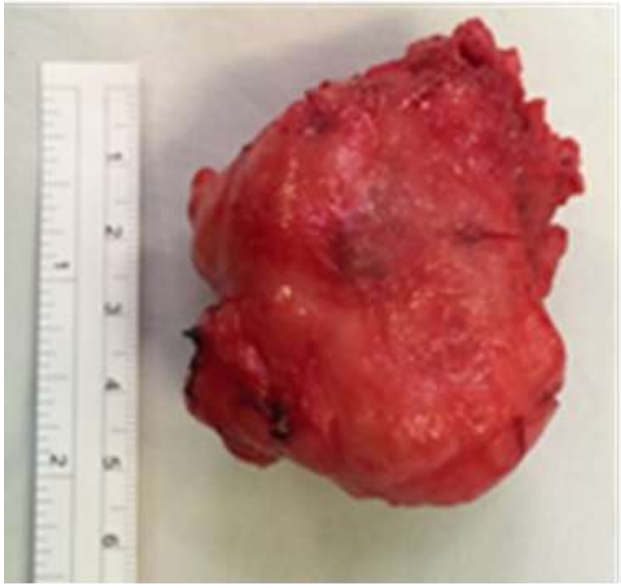
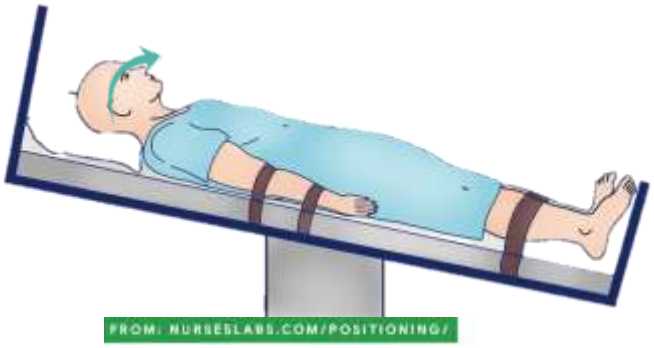


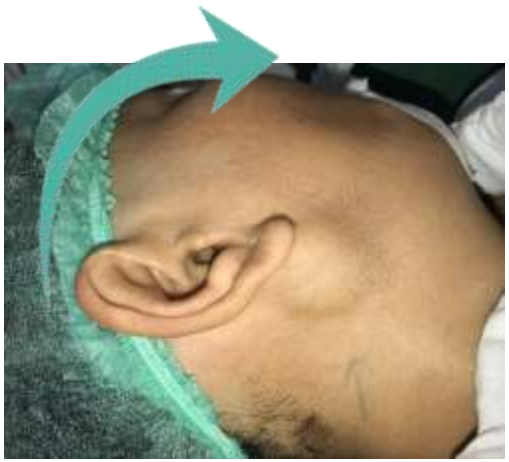




Positioning and preparation

- The patient is placed in the supine position, with the hyperextended head turned to the opposite side.
- The bed is tilted head up–feet down (Reverse Trendelenburg) in order to minimize intraoperative bleeding

