

Integrating Wavefront Refraction Into Practices

The XFRACTIONSM process not only provides superior understanding of the optical system, its efficiency is also unparalleled.

After using the OPD-Scan III wavefront aberrometer and the TRS-5100 digital refractor for the past few years, John Warren, OD, can't imagine having to manually refract patients any longer — the devices have had that much of a positive impact on his patient care, patient flow and practice efficiency.

"In the rare situation when I have to refract a patient and can't use the TRS, I hate using the conventional phoropter," he says. "I'll still perform the refraction myself, but I'm much happier when I can use the TRS."

Before Dr. Warren began using the XFRACTION system about 3.5 years ago, his practice was without an autorefractor and he was using a traditional, manual phoropter.

"When practices move from a traditional refracting set up to the OPD/TRS combination, they're often surprised at how much more they can do, and how much better they can do it," Dr. Warren says. "If you're going to make the investment in this technology, you must be willing to do your refractions a bit differently to gain the maximum benefit. Groundbreaking technologies typically have the added benefit of superior processes. Just having the devices isn't enough — simply having them will improve any practice's efficiency, but to really take advantage of their capabilities, take advantage of the wavefront-driven refraction."

When he chose to use the XFRACTION system, "I didn't have a backlog of patients or a need to see more patients daily," he says. "What I wanted was to spend more quality time with each patient and not be distracted by gathering refractive data. The TRS and OPD allow me

to do just that. I can concentrate on my patients and their issues instead of the physical act of collecting data."

A Unique Combination

Wavefront-driven refraction is the refractive process created when wavefront data is combined with automated digital refraction technology. The OPD captures 2,520 data points and provides more than 20 diagnostics per eye — all in less than 10 seconds per eye. It also measures corneal topography and identifies higher-order aberrations.

"With XFRACTION, I can collect more usable information in less time, and I can improve the patient experience," Dr. Warren says. The system provides efficiencies by automatically sending the data it collects from the OPD and lensometer to the TRS. The automated lensometer quickly and accurately neutralizes the current prescription and sends that data to the TRS for use during subjective testing.

"The thing that makes the XFRACTION different is its data-gathering process," Dr. Warren says. "Beginning with an optimized

wavefront auto refraction, the OPD actually tells the TRS automated refractor which program to use based on each patient's visual system. The OPD slots patients into what our practice calls 'Program A,' which is typically a



Patient understanding is critical.

2-minute refraction, or 'Program B,' usually a 45-second refraction. The system pre-determines which refraction program to use based on the quality of the patient's optics — not how much refractive error they have, but how regular and normal the optical system is. In essence, it tells you how well you're going to be able to correct your patient in each eye."

The system accomplishes that by analyzing the root mean square values and how much the sphere power, the cylinder power, and axis change from the center of the pupil to periphery of the pupil, Dr. Warren says. "If those parameters meet certain criteria, the autorefraction that it sends over to use as the starting point is wavefront-optimized. It's so accurate, that all I check is the sphere power unless there's a moderate amount of change in the cylinder power and/or axis."

The X Factor

XFRACTION was named for its ability to help discern "previously confounding x-factors that can compromise the total visual system." In the most simple of terms, "it tells you who's going to see well when you're done and who's not," Dr. Warren says. "The patient may have other pathologies that may affect which program they're assigned (such as ocular surface disease or corneal degeneration). But when the patient has a normal, regular optical system, the refraction is really quick. In compromised optical systems, you can also address the cylinder axis and the cylinder power, and add testing when you feel it's needed."

The XFRACTION system "tells me ahead of time which refraction is chosen, so I know if it's going to be quick or slow," he says. "This helps me with the pacing of the encounter, I'll spend more time chatting or discussing the patients' non-critical issues when I know that I'll have more time due to a more efficient refraction process."

In my practice, about 60-70% of patients meet the criteria for the shorter refraction; most of them don't have any ocular issue other than refractive error.

"But some of those people will still have complaints, and 90% of the time, it's because they have a night vision shift. About two-thirds of our patient population has a small shift from the center to the outside of the pupil, so while they're -2.00 in the center, they're closer to -2.25 at 5mm. But that remaining 30% may go from -2 to -2.75,

or from +5 to +4.25. Those are the patients who benefit most from this type of in-depth refraction. Until you use aberrometry daily, you won't realize what percentage of your patients are affected by this refractive shift.

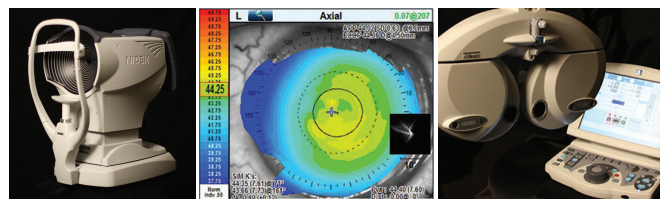
"The OPD-Scan III and the TRS-5100 will display the starting point for a nighttime refraction, or a low light refraction. The control panel of the TRS shows me if there's night vision information available. When it is, I click on the setting, perform a nighttime refraction and determine what prescription is needed based on that data."

In younger patients, that may mean bumping their minus by a quarter diopter; Dr. Warren tells some patients they won't notice the difference in daylight, but they will notice it at night. For other patients, they'll get a second set of spectacles for use at night.

"Greater understanding makes for a better patient experience," he says, as fewer patients complain about their vision "being 'not quite right' at night."

Reducing Chair Time

The copious amount of useful information provided by XFRACTION gives Dr. Warren "great efficiency gains in the practice. I choose to spend that extra time explaining to the patient what their optical system looks like and what it means, and this often leads to more prescriptions created and filled."



In his practice, the XFRACTION system is "the technology that every single patient touches. Every single patient comes across or comes in contact with a part of that system. It's probably one of the biggest differentiators between me and my competitors. And because the data integrates right into our EMR, it makes the whole process seamless."

An interview with:
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