

## MIDLINE LABIOMANDIBULOGLOSSOTOMY

### **PATIENT SELECTION**

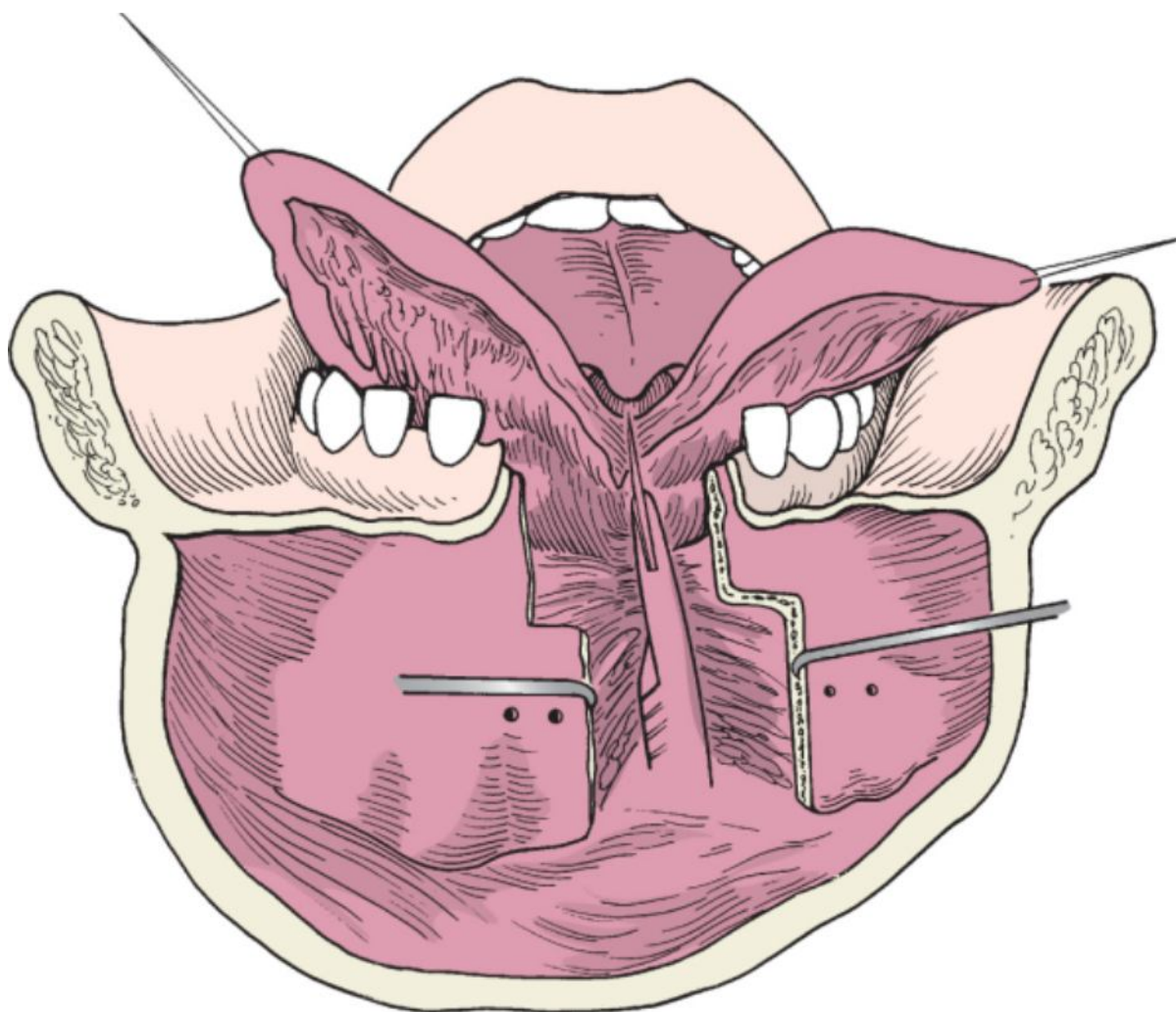
Midline LMG should be considered as an approach when excising a tumor that cannot be appropriately removed transorally. This technique is especially appropriate for tumors of the posterior oropharyngeal wall in which transhyoid or lateral pharyngotomy would provide inadequate exposure. Similarly, midline LMG may be considered when treating tumors of the tongue base that cannot be reliably removed via transhyoid pharyngotomy. Midline LMG is one way to gain exposure to the inferior aspects of the nasopharynx and clivus; in these circumstances, however, the palate must also be split and retracted anteriorly.

