

## Wendell Hughes Lecture

# Ocular cosmetic procedures made easier with radiowaves

## High-frequency waves cut and coagulate tissue at same time, providing excellent wound healing

By Lynda Charters

Reviewed by J. Justin Older, MD

Tampa, FL—Cosmetic blepharoplasty, correction of ptosis, and internal brow lift are easier to perform using high-frequency radiowaves, and good wound healing is achieved. This treatment also produces minimal bruising and swelling regardless of the age of the patient.



Dr. Older

"Radiowaves cut and coagulate tissue, and both patient and surgeon benefit," J. Justin Older, MD, said.

Radiosurgery is the passage of radiowaves from an active electrode (the needle) to a passive electrode (plate behind the patient's head), he explained. High-frequency, 4-MHz radiowaves, which cause minimal lateral heat (amount of thermal injury or damage away from the point of contact of the electrode) and scarring, pass through the patient. When the probe touches the patient's skin, the cells are volatilized and destroyed.

Dr. Older, an affiliate professor of ophthalmology, University of South Florida College of Medicine, and in private practice in Tampa, FL, delivered the Wendell Hughes Lecture at the annual meeting of the American Academy of Ophthalmology in Anaheim, CA.

The lateral heat can be increased by increasing the power, surface area, and exposure

time on the surface. Waveform can be adjusted to provide increased or decreased lateral heat by rectifying the waves. Changing the electrodes (with thin wire electrodes providing the least heat) is another way to adjust the lateral heat.

"When determining the parameters, the least amount of lateral heat is produced by a fully filtered waveform and a thin needle," Dr. Older said. "For deeper dissections and the best hemostasis, the partially rectified waveform and the thicker needle produce the most lateral heat."

There are advantages for both the surgeon and the patient using this technique.

"The surgeon advantages are hemostasis with dissection, the procedure takes less time because of less bleeding, and, in my opinion, wound healing is similar to that achieved with a scalpel.

"For the patient, because there is less bleeding there is less swelling and bruising and quicker recovery. My patients have minimal discomfort during healing. Sometimes they require acetaminophen, but in most cases they do not," explained Dr. Older, who has performed more than 2,000



Figure 1 A transconjunctival lower lid blepharoplasty with fat removal using the Ellman Empire needle. The blue tube is the smoke evacuator. (Figure courtesy of J. Justin Older, MD)

blepharoplasties of all types. The radiowave procedure is his procedure of choice.

Dr. Older demonstrated the minimal degree of bruising and swelling, regardless of the age of the patient. He generally discharges patients from postoperative care 1 week after the procedure because of the low degree of bruising and swelling.

### Cosmetic procedures

"There is a learning curve for this technique. However, I believe that anyone used to handling delicate ocular tissue can master the learning curve in a short time," Dr. Older said. Using this technology, Dr. Older performs upper and lower lid blepharoplasty, internal brow lift, and ptosis repair, which is sometimes considered cosmetic.

Upper lid blepharoplasty requires a skin incision with a thin electrode on the cut setting. This produces the least lateral heat and the least scarring; in addition, there is little bleeding, he noted.

After removing the skin/muscle flap, he switches to a hemostasis setting and a thicker needle with more surface area to give more lateral heat. With this setting there will be more scarring compared with the cut setting, but, he noted, the technique is still in the range of low lateral heat production.

Dr. Older noted the importance of removing the plume with a smoke evacuator during this procedure as in laser surgery, because the plume carries noxious elements, such as blood components and viruses.

The procedure continues with the removal of fat with the thick needle; the standard alternative approach to fat removal is by clamping, cutting, and cauterizing the area.

At this point in the procedure, he emphasized the importance of using a corneal protector, because the electrode is capable of penetrating the lid and the eye.

In addition, it is important to avoid blood penetrating the orbit during the process of fat removal.

Dr. Older likes to do an internal brow lift

through the upper lid incision to accentuate a blepharoplasty because the brow lift eliminates lateral hooding; he does this by exposing the periosteum 1 cm above the superior orbital rim and uses a 4-0 Prolene suture to tack the underside of the brow to the periosteum 1 cm above the superior orbital rim.

### For ptosis only . . .

When correcting ptosis only, he begins by making a skin incision on the cut setting and continues as previously with the thick needle on the hemostasis setting. Because there is so little bleeding, one advantage of this procedure is good exposure of the anatomy. He demonstrated advancing the levator onto the tarsus (not the epitarsus, which was removed)

using a 5-0 Vicryl suture, which is the goal of ptosis correction.

When performing a lower lid blepharoplasty, the approach can be either transcutaneous or transconjunctival.

### Take-Home Message

Blepharoplasty, correction of ptosis, and internal brow lift using high-frequency radio waves are easy to perform and good wound healing is achieved. This treatment also produces minimal bruising and swelling regardless of the age of the patient.

In the former, the fat can be removed by the radiowave technique using the thick needle set on the hemostasis setting. Using the transconjunctival approach, Dr. Older cuts through the conjunctiva with the point of the thick needle. Once the fat is exposed, it may be removed with the thicker needle on the hemostasis setting or by clamping the fat and cutting off the excess. Bipolar cautery is used to coagulate the remaining fat before the clamp is released.

"High-frequency radiowaves can cut and coagulate tissue at the same time. In my opinion this technique provides excellent wound healing. I believe that this procedure is easier for the surgeon to perform. My patients have benefitted from this technique," he concluded. **OT**

BM-685rp

## Implants

Continued from page 65

disease, and those taking steroids or a chronic medication. It is also not beneficial for every physician doing orbital implants."

### Know what you're doing

"The technique of pegging is extremely important and not enough detail has been paid to using the proper technique," Dr. Jordan said. "Surgeons who are inexperienced with the technique may have more complications than the more experienced implant surgeon simply because of technique differences. Titanium is the pegging system of choice because it is much better tolerated than other pegging materials, and polycarbonate should be avoided."

Dr. Jordan strongly advised waiting 6 months to 1 year when considering pegging.

"Porous implants have made a difference and I am grateful for their availability," he said. "There are several good porous implants commercially available,

such as the Bio-Eye, Medpor, and aluminum oxide (Bioceramic implant). Aluminum oxide is my personal preference because of the smooth microcrystals and because this implant is much quieter in the orbital tissues compared with the others. I believe that it is more biocompatible than the others.

"In conclusion, regarding shape, I prefer the egg-shaped more than the spherical implants because of the added volume. Vicryl mesh wrapping or no wrapping at all are my preferences. I avoid donor tissue," he said. "Pegging is worthwhile, but patient selection and careful follow-up are important to detect sleeve or implant exposure." **OT**

### FYI

David R. Jordan, MD

E-mail: drjordan@magma.ca

Dr. Jordan has no proprietary interest in any aspect of this report.

### FYI

J. Justin Older, MD

E-mail: jolder1@tampabay.rr.com

Dr. Older reported receiving travel expenses and honoraria from Ellman International, Hewlett, NY.