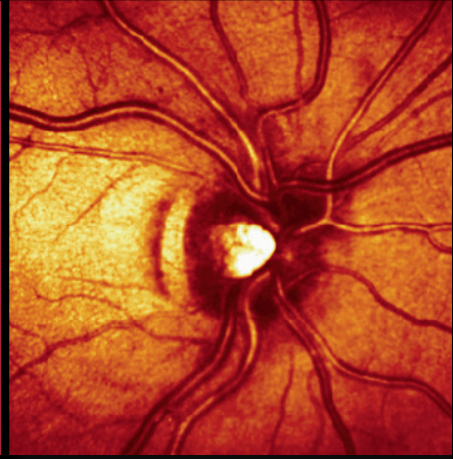


The perfect Image

HRT

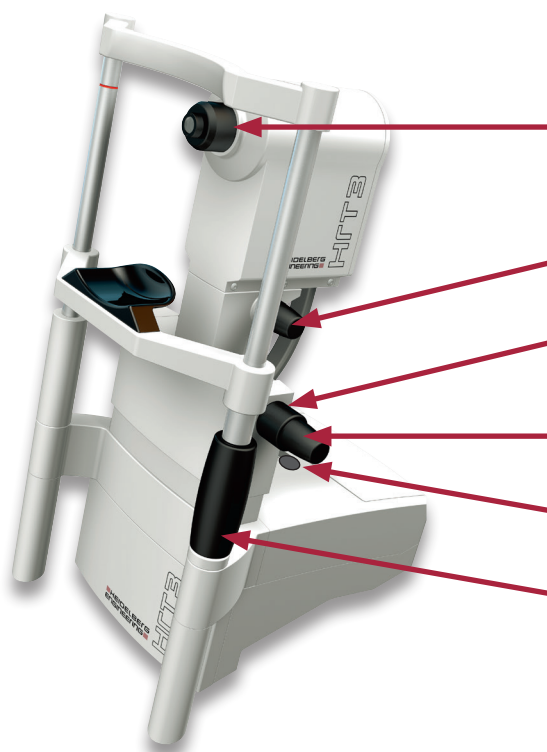


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## General workflow

- ✓ Do not conduct any examination beforehand that can disturb the tear film (e.g., examination using a contact glass, applanation tonometry).
- ✓ Explain the examination process to the patient.
- ✓ Administer artificial tears to patients with dry eyes.
- ✓ Dilate the eyes of patients with very small pupils and cataract patients.
- ✓ Peaceful environment supports stable fixation.
- ✓ Clean the chinrest and forehead support in the patient's presence.
- ✓ Create a new patient database entry or choose an existing patient for a follow-up examination.
- ✓ Set the anticipated refraction.
- ✓ If necessary, attach an astigmatism correction lens.
- ✓ Move the camera the farthest position from the eye.
- ✓ Adjust the table height.
- ✓ Ask the patient to place the chin on the chinrest and to lean forehead against the forehead support.
- ✓ Adjust the height of the chinrest so that the red marking is even with the corner of the eye.
- ✓ Turn on the camera.
- ✓ Adjust the distance and position between the camera and the eye using the knob.
- ✓ Have the patient look at the fixation point.
- ✓ Take the images.
- ✓ Back the camera away and then move it toward the patient's other eye.
- ✓ Take the images of the second eye.
- ✓ End the imaging module (images are automatically saved when "Auto Save" has been activated).



Sets distance refraction

Moves camera forward / backward

Moves camera up / down

Moves camera left / right

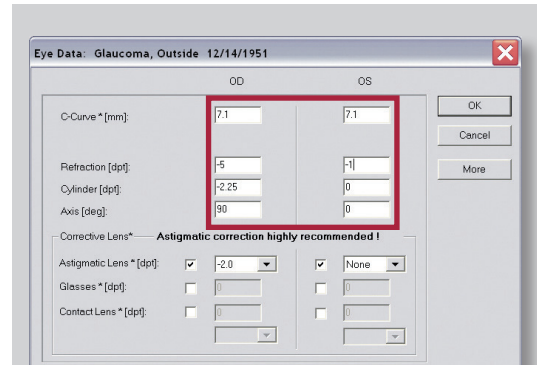
Starts image acquisition (HRT 3 only)

Moves chinrest up / down

## Entering the eye data

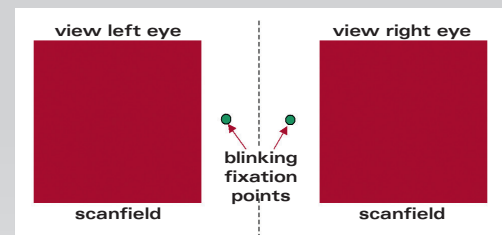
For average corneal radii (C-curve), the HRT software has a default value of 7.7 mm. ALL eye data must be entered correctly for the exact calculation of the stereometric parameters!