### **PREOPERATIVE EVALUATION**

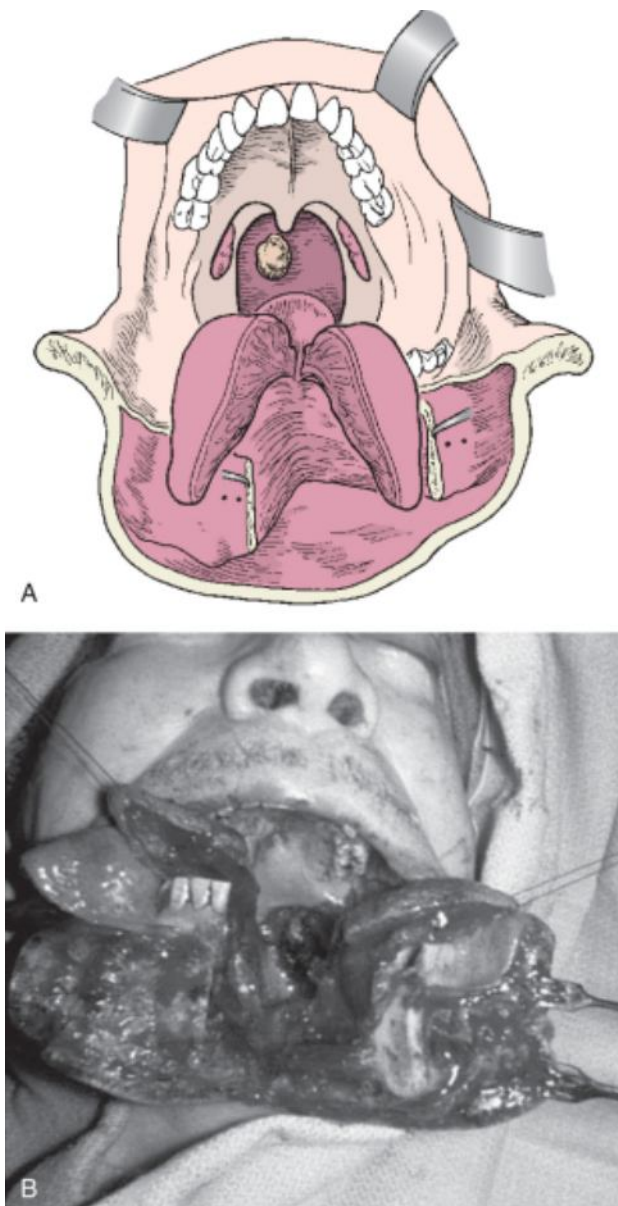
The mandibulotomy portion of this procedure need not be made directly in the midline. The mandibulotomy site should be somewhere between the midline and the mental foramina in an edentulous portion of the mandible. If the patient has full dentition, a tooth may need to be extracted and the mandibulotomy performed through the tooth socket to leave an appropriate cushion of bone on either side of the adjacent teeth. Leaving this bone improves the stability of the teeth, which should be preserved to act as posts for removable partial dentures. We prefer to extract the first bicuspid in these circumstances. Tracheostomy is performed as an associated procedure in most cases.

### **SURGICAL APPROACHES**

General anesthesia is administered through the tracheostomy. A vertical midline skin incision is carried through the lip and subcutaneous tissue. The vermilion is marked sharply to facilitate closure at the completion of the procedure (Fig. 34-5). The soft tissue incision is carried directly onto the anterior face of the mandible unless the mandibulotomy is to be carried out lateral to the midline, in which case the incision through the mucosa of the labial sulcus should be carried laterally. Approximately 5 to 8 mm of mucosa should be maintained on the labial side of the mandible to provide ample mucosa for closure. The incision is then carried up onto the alveolus, and the periosteum is elevated (Fig. 34-6). A four-screw miniplate should be sized and bent, and screw holes should be drilled *before* the mandibulotomy to facilitate reconstruction. We prefer either a deep V or a stair-step mandibulotomy, either of which facilitates firm fixation at the completion of the procedure.



