EYE-RULER 2+

Troubleshooting Guide

Eye-Ruler™ 2+

Guide Objective & Key Points

Objective

This guide is intended for Store Leaders to use in cascading the importance of proper patient image capture when using ER2+. Accurate positioning of both your tablet camera and the patient are required to capture proper PD (monocular pupillary distances), Segment heights or OCs (optical center) and Position of Wear (POW) measurements: Rear Vertex Distance, Pantoscopic Tilt and Panoramic Angle (wrap).

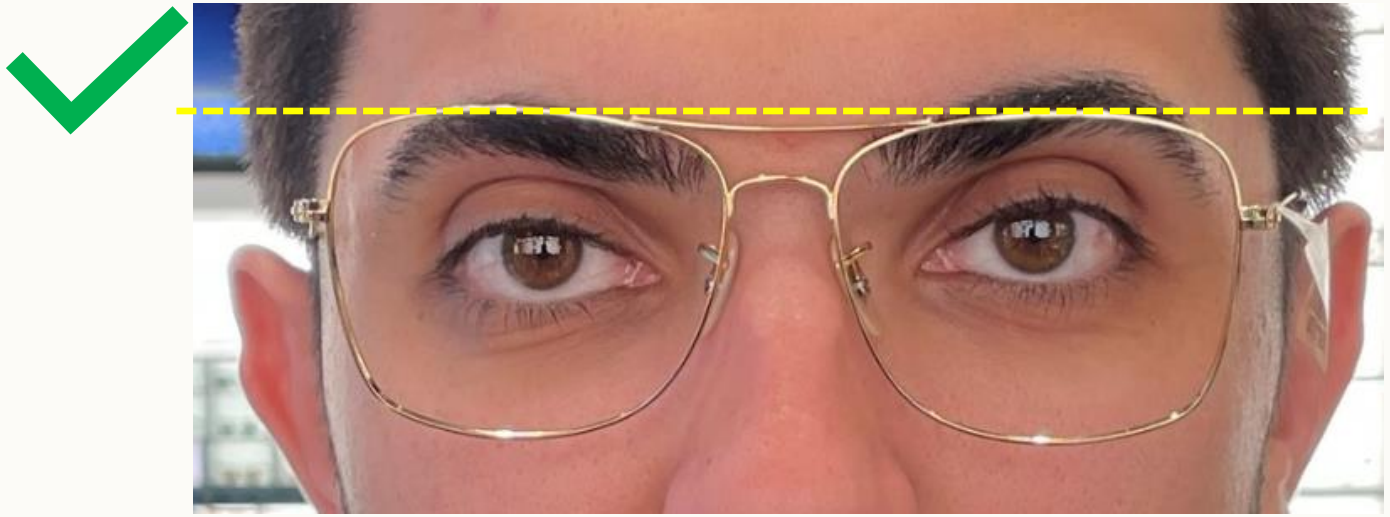
Key Points

- Pre-fit photos, nosepad splay, frame manipulation, Add some, progressives and lined bifocals
- Review ER2+ images depicting both accurate and inaccurate camera & patient positioning.
- Discover how different positioning can drastically alter accuracy.
- Establish the connection between ER2+ use and Remakes & Refunds metrics

