



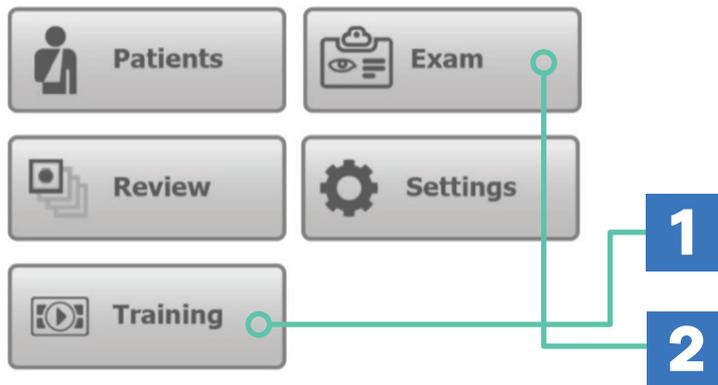
Hillrom™



RetinaVue® Imager
Successful Imaging

Set-Up Camera to Practice

When looking at the camera home screen, there are two ways to practice with the camera:

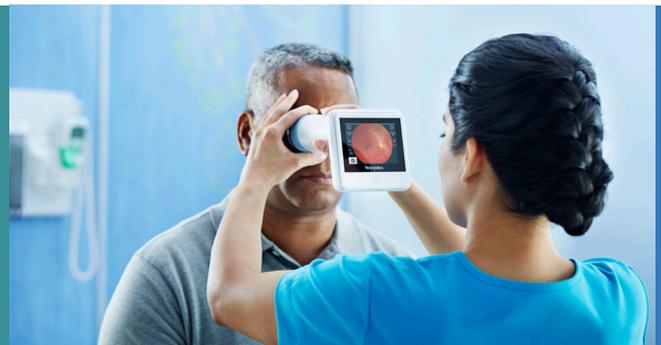


1 Interactive training video to walk through technique.

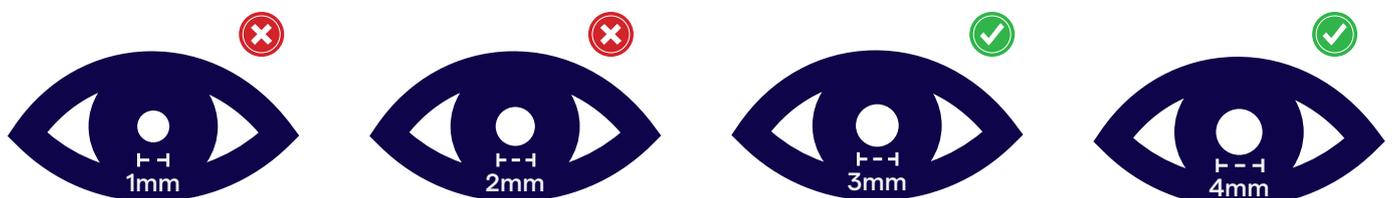
2 Use the "Exam" tab where you can take images and delete them once you are done. This eliminates using the software or portal for a demo patient.

Natural Dilation for 3 mm Pupil Size

Remember: We need at least a 3mm pupil to acquire a readable



Place the patient in a dark room for five minutes for natural dilation. This allows the pupils to open up and allow enough light in. Remember the pupil is the window to the retina and the more light that enters through the pupil, the better the image. Dilation drops are an option for smaller pupils that won't open up in a darkened room for the five minutes. Simply instill one drop of .5% Tropicamide in each eye then wait approximately five more minutes for the drops to activate.



Patient Alignment

Instruct the patient to look toward your nose. This places the patient's head straight and in-line with the camera. Make sure their face is centered with yours and have the patient cover their opposite eye (as shown).

Notice placement of the hand on the patient's forehead. The pinky and ring finger are braced on the forehead and index and thumb on the blue collar of the camera.

Placing yourself centered and eye level with the patient.

