

'Doctor, how good are your results with patients like me?'

Tracking data not only improves outcomes, it can help convince patients you're for real

Whether it's LASIK, LASEK, PRK or implanting phakic or premium IOLs, you're likely hearing more questions from patients about your experience and outcomes in patients with refractive errors and other characteristics similar to their own. You may even hear it from standard cataract patients.

The reason is simple. Look at any internet website about refractive surgery – or any other surgery – and some version of this will be close to the top of recommended questions to ask your eye surgeon.

It's a sensible question, says Noel Alpíns, MD, of NewVision Clinics in Melbourne, Australia. It's also one you should be able to answer. "If you measure your outcomes, you can confidently speak to the patient about the results they can expect."

NewVision Clinics comprises 16 professionals which include ophthalmologists, optometrists and orthoptists in an integrated setting.

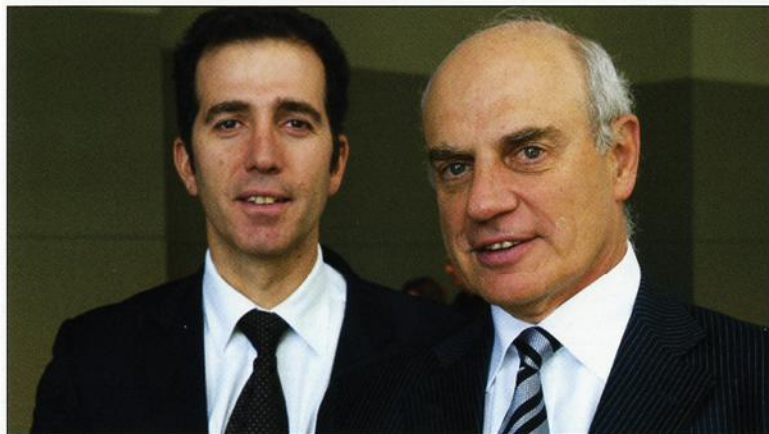
Producing the actual data in front of the patient is often the extra push that patients need to choose your practice over a competitor, says George Stamatelatos, an optometrist with NewVision Clinics. "When you show them the results of all of your patients just like them, and how your results have improved over time, they can see you are serious about how you practise medicine."

In-house quality studies

But if a 35-year-old female -8.50 myope with -1.50 cylinder shows up for LASIK, how do you come up with a report that shows your results for, say, every woman you've treated in the past two years between the ages of 30 and 40 ranging from -8 and -10D sphere, and -1.0 to -2.0D cylinder before the patient dies of starvation in your reception room? Well, if you have Alpíns' ASSORT® software, you can do it right before the patient's eyes.

Originally designed to track outcomes and adjust nomograms, ASSORT® is proving an effective internal marketing tool as well, says Mr Stamatelatos. Within seconds, you can generate a query of the database for any combination of parameters.

The system is flexible enough to allow you to track virtually any parameter that is measurable on the eye. This includes: patient demographics; pre- and postoperative spherical error; astigmatism cylinder and axis by manifest, wavefront or cycloplegic refraction and topography or keratometry; dosage and type of glaucoma or other medicines used; type of laser and microkeratome. The software can also track cataract surgery parameters such as the type of lens implant used, ultrasound duration and cumulative delivered energy, incision meridian and size, and vacuum and flow rate.



George Stamatelatos and Noel Alpíns MD



The 'Refractive Cataract Calculator module' in the ASSORT® outcomes analysis program displays the theoretical targets based upon the incision meridian and the amount of flattening inputted

Each surgeon decides what factors are important and may customise the data tables to accept input in any order.

"It has a wide variety of uses," said Dr Alpíns. "If you want to track humidity, you can do that too. The more data you put in, the more you can get out."

Alpíns recommends entering data for every case before the paper chart is filed. Once the data is entered, you can perform numerical and graphical analyses rapidly to determine the accuracy of your outcomes and accordingly adjust nomograms if required without having to look up patient records.

The software has special features to support correction of astigmatism in cataract, incisional and excimer laser surgery. These include modules to analyse astigmatism using both refractive and topographic data, which Dr Alpíns' published research has shown improves

predictability of astigmatism outcomes.

"People who are treated based on refractive data alone and who have more challenging astigmatism treatments may be dissatisfied because they will be left with a lot of residual astigmatism on the cornea."

ASSORT® includes a cataract surgery incision calculation module that is designed to display a 'what if' scenario for the surgeon when deciding where to place the phaco or limbal relaxing incision to minimise postoperative astigmatism. The Cataract Surgery module schematically displays what the impact of an incision is likely to be at any given point around the eye. "It will show you the theoretical corneal target depending on the amount of flattening the surgeon is targeting at the appropriate corneal meridian," Alpíns notes. It can also analyse the difference in flattening achieved by say a steel or diamond blade.

Postoperative excimer laser analysis shows how close you have come to your theoretical refractive and corneal targets, allowing you to adjust your nomograms. "You make a change in your technique or equipment used, and after 100 patients or so, you look at your outcomes. If they're better, you keep it; if not, you make another adjustment to further refine the process."

Alpíns, who began developing the software more than 15 years ago, says analysing outcomes using both refractive and corneal parameters has helped his practice get retreatment rates down to one to two per cent for the last decade. But when he does need to do a retreatment, the data and analytic tools ASSORT® provides are invaluable.

"When you do the analysis, you can see exactly how the eye responded to treatment; if the astigmatism was overcorrected or undercorrected and whether you were on or off-axis," he says. "You want to be able to refine the retreatment, either tone it down or increase it. You may be able to figure out what happened to the spherical component, but what you can't do in your head is astigmatism analysis."

That's because correcting astigmatism requires complex vector analysis to determine how the treatment will affect the overall refraction, both in terms of the magnitude and axis of cylinder error. He points out that in evaluating astigmatism outcomes it is important to consider any axis change as well as error in magnitude. "You may be off by a half dioptre and think that it pretty good, but if you changed the axis by 100 degrees, your total error from your target refraction is pretty large."

Vector analysis may also help in adjusting the power and position of toric lenses in a situation where the postoperative result was less beneficial than expected. This can be done by determining the angle and magnitude of error astigmatically.

"Correcting astigmatism is especially important for patient satisfaction in refractive cases," Dr Alpíns says. But the improvements in technique you develop for premium lenses will also lead to better outcomes in standard cataract surgery.

That leads to a busier practice, Dr Alpíns says. "If you can maximally reduce the astigmatism the patient is going to be happier. Happier patients mean more-pleasant feedback and word-of-mouth referrals. But it all depends on being able to monitor and measure your results and adjust your technique accordingly to get better outcomes."

alpíns@newvisionclinics.com.au