- ✓ If the patient's eye data does not noticeably change, the data must remain the same within a progression.
- ✓ For a progression analysis, ALL HRT images should be taken consistently either with default values or individual eye data (recommended).
- ✓ For an astigmatism  $\geq 1.00$  dpt, a notice to use an astigmatic lens flashes. Select the check box after "Astigmatic Lens" and align the indicated lens with the marking in the appropriate axial direction (white dot at 12 o'clock).
- ✓ If the patient is wearing glasses or contact lenses during the examination (for refraction values  $> 12$  dpt), the check box "Glasses" or "Contact Lens" must be selected and the correction values must be entered.






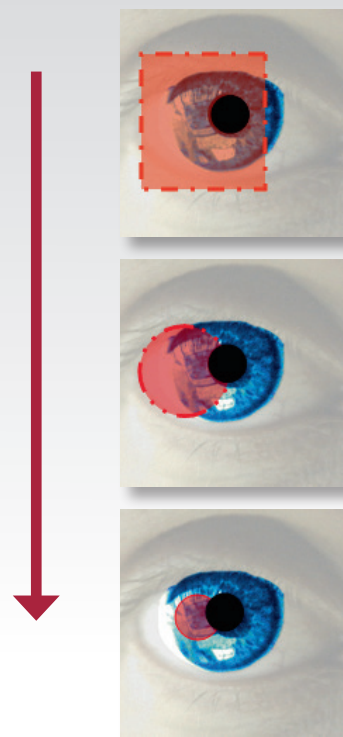
## The patient's view

- ✓ Before the examination, use the accompanying graphic to explain to the patient what he or she will see during the examination and what he or she must focus on!



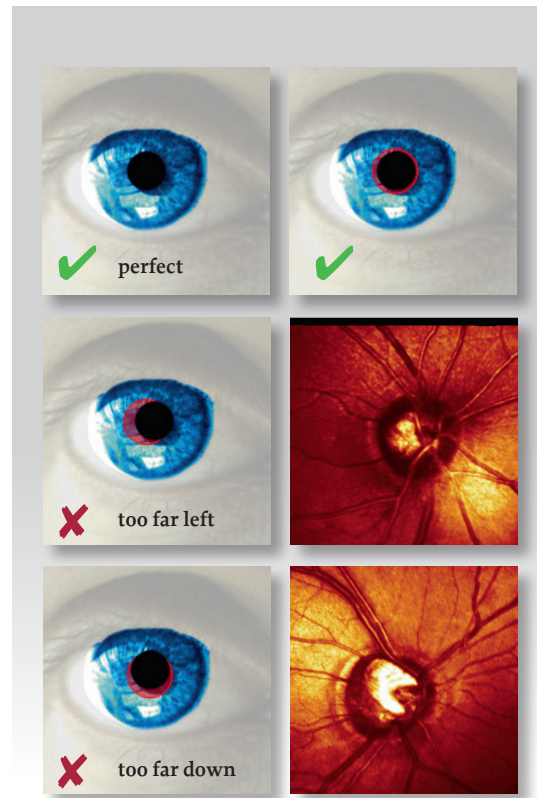
## Distance between camera and eye

-  Project the laser beam on the iris.  
When the distance between the camera and the eye is longer, you will see a red square.
-  Move the camera closer to the eye ...
-  ... until a clearly defined red circle is first visible on the iris. Now maintain this exact distance between the camera and eye!



## Position the laser beam

- ✓ Instruct the patient to look at the internal fixation target and track the pupil by following with the laser beam toward the nose.
- ✓ The papilla should be in the center of the image window (Premium Edition: within the green circle). If necessary, have the patient fixate his or her other eye on the external fixation light.
- ✓ Before taking the image, always recheck that the laser beam is centered and the live image is illuminated evenly.

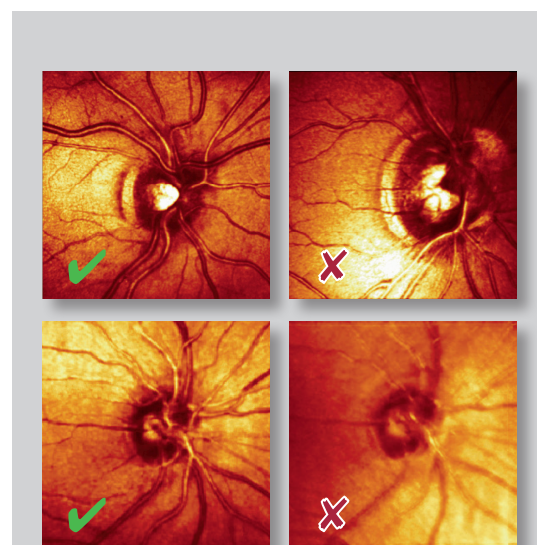


## Setting the illumination and refraction

- ✓ Adjust the camera position using the knob until the retina is illuminated evenly.
- ✓ Set the refraction on the camera head so that the retina around the optic nerve head reflects the maximum amount of light in the live image.