Pre-fitting the Frame

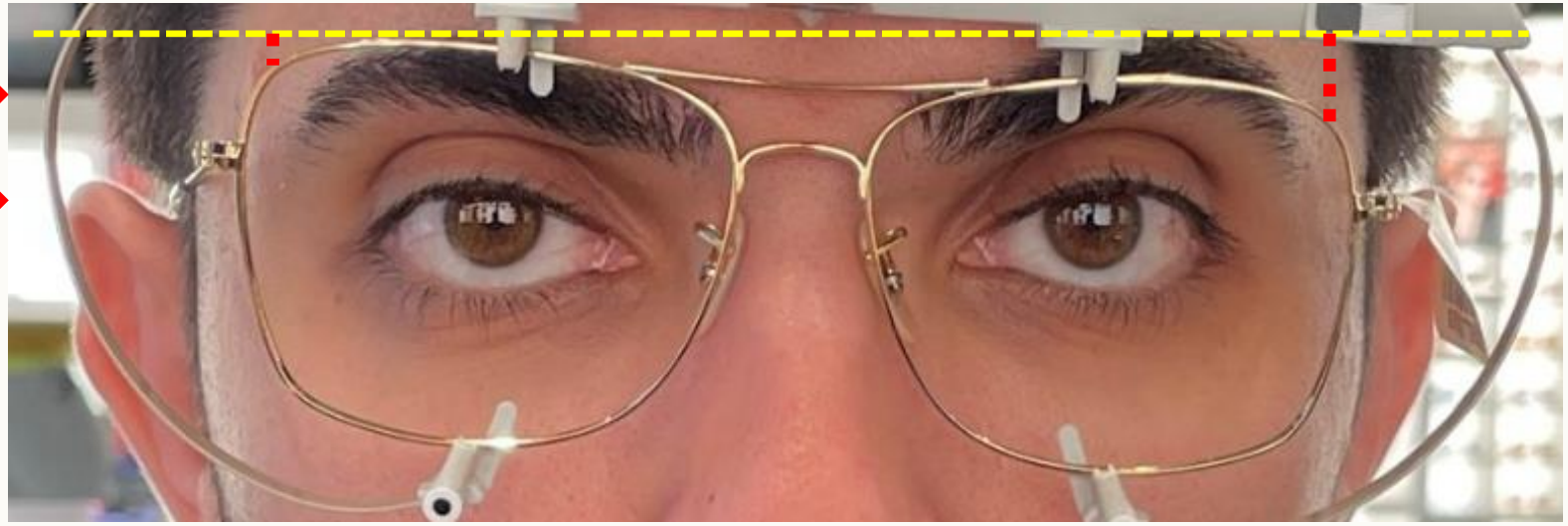
Success in using the ER2+ tool starts with the pre-fit adjustments.
For metal frames with adjustable nose pads, the following should be considered before taking ER2+ measurements:

- ✓ Proper wear position
- ✓ Proper nose pad splay
- ✓ Horizontal frame position
- ✓ Pantoscopic tilt
- ✓ Proper Temple bends



Frame Not Level

- Horizontal positioning incorrect
- Check temples for balance
- Check temple tips for proper positioning
  - "Up with Up, Down with Down"