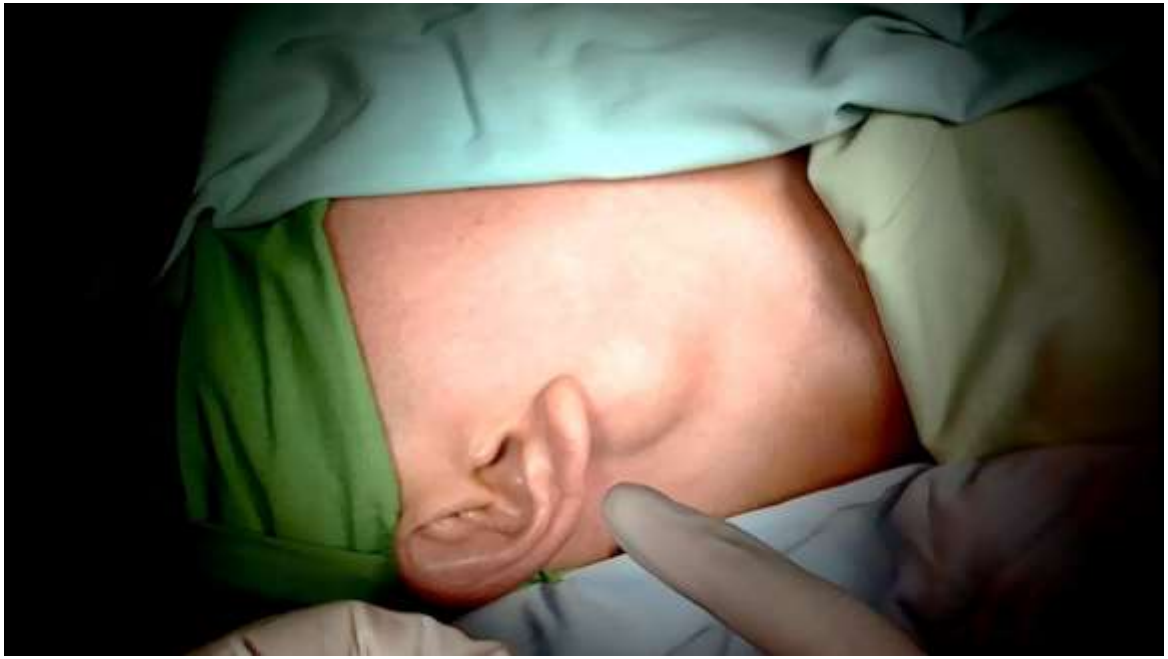




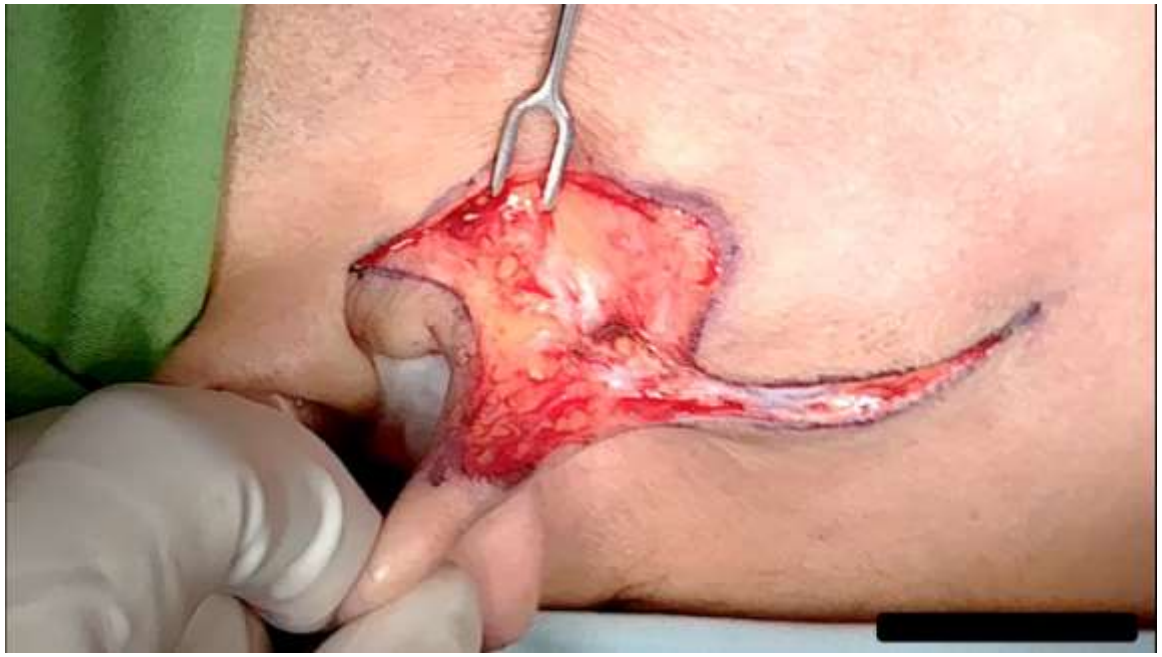
- Catton bud insert to ear canal

Skin Incission

- The skin incision is placed in a preauricular crease that extends superiorly to the level of the root of the helix.
- The incision extends inferiorly around the ear lobule over the mastoid tip.
- It then gently curves down along the sternocleidomastoid muscle, and then slightly forward in a natural skin crease in the upper neck



