Presigmoid approach

see Presigmoid retrolabyrinthine approach

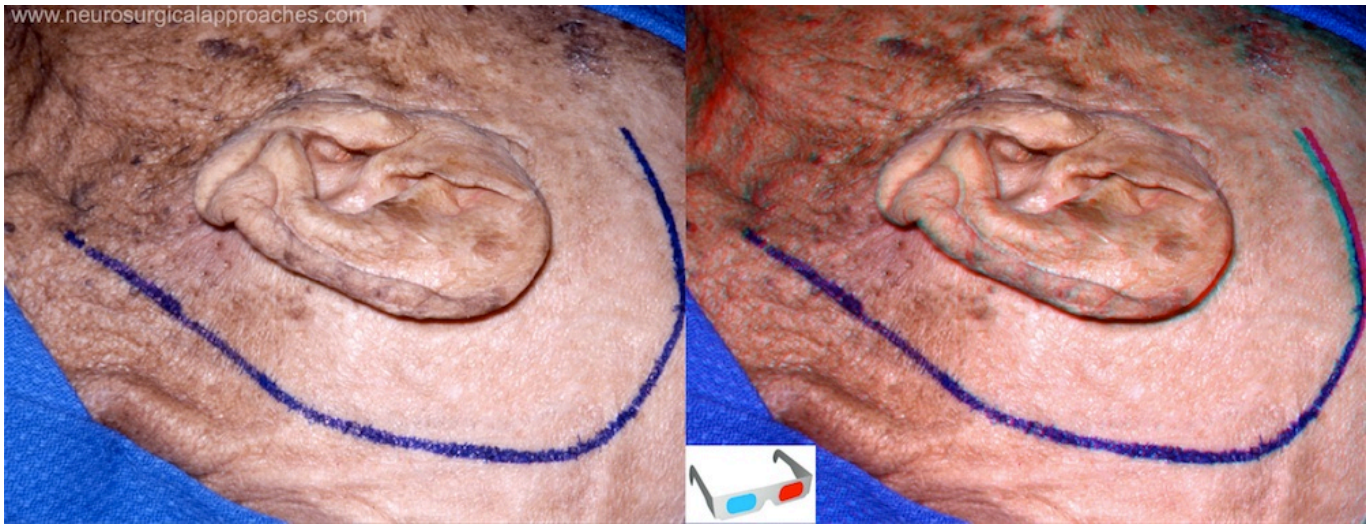
Presigmoid translabyrinthine approach

Presigmoid transcochlear approach

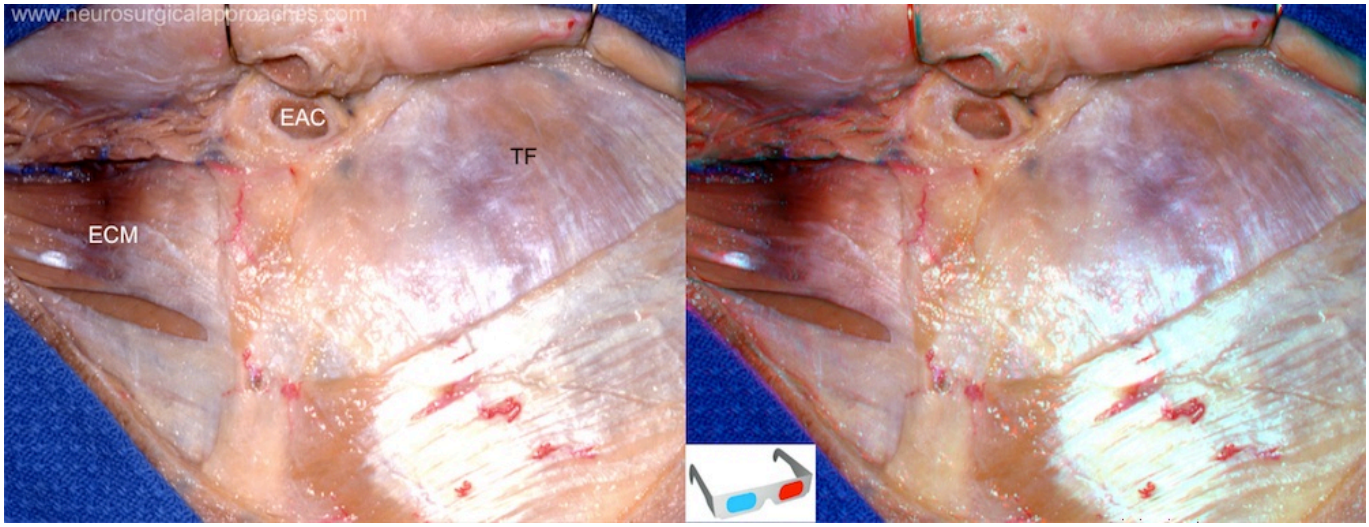
Position

The patient is placed in supine position, park bench position or sitting position. The sitting position has almost been abandoned because it is associated with a significant risk of air embolism. The sitting position, however, does offer a clean field because blood and CSF drain from the surgical field. The head is slightly flexed and rotated toward the ipsilateral side. This position can be uncomfortable for the surgeon, leading to early interruption of the procedure. In the supine position, the patient's head is rotated toward the contralateral side and is supported on a Mayfield three-point fixation device. A sand bag or a foam roll can be placed under the ipsilateral shoulder to minimize rotation of the neck. This same position is used for all posterior transpetrosal approaches. If the patient's body habitus precludes contralateral head rotation due to neck compression or an elevated ipsilateral shoulder, a modified park bench position can be used.

