

CLAPIKS

Contact Lens Assisted Pharmacologically Induced Kerato Steepening Use of Extended Wear Contact Lens and Acular™ for Treatment of Refractive Surgery Overcorrection or Hyperopic Undercorrection

J.E. “Jay” McDonald II, M.D., and Allyson Mertins, O.D., of McDonald Eye Associates, Fayetteville, AR., have successfully treated hyperopic overcorrection following LASIK, PRK and RK, by molding the cornea with a tight fitting contact lens and Acular. Thus far, the CLAPIKS study has shown that this method may be used on patients who have been overcorrected by +.50 to +3.00 following LASIK, PRK and RK. Currently, data and a scientific paper are being submitted. Six-month follow-ups are the longest on record at this point. Please be reminded that the results are not cast in “*corneal concrete.*”

Acular Disclaimer:

Obviously, there is some concern about NSAID’s side effects of corneal melting. Allergan has not reported melting in people with normal corneas. This method has not been used with other NSAIDs in this study. The low incidence of side effects with Acular was in the “comfortable” range. Those patients with collagen diseases or other corneal melt problems should not be treated with this regimen. These patients are being monitored weekly. This is an off label use of the Drug.

Current Technique:

Postoperative day one - if patient shows any hyperopic over-correction, nothing is done and patient is reassessed at one week.

Postoperative week one – intervention depends on both the amount of over-correction and patient reported symptoms. Treatment is initiated if the patient cannot function comfortably and/or if the amount of over-correction is greater than 1.5 diopters. The patient is told that the result is being “fine-tuned” by using a contact lens to steepen the cornea and the process usually takes a minimum of 8 to 10 weeks.

Postoperative week three to four – again, intervention depends on both the amount of over-correction and patient reported symptoms. Treatment is initiated if the patient cannot function comfortably and/or the amount of over-correction is greater than 1.0 diopters. If the patient is between 0.25 and 1.00 diopters over-corrected and asymptotic, no treatment is indicated.

Any disposable lens (8.4 or steeper base curve) is fit with the patient’s full hyperopic correction. We do not recommend high Dk contact lenses (i.e. Focus Night and Day) because the increased oxygen permeability is not desirable. The patient will wear the lens on an extended wear, full-time basis using Acular qid. If the patient has problems with filmy,

dirty lenses, encourage the use of artificial tears (preferably non-preserved). Full-time, extended wear is important, as the normal pharmacologic barrier of the cornea is being altered, as well as “molding” with the contact lens. The patient is seen in one week to check progress. It is important to make sure the patient keeps appointments and is checked weekly.

The contact is removed and discarded and the uncorrected vision and manifest refraction are checked. If the patient is showing a regression in hyperopia, a new contact is inserted with the full hyperopic correction and the patient continues wearing the contact on an extended wear basis with Acular qid.

It may take two to three weeks to see any effect. If no effect is seen after two weeks, or if it is desirable to speed up the refractive changes, the Acular is increased to 6 times per day. If no effect is seen using Acular 6 times per day for two to three weeks, the procedure is considered unsuccessful and is discontinued.

It is interesting to note that the uncorrected vision may continue to improve with no corresponding change in refraction. For instance, a patient may start with ucva of 20/50 and manifest refraction of +1.25, and on follow-up visits, measure ucva of 20/30 with the same manifest refraction of +1.25. In these situations, the procedure is continued with a contact lens in the full hyperopic prescription (in this example +1.25) until the ucva reaches the desired endpoint.

Once the VA or refraction has reached the desired endpoint, the patient is kept in the contact lens for two to three additional weeks to assess stability. Once stability is verified (the same destination RX 2 weeks in a row), the patient is kept in a retainer lens for 2 weeks while continuing to use Acular to complete the molding process and prevent regression. The patient removes the lens after two weeks and discontinues Acular. The patient is assessed one week and one month post contact lens removal. After the one-month post CLAPIKS assessment, the patient is instructed to return to the office if the vision deteriorates. Future appointments are left to the doctor’s discretion.

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