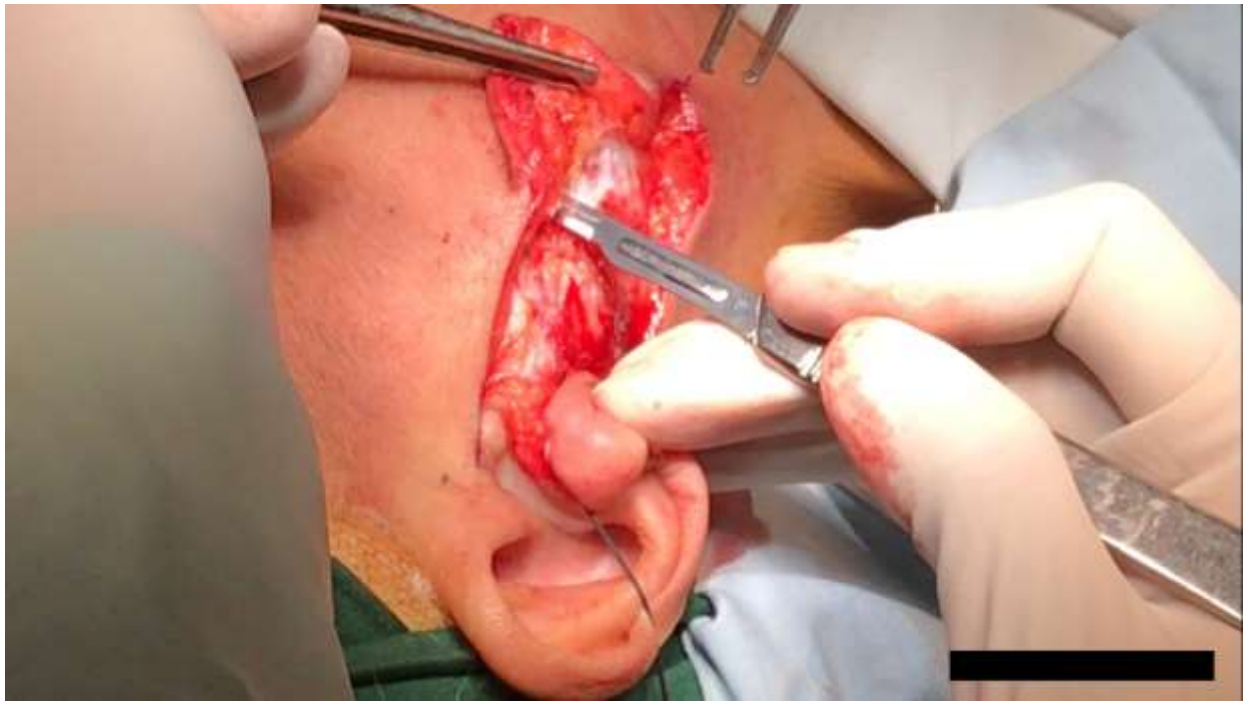
Elevation of Skin Flap



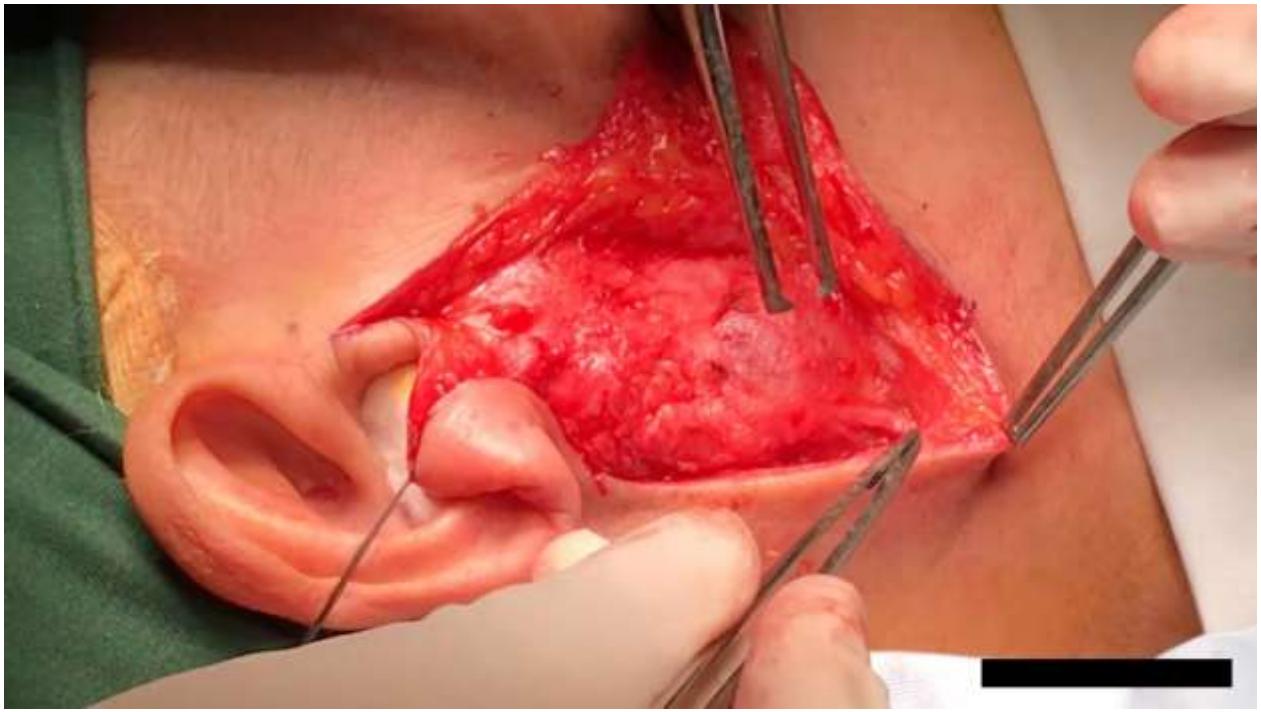
- Skin flaps are elevated in the plane superficial to the parotid fascia in the preauricular region, and in the subplatysmal plane in the cervical portion
- Performed with an electrocautery device or scalpel
- Care must be taken to avoid dissection anterior to the gland, as the facial nerve branches emerge from the parotid gland and run within the fascia of the masseter muscle
- Earlobe is retracted posterosuperiorly with a stay suture.
- Flap is reflected forward and secured with stay sutures.