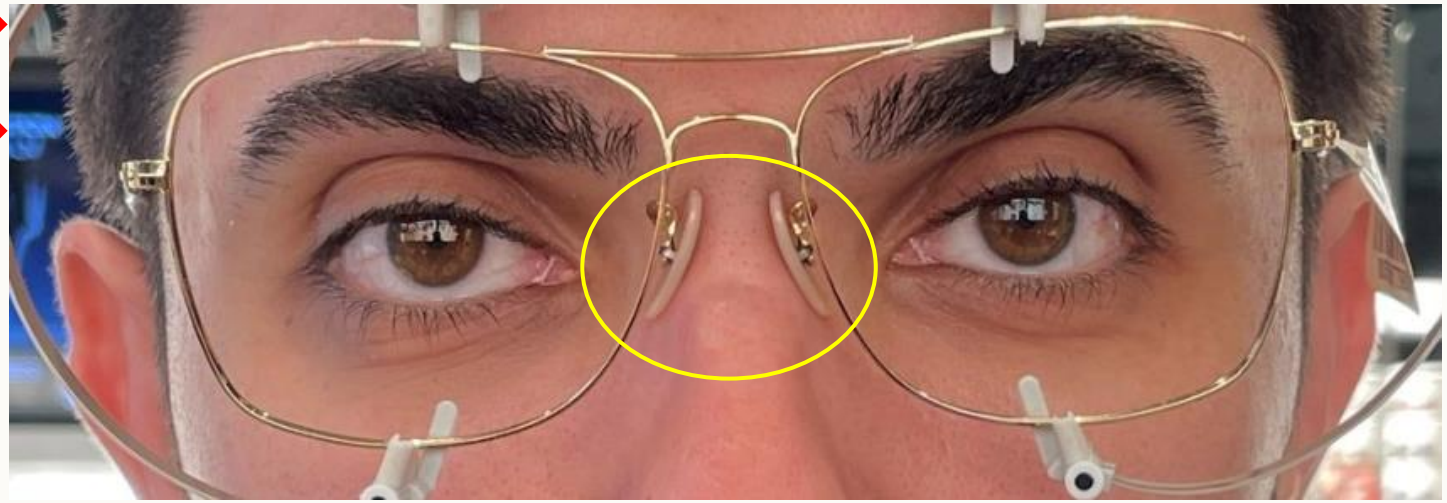


Eye-Ruler™ 2+

Troubleshooting Guide

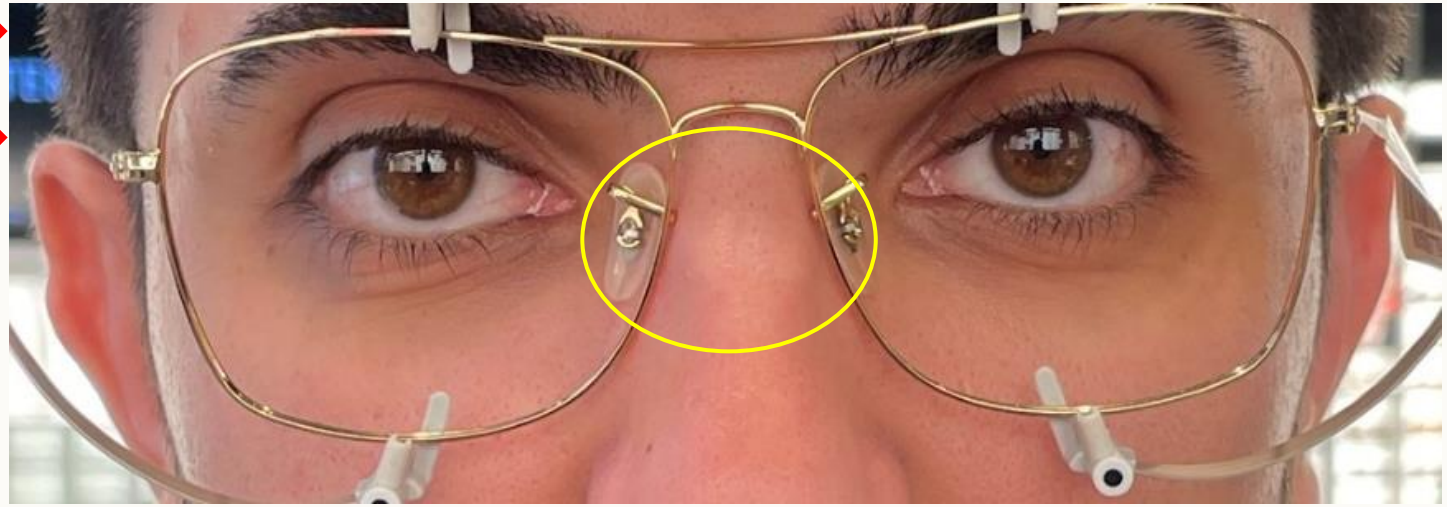
Nose Pads, Narrow Splay

- Frame can sit too high
- Frame far away from face
- Uncomfortable position long term for patient



Nose Pads, Wide Splay

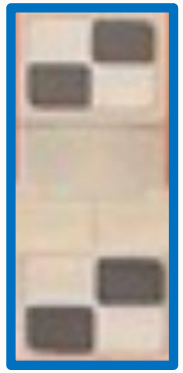
- Frame can sit too low
- Eye wire touching face
- Can cause unlevel fit



