

# Adding Value to Your Practice with the



5-in-1 system: auto-refractor, ray tracing aberrometer, corneal topographer, auto-keratometer, and pupillometer

Measures accommodative volume and pseudophakic eyes - a must for anyone utilizing today's premium IOL technology

Improves treatment outcomes by isolating the origin of aberrations: cornea or lens and providing information for IOL selection

Helps in diagnosing night-vision problems and other complaints from the 20% of patients who consume 80% of your time

Perfect complement to other ophthalmic equipment like Scheimpflug cameras or OCT imaging systems

Improves office efficiency by streamlining exam processes and procedure selection

Differentiate the practice with the ability to understand and meet the most demanding visual needs



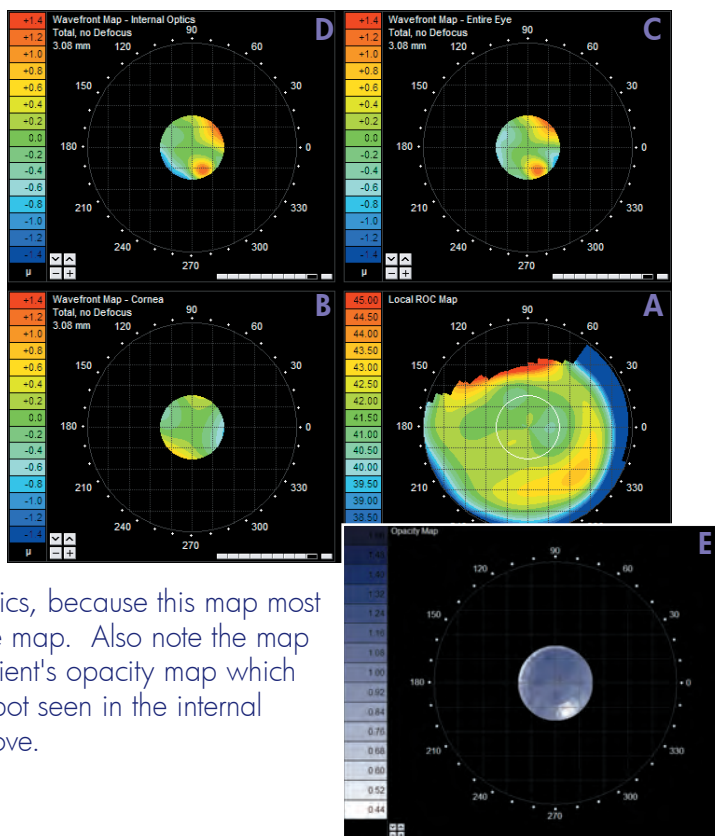
## Is Corneal Refractive Surgery Always the Best Option?

This tutorial in our series on Adding Value to your Practice looks at how the iTrace can help surgeons select the best refractive procedure: lens vs. corneal, based on where the patient's aberrations originate. This issue becomes increasingly important as our population ages and patients nearing the age of cataract onset are considering refractive surgery options.

How will the knowledge of where aberrations originate change treatment decisions? Today most refractive surgeons understand the importance of wavefront analysis. But most wavefront devices, such as those used for wavefront-guided LASIK, only provide the aberrations of the whole eye. To truly make informed treatment decisions, the surgeon must know the origin of aberrations. If the predominant source of ocular aberrations is the lens, a corneal refractive procedure could have significant negative implications when the refractive patient becomes a cataract patient. At that time, the surgeon will have to manage all of the complications associated with post-refractive surgery IOL calculations and selections. However, if the refractive surgery candidate is nearing the age of typical cataract onset, the surgeon may want to consider a lens replacement procedure or a phakic implant rather than a corneal refractive procedure. He or she may want to advise the patient of the options available and likely outcomes down the road so that the patient can make an informed decision.

How does one determine the origin of aberrations with the iTrace? The iTrace measures the whole eye wavefront aberration and using the placido-based corneal topography, directly calculates the corneal wavefront aberration. Subtracting the corneal wavefront from the entire eye wavefront provides the aberrations originating from the internal optics, predominately the lens. The WF/CT Combo map is used to quickly generate the comparative maps of the optical systems and the surgeon can easily determine the location of the aberrations affecting vision.