Elevation of Skin Flap

with a scalpel

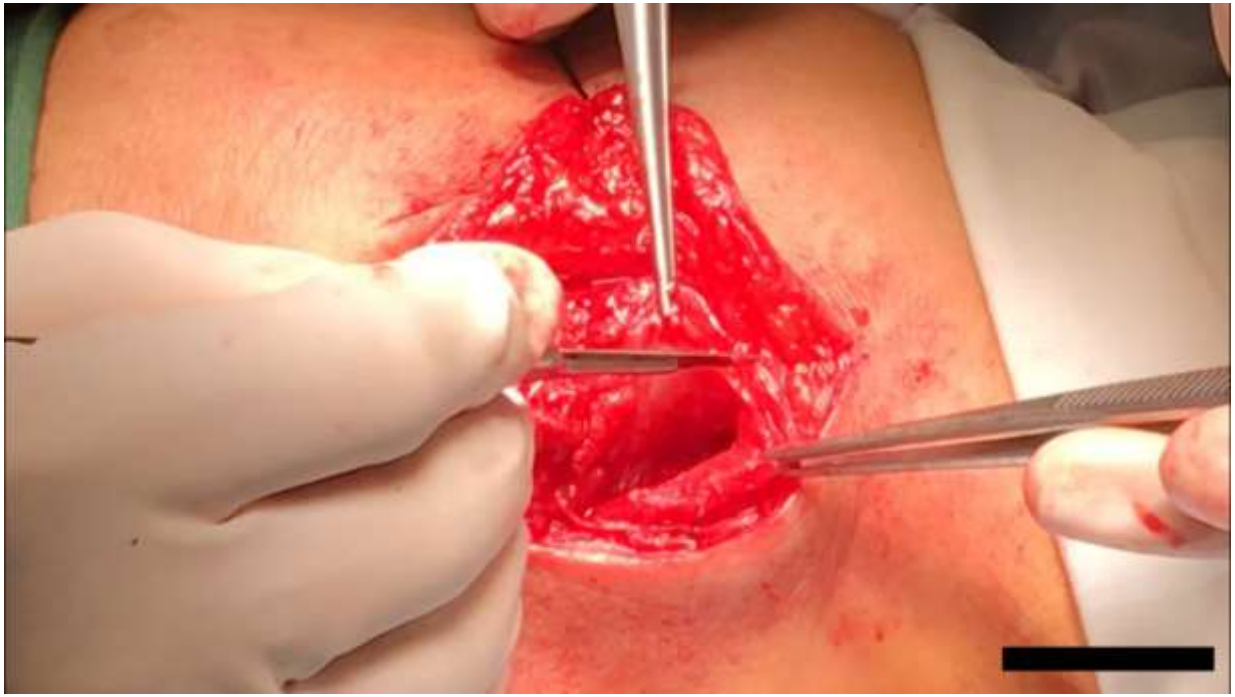


Management of the Great Auricular Nerve



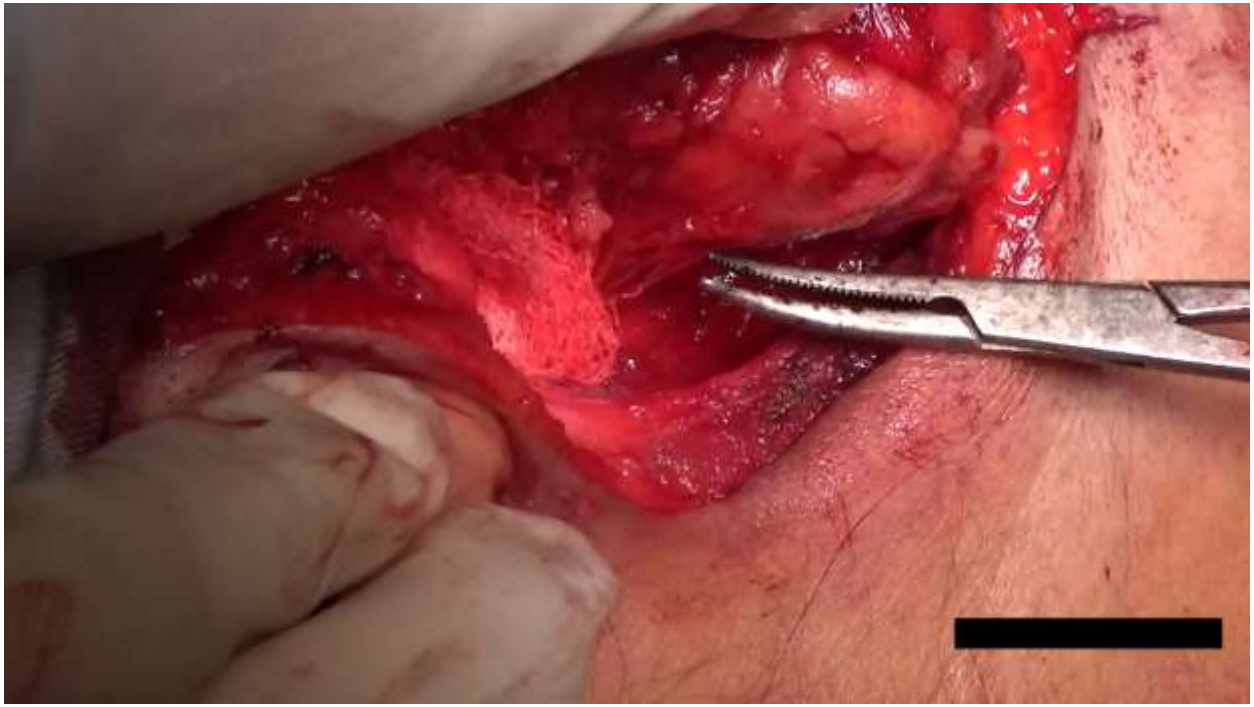
- The great auricular nerve are identified over the sternocleidomastoid muscle and are divided to free the tail of the parotid gland
- In some cases the greater auricular nerve can be preserved (posterior branch)

Dissection of the Parotid Gland



- Mobilization of the posterior border of the superficial lobe of the parotid gland
- Dissection proceeds along the anterior border of the sternocleidomastoid muscle separating the superficial lobe, retracted anteriorly.

