

# Pain Management Strategies for Surface Ablation and Epi-LASIK

Icy artificial tears may help dull itching pain.

BY FRANCESCO CARONES, MD

**O**ftentimes for patients, pain after surface ablation or LASIK surgery is a valid concern. If a conventional PRK is performed, most patients will experience significant postoperative discomfort, with itching most prevalent.

Luckily, in Europe, many surgeons are converting to Epi-LASIK, a procedure that boasts less reported cases of pain and produces more favorable outcomes. The Conformité-Européenne-approved Epi-LASIK procedure does not have all of the restrictions applied by the FDA.

I no longer perform LASIK or LASEK, because I perform Epi-LASIK in all my surface ablation cases. The most impressive advancement of this procedure is not in the results, or in the recovery time regarding vision or UCVA, although both of these points are impressive in their own right. The greatest advantage is better pain control during the immediate postoperative period.

Average pain levels associated with Epi-LASIK are 50% to 75% lower compared with PRK. After standard PRK, most patients report a score of eight or nine on a 10-point pain scale. I have yet to treat a patient with Epi-LASIK who has rated his pain as high as these numbers.

## FREQUENT PAIN COMPLAINTS

Itching is the most frequent patient complaint, followed by a discomfort that patients describe as similar to having something lodged in their eyes. Not only do most patients report itching, but it is the first sign of pain to present (ie, appearing 55 minutes to 60 minutes after surgery). Even with Epi-LASIK, this sensation lasts for at least 24 hours to 36 hours. Other pain symptoms that are common with PRK or LASEK (eg, stinging, foreign body sensation, and pho-

One approach to reducing pain levels during surface ablation is to cool the cornea immediately before and immediately after the procedure.

tophobia) are less likely presented with Epi-LASIK.

Pain may occur in any patient set; it is not associated with age, gender, race, or other demographics. With Epi-LASIK, pain is related to the way the epithelial flap is formed and repositioned after the procedure. If you create a sharp epithelial flap with the edge of the blade, you may be very confident that this patient will not suffer from pain. Further smooth manipulations of the epithelial flap will create the lowest pain sensation rates. With LASEK, the biggest challenge in avoiding pain is to ensure the alcohol does not spill into the conjunctiva.

## REDUCING PAIN

One approach to reducing pain levels during surface ablation is to cool the cornea immediately before and immediately after the procedure. You may use an icy blast solution to wash the corneal surface at these times. I have found that taking the corneal temperature down after the ablation leads to less pain. This is probably related to the anesthetic effect that cooling produces.

If a patient complains of itching after surgery, there are two local treatments devoted to reducing discomfort. First, we will prescribe corticosteroid eye drops at the beginning of the postoperative period. I have found that corticosteroids are more effective pain reducers compared with NSAIDs (eg, Acular

**PAIN MANAGEMENT: SYMPTOMS AND TREATMENT OPTIONS**

*There are two common types of pain that patients complain of:*

1. The feeling of something lodged in the eye
2. Itching
  - a. The first sign of pain to present at approximately 55 minutes to 60 minutes after surgery
  - b. It may last approximately 24 hours to 36 hours

*What you can do as a surgeon to help fight postoperative pain:*

1. Create a sharp epithelial flap with the edge of the blade.
2. Continue with smooth manipulations of the flap.
3. Ensure that alcohol does not spill into the conjunctiva if performing LASEK.
4. Cool the cornea before and after the procedure.
5. Prescribe local treatments postoperatively.

[Allergan, Inc., Irvine, CA]). Eye drops are administered four times daily, starting immediately after the procedure. In addition, we soak a contact lens in a steroid solution and apply it over the epithelial surface, while the LASIK flap is repositioned. This technique begins the efficacy of the cortical steroid quite immediately.

During the immediate postoperative period, patients should not rub their eyes to avoid breaking the epithelial flap.

**ICY TEARS**

The second local treatment to dull or relieve postoperative pain is to administer icy artificial tears, which effectively reduce the itching sensation. A complementary treatment is to prescribe pills, the most common being meclizine (ie, meclizine hydrochloride). This method is especially dedicated to the treatment of all itching and pain sensations originating at the trigeminal nerve.

Unfortunately, there is not much a patient can do prior to surgery that will prevent pain from occurring postoperatively. Previously, I tried (1) giving patients noncortical steroids and anti-inflammatory eye drops and (2) cooling the corneal surface 6 hours before surgery, but I found both to be ineffective for pain prevention. The most that patients can do is, during

the immediate postoperative period, not rub their eyes to avoid breaking the epithelial flap or making the borders more irregular. Patients may also use cooled artificial tears to achieve an anesthetic effect.

Today, surface ablation by Epi-LASIK is a precise and reliable procedure to perform laser vision correction when LASIK is not indicated. Reducing pain and discomfort after this procedure dramatically increases patients' satisfaction, acceptance, and compliance. ■

*This article is reprinted with permission from the March 2007 edition of Cataract & Refractive Surgery Today Europe.*

*Francesco Carones, MD, is Cofounder and Medical Director of the Carones Ophthalmology Center, in Milan, Italy. Dr. Carones states that he has no financial interest in the products or companies mentioned. Dr. Carones may be reached at +39 02 76318174; fcarones@carones.com.*

**SHARE YOUR FEEDBACK**

Would you like to comment on an author's article? Do you have a topic for an article to suggest? Do you wish to tell us how valuable *CRSToday* is to your practice? We would love to hear from you. Please e-mail us at [letters@bmctoday.com](mailto:letters@bmctoday.com) with any thoughts, feelings, or questions you have regarding this publication.