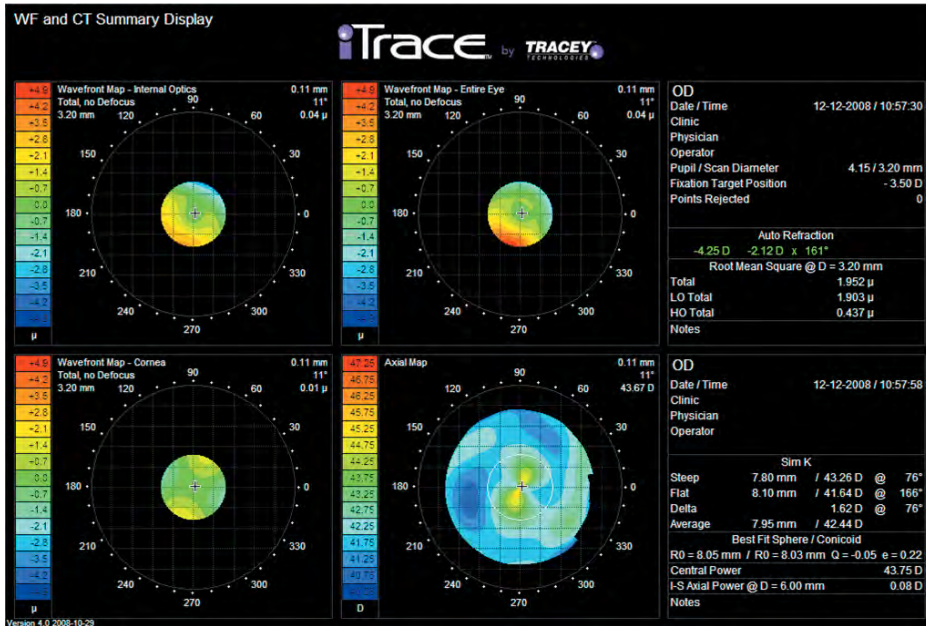
The iTrace WF/CT Combo map, as seen here, displays the following maps starting at the bottom right: (A) the local ROC topography map, (B) the wavefront map of the cornea, (C) the wavefront map of the entire eye, and (D) the wavefront map of the internal optics. The physician can compare the maps of the corneal, internal optics, and entire eye wavefronts and quickly determine that the patient's aberrations originate primarily from the internal optics, because this map most closely matches the entire eye map. Also note the map to the right (E). This is the patient's opacity map which clearly correlates to the hot spot seen in the internal optics wavefront map (D) above.



## CASE STUDY #1:

Middle-aged patient had bi-lateral LASIK procedure with OD being set for near mono-vision. Patient came into office complaining of ghosting images and starbursts. Patient was interested in discussing LASIK enhancement procedure to alleviate complaints.

The iTrace revealed



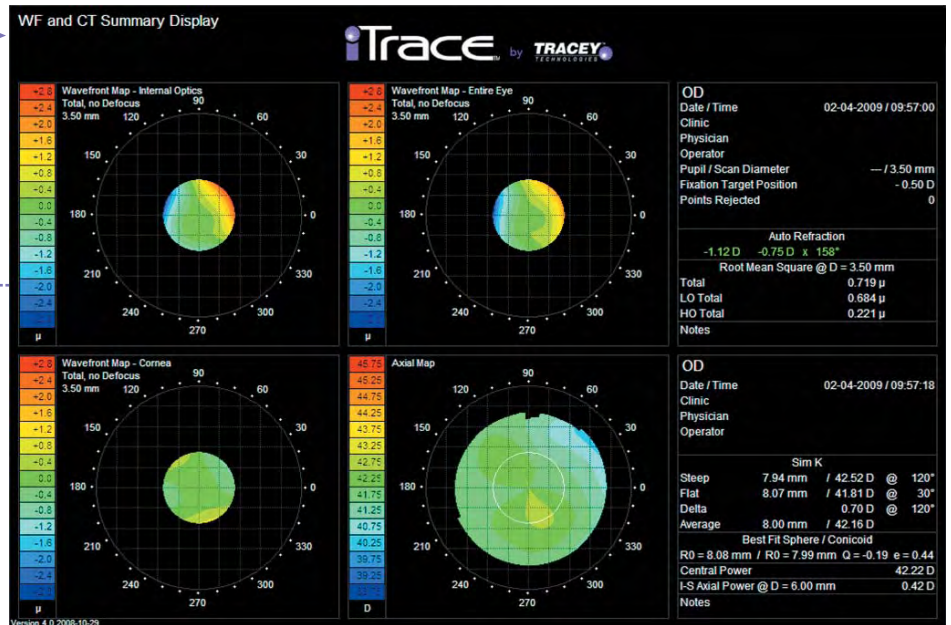
High lenticular coma secondary to cataract is generating ghosting/double vision. Surgical plan is to perform careful IOL calculation and remove early cataract. Only if further vision correction is needed will LASIK enhancement be considered.

## CASE STUDY #2

Young male came into office complaining of diplopia with near vision as well as driving. Past history included cataract surgery in Mexico for traumatic cataract.

The iTrace revealed

High lenticular coma from a tilted IOL. Pupil size showed little effect on HOA. The IOL was tilted due to a poorly constructed capsulorhexis. The patient was s/p YAG PC and the doctor wants to avoid a sutured IOL or AC IOL. They are currently considering fitting patient with a WaveTouch™ wavefront-guided soft contact lenses.



For more information, visit us online at [www.traceytechnologies.com](http://www.traceytechnologies.com).

16720 Hedgecroft Drive, Suite 208  
Houston, Texas 77060-3619  
Tollfree: 877.872.2393  
Phone: 281.445.1666  
Fax: 281.445.3050  
Email: [sales@traceytechnologies.com](mailto:sales@traceytechnologies.com)