
Dissection of Central Forehead and Temporal Pocket with Periosteal Release

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Dissection of Central Forehead Space and Scalp

A 15 blade is used to make incisions down to the periosteum. Through the paracentral incisions, blunt elevator dissection in the subperiosteal plane is performed. The dissection extends laterally to the temporalis line and posteriorly to the vertex of the skull, permitting shifting of tissues posteriorly.

Much of the subperiosteal dissection can be performed safely and quickly in a blind fashion, taking care to stay directly on the bone. Blind dissection is stopped 2 cm above the superior orbital rim to avoid the supraorbital and supratrochlear nerves. It is best to palpate the supraorbital notch and mark a 2-cm area around the nerve near the orbital rim. The supratrochlear nerves typically consist of multiple branches and are located medially to the supraorbital nerve. Temporally, dissection should stop before the temporalis line of fusion. The corrugator and procerus muscles can be identified under direct visualization in the glabellar region. The procerus fibers run vertically, and the corrugator fibers run obliquely.

Initial dissection is best performed with the slightly curved endoforehead dissector. After initial dissection, a dissector with a greater curve is

useful for lower the part of the forehead and nasal root. The parietal dissector can be used for posterior dissection. The endoscope can also be used to progress and dissect.

Dissection of Temporal Space

The temporal regions are then dissected. The flat pancake-shaped temporal dissector is best for this dissection. The frontal branch of the facial nerve lies in the superficial temporalis fascia (STF). Dissection should be done deep to this plane. Dissection in the wrong plane may result in paralysis of the frontalis muscle and superior orbicularis muscle. The facial nerve is easily avoided if dissection occurs along the surface of the temporal fascia (TF) proper.

Through the temporal incision, the dissection begins with the subcutaneous dissection through the scalp. The thinner, delicate STF is encountered first. Blunt dissection with tenotomy scissors vertically will then reveal the TF. The TF can be scored with a 15 blade to visualize the temporalis muscle and ensure that the plane of dissection is correct. The optical pocket is then created between the STF and TF. Both the endoscope and temporal dissector are then inserted into this temporal pocket.

While viewing the video monitor, the surgeon elevates the STF from the TF taking special care not to injure the STF. The conjoined fascia or temporalis line of fusion is where the STF, TF,

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and periosteum meet. It must be approached from lateral to medial. Under direct endoscopic visualization, the conjoined fascia is elevated off the superior temporal line. Dissection from the central subperiosteal space toward the temporal zone creates the risk of either entering too deep and disinserting the temporalis muscle or being too superficial and damaging the temporal branch of the facial nerve in the STF. The release of the conjoint fascia proceeds from superior to inferior. There exists a continuous optical cavity communicating the temporal zones, the central forehead zone, and the posterior vertex zone. The STF should be preserved for direct fixation to the TF after brow elevation and depressor release is complete.

The sentinel vessels will be visualized when dissection continues inferiorly and laterally from the temporal incisions. They are located roughly 3 cm from the lateral canthus in a line drawn from the nasal ala through the canthus. They should be avoided or cauterized. Some authors have remarked that these vessels are a landmark for the inferior most extent of the dissection. However, if midfacial lift or more extensive lateral canthal lift is desired, the vessels should be cauterized and dissection should be accomplished more inferiorly. It is important to release

the lateral canthal attachments of the STF/SMAS to the orbital rim completely.

Release of Periosteum

Release of the periosteum is one of the keys to mobilizing the eyebrow and forehead flap. The flap is elevated along the orbital rim and glabellar region with blunt dissection. The superolateral orbital rim attachments in the region of the conjoined fascia are particularly strong and need to be released. The periosteum and arcus marginalis along the superior orbital rim should be mobilized. Dissection should also be advanced onto the radix of the nose. The entire scalp should now be mobile.

The periosteum and periorbita after release from the rim must be cut and separated. This incision facilitates repositioning of the forehead periosteum and also allows access to the eyebrow musculature for muscle modification. The periosteum can be cut with endoscopic scissors, monopolar cautery, or the laser. A toe up dissector can also help to separate the periosteum. A gap between layers of the periosteum should be visualized. Extreme care must be taken to avoid the supraorbital and supratrochlear neurovascular bundles.