

Procedure Guidelines for Transoral Surgery of Laryngeal Malignant Tumors Using Microelectrodes

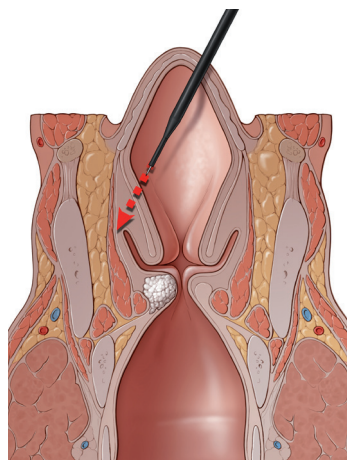


Fig. 1: Resection of the false vocal cord

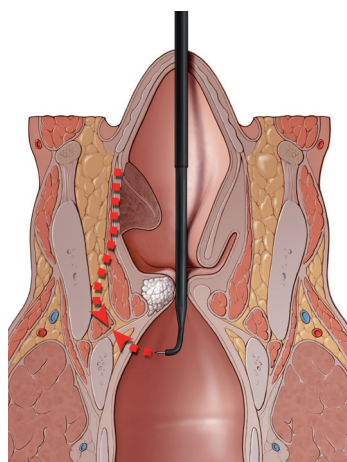


Fig. 2: Section of the subglottic limit and resection of the vocal cord

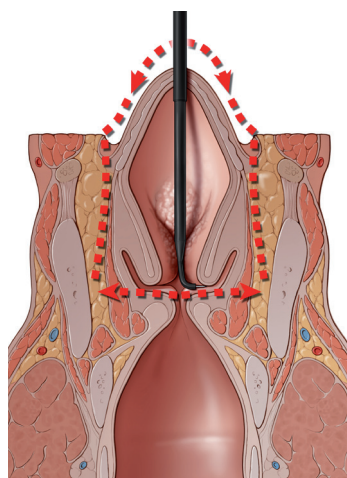


Fig. 3: Supraglottic resection

Disclaimer: These procedure guidelines have been carefully researched and compiled with the help of specialist physicians. They are not meant to serve as a detailed treatment guide. They do not replace the user instructions for the medical devices used. Sutter accepts no liability for the treatment results beyond legal regulations.

Indications and Contraindications

Indications and contraindications for microelectrodes (ME) in laryngeal cancer surgery are similar to those of CO₂ laser technique.

Surgeons with no previous experience with the CO₂ laser should begin with T1 tumors in any location in the supraglottis or glottis. It is important to choose patients with good anatomical conditions for intubation with a laryngoscope.

Patient preparation

Conventional anaesthesia is used. A polyvinylchloride tube is used for the anaesthetic procedure while the tube's balloon is protected with a small piece of swab.

Intervention

Sutter ARROWtip™ microelectrodes (developed in collaboration with Prof. J. Basterra, Valencia, Spain) and a radiofrequency generator (REF 360100-01) are used. The surgical procedure begins with conventional, direct suspension laryngoscopy. The same set of laryngoscopes used for CO₂ laser surgery is used for the microelectrode technique. The hand instruments still required are microforceps and a suction tube (REF 715017) which are also used in conventional laryngeal microsurgery.

Cordectomies (Fig. 1): To perform types III, IV and V cordectomies, use an anterior commissure laryngoscope and proceed as follows: While clamping the false vocal cord with microforceps, apply traction towards the midline of the larynx. The false cord is then resected with a straight microelectrode (REF 360371). Once the false vocal cord is resected, resection of the vocal cord is performed (Fig. 2) with a 90°-angled microelectrode (REF 360373) cutting along the subglottic limit of the vocal cord. Later, use the same microelectrode to make two caudo-cephalic sections, one in the anterior commissure and another one in the vocal cord close to its insertion in the arytenoid, by an anteroposterior deep section over the lateral limit of the vocal cord using a straight microelectrode. Complete resection of the vocal cord is achieved.

For supraglottic resections (Fig. 3), the laryngoscopic procedures are similar to those used with a CO₂ laser. The valve laryngoscope is held against the tongue base, allowing a full view of the vallecula. Resections are as follows: For partial epiglottectomy, apply traction to the epiglottis with microforceps towards the posterior wall of the pharynx to improve the view of the epiglottic lingual surface. Partial sectioning of the epiglottis is then performed with a 90°-angled microelectrode. For more extended supraglottic tumors please consult bibliography.

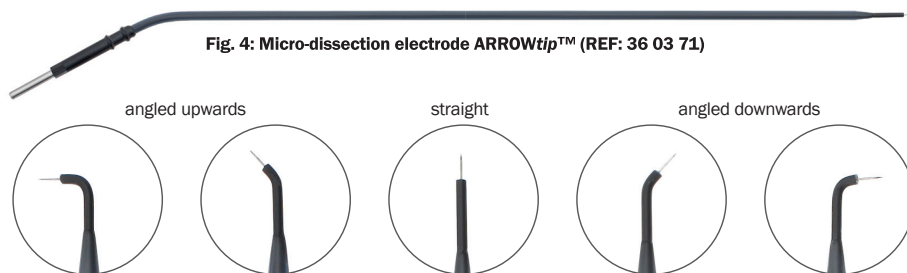


Fig. 4: Micro-dissection electrode ARROWtip™ (REF: 36 03 71)



Fig. 5: ARROWtip™ (REF: 36 03 74)



Fig. 6: ARROWtip™ (REF: 36 03 75)

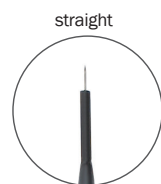


Fig. 7: ARROWtip™ (REF: 36 03 71)



Fig. 8: ARROWtip™ (REF: 36 03 72)



Fig. 9: ARROWtip™ (REF: 36 03 73)

Post-operative treatment

In case of T1, the patient is usually sent home the day following the intervention. Post-operative treatment is similar to that of patients who undergo the CO₂ laser technique.

Please consult bibliography for details:

Bibliography: Eighty-three cases of glottic and supraglottic carcinomas (stage T1-T2-T3) treated with transoral microelectrode. 2011. 36; 491-513. *Clinical Otolaryngology*. J. Basterra, R. Reboll, E. Zapater
Also see other references indicated in the above mentioned publication.

Unit settings CURIS® (REF: 36 01 00-01)

ARROWtip™: Monopolar CUT 2
Power adjustment: 5 to 25 watts

Calvian™: Bipolar MACRO
Power adjustment: 20 watts

Other accessories: Monopolar handpiece (REF: 36 07 04), Calvian™ (with suction REF: 70 09 46; without suction REF: 70 09 47), cable (REF: 36 02 38) and single-use patient plate (REF: 36 02 22)