### Check:

- ✓ Changing the camera position does not provide a brighter, sharper, or more evenly illuminated live image.
- ✓ Changing the refraction by  $\pm 1$  dpt does not provide a brighter or sharper live image.



## Acquiring the image

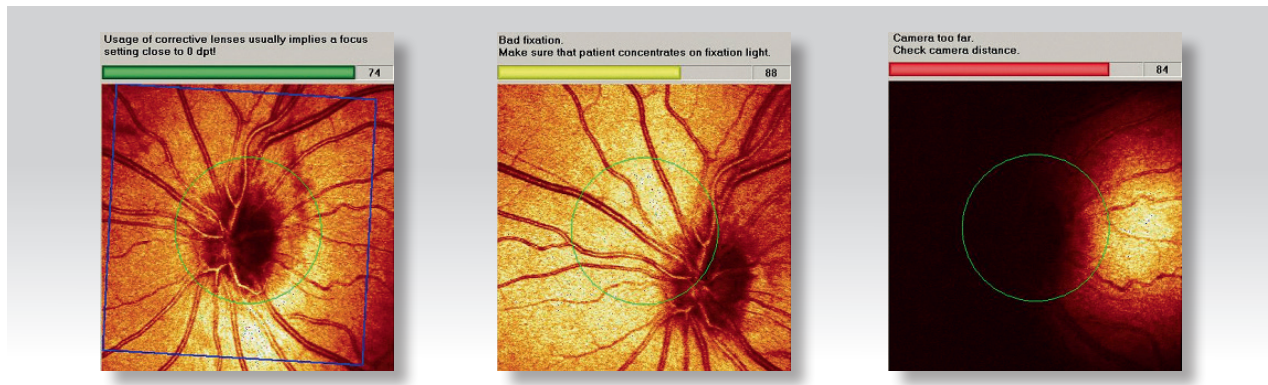
- ✓ Direct the patient to blink a few times and then to open his or her eye wide.
- ✓ Take the image using the push button on the instrument base (HRT 3 only) or the foot switch (HRT 3/HRT II). For HRT II: Use of the push button on the back of the camera is not recommended.
- ✓ During the image acquisition time, encourage the patient to keep his or her eye still and wide open.





## Additional live-image quality control in the Premium Edition

- ✓ Follow the instructions for live quality control!
- ✓ Before starting the acquisition, always check that the green quality bar is as long as possible.
- ✓ If the patient is having trouble keeping his or her eye still, use the external fixation light as necessary.



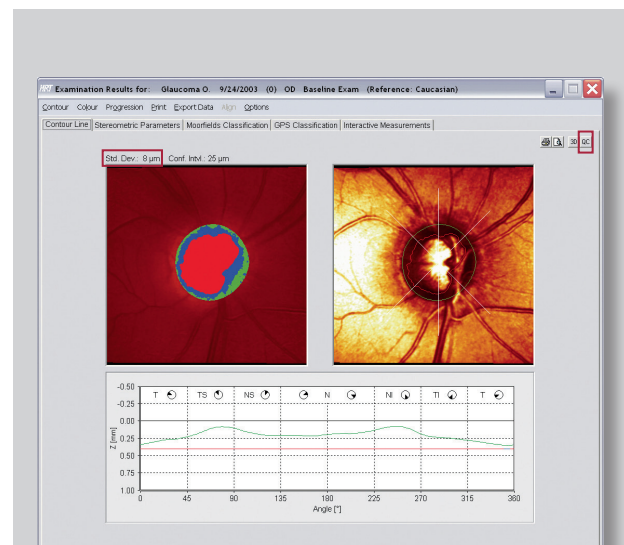
## Checking the image quality

### Standard deviation

- < 10  $\mu\text{m}$  Excellent
- 10-20  $\mu\text{m}$  Very good
- 20-30  $\mu\text{m}$  Good
- 30-40  $\mu\text{m}$  Retake the image, if possible
- > 40  $\mu\text{m}$  Image quality is too poor

## Additional Quality Check (QC) in the Premium Edition

- ✓ The quality of the most important image parameters are available at a glance.
- ✓ Green checkmarks appear throughout if the image quality is good.
- ✓ If a red "X" appears, retake the image and pay particular attention to the insufficient parameters.



Quality Info	
Image Quality Score:	Excellent
✓ Mean standard deviation:	8 $\mu\text{m}$
Imaging Quality Score:	Good
✓ Accommodation check:	Passed
✓ Camera distance check:	Passed
✓ Blink and fixation loss check:	Passed
✓ Image brightness check:	Passed
✓ Eye movement check:	Passed
✓ Image illumination check:	Passed
✓ Eye drift check:	Passed
Overall Quality Score:	Excellent



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