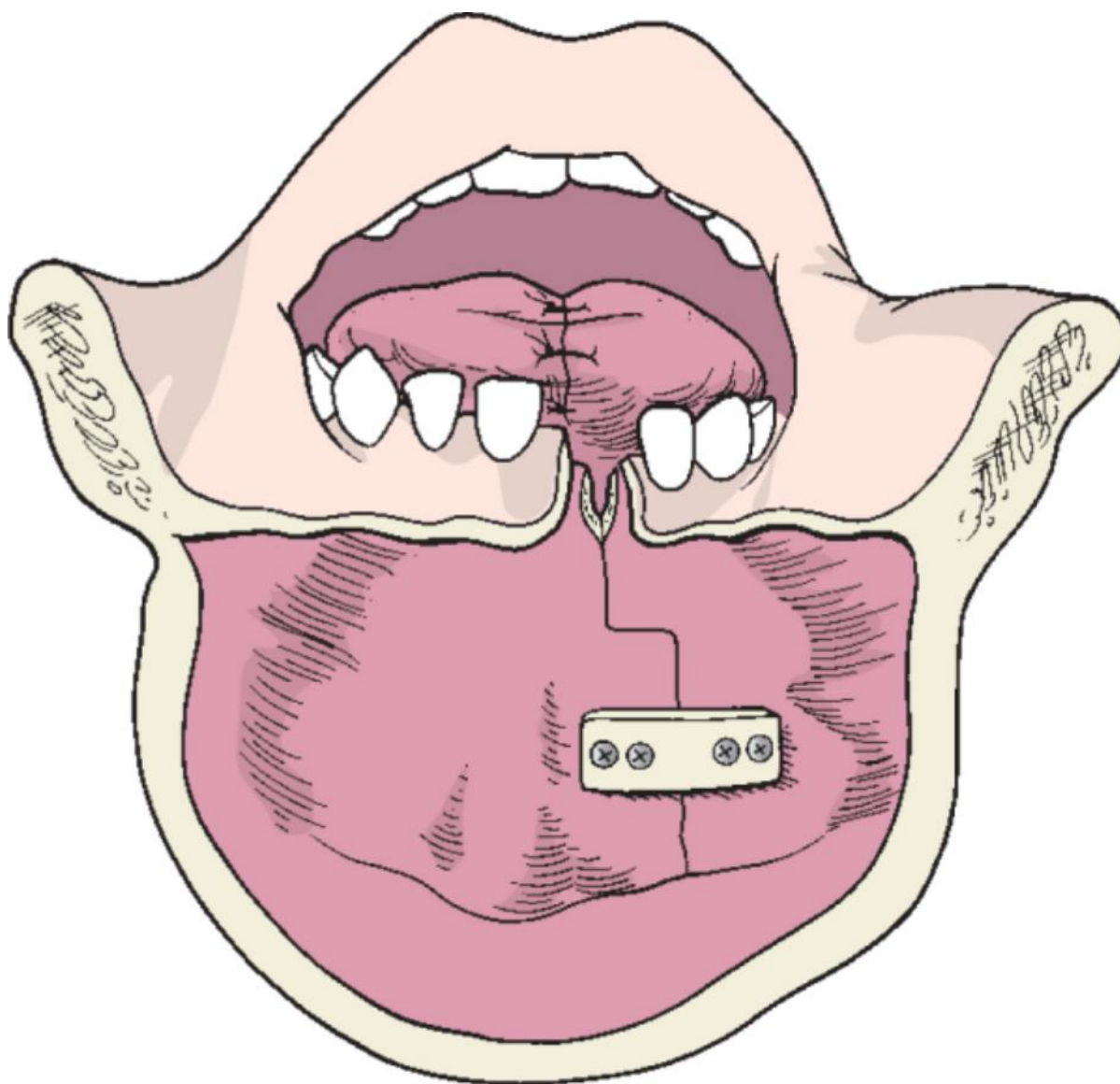
**Figure 34-5** Midline labiomandibuloglossotomy requires a mandibulectomy. As the bone is retracted, an incision is carried between Wharton's ducts and directly through the midline of the tongue.



**Figure 34-6** A, In most circumstances it is necessary to divide the tongue back into the vallecula. This affords adequate exposure of the posterior hypopharyngeal wall. Small lesions of the tongue base can be satisfactorily removed in this way as well. B, Exposure afforded on the posterior wall of the oropharynx.

The soft tissue incision is now carried through the midline to separate the submandibular ducts so that they may be preserved bilaterally. The tongue is grasped, and great care is taken to divide it exactly in the midline to minimize bleeding. An off-center glossotomy is to be avoided because it may compromise the vasculature of the tongue. Hemostasis is achieved with suture ligatures as needed. At this point the intended resection and reconstruction can be carried out.

