

Introduction

Laser in situ Keratomileusis (LASIK) is the method of laser vision correction preferred both by patients and most surgeons because of rapid visual recovery, minimal discomfort, high predictability, and excellent safety profile (*Duffey and Leaming, 2004*).

This procedure is not without risk, however, and rarely can result in devastating vision loss, an extremely unsatisfactory result from an elective procedure on an eye with excellent preoperative best-corrected vision (*Twa et al., 2004*).

Careful preoperative screening is paramount for the success of refractive surgery. In the case of LASIK or PRK, it is crucial to screen patients for corneal abnormalities that, if the patient were operated on, would increase the risk of postoperative corneal ectasia. For instance, patients with keratoconus or pellucid marginal degeneration are known to have poor postoperative outcomes that commonly progress to ectasia. However, some patients with recognized ectatic risk factors remain stable many years after LASIK. Conversely, many cases of ectasia have been reported after LASIK despite patients' low risk scores on standard screening tests. We are all puzzled by this mystery (**Renato, 2009**).

Why is screening for keratoconus important? We must identify these patients, because performing refractive surgery in them can lead to rapid visual deterioration and progression of the disease. More importantly, we must identify those who were previously undiagnosed, as well as those who have what we call forme fruste (patients who may have keratoconus but whose

postoperative results may not fall within the acceptable range for thinning of the cornea) (*Belin, 2005*).

Although topography was developed more than 20 years ago, the means by which to determine the cornea's true shape is still evolving and has proven more problematic than some more recent developments such as wave front analysis. Although there is little disagreement on diagnosing clinically evident keratoconus, agreement on what constitutes forme fruste or preclinical keratoconus remains elusive. The analysis of both anterior and posterior corneal surfaces and the corneal Pachymetry distribution appears to have significantly enhanced clinicians' ability to identify eyes at risk, although level-one evidence for the type of detection is and will likely remain lacking (*Belin, 2006*).

As newer technologies emerge, we can obtain a more comprehensive picture of the corneal anatomy. Accurate assessment of the posterior corneal surface and the pachymetric distribution adds significantly to our knowledge and should allow for better and more complete preoperative evaluations (*Belin& Khachikian, 2007*).