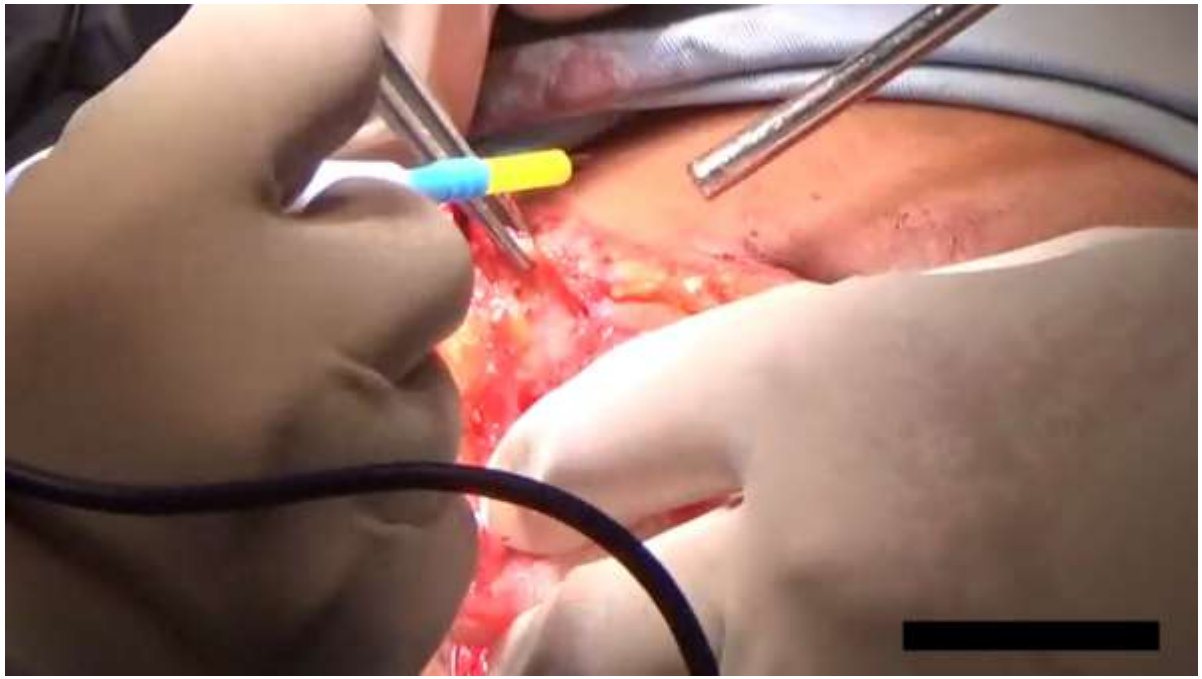
Identify the posterior belly of the digastric muscle



- The separation of the parotid gland from the sternomastoid muscle continues in a deeper plane.
- The digastric muscle is a key landmark, corresponding with the depth of the main trunk of the facial nerve.

Dissection of the Parotid Gland from EAC Cartilage

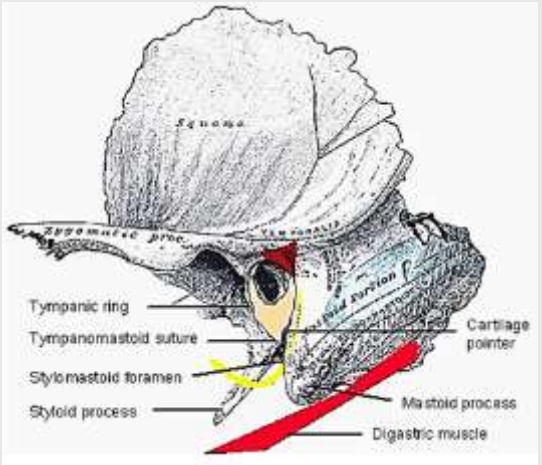
- The superficial lobe of the parotid gland is dissected away from the external auditory canal cartilage
- The parotid gland is retracted anteriorly
- The dissection can proceed along the tragal cartilage until the tragal pointer is reached.