- Patient can sit on the edge of an exam bed and you can stand in front of the patient.
- Patient can sit in a chair: sit centered or hip to hip, turn patient's face toward your face to be centered.
- Patient can stand braced against the wall.
- Make sure barrel of the camera is parallel to the floor, straight and centered on the eye.



Patient Alignment Best Practices



Make a "C" or "L" with your hand placed on the forehead. Your pinky and ring finger should be resting on the forehead.

Your thumb should be positioned in front and centered below the eye.

You will want your right hand holding the screen and left hand positioned on the patient's forehead (opposite if you're left handed).

This allows you to rest the camera on your thumb in front of the eye to find the first "white cloud" (reflection of pupil).

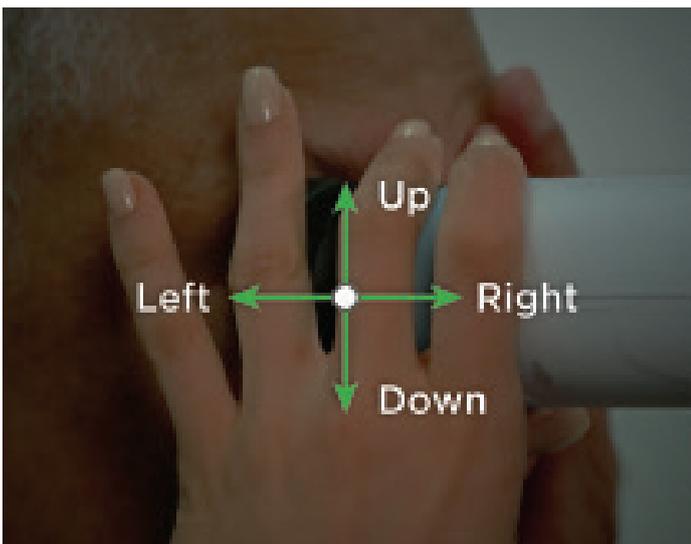
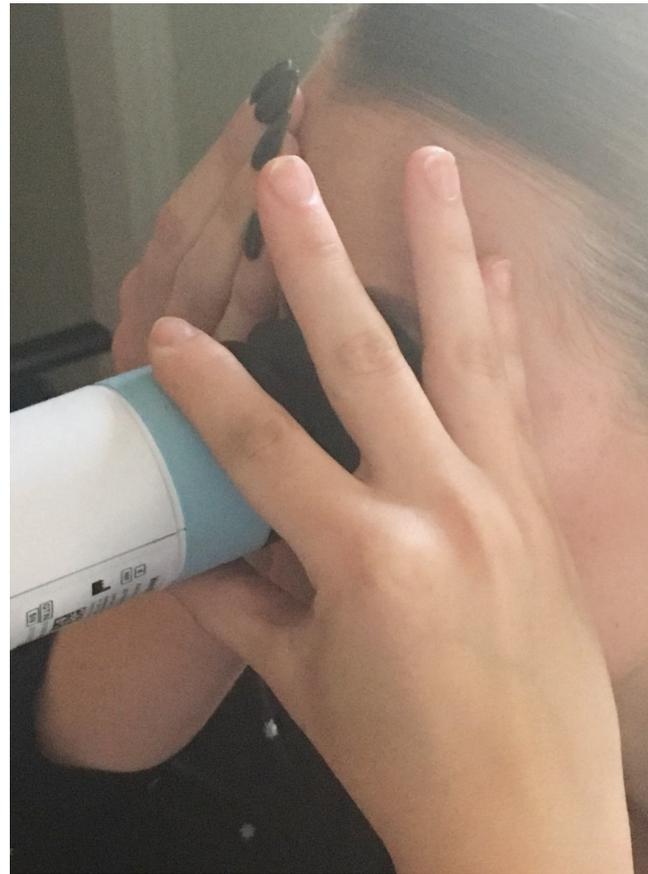
Keep Camera Properly Aligned

Notice placement of the hand on the forehead; the pinky and ring finger are braced on the forehead and index and thumb on the blue collar of the camera.

