Procedure Guidelines for **Transoral Removal of Glottic Laryngeal Tumors Using Microelectrodes**

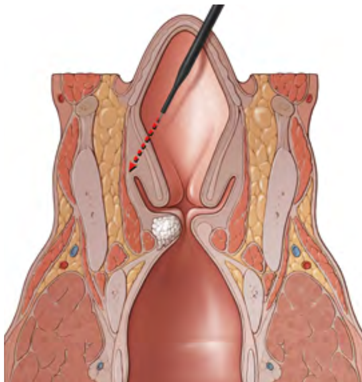


Fig. 1: Resection of the aryepiglottic fold (REF: 36 44 71)

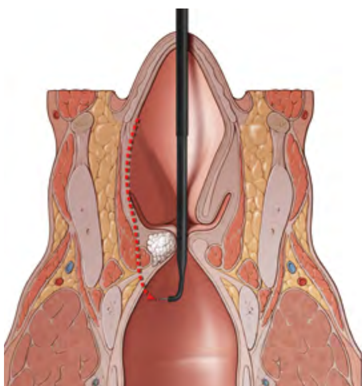


Fig. 2: Incision at the subglottic edge and vocal fold resection (REF: 36 44 73)

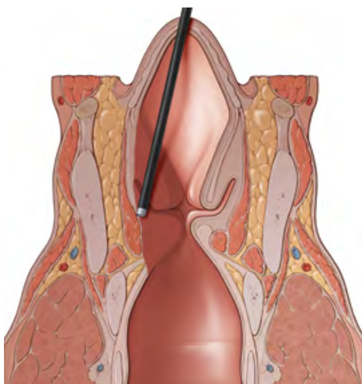


Fig. 3: Coagulation with a non-stick suction tube (REF: 71 50 17)

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

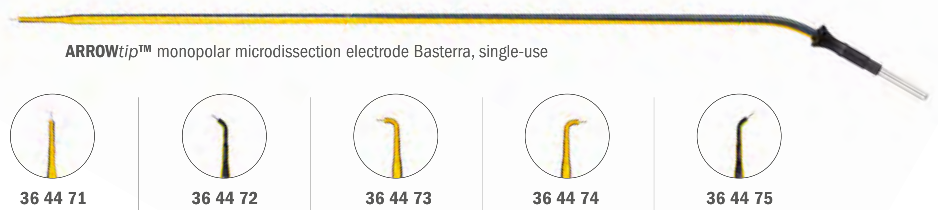
The indications and contraindications for resections of laryngeal tumors using ARROWtip™ monopolar micro-dissection electrodes correspond to those for the surgical removal of benign and malignant glottic tumors. However, it is a prerequisite that the patient can be properly prepared for resection of the tumor with the micro-laryngoscope or distending laryngoscope.

Patient preparation

General anesthesia is used. A local anesthetic (e.g. Ultracaine 1% Suprarenine) may be injected with a vascoconstrictor, depending on the surgeon's preferences. Since monopolar electrodes are used, a neutral electrode is attached to the patient (e.g. upper arm).

Intervention

The surgical procedure begins with an operating laryngoscope (e.g. Kleinsasser micro-laryngoscope). The hand instruments still required are micro-forceps and a non-stick suction tube (REF 71 50 17) for hemostasis, which are also used in conventional laryngeal microsurgery.
Smaller tumor lesions are normally removed with the help of an excision biopsy if they are only developed superficially. Injecting some local anesthetic into the superficial vocal fold at the outset is certainly helpful here. If the tumor now separates, a superficial process rather than a deeply infiltrating carcinoma can be assumed. First the incision line with a safety distance to the tumor is established. Now it can be resected using a straight ARROWtip™ (REF 36 44 71) or angled ARROWtip™ monopolar microdissection electrode (REF 36 44 75).
First performing a resection of the aryepiglottic fold may be sensible depending on the findings (Fig. 1). However, this should be carefully considered since the possibility of post-operative voice rehabilitation is at the vestibular fold level when the vocal fold is missing. Should resection of the vestibular fold be required, it should be carried out with a straight ARROWtip™ monopolar microdissection electrode. Resection of the vocal fold (Fig. 2) can be performed in the next step. The resection can now be performed with a 90° angled ARROWtip™ (REF 36 44 73) monopolar microdissection electrode. It is applied at the subglottic edge of the vocal fold. Next the incision is made from caudal to cranial in the anterior area (near the anterior commissure) and in the posterior area of the vocal fold (near the arytenoid cartilage) to establish the anterior and posterior limits of the resection. Now the resection of the vocal fold and tumor can again be performed using the straight ARROWtip™ monopolar microdissection electrode. The resection of the vocal fold is performed from anterior to posterior along the lateral limit of the tumor. A temporary precautionary tracheotomy and feeding by stomach tube may be required. This has to be decided on a case-by-case basis.