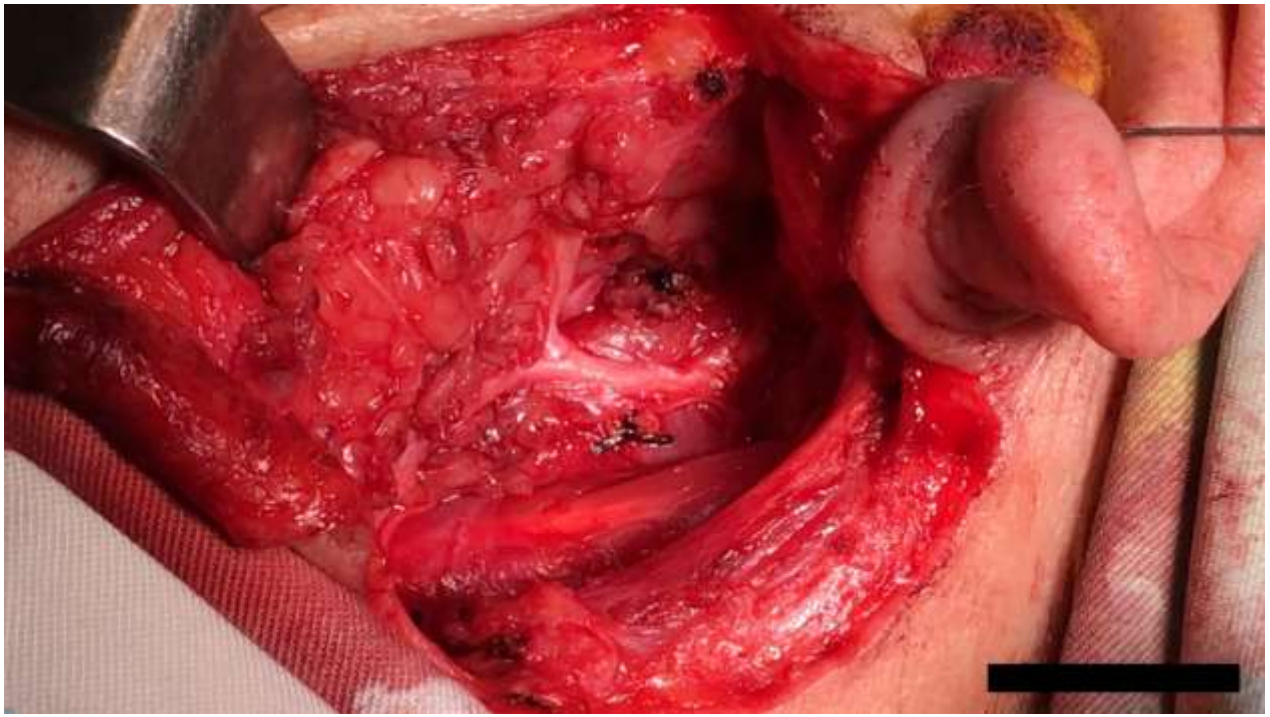
Identification of the Main Trunk of the Facial Nerve

The landmarks used to locate and identify the main trunk of the facial nerve

- The superior surface of the posterior belly of the digastric Muscle
- The tip of the mastoid process
- The anteroinferior surface of the cartilaginous external auditory canal
- The tympanomastoid suture line, which is palpable and approximately superficial to the stylomastoid foramen.

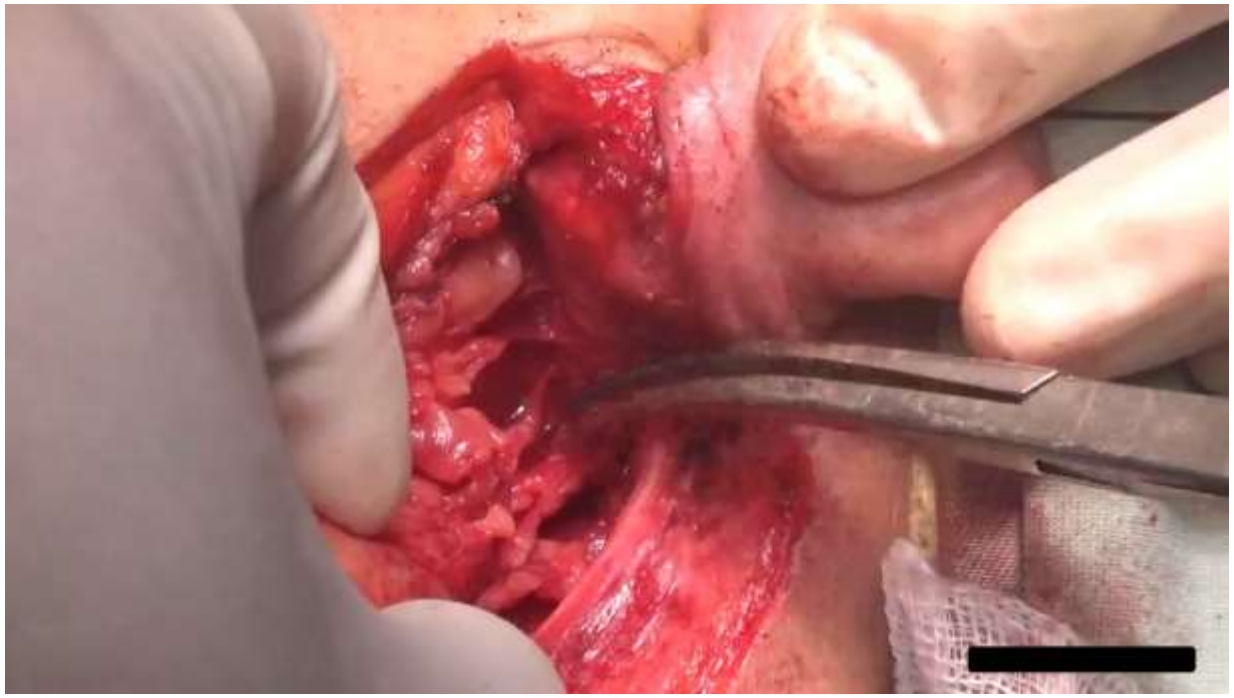


Anatomic landmarks for intraoperative identification of the facial nerve.