Eye-Ruler™ 2+

Troubleshooting Guide

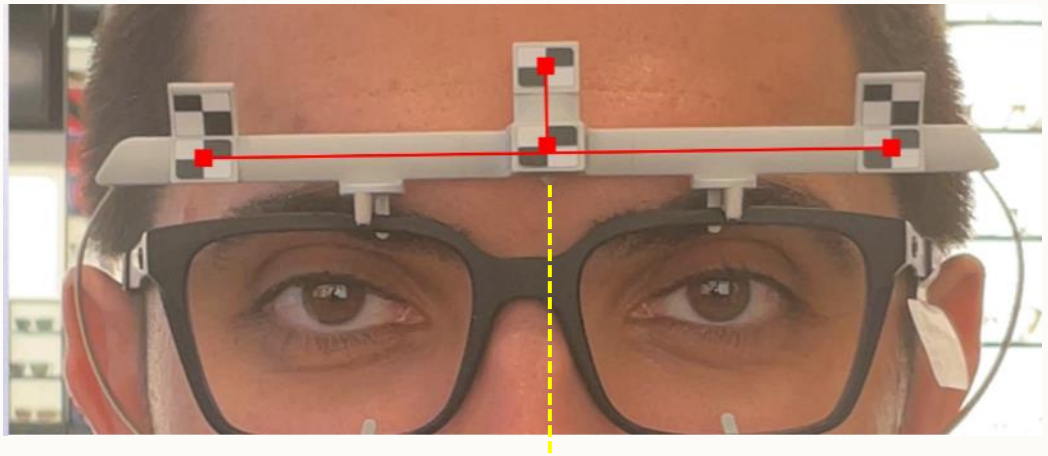
Fit Sensors, Positioning on the Frame



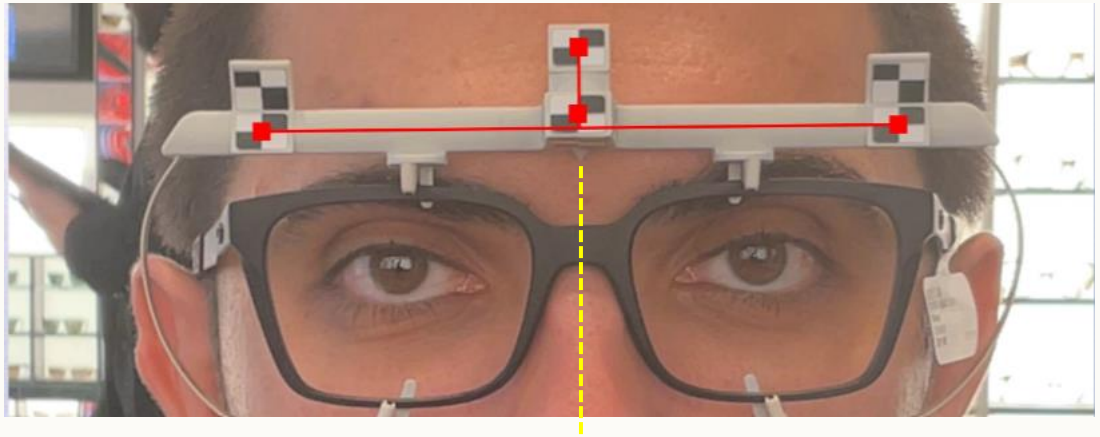
The ER2+ Sensor is a critical piece to the Eye Ruler 2+ measuring system. The high contrast ‘checker-board’ patterns across the top should be used to verify the sensors centered alignment when affixed to a frame. A sensor off center will produce inaccurate measurements & can lead to a future remake.

Pay close attention when beginning the measurement process to assure the sensor is properly attached.

