

Optimising Outcomes in Blepharoplasty Surgery Using Radiofrequency

Audrey Looi

Advances in medical devices have produced different and competing electrosurgical technologies. The goals of such new electrosurgical units aim to improve post-operative outcomes, shorten hospital stays and enhance the physiological healing of surgical wounds. The purpose of this case study is to share the outcome of a blepharoplasty that requires delicate cutting and coagulation using radiofrequency.



Fig. 1: SuperGliss® non-stick bipolar forceps (REF 78 02 37 SG)



Fig. 2: ARROWtip™ monopolar microdissection electrode, single-use (REF 36 44 20)

Introduction: For obvious reasons, aesthetic surgeons are particularly sensitive when it comes to post-operative appearances of skin incisions. The goals are minimal scarring and optimal cosmetic outcomes. Thermal damage to the tissue due to energy-based technologies such as electrocautery or laser is a risk that many aesthetic surgeons are not willing to accept. Thus, the cold scalpel is still often used for skin incisions. Modern technologies can offer the benefit of more freedom of movement as opposed to the scalpel, simultaneous hemostasis, as well as a drag-free cut through the skin. Impedance-controlled 4 MHz radiofrequency has been shown to produce minimal lateral heat during cutting⁽¹⁾. Together with delicate tungsten needle electrodes, it is thus ideally suited for precise skin incisions - specifically ptosis repair and upper and lower blepharoplasties as in this case study. Radiofrequency surgery presents an ideal tool for blepharoplasties which is by no means limited to our experiences⁽²⁾.

Materials and methods: In choosing the best performing device that provides both monopolar and bipolar cut and coagulation functions, the CURIS® 4 MHz radiofrequency generator (Sutter Medizintechnik GmbH/Germany) (Fig. 7) was selected for this case study. With its impedance-controlled 4 MHz technology, the CURIS® provides highly focused and gentle energy at the same time. It cuts through soft tissue and supports tissue coagulation with minimal collateral thermal damage to the adjacent tissue. What this translates into is minimal swelling in

post eyelid surgery. We use a 10W (Precise) setting on the CURIS® generator for the bipolar mode and a 16W (Cut 2) setting for the monopolar function. SuperGliss® non-stick bipolar forceps with a 0.4 mm microtip (Fig. 1) and an ARROWtip™ monopolar microdissection electrode, single-use (Fig. 2) were chosen for the bipolar and monopolar functions, respectively.

Case Study: A 43-year-old patient had undergone suture blepharoplasty several years before seeking consultation and surgical blepharoplasty to fix a perceived droop of the right upper lid. Examination showed that her margin reflex distance was +3 mm bilaterally. There was significant dermatochasis and a soft tissue bulk lateral to the lateral canthal angles (Fig. 3).

Upper blepharoplasty via the lid crease and a sub-brow approach was recommended. Subsequent surgery was performed with the CURIS® 4 MHz radiofrequency generator, an ARROWtip™ monopolar microdissection electrode, single-use and a SuperGliss® non-stick bipolar forceps. A small ellipse of excess sub-brow soft skin and dermis with a small amount of orbital orbicularis was excised and the wound closed in layers. A small ellipse of excess skin and pre-tarsal orbicularis was excised at the lid crease level and the orbital septum was incised for identification of the levator palpebrae superioris. The central levator was shortened marginally to create a slight lift and the skin wound was closed. During wound closure, care was taken to include the levator edge to provide a good, well-defined crease.



Fig. 7: CURIS® 4 MHz radiofrequency generator

Fig. 4 shows the minimal swelling on the first post-operative day while Fig. 5 and 6 show the rapid healing on day 5 and day 12 respectively.

Conclusion: This case study highlights the gentle yet efficacious touch of the CURIS® device as we have observed it regularly in aesthetic eye surgery. Post-operative healing and scarring is comparable to the treatment using a cold scalpel. Impedance-controlled 4 MHz radiofrequency is an excellent option for precise, drag-free and hemostatic skin cuts.



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References: 1. Kasten, R "Radiofrequency Surgery Spares Tissue and Improves Operation Comfort in Skin Surgery", ENT News, 1/2008 2. Kashkouli, M. et al "Clinicopathologic Comparison of Radiofrequency Versus Scalpel Incision for Upper Blepharoplasty", Ophthol Rec Surg, V 24/6, 2008, 450-453



Fig. 3: Pre operatively



Fig. 4: Post operatively, day 1



Fig. 5: Post operatively, day 5



Fig. 6: Post operatively, day 12

Featured Products



134° C
autoclavable



SuperGliss® non-stick bipolar Forceps

Qty.	REF	Description
1	78 02 37 SG	SuperGliss® non-stick bipolar Forceps, total length: 12.0 cm, tips: 0.4 mm



ARROWtip™ monopolar microdissection electrode

Qty.	REF	Description
10	36 44 20	ARROWtip™ monopolar microdissection electrode, single-use total length 53 mm



CURIS® 4 MHz radiofrequency generator

Basic equipment



Unit settings / Other accessories*

CURIS®
4 MHz radiofrequency generator

ARROWtip™:
Power adjustment: 15 to 20 watts

SuperGliss® non-stick: Bipolar PRECISE
Power adjustment: 10 to 23 watts

Valid for the CURIS®
with the orange label.



CURIS®
4 MHz radiofrequency generator

ARROWtip™:
Power adjustment: 20 to 40 watts

SuperGliss® non-stick: Bipolar PRECISE
Power adjustment: 10 to 23 watts

* Please consider that this information is not meant to serve as a detailed treatment guide. Always adjust according to patient and application.

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®, 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:

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

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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