

Technical note

Arthroscopically-assisted short endaural approach for anchorage of the disc of the temporomandibular joint

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We describe a new approach to the temporomandibular joint (TMJ), which provides a short endaural access using arthroscopically-assisted surgery. This technique avoids the most common approaches to the TMJ, which may have poor aesthetic outcomes.^{1,2}

Surgical technique

Under general anaesthesia the region is infiltrated with saline and adrenaline. A 10 mm incision is made into the tragal skin with blunt dissection by scissors in the precartilagenous plane (without damage to the cartilage) to gain access to the posterior condyle. The periosteum of the condyle is divided and subperiosteal exposure achieved with detachment of the muscular and the posterior capsular tissue (Fig. 1).

The superior joint space is injected with saline through the posterior portion of the articular capsule to permit expansion of the capsule and facilitate the endoscopic approach. A round trocar is inserted to preserve the internal tissues and the needle is removed. Saline irrigation is used for lysis and lavage.³

A 1.9 mm or 2.3 mm arthroscope is then introduced (0° or 30° according to the surgeon's preference). We find a 1.9 mm scope to be too flexible, and recommend a 2.3 mm system.

The intra-articular area can now be visualised and inspected, including the anterior and posterior recess, the articular disc, and the bilaminar zone (Fig. 2). The surface of the disc is grasped on the posterior band with a Kelly clamp, and pulled backwards and laterally to reposition it over the condylar surface. This permits repositioning and anchoring of the articular disc.⁴

Once relocated the disc is held in position with two metal anchors. We recommend the use of 1.5 to 2.0 mm perforated anchors after predrilling the holes with 1.3 mm burs. The anchors should be fixed at the posterior and lateral condylar poles to allow double anchorage, which prevents medial displacement. The disc is pulled back into position and stabilised there with a “pass wire” instrument to position the suture in the posterior band. Tying of the knot is facilitated with an instrument named a “knot push”. The same is then done for the lateral pole of the condyle. After repositioning and suturing of the disc, the capsule is closed with 4/0 polyglactin 910 (Vicryl, Ethicon) and the skin closed with 6/0 monofilament nylon (Fig. 3).

Conclusion

This technique provides direct access to the capsule with less risk of damage to the facial nerve, but requires a surgeon with expertise in arthroscopic management of the TMJ.

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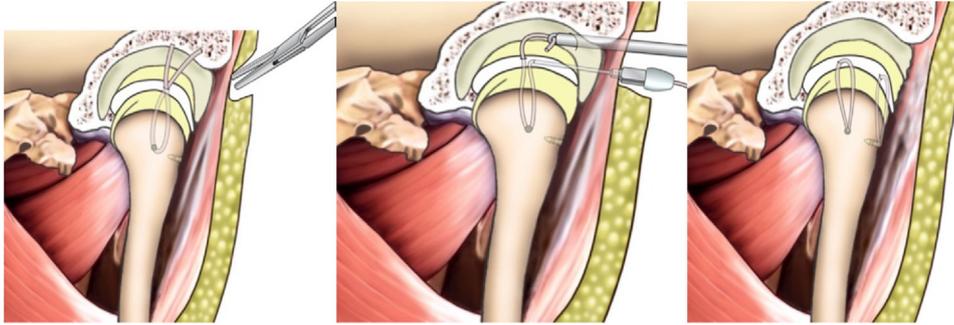


Fig. 1. Diagram of approach and sutures.



Fig. 2. Endaural 10 mm access designed for minimally invasive approach.



Fig. 3. Postoperative magnetic resonance images (A) and (B): Sagittal slices showing the articular disc in the correct position. (C) Coronal view of left temporomandibular joint with anchors in position.

Ethics statement/confirmation of patients' permission

Not required.

Conflict of interest

We have no conflicts of interest.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <https://doi.org/10.1016/j.bjoms.2018.10.282>.

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