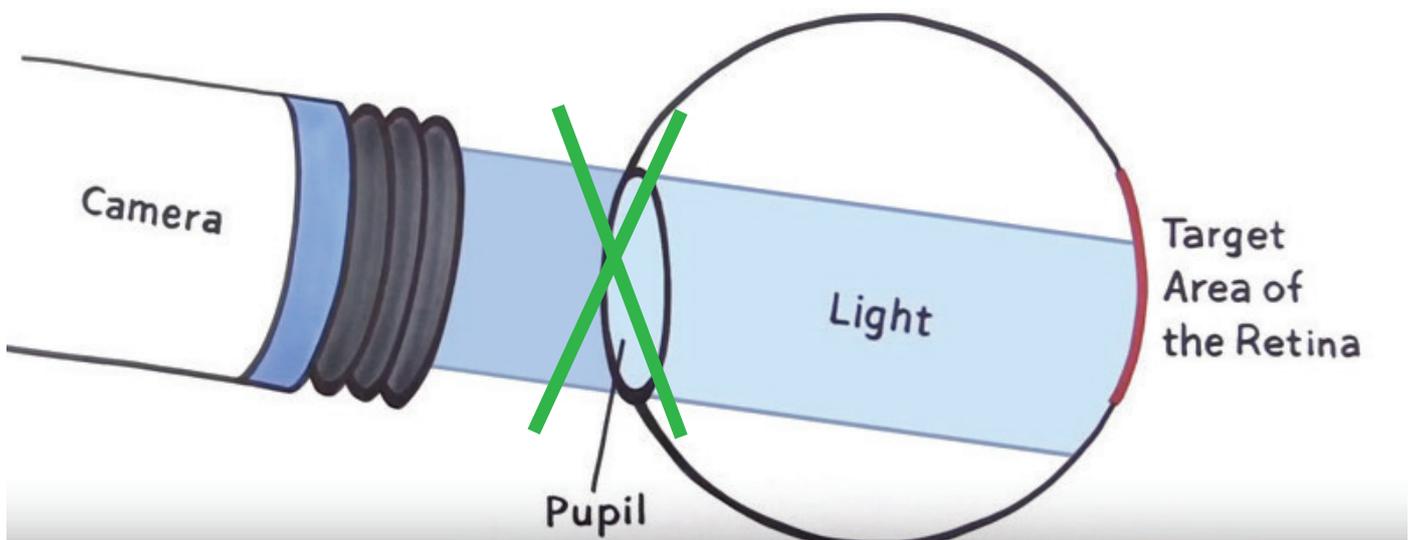
The hand that is closest to the eye should be doing the movement.

How to Move The Camera to Find The Cloud

Make sure to keep the camera level with the floor and stay aligned with the patient (or the image will be too low or too high, resulting in a dark image).

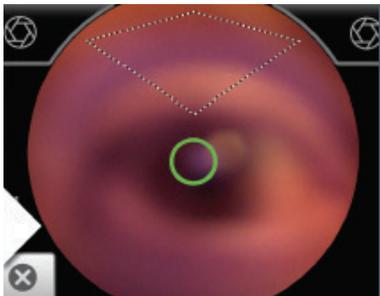


TIP: Put your thumb on the bottom of the camera to move the barrel in the direction you need it to go.