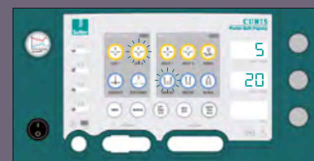


Postoperative treatment

The patient is discharged 1 to 5 days postoperatively depending on the extent of resection (may deviate depending on findings). A temporary precautionary tracheotomy should be performed for larger resections. Partial or complete voice rest in the first few days is recommended. Logopedic exercises may already be indicated at this stage as well. Antitussives may be used to suppress a nervous cough and corticosteroids if there is a risk of edema. Postoperative treatment is similar to that of patients who undergo the CO^2 laser procedure.

Settings* for CURIS® 4 MHz radiofrequency generator
(REF: 36 01 00-01)

Valid for the **CURIS®** with the orange label.

ARROWtip™: Monopolar CUT 2 Power adjustment: 5 to 25 watts	**ARROWtip™**: Monopolar CUT 2 Power adjustment: 25 to 46 watts
non-stick suction tube: Bipolar MACRO Power adjustment: 20 watts	**non-stick suction tube**: Bipolar MACRO Power adjustment: 20 watts
	
For further accessories see back page.	**For further accessories see back page.**

* Always start with the lowest settings to achieve the desired effects. If necessary, increase the settings step-by-step until the desired effect is achieved. This may even be 50 watts or higher. The settings may differ from patient to patient, from tissue to tissue, and have to be adjusted accordingly.

Please consider that this information is not meant to serve as a detailed treatment guide.

Recommended products for this treatment

ARROW*tip*™ monopolar microdissection electrode Basterra

Qty.	REF	Description
2	**36 44 71**	**ARROW*tip*™** monopolar microdissection electrode Basterra, single-use working length: 212.0 mm, total length: 232.0, straight tips
2	**36 44 72**	**ARROW*tip*™** monopolar microdissection electrode Basterra, single-use working length: 210.0 mm, total length: 229.0, 45° angled downwards, Ø 2.4 mm
2	**36 44 73**	**ARROW*tip*™** monopolar microdissection electrode Basterra, single-use working length: 207.0 mm, total length: 227.0, 90° angled downwards, Ø 2.4 mm
2	**36 44 74**	**ARROW*tip*™** monopolar microdissection electrode Basterra, single-use working length: 207.0 mm, total length: 230.0, 90° angled upwards, Ø 2.4 mm
2	**36 44 75**	**ARROW*tip*™** monopolar microdissection electrode Basterra, single-use working length: 210.0 mm, total length: 233.0, 45° angled upwards, Ø 2.4 mm

134° C
autoklavierbar

non-stick suction tube

Qty.	REF	Description
1	**71 50 17**	**non-stick suction tube** working length: 25.5 cm, Ø 3.3 mm

CURIS® 4 MHz radiofrequency generator

Basic Equipment

Qty.	REF	Description
1	**36 01 00-01**	CURIS® 4 MHz radiofrequency generator (incl. mains cord, user's manual and test protocol)
1	**36 01 10**	Foot switch two pedals for CURIS® (cut & coag), 4 m cable
1	**37 01 54 L**	Bipolar cable for CURIS®, length: 3 m
1	**36 07 04**	Monopolar handpiece (pencil) cut & coag, shaft 2.4 mm, cable 3 m
1	**36 02 38**	Cable for single-use patient plates, length: 3 m

available patient plates:

Qty.	REF	Description
1 (x100)	**29 00-5**	Single-use patient plate, split, for adults and children, PU 20 x 5 pcs.
1 (x50)	**95 80 04**	Single-use patient plate, split, for adults, PU 10 x 5 pcs.
1 (x50)	**95 80 05**	Single-use patient plate, split, for children, PU 10 x 5 pcs.
1	**36 02 26**	Re-usable rubber patient plate

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Product availability is subject to regulatory approval in individual markets. Products may therefore not be available in all markets.
Lengths for orientation purposes; may vary slightly.

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