

A 36-year-old male presents with firm, non-tender swelling of his right cheek. He tells you that he had similar swelling at that site two years ago and was diagnosed with a tumor, which was subsequently removed without complication. Examination reveals fullness of the preauricular space on the right side. Repeat surgery in this patient is most likely to result in which of the following complications?

- ☐ A. Hoarseness
- ☐ B. Tic douloureux
- ☐ C. Facial droop
- ☐ D. Tongue palsy
- ☐ E. Jaw asymmetry
- ☐ F. Strabismus
- ☐ G. Winged scapula

Submit



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- ☐ A. Hoarseness [7%]
- ☐ B. Tic douloureux [6%]
- ☒ C. Facial droop [75%]
- ☐ D. Tongue palsy [4%]
- ☐ E. Jaw asymmetry [7%]
- ☐ F. Strabismus [1%]
- ☐ G. Winged scapula [1%]

[Proceed to Next Item](#)**Explanation:**User Id: 


This patient has a recurrent parotid neoplasm. The two lobes of the parotid gland are separated by the facial nerve, which courses directly through the substance of the gland. From his history, it seems this patient initially had a superficial parotidectomy in order to excise the tumor. Now, to completely excise this recurrent tumor, removal of the deep lobe of the parotid is required. This will necessitate dissection of the branches of the facial nerve from the parotid tissue. If the facial nerve (CN VII) is involved by the tumor, then it may need to be sacrificed in order to achieve a cure. The extracranial facial nerve carries motor innervation to the muscles of facial expression. Its destruction will cause a unilateral facial droop.

**(Choice A)** Hoarseness can result from injury to the recurrent laryngeal branches of the vagus nerve. These nerves are vulnerable to damage during surgery on the thyroid or parathyroid glands.

**(Choice B)** Tic douloureux (trigeminal neuralgia) manifests with short bursts of excruciating, lancinating pain lasting from seconds to minutes in the distribution of the second and third branches of the trigeminal nerve. The etiology is likely external compression of the trigeminal nerve.

**(Choice D)** Hypoglossal nerve injury can cause tongue palsy. Surgery below the



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**(Choice D)** Hypoglossal nerve injury can cause tongue palsy. Surgery below the mandible, such as for a tumor of the submandibular salivary gland, would put one at risk for this type of injury.

**(Choice E)** Jaw asymmetry can result from unilateral paralysis of the muscles of mastication, which are innervated by the mandibular division of the trigeminal nerve ( $V_3$ ).  $V_3$  exits the cranium via the foramen ovale and follows a deep course to innervate the muscles of mastication. Injury to this nerve before it reaches the muscles of mastication would require a very deep dissection.

**(Choice F)** Strabismus (improper alignment of the eyes) can result from disorders of the extraocular muscles or of the nerves that innervate them (CN III, IV, or VI). Brainstem lesions are most commonly responsible.

**(Choice G)** A winged scapula can result from injury to the long thoracic nerve. This most commonly occurs during axillary lymphadenectomy for the treatment of breast cancer.

**Educational objective:**

Parotid surgery involving the deep lobe of the parotid gland carries a significant risk of facial nerve palsy resulting in facial droop.

Time Spent: 2 seconds

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A 72-year-old woman is brought to the emergency department by her husband due to sudden-onset, right-sided weakness and numbness. The patient's husband reports that her symptoms progressed over several minutes and were later accompanied by vomiting and headache. He also notes that she is now excessively somnolent. The patient has hypertension and persistent atrial fibrillation as well as myelodysplasia that has not required treatment. She takes amlodipine, metoprolol, warfarin, and multivitamins. In the past couple of days, she has also used over-the-counter medications for cold symptoms. Temperature is 37 C (98.6 F), blood pressure is 172/90 mm Hg, pulse is 68/min, and respirations are 16/min. Her laboratory results and CT scan of the head without contrast are as follows:

Platelets	150,000/mm <sup>3</sup>
Activated partial thromboplastin time	30 sec
INR	5.2