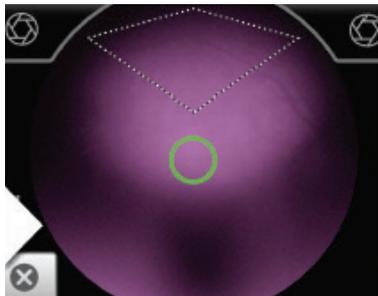
What You Should See

Step 1



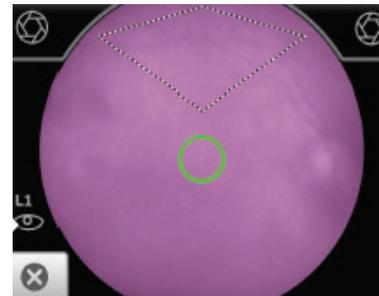
Look for a white circular reflection at the top of the eye's image on the LCD screen as shown. **This is your initial target.**

Step 2



Guide the green circle on the imager's LCD screen towards this target by slowly moving the imager towards the eye.

Step 3



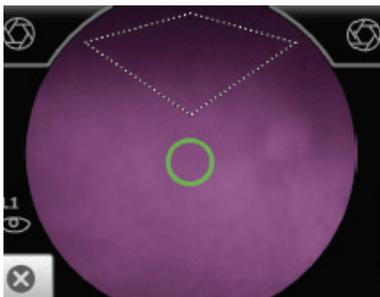
Once the reflection has filled the screen, push slightly forward until a "bubble" appears.

Keeping the green circle centered in the white cloud (pupil reflection) will allow you to move the camera into the fundus exactly where you need to be. Any grey or darkened edge means you are not centered and have moved the camera to the iris, which is out of focus. If this happens, reposition and find the white cloud and green circle again or move the barrel of the camera away from darkened edges.

In The Fundus

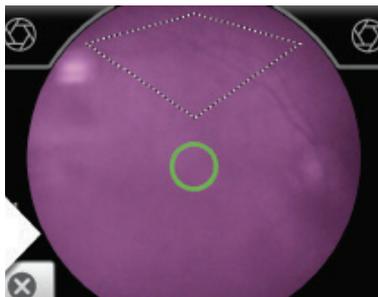
Once you are in the fundus, this is the view you should see. You should have a clear, sharp image with no darkened edges around the image. The optic nerve should be visible on the side of the screen. At this point, you would start looking for the second "white" bubble to move to the diamond or triangle. Once the bubble is in the triangle, the camera will automatically take the image.

Step 4



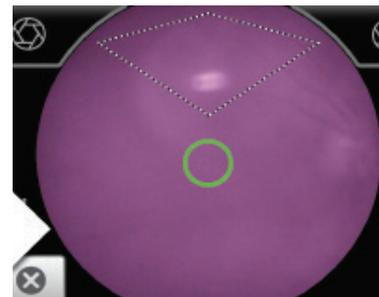
Keep the imager in line. Slightly adjust the imager away from any shadows that appear.

Step 5



Move the patient end of the scope towards the bubble.

Step 6



Align the bubble inside the diamond icon (as shown above). If there is a gray, darkened border; refocus the image.

The white bubble will appear in the upper portion of the image. If you have centered the green circle in the first white cloud (pupil reflection), the second white bubble will be between 10-2 above the diamond/triangle. If the bubble does not appear, you need to move forward with the camera to press on the eye. The patient end of the camera (eye cup/barrel) will need to move toward the white cloud; in order to move it in to the diamond/triangle. Chase the bubble with the eye cup end of the camera, place your thumb on the bottom of the camera to move the barrel. You only need to make small movements and adjustments. You can flex your thumb to move the barrel.

NOTE: Make sure you have a clear and sharp image with no darkened border around the image.



TIPS

- Think of the camera like a pencil. The screen is the eraser and the patient end is the pencil point. You write with the pencil point and not the eraser. Simply draw a line to the bubble with your pencil point.
- If the second bubble is smeared or too large you are too close, simply bring the camera slowly back toward you. You may still need to move the barrel toward the bubble as you pull out.

Capture Image



 Green check indicates **99.5% accuracy**

Quality Assurance Score

Provides immediate feedback ensuring that the image is of sufficient quality for clinical analysis. Image quality is provided through a colored indication & scored on a scale from 0 to 100.

You should only send green or yellow check marks in the range of 20 and above to ensure the image is readable.