Off Centered



Centered

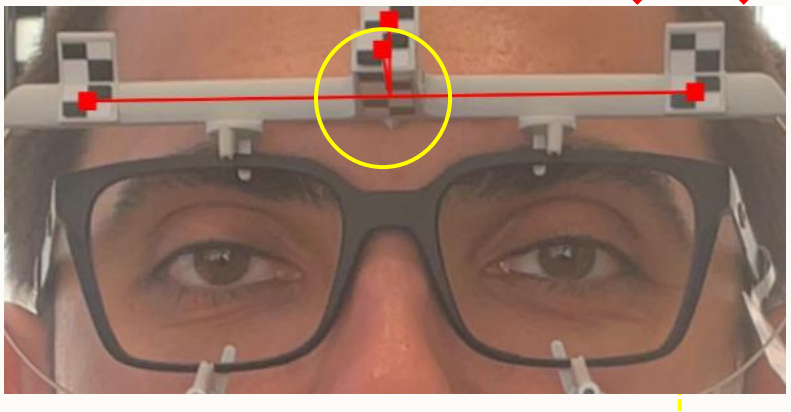


Fit Sensors, Positioning Relative to Camera

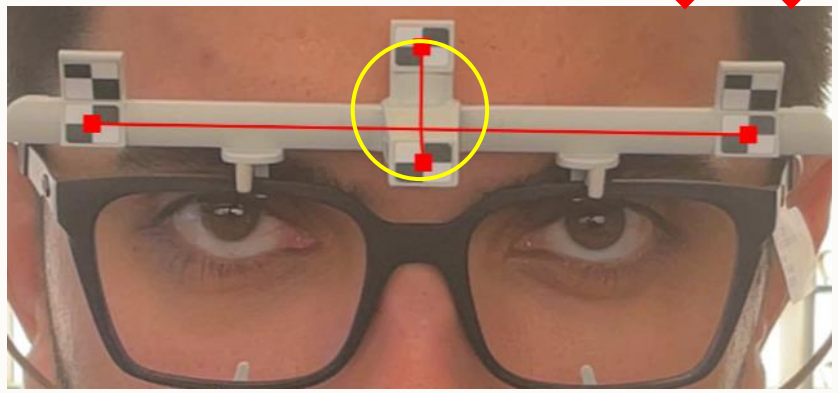
With the ER2+ Sensor properly attached it will now be up to the user to position the camera to capture a suitable image. The high contrast ‘checker-board’ patterns can be used again to ensure the alignment is correct. Temple view and corneal reflections can show improper positioning as well.

Images show examples of improper camera height relative to the sensor as well as improper alignment left or right. Notice how the ‘checker-board’ patterns is visible on the **underside outside of the sensor**. This will yield inaccurate measurements.

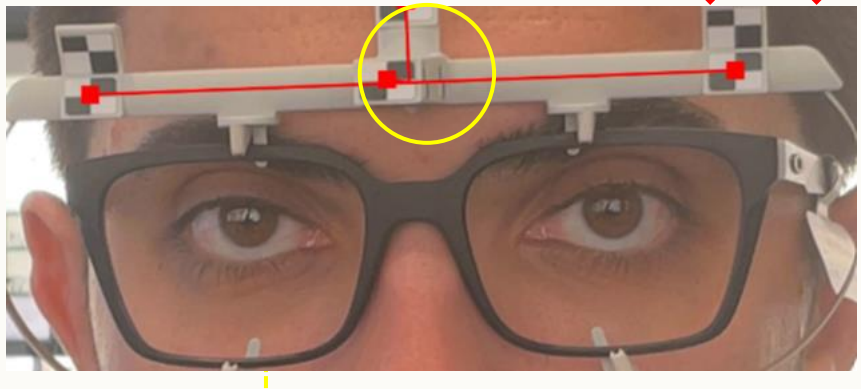
Low Camera or Chin Raised



Camera High or Chin Lower



Camera Too Far Right



Eye-Ruler™ 2+

Troubleshooting Guide

Patient Positioning Relative to Camera

While your ER2+ Fit Sensor may be properly attached and your camera is aligned, you may be in a situation where your patient's positioning will need to be adjusted to capture a suitable image. In this case, it may take some communication with the patient to raise or lower their chin in conjunction with your camera alignment.

Images show examples of the manipulation of patient and camera position in the image capture process.