After anesthesia is induced, we could place a lumbar drain to help minimize retraction on the cerebellum and to avert a cerebrospinal fluid leakage after surgery. Frameless stereotactic image guidance, facial nerve monitoring and somatosensory evoked potentials are standard adjuncts.



The skin incision is C-shaped and starts in the temporal region above the zygoma, extends above the ear and downward in the suboccipital region medial to the mastoid process.

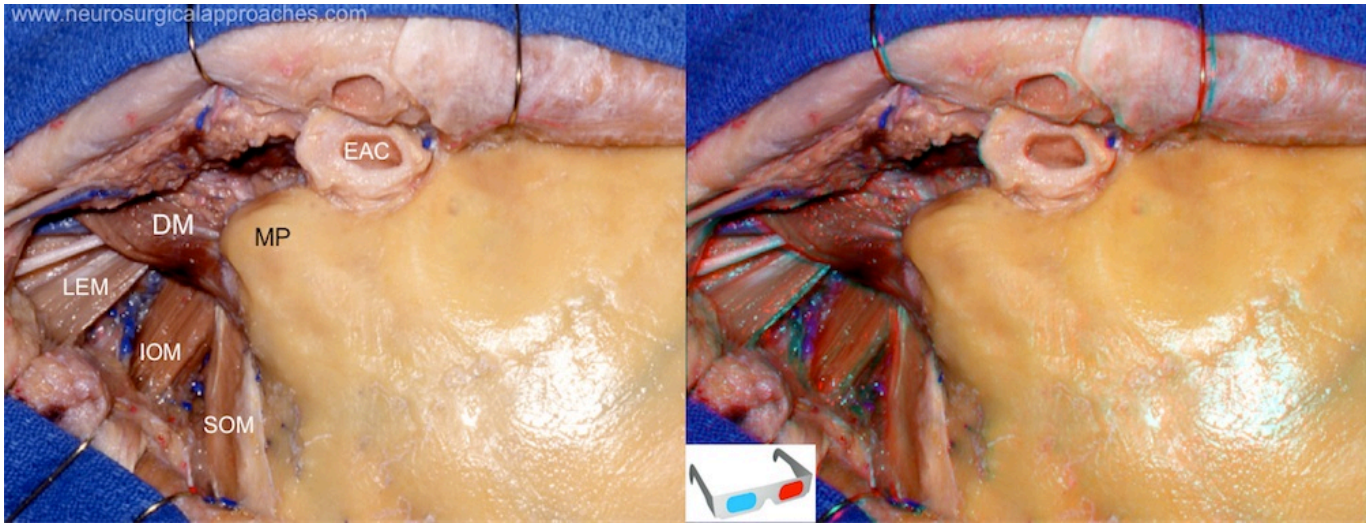


The skin flap is reflected forward to the level of the external auditory canal. The temporal muscle and the sternocleidomastoid muscles are exposed.

EAC: External auditory canal; ECM: Sternocleidomastoid muscle;TF: Temporal fascia.

Exposure

The mastoid and the posterior part of the squamosal temporal bone, the lateral part of the squamosal occipital bone and the inferior parietal bone are exposed before performing the craniotomy.