You will hear the camera capture the image (shutter sound). The acquired image will be displayed in about 5 seconds.



40-100

Good image and can be interpreted 99.5% of the time



20-39

Most likely a readable image



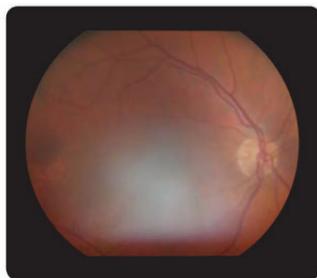
0-20

Poor image and requires re-capturing

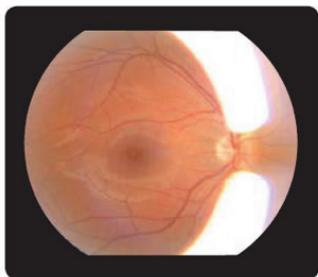
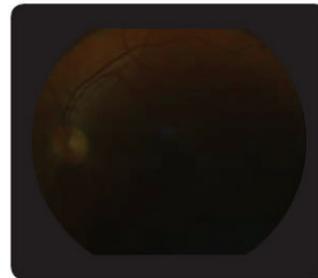
Poor Fundus Images & Troubleshooting



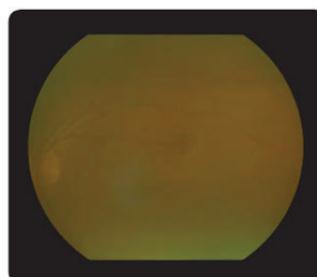
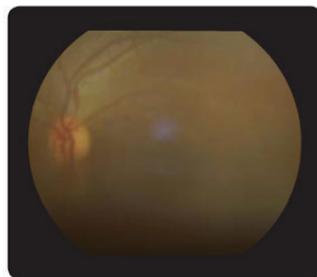
Smudged or Blurred Image