Chin Too Low ✗

Chin Too High ✗

Patient & Camera Adjustment ✓

Eye-Ruler™ 2+

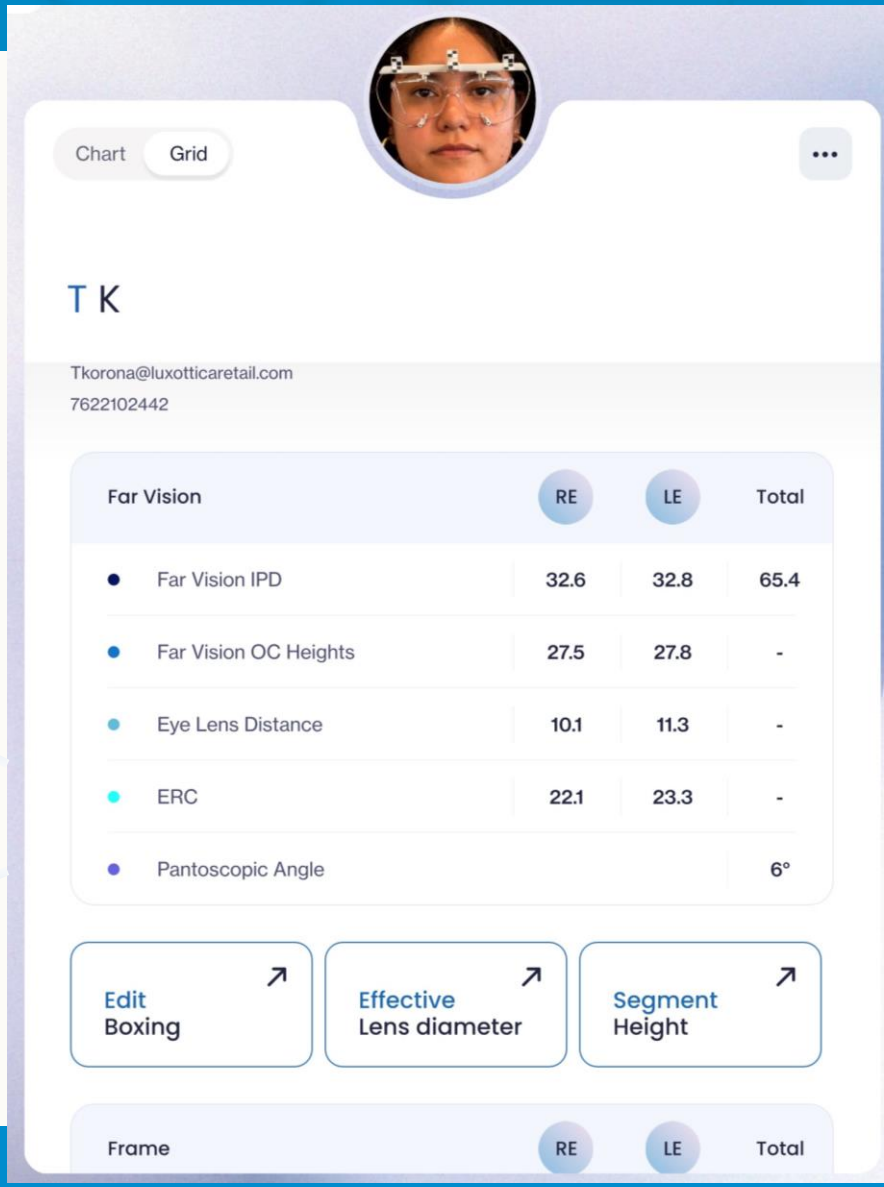
Troubleshooting Guide

Measurement Output Examples

The Image on the right depicts a proper ER2+ measurement output

- ✓ Proper Pre-fit
- ✓ Proper Sensor Positioning
- ✓ Proper Camera Positioning
- ✓ Proper Patient Positioning

Far Vision	RE	LE	Total
Far Vision IPD	32.6	32.8	65.4
Far Vision OC Heights	27.5	27.8	-
Eye Lens Distance	10.1	11.3	-
ERC	22.1	23.3	-
Pantoscopic Angle			6°