- The reliable, and more constant, landmark for identification of the main trunk of facial nerve is the tympanomastoid suture line, which could be followed medially to the main trunk of the nerve.
- The nerve is usually 6 - 8 mm deep to the tympanomastoid suture.

Identification of the Main Trunk of the Facial Nerve



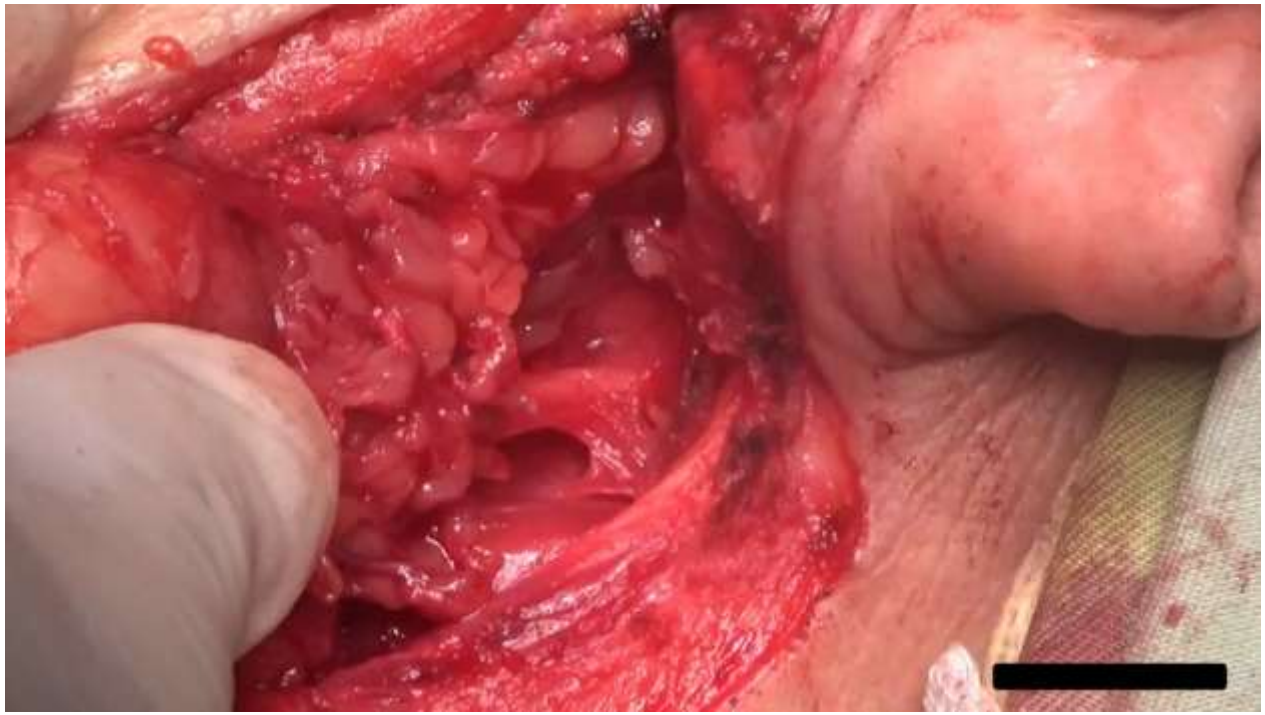
- Another method of identifying the main trunk of the facial nerve is by following its course in the region located between the tragal pointer and the attachment of the posterior belly of the digastric muscle to the mastoid bone
- The nerve is usually located approximately 1 - 1.5 cm deep and inferior to the tragal pointer.

Principles

- Never try to find the nerve while working in a deep hole.
- Never divide tissue unless you are absolutely certain that it is not the facial nerve.
- If troublesome bleeding is encountered, do not clamp blindly
- Hemostasis must be achieved carefully. Gentle pressure with a moist gauze for a short period of time may suffice.
- Meticulous, gentle dissection will always lead you to the nerve.
- The nerve is large and obvious.
- Do not get frustrated.
- Take your time.
- Using magnifying loupe might help

