Adding Value to Your Practice with the

iTrace

COMBINATION RAY TRACING ABERROMETER/TOPOGRAPHER

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

How can I objectively assess my patient's accommodation?

Physicians have had to rely on subjective tests to evaluate accommodation, but these tests are tedious and unreliable. The increasing popularity of premium IOLs has emphasized the need to objectively measure accommodation. Unfortunately, physicians and even accommodative IOL manufacturers still largely depend on subjective testing to validate accommodative IOLs.

A subjective standard clinical "push-up" test is relatively quick and performed in less than five minutes. The defocus curve obtained using a phoropter can be performed in less than 15 minutes. But, neither directly measures accommodation, namely the dioptric power change of the eye. Subjective testing is sufficient for functional visual testing, but over-estimates accommodation. However, there is one diagnostic instrument that can help you to objectively determine whether or not the patient achieves any presbyopic correction: the iTrace.

Using the iTrace you can now determine and document the volume of accommodation that each individual patient achieves. Within a minute, you can quickly capture the patient's wavefront at far vision and then at near. You can objectively evaluate the change in that patient's wavefront and refraction. This explains why many IOL manufacturers use the iTrace in their product development and clinical studies for FDA approval.

The iTrace's unique features are ideally suited for evaluation of accommodation:

- Operating the iTrace using the distinctive binocular or monocular open field option allows the patient to fixate at infinity with an actual distant target or at a target placed at a specific distance from the patient.
- Using the open field option with the near rod attachment allows the patient to fixate at a near target and allows the examiner to test precise near and intermediate distances.
- An attachment that fastens to the back side of the iTrace holds standard trial lenses, allowing the neutralization of any distance refractive error, because true accommodation requires a patient's distant refractive error to be corrected.
- The examiner can observe the patient on live video and monitor their pupillary reactions to a near stimulus with the iTrace and can take sequential readings during distance and near fixation.

- Patients with small pupils are not a problem because the iTrace's sequential ray-tracing technology enables the iTrace beam to pass through a pupil as small as 2.0mm, typically not possible with a fixed lens array design such as in Hartmann-Shack systems.
- The iTrace allows stimulation and testing of the same eye to avoid an off axis measurement due to a consensual convergence response.
- Utilizing the iTrace's advanced software, the physician can compare the near and distance readings and determine any subtle accommodation abilities, and then view the change easily with the iTrace's 3D difference map for depth of field assessment.

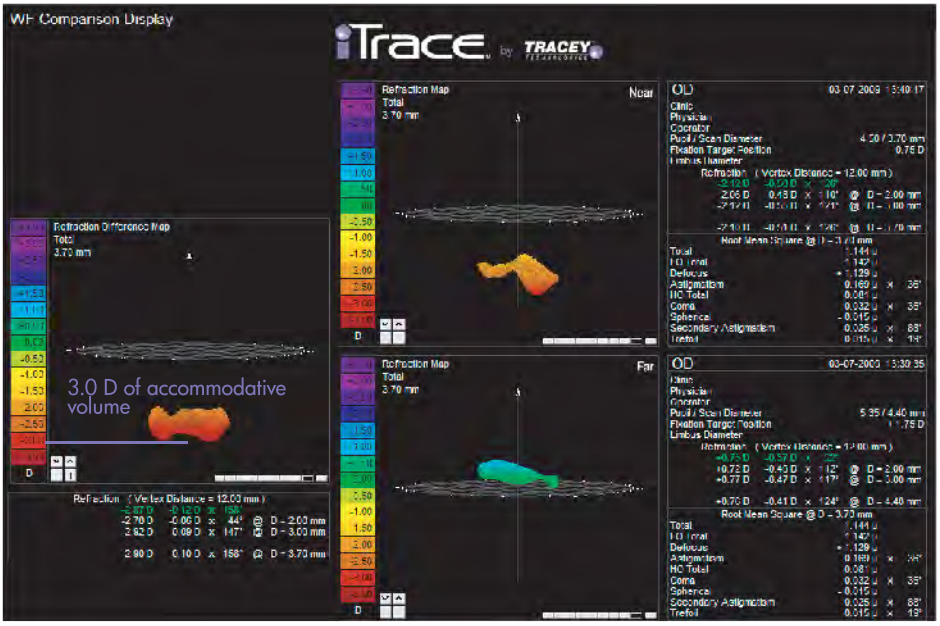
OBJECTIVELY MEASURING ACCOMMODATION (cont.)

