

Technical note

Incision to the sagittal temporalis tendon to optimise access to the ramus

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Since Trauner and Obwegeser¹ developed the intraoral sagittal ramus split osteotomy in 1953 it has become a mainstay of orthognathic surgery. The techniques have evolved over many years, with Dal Pont² adding the advancement and rotation of the lower horizontal cut to the buccal cortex (with a vertical cut between the first and second molars) and Hunsuck³ shortening the lingual cut. The approach and access have, however, remained largely the same. All three techniques require access to the ramus and tunneling of the lingual pterygomandibular space.⁴ The tunnelling offers the challenge of gaining predictable and consistent access above the lingula, because the mucosa often bunches up and restricts access to less than 1 cm. We have developed a modification to the standard approach that helps to maximise access and minimise the risk of damage to the inferior alveolar nerve, which the principal surgeon has used successfully for 15 years.

We use a standard vestibular approach to the ramus, cut down to bone and along the external oblique ridge, then raise the periosteum to expose the inferior border of the mandible to the lateral ramus. We then release the mandibular cutaneous ligament at the inferior border of the mandible before continuing the dissection proximally to expose the temporalis fibres on the coronoid. At this point, rather than stripping the tendon of the temporalis muscle from the bone, we use a



Fig. 1. Exposed temporalis tendon with vertical incision.

forked ramus retractor to strip the mucosa superiorly from the temporalis tendon to expose its full length over the coronoid. Once exposed the tendon is split vertically down to the bone (Fig. 1) before we use an elevator to sweep the medial portion lingually with the periosteum. To further facilitate access, the periosteum is then raised down the medial side of the ramus to the last standing tooth (Fig. 2). Once the dissection of soft tissue has been completed, we turn our attention to the osteotomies with the surgeon's preferred method of retraction in place.

By splitting and then retracting the tendon in this manner we gain predictable access high on the ramus above the lingula and the inferior dentoalveolar nerve. The tissues bunch less, which ensures greater access and visibility of structures,

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Fig. 2. After exposure the temporalis tendon is visible with the medial portion swept lingually with the periosteum.

and the limited strip of tendon helps to preserve the blood supply to the coronoid process.

Conflict of interest

We have no conflicts of interest.

Ethics statement/confirmation of patient's permission

Ethics approval not needed. The patient's permission was obtained.

References

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