Transcervical Approach
to the Parapharyngeal Space

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**STEP 1 INCISION**

Access to the parapharyngeal space is gained via an upper neck incision at the level of the hyoid bone.

Subplatysmal flaps may be raised or a subcapsular dissection is performed to raise the capsule of the submandibular gland (SMG) together with the skin flap to protect the marginal mandibular nerve.

Anterior border of SCM, the SMG and digastric muscle are identified.

**STEP 2 MOBILIZE THE SUBMANDIBULAR GLAND**

The facial artery is identified posterior-inferior to the gland where it emerges medial to the posterior belly of digastric. The facial artery is then ligated and divided superior to the posterior belly of digastric.

The SMG is mobilised with gentle finger dissection in a posterior-to-anterior direction taking care to leave the thin fascial layer over the ranine veins and the hypoglossal nerve intact. **Figure 1**

**STEP 3 ENTER THE PARAPHARYNGEAL SPACE (PPS)**

By retracting the posterior belly of digastric posteriorly, the mandible superiorly and the submandibular gland anteriorly, the surgeon can pass a finger/instrument directly into the prestyloid PPS. The access can further be improved by dividing the stylo-mandibular ligament. **Figures 2, 3**

The positive identification of hypoglossal nerve, vagus nerve, carotid artery and internal jugular vein before dissecting the tumour will ensure protection of these structures.
Figure 1
Submandibular gland (SMG) mobilized anteriorly to expose the digastric tendon (blue arrow) and hypoglossal nerve (yellow arrow).

Figure 2
Entrance to the PPS (blue arrow) LG—lingual nerve DG—Digastric muscle SH—Stylohyoid muscle HP—Hypoglossal nerve CCA—common carotid artery

Figure 3
Endoscopic view of PPS after removal of tumour DG—Digastric muscle SH—Stylohyoid muscle HP—Hypoglossal nerve SCM—sternocleidomastoid muscle SMG—Submandibular gland
KEY POINTS

1. Neck incision adequately below the border of the mandible.
2. Subcapsular dissection over the submandibular gland to protect the marginal mandibular nerve.
3. Full length of the posterior belly of digastric and the anterior border of SCM skeletonized.
4. Facial artery ligated as it emerges deep to the posterior belly of the digastric muscle.
5. Submandibular gland reflected anteriorly.
6. The stylo-mandibular ligament divided.
7. Retract mandible, posterior belly of digastric and submandibular gland to facilitate access to PPS.
8. Identify hypoglossal nerve, vagus nerve, carotid artery and internal jugular vein before tumour dissection.
9. Access the prestyloid parapharyngeal space.