Optimize Refractive Outcomes for Each Patient

Vivior Monitor
The Vivior Monitor

The Vivior Monitor offers objective data on your patients’ lifestyles to support the optimal selection of intraocular lenses or refractive surgery solutions.

Select...
...the solution best suited to each individual patient.

«It has been published that doctors listen to patients for a total of 18 seconds during a consultation before interrupting and offering advice on how to proceed with a treatment plan. IOL surgery, whether it be for cataract or for refractive purposes, has a permanent outcome and implication. This is an important decision that requires more than a fleeting discussion or subjective questionnaire to determine the optimal IOL design for a particular patient. Imagine knowing up front exactly what working distances apply to your patient for near and intermediate work. Imagine knowing how much time is spent at these various distances during the course of the day. Imagine knowing the lighting conditions that the person works under. Imagine having everything you need in order to select the most appropriate lens design for your patient, ALL based on objective data. Imagine no longer. Vivior is here.»
Differentiate...
...your practice by enhancing your patients' experience: The Vivior Monitor supports a unique surgical journey.

«When we offer the Vivior Monitor to our patients, most of them understand that we are offering state-of-the-art digital technology. But most importantly, the patient lives with the device for a few days before surgery, which allows their family members and social network to be a part of the patient's surgical journey. This has increased the positive word of mouth and perception about our practice and enables us to better differentiate our offering to our patients.»

Manage...
...your patients' expectations. The Vivior Monitor provides tools to educate and engage your patients so that you can manage realistic expectations.

«As ophthalmologists, we quite often ask ourselves the question: what do our patients see, is their vision good or limited? Much harder to figure out is how they see. Is the individual patient the smartphone-type or rather a person who likes to sit in a relaxed position and distance from a desktop? Or, does he spend most of the time in his car or on his bicycle? Figuring out the visual needs, the daily performance of his or her visual system and the challenges the patient faces can be very difficult, even in a doctor-patient conversation with a highly articulate and mentally alert individual. A revolutionary new approach to this problem is the Vivior Monitor, which exactly documents the way a person uses his or her visual system in the 'real world'. It is a fantastic development, and I'm sure it will enable cataract and refractive surgeons, in particular, to offer highly individualized treatment solutions, resulting in unsurpassed patient satisfaction.»

Grow...
...your practice.

«The Vivior Monitor helps patients to understand the impact of IOL selection on their daily activities and lifestyle. This facilitates the lens options conversation and brings into account the cost-benefit of a premium IOL. The Vivior Monitor can help to increase the premium conversion rate of a clinic.»
Patient lifestyle data that you can trust

Currently, cataract and refractive surgeons rely on personal information about visual behavior communicated by patients either verbally or in written form. The information provided through these surveys may be misleading due to what is known in psychology as Memory Bias. In addition to anecdotal information, the Vivior Monitor combines data from the patient’s behavior with objective measurements. The patient wears the device during the testing period, and the Vivior Monitor captures information about daily activities, e.g. working on a computer, tablet, smartphone, gardening, driving, and so on.

### Distribution of visual distance

![Distance vs illumination matrix](image)

The size of the circle is directly related to the fraction of time spent under certain distance and illumination.

### Distance vs illumination matrix

The size of the circle is directly related to the fraction of time spent under certain distance and illumination.
Optimize outcomes based on individual patient’s needs

The Vivior Monitor consists of sensors measuring distance, ambient light and color, an accelerometer, a gyroscope, and a magnetometer. The Vivior Monitor does not include a camera or any other sensors which might infringe the privacy of the patient or other people.

It is worn on prescription or clear glasses. Clear spectacles are provided in the package. The recorded data are uploaded to the cloud when the system is returned for processing and analysis. Sensor data are converted into patient behavioral data using state-of-the-art artificial intelligence algorithms and provided to the surgeon in the form of intuitive visuals. The system also provides the surgeon with a patient report so that the surgeon can educate the patient during the pre-op planning discussion.

Process visualization

1. **Lifestyle activities**
   Data about distance, light, orientation, motion, activity and context is recorded.

2. **Cloud-based data processing**
   The data are collected and then uploaded to a high-security Swiss data cloud for processing and visualization.

3. **Treatment relevant metrics**
   The distribution of visual distance is shown in a graph.
Vivior Monitor
Spectacle fixation accessories (adapter)
Quick guide, clear glasses and technical accessories
Videos
Vivior box
Spectacle fixation accessories (adapter)
# Technical and functional specifications

## Vivior Monitor performance

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recording capacity when fully charged</td>
<td>16 hours</td>
</tr>
<tr>
<td>Time required to fully charge the Vivior Monitor</td>
<td>6 hours</td>
</tr>
<tr>
<td>Compatibility of the Vivior Monitor to spectacles</td>
<td>95%</td>
</tr>
<tr>
<td>Use cycles (number of patients per Vivior Monitor)</td>
<td>20</td>
</tr>
</tbody>
</table>

## Functional elements

**Adapter to be attached to the patient’s prescription or clear spectacles**

**Monitor components:**

- Time-of-flight distance sensor directed forwards
- Time-of-flight distance sensor directed 30° downwards
- Ambient light and RGB sensor
- UV light sensor directed upwards
- Inertial and magnetometer sensors
- OLED display 7-inches 128x32 resolution
- Energy-independent real-time clock
- Micro-USB 2.0 interface port with magnetic mechanical adapter for charging and data transfer

## Monitor

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>60 x 19 x 11 mm</td>
</tr>
<tr>
<td></td>
<td>2.3” x 0.74” x 0.43”</td>
</tr>
<tr>
<td>Weight</td>
<td>14 g</td>
</tr>
<tr>
<td></td>
<td>0.49 oz</td>
</tr>
</tbody>
</table>

## Box

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>25.5 x 18.8 x 6.3 cm</td>
</tr>
<tr>
<td></td>
<td>10” x 7.4” x 2.2”</td>
</tr>
<tr>
<td>Weight</td>
<td>1 Kg</td>
</tr>
<tr>
<td></td>
<td>2.2 Lb.</td>
</tr>
</tbody>
</table>

## Videos

- **about the clinic** - shows your clinic video.
- **how it works** - explains how the system assesses visual behavior.
- **how to use** - contains the instructions for use.

## Storage

The Vivior Monitor is not waterproof. It should not come into contact with water nor used in wet weather conditions.

Keep containers dry, tightly closed, at temperatures between 5 and 35°C and relative air moisture of 20 – 70%.
Our story

Vivior has its origins in a concern about the global epidemic of myopia. One of Vivior’s founders became aware of this issue through a very personal experience: his daughter is short-sighted. It therefore became his goal to find a way to help her and other children who suffer from short-sightedness.

The idea developed into a monitor which soon caught the attention of cataract and refractive surgeons, as knowing the patient’s goals and expectations is critical in determining the intraocular lens or refractive procedure that best suits vision demands and lifestyle.

With this challenge in mind, Vivior was founded in Switzerland in 2017 by a group of experienced eye care professionals who believe that all cataract and refractive surgeons should be able to count on objective data to enhance the patient post-op experience, particularly lifestyle expectations. The monitor soon developed into a lightweight, user-friendly device - the Vivior Monitor. We paid special attention to the integration of the data into the clinical workflow, the software interface, and tools for patient education. Since then, the product has been the subject of several studies and reviews by some of the most experienced cataract and refractive surgeons in the world.

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