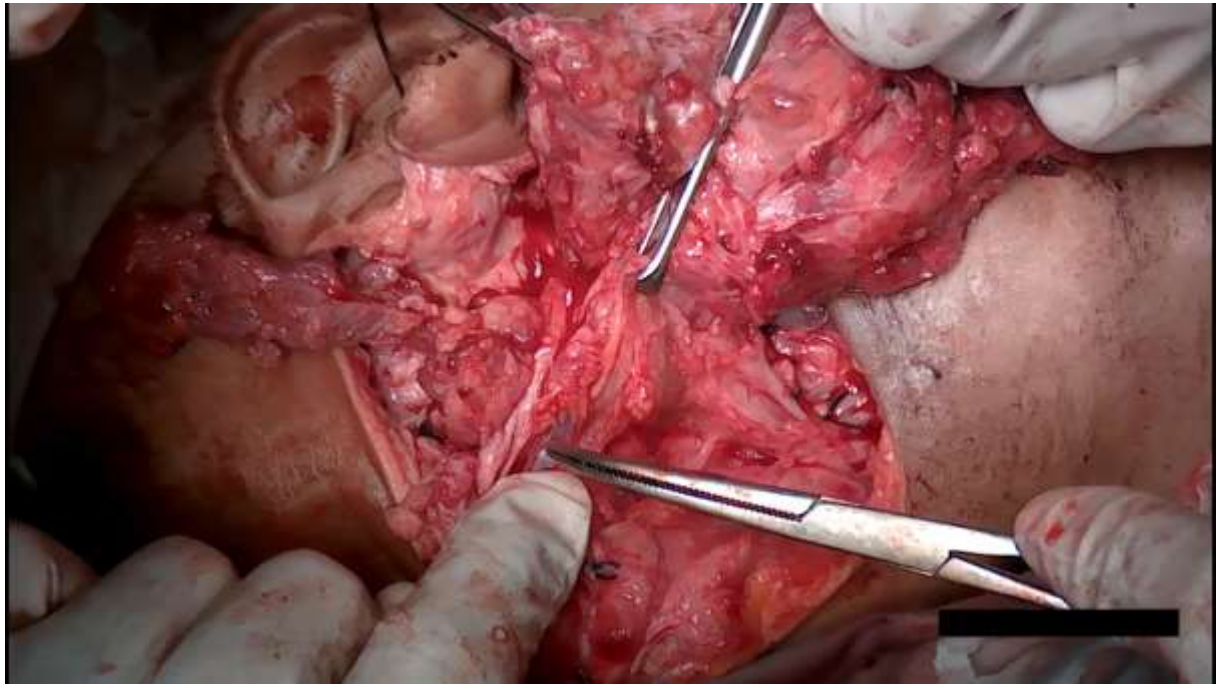
Peter E. Andersen, Superficial Parotidectomy. In: Cohen, Atlas of Head & neck surgery

Isolation of the superficial lobe



- Once the facial nerve has been identified, the overlying parotid tissue is meticulously elevated from the nerve with a fine clamp
- The bridge of tissue between the blades of the clamp is carefully divided.
- Subsequent branching of the nerve is sequentially dissected in a similar fashion until the entire superficial lobe of the parotid gland at lateral to the facial nerve is delivered

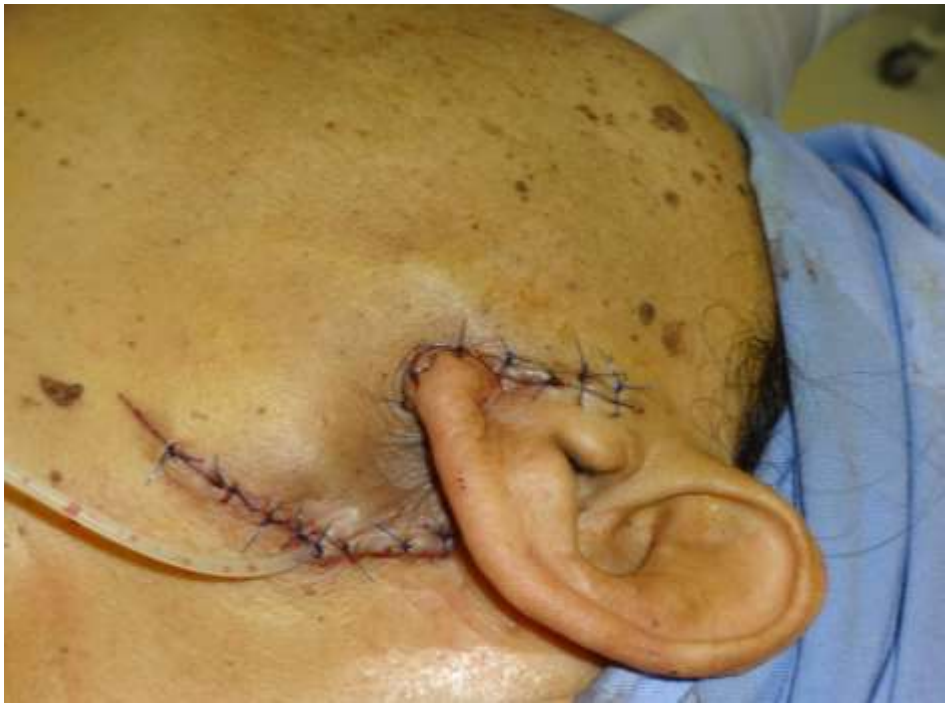
Total Parotidectomy



- If a total parotidectomy is indicated,
- The procedure is extended by meticulous dissection of the main trunk and the branches of the facial nerve from the underlying parotid tissue
- This allows the salivary tissue lying deep to the facial nerve to be delivered
- With preservation of the nerve and its function.

Wound closure.

- The wound is closed in layers over a suction drain.



Complications

- Facial Nerve Paresis or Paralysis
  - Facial nerve dysfunction may result from traction injury to the facial nerve during dissection.
  - As long as the anatomic integrity of the nerve is preserved, this type of injury usually results in neurapraxia, so complete recovery is anticipated.
- Sensory Abnormalities Associated With Sacrifice of the Greater Auricular Nerve.
- Gustatory Sweating—"Frey's Syndrome."
  - Patients with Frey's syndrome experience flushing and sweating of the ipsilateral facial skin during mastication (gustatory sweating).
- Salivary Fistula.
  - This is an uncommon problem. It usually presents as a clear sialorrhea from the wound, or a fluid collection under the skin flaps.
  - In the majority of cases, the problem is self-limiting.

Thank You