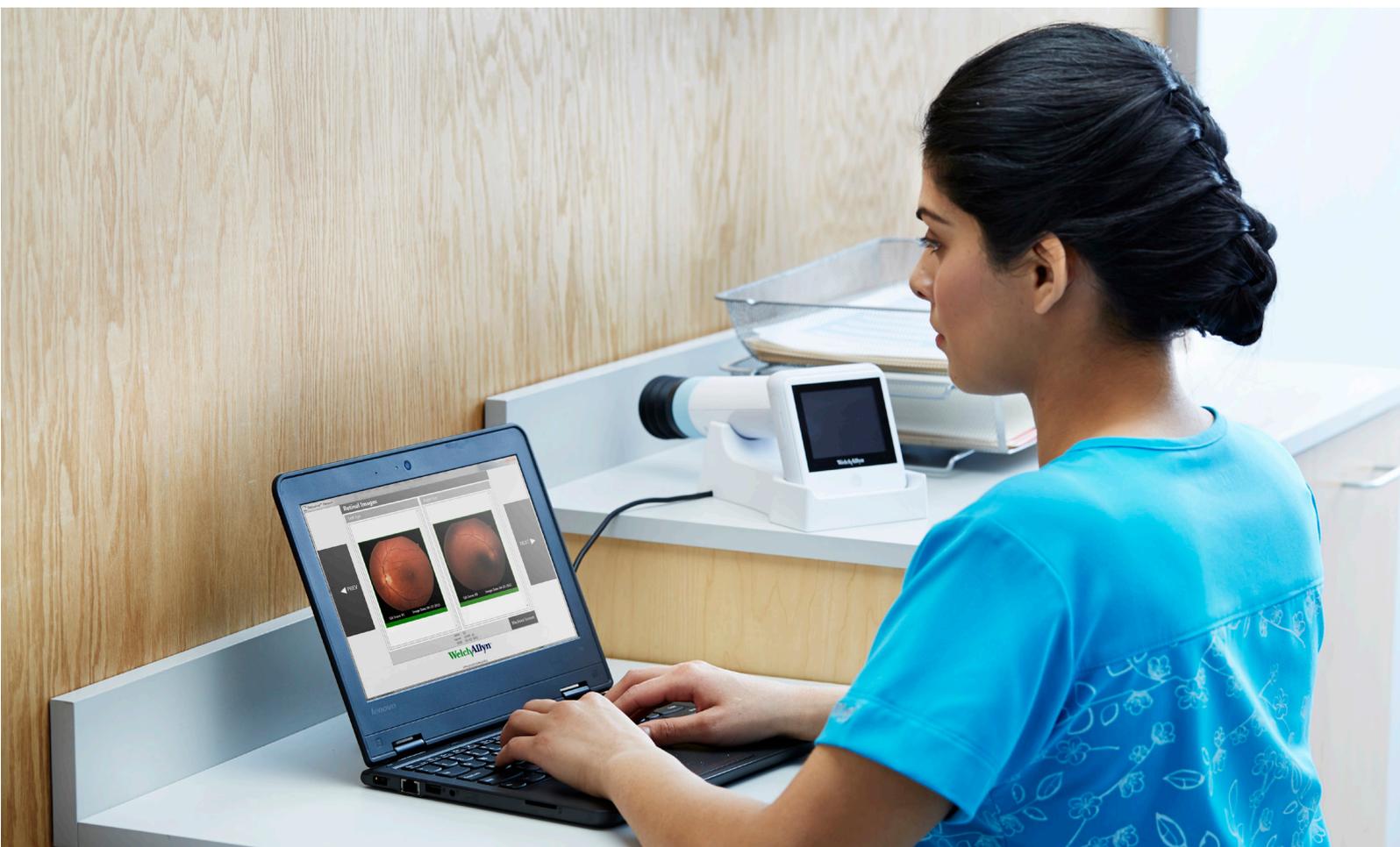
Darkened Image



Shadow or Bright Spot



Distinct Yellow Hue



SMUDGED OR BLURRED IMAGE

- Debris on the lens is a common issue denoted by a white smudge or blur on the image. Lotion or grease from a user's hands can cause residue on the lens which could prevent optimal image capture.
- How to troubleshoot: Correct by cleaning thoroughly with a clean lens cloth and lens spray, handle using gloves. A white cloud on the image could also potentially indicate drying of the cornea or contact lens; correct by having the patient blink to re-moisten cornea or contact lens.

DARKENED IMAGE

- Dark images could indicate pupils which are too small to permit high quality image capture (< 3mm). The smaller the pupil, the darker the image.
- How to troubleshoot: Correct by letting the patient sit up to five minutes longer in a completely darkened room. Some patients may require the use of mild dilating drops.

SHADOW OR BRIGHT SPOT

- A shadow or bright spot over the retina could indicate improper camera alignment.
- How to troubleshoot: Correct by ensuring that the device is level and that the patient's eye is wide open.

DISTINCT YELLOW HUE

- Multiple blurry or low visibility images with a distinct yellow hue could indicate possible cataracts—refer to an eye specialist.

Summary: Key Points & Best Practices

PUPIL SIZE

- Allow five minutes in a darkened room, you need at least a 3mm pupil

USER POSITION

- Body centered and eye level with patient

CAMERA POSITION

- Straight and centered on the eye, barrel parallel to floor

IF THE IMAGE IS DIRTY, SMUDGED, OR DARKENED; ACQUIRE ANOTHER IMAGE

CAPTURE THE IMAGE

- Place green circle in the center of the white cloud
- Keeping the green circle centered, press the camera closer to the patient's eye
- Once you see a clear image of the fundus stop and wait (if the bubble doesn't appear move the camera closer to the patient)
- Bubble should appear in the upper portion of the screen
- Make sure your image is clear and visible
- Submit only green or yellow check marks
- Full anatomy of the eye is visible

For more information, please contact your local distributor or Hillrom sales representative.

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