Eye-Ruler™ 2+

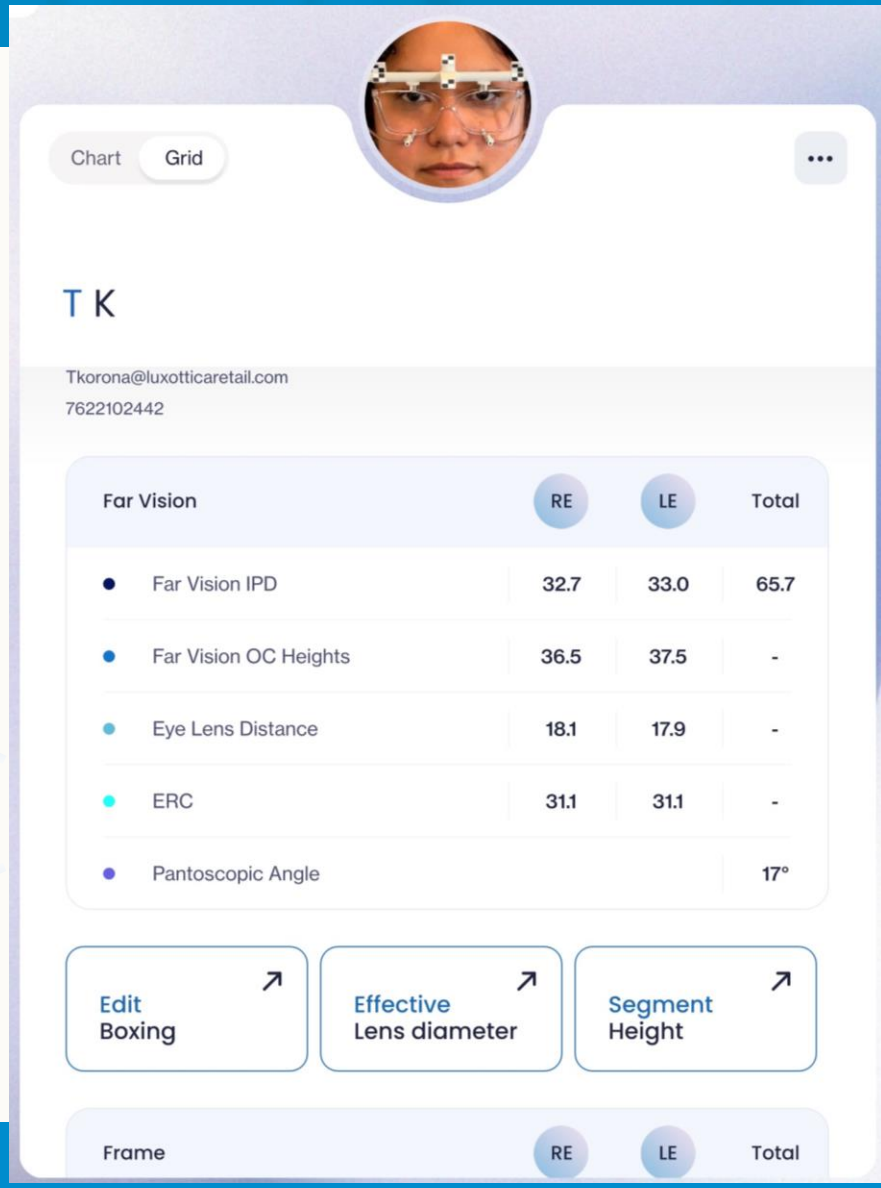
Troubleshooting Guide

Measurement Output Examples

The Image on the right depicts ER2+ measurements with the ***patient's chin too low***.
Notice the discrepancies:

- OC Heights 10mm higher then correct image
- ERC Very High

Far Vision	RE	LE	Total
Far Vision IPD	32.7	33.0	65.7
Far Vision OC Heights	36.5	37.5	-
Eye Lens Distance	18.1	17.9	-
ERC	31.1	31.1	-
Pantoscopic Angle			17°



Eye-Ruler™ 2+

Troubleshooting Guide

Measurement Output Examples

The Image on the right depicts ER2+ measurements with the ***patient's chin too high***.
Notice the discrepancies:

- OC Heights 3-4mm lower

Far Vision	RE	LE	Total
Far Vision IPD	32.3	33.4	65.7
Far Vision OC Heights	24.2	24.9	-
Eye Lens Distance	9.8	13.0	-
ERC	21.6	24.9	-
Pantoscopic Angle			-5°