

**DRY EYE DETECTION**

By Tiffany Mathas, OD, TLC, Pittsburgh, Pa.

# Zone Quick: An Integral Part of the LASIK Pre-op Regimen



This fast and informative test enables refractive surgeons to address dry eye before surgery, ensuring optimum outcomes.

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**Zone-Quick thread (actual size)**

Pre-existing dry eye can adversely affect outcomes in refractive surgery, which is why we now include the Zone-Quick phenol red thread test as an integral part of preoperative testing at our TLC clinics. We prefer Zone-Quick because the test can be performed in 15 seconds, and we



The Zone-Quick thread is placed near the lateral canthus. The patient blinks naturally while looking straight ahead for 15 seconds.

find it is more sensitive than the Schirmer tear test and better at indicating small changes in the tear layer.<sup>1</sup>

**Our pre-op routine**

We perform the Zone-Quick tear test on both eyes of patients who are scheduled for refractive surgery. Zone-Quick measures the amount of resident tears at that moment. According to a study by Sakamoto and colleagues, the average result for Caucasians is 23.9 mm and for Japanese is 18.8 mm.<sup>2</sup> At our clinic, if a patient has a Zone-Quick result of 15 mm or less, we postpone surgery so we can treat his dry eyes.

To treat dry eyes, we prescribe Restasis (cyclosporine ophthalmic emulsion 0.05%; Allergan Inc., Irvine, Calif.) and oral flaxseed oil (omega 3 fatty acids) for 2 to 4 weeks. Our goal is to improve the pa-

tient's tear volume to achieve a Zone-Quick result of at least 15 mm. We will not perform surgery until the Zone-Quick is at least 15 and there is no corneal staining with fluorescein and lissamine green. Once the patient's tear volume is acceptable, we schedule his LASIK surgery.

**Post-op advantages**

Besides the obvious benefits of being able to identify and treat marginal dry eye before surgery, we have found the number of dry eye complications and complaints following LASIK have decreased dramatically since we started using Zone-Quick.

Testing with Zone-Quick is fast and comfortable for patients. We find that patients are intrigued by the test. They become more interested in their tear condition and enthusiastic about their subsequent care regimens. ■

**Zone-Quick for General Eye Care**

Although we use Zone-Quick in our refractive surgery center, I believe this test has utility in general eye care practices, as well. Treating dry eye is not always easy or successful. Zone-Quick can objectively measure a patient's progress with his dry eye therapy, effectively demonstrating its efficacy.

*Dr. Mathas is clinical director of TLC Laser Eye Centers in Sewickley, Pa.*

1. Chiang B, Asbell PA, Franklin B. Phenol-red thread test and Schirmer test for tear production in normal and dry eye patients. *Invest Ophthalmol Vis Sci.* 1988;29(suppl):337.
2. Sakamoto R, Bennett ES, Henry VA, Paragina S, Narumi P, Izumi Y, et al. The phenol red thread tear test: a cross-cultural study. *Invest Ophthalmol Vis Sci.* 1993;34:3510-3514.

**Origin of the Zone-Quick Test**

The idea to measure tears using a thread was conceived in Japan in 1975 by Dr. K Kurahashi, an ear, nose and throat specialist with an interest in Sjögren disease.<sup>1</sup>

In 1982, Dr. Hikaru Hamano, an internationally renowned ophthalmologist combined phenol red with a special cotton thread, and invented the phenol red thread tear test, which is now known as Zone-Quick.<sup>2</sup> The patent for this product was originally filed by Dr. Hamano and Mr. Kyoichi Tanaka, the chairman of Menicon Co., Ltd. Mr. Tanaka was instrumental in assisting with the patent applications.

Although the concept of using a thread seems simple, it is quite complicated. This product requires a special cotton thread from Egypt, which has the ability to consistently and accurately measure tears. The quality and length of the fibers are crucial in the making of this product.

1. Kurahashi K, Yanagihara N, Nishihama H, Suehiro S, Kondo T. A new tear test—fine thread method. *Pract Otol Kyoto.* 1975;68:533-541.
2. Hamano H, Hori M, Mitsunana S, Kojima S, Maeshima J. Tear test (preliminary report). *J Jpn CL Soc.* 1982;24:103-107 (in Japanese).