

# Major Technological Advance for Optometrists: A Whole New Take on Refraction

With Chronos from Topcon, the latest technology in vision testing is combined in one binocular refraction instrument that saves time and space, and is so user-friendly that both clinical and non-clinical staff can operate it. Chronos also creates a more efficient workflow and gives the optometrist more face-to-face time with their clients to answer questions and ensure they have all the information they need, says Zlata Bejtovic.

Optometrists have a busy schedule, and it can be a challenge to fully meet all the customers' needs. Some may also need a new examination room but don't have the square footage to spare. Both problems can be solved with the Chronos binocular refraction instrument from Topcon (Figure), which is designed to facilitate efficiencies in clinical workflow and, in doing so, give optometrists more time with their customers. Optometrist Zlata Bejtovic experienced the difference this new binocular refraction instrument makes when she returned to her profession after several years in another job. "It was a great relief for me to come back to a shop where eye tests are performed exclusively on Chronos. The machine is simple and easy to operate because the functionality is all automated. My only function is to be the controller and ask the patient questions throughout the exam."

Zlata Bejtovic is one of the optometrists

in Denmark who has the most experience with Chronos, and she makes no secret of her enthusiasm. The system differs from a regular eye test in several ways, she says. The most striking difference is that it combines objective and subjective refraction in a single machine.

"This means that the customer doesn't have to move from one device to another."

Another big difference is that Chronos is a fully binocular system. Both the objective and subjective eye tests are performed under binocular conditions, with both eyes open.

"It creates the best possible measurement conditions, because as soon as you close one of the customer's eyes, you create an unnatural situation that changes the experience. Looking straight ahead with both eyes open is the natural condition."

## MORE TIME TO GO IN DEPTH

Most important to Zlata Bejtovic's working conditions is that the machine

can be operated in two modes. One is an assisted, computerized eye screening called SightPilot™, which guides the operator through all stages of the exam.

"By using SightPilot, depending on the age and needs of the client, I can make time savings of up to 10 minutes on an average examination."

This does not mean that Zlata Bejtovic sends customers out of the store in a hurry.

"On the contrary, it gives me more time to talk to them about the results of the eye examination and to fully explain the challenges and problems the customer might be experiencing. When necessary, there's also time to take some extra measurements, which significantly enhances the customer experience."

The SightPilot refraction algorithm guides the operator through the entire process, making it possible to delegate refractions to assistants in the shop.

"Assistants quickly get into a routine and feel even more valued and important when they can also help out in this area if it's busy."

Of course, an optometrist should always be present to provide guidance and be called upon if there is anything about the client's vision that requires special attention. Fortunately, it's not hard to know when to call for trained help. The Chronos software is designed to guide you immediately into a manual mode if there is anything unusual, such as reduced visual acuity in one eye.

## CUSTOMERS ARE POSITIVE

The second mode is manual mode, which can be used from the start if the operator wishes. The controls are similar to a phoropter, except that testing is performed binocularly throughout, explains Zlata Bejtovic.

"Manual operation allows me to choose which tests and measurements I want to perform, and what level of detail I want to go into."

In her experience, Zlata Bejtovic uses manual mode in about 20% of cases. Usually, these are customers with a large difference in refractive power between their eyes or problems with binocular vision.

"In about 80% of cases, the fully automated eye screening with SightPilot is sufficient, and that gives me a lot of spare time, which

means that even on a busy day I can make sure that all customers feel seen and heard.”

Feedback from customers is that Chronos provides a calm testing experience without distracting clicks and is conveniently short. Zlata Bejtovic enters customer data on her tablet and then the Chronos autoaligns and takes a binocular autorefractor measurement. The system then moves on to the subjective part, where a range of test charts are presented to the eyes.

“The customer doesn’t notice that only one eye is being tested at a time, while the other eye is looking at a white screen with the same surroundings to provide binocular lock. Throughout the exam, I ask the customer about the charts, a bit like I would do during a regular exam. Then near vision is measured, where the customer, again questioned by me, relates to different charts and is finally presented with a comparison test between their previous glasses and their proposed new prescription. All information is sent to the customer’s file so that it’s there at the next visit.”

#### COMPACT SIZE AND EASY TO OPERATE

Another advantage of Chronos as a single device is that it takes up so little space that it can be placed almost anywhere in a store and can be used as a supplement to existing exam rooms, says Zlata Bejtovic. If she were to open a new store herself today, she would only buy Chronos.

“Because it requires so little space, and no mirrors or a special light, I work on one



Figure. Zlata Bejtovic and Chronos by Topcon.

that’s placed in a screened-off area in the retail space. I can sit or stand next to it with my tablet and not be tied to a particular working position and keep my distance from the patient.”

The technical operation of Chronos is so intuitive and easy to use. “Using SightPilot, the screen tells you step-by-step what to do and shows you what measurements are being taken each time,” says Zlata Bejtovic. “I felt confident using the system after just

1 day of practice and was happy not to have to go through a lot of technical guidance first. If I feel like performing an exam the regular way, I can just switch to manual mode and conduct the refraction measurement by measurement.”

Most of her customers don’t notice that Chronos is a new way to get their eyes tested, she says. “And if they do comment, it’s mostly because they’re happy it’s over so quickly and they don’t get tired, distracted, or worried. Most people want to have time to talk about their specific needs and which glasses to choose.”

Zlata Bejtovic is excited about the time she saves by performing refractions with Chronos. “It’s so simple and easy to use. And I can switch to manual mode at any time and perform the same tests as in a regular phoropter system,” she adds. ■

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