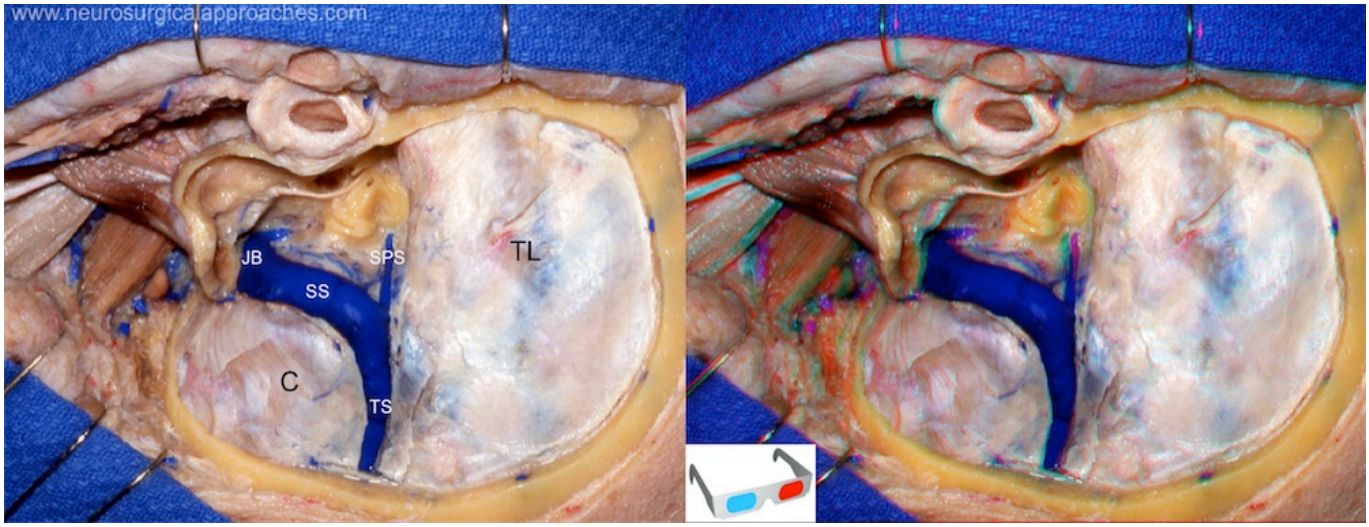


DM: Digastric muscle; EAC: External auditory canal; IOM: Obliquus capitis inferior muscle; LEM: levator scapulae muscle; MP: mastoid process; SOM: Obliquus capitis superior muscle.

Mastoidectomy

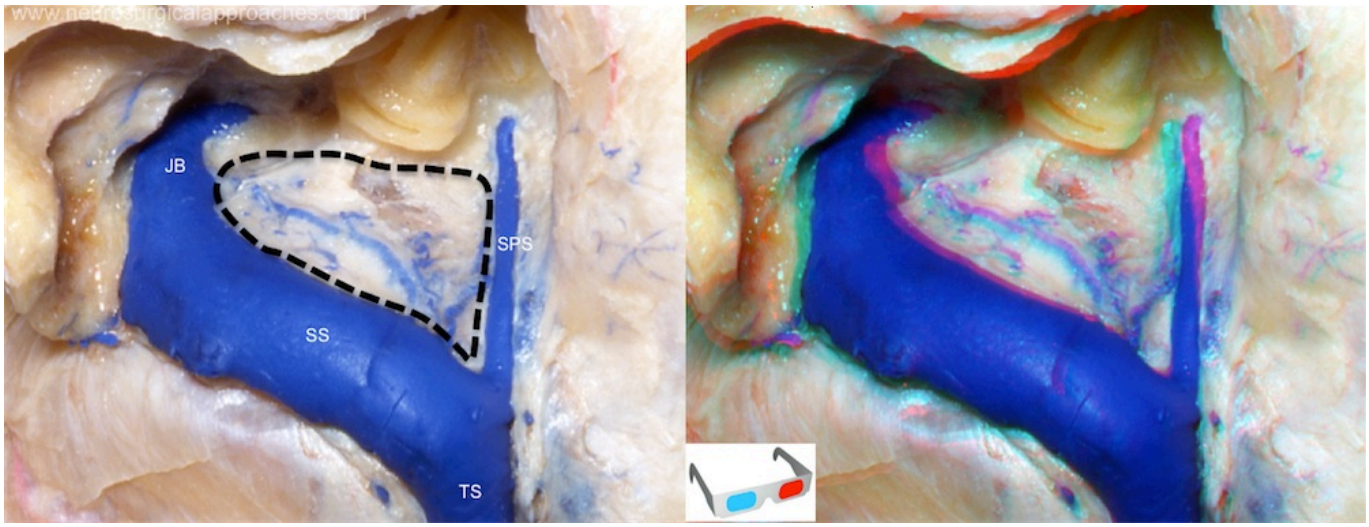
see mastoidectomy

Craniotomy



In the combined supra and infratentorial presigmoid approach a temporooccipital craniotomy is performed and the transverse sinus, the superior petrosal sinus and the sigmoid sinus are exposed. C: cerebellum; JB: jugular bulb; SPS: superior petrosal sinus; SS: sigmoid sinus; TL: temporal lobe; TS: transverse sinus.

Durotomy



Trautmann's triangle is exposed with the black lined area. This is the area of dural openning bounded by the superior petrosal sinus, the sigmoid sinus and the bone labyrinth.

SS: sigmoid sinus; TS: Transverse sinus; SPS: superior petrosal sinus; JB: jugular bulb; Black lined area: Trautmann's triangle. The size of this triangle is highly variable depending on the size of the sigmoid sinus.