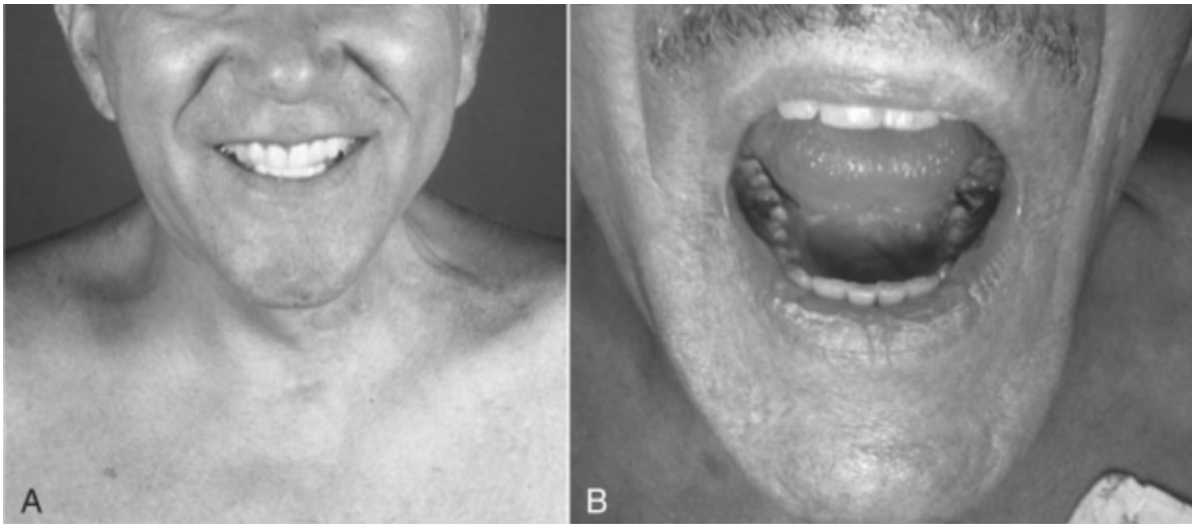
The surgical defect is reconstructed as needed. Small defects limited to the posterior pharyngeal wall may be allowed to heal by secondary intention. The deep musculature of the tongue is then reapproximated with 3-0 Vicryl in at least two layers, after which the mucosa is closed in a posterior-to-anterior direction. The mandible is returned to its anatomic position, and a plate is applied with two screws on either side of the mandibulotomy (Fig. 34-7). After drains have been inserted according to the nature of the procedure, the soft tissues of the lip and chin are closed in three layers.



**Figure 34-7** After reapproximation of the tongue and other soft tissues, the mandibular plate is applied with two screws on either side.

### **POSTOPERATIVE MANAGEMENT**

LMG invariably results in contamination of the surgical site by oral secretions. Accordingly, perioperative prophylactic antibiotics should be administered. The patient is maintained on nothing by mouth, with tube feeding for 5 to 7 days or until healing of the oral cavity is satisfactory. At this point the patient can be started on a liquid or soft diet as dictated by the primary surgical procedure (Fig. 34-8).



**Figure 34-8** **A**, This man underwent midline mandibulotomy 4 years previously. The scar is acceptable. **B**, The patient demonstrates good oral function 4 years after surgery.

#### PEARLS

- The osteotomy is always performed anterior to the mental foramen to maximize blood flow to the bone and facilitate postoperative healing.
- Accurate reapproximation of the lip is the key to improved cosmesis with mandibulotomy. The lip should be closed in three layers: the orbicularis muscle, the mucosa, and the skin.
- Perfect bone realignment and fixation are enhanced by placing the plate and drill holes before performance of the mandibulotomy. Use of a stepped osteotomy, in our experience, facilitates fixation.
- Postoperative application of a bulky supportive dressing tends to reduce facial edema and enhance immobilization, both of which augment rapid healing and good cosmesis.
- A tracheotomy is necessary to provide an airway during the early postoperative phase. The tracheotomy can be removed as soon as oropharyngeal function has resumed.

#### PITFALLS

- Failure to provide adequate soft tissue coverage and water-tight closure at the completion of the procedure may result in contamination of the osteotomy by saliva. Contaminated plating materials may need to be removed. Should drainage persist beyond 2 months postoperatively, the surgeon may recommend a minor procedure in which the labial sulcus is opened and the plate is removed.
- Osteotomy performed posterior to the mental foramen may be associated with ischemic necrosis of the mandible, especially in patients who have previously undergone radiation therapy or in those who require postoperative adjuvant radiation therapy.
- Patients who have previously undergone radiation therapy may be at increased risk for postoperative wound-healing difficulty. This is especially true if inadequate soft tissue closure fails to prevent soilage of the osteotomy with saliva during the healing phase.
- Failure to achieve complete stabilization of the mandibulotomy site may result in painful nonunion. The patient should be returned to the operating room for appropriate fixation. In patients who have been previously treated with radiation therapy, nonunion may result in osteoradionecrosis and sequestration. Bone débridement with bone grafting and refixation may be required to achieve an appropriate union.
- Combining marginal resection of the mandible with mandibulotomy may result in a weak devascularized segment and subsequent pathologic fracture.