- Numerous readings both near and far can be obtained in minutes and findings can be evaluated immediately or later as time permits. Furthermore, trend analysis software is available on any series of measurements to provide standard push-up or push-down accommodation plots.
- The iTrace will measure and record the scan size of the pupil during distance and near testing. The examiner can vary the pupil analysis in order to maintain consistency for comparison.
- Using the iTrace it is possible to conduct one's own independent study and determine an accommodative IOL's true performance.

CASE STUDY #1

This is an example of normal accommodation in a 38 year old male with a natural crystalline lens. This patient demonstrates significant spherical accommodative change of around 3.0 Diopters.

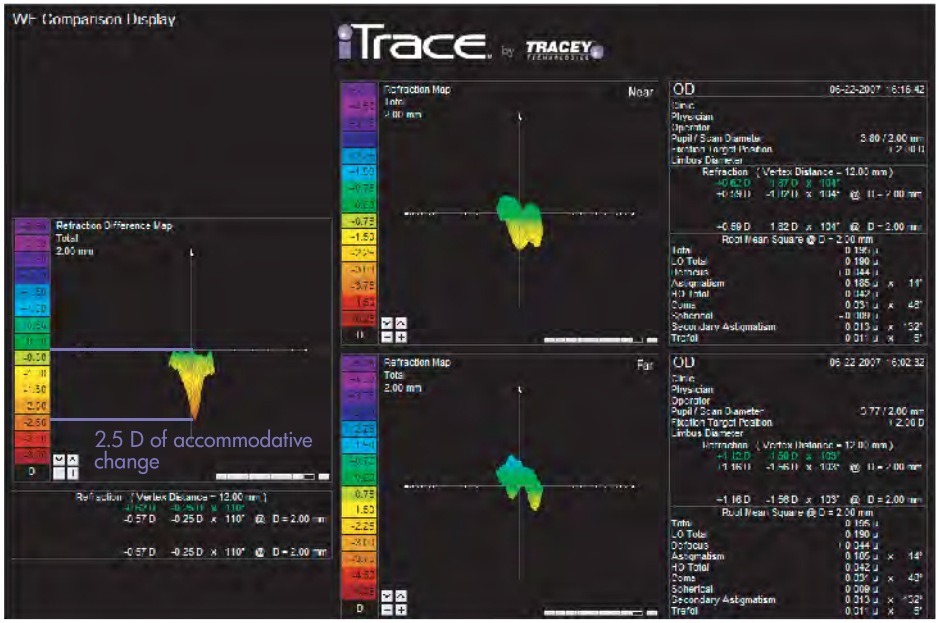
As noted in the difference map, the average power of the accommodation is fairly consistent at 3.0 D, indicating uniform spherical change across the pupil. Using the iTrace 3-D display, the physician can easily visualize the ideal accommodative change.



CASE STUDY #2

This case illustrates the accommodation capabilities of a patient implanted with an accommodating IOL. In 3-D, the patient shows a significant increase in depth of field (DOF) as illustrated by the inverted peak in the difference map showing a 2.5 D range. The patient has J2 near vision that is consistent with this 2.5 D DOF change.

In years past, this patient would have been told that they have psuedo-accommodation as the spherical change is only –0.62 D. Therefore, the iTrace can objectively measure both accommodation (spherical) and psuedo-accommodation (DOF) refractive changes in the eye during accommodative effort.



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