

Introduction

Modern smartphones have powerful cameras capable of taking excellent photographs. With proper technique, you can use your phone to obtain high quality photos of your eyes. These photos can be used to help your doctor diagnose and manage eye conditions. Because it is easier to see fine details in photos compared to a live online video, these photographs are often a useful supplement to live telemedicine encounters.

General Tips

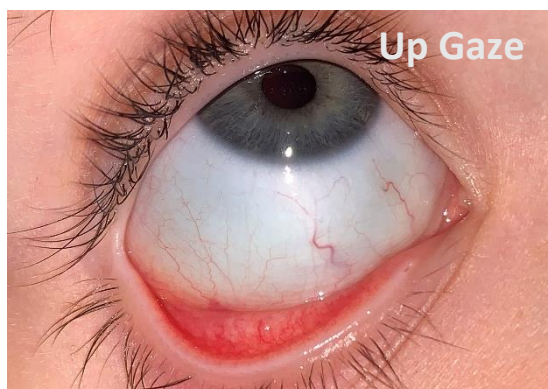
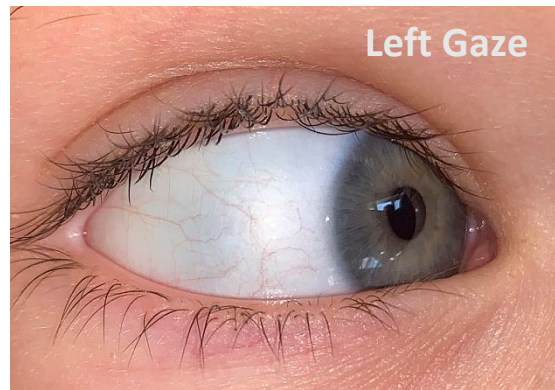
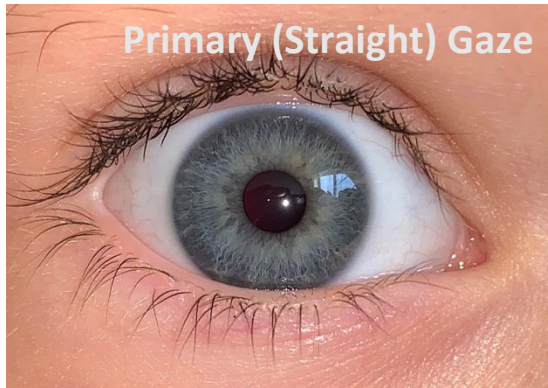
1. On many phones, the rear-facing (back) camera takes higher-quality photos than the front-facing (“selfie”) camera. Please use the rear-facing camera for eye photography.
2. It is much easier to center and focus the image when taking a photo of someone else. We strongly recommend asking a friend or family member to help!
3. If you are unable to find an assistant, you may take the photos using your rear-facing camera while standing in front of a mirror. You will be able to see the screen of your phone in the mirror to adjust focus and centration.

Instructions

1. Take the photos in a well-lit room with the lights on.
2. Hold the phone horizontally.
3. Open the camera app and make sure the **rear-facing (back) camera** is selected. Turn the **flash on** and adjust the zoom to 2-3x (**2.5x** is ideal).
4. Move the phone’s rear-facing camera as close to the eye as possible while still maintaining **sharp focus** (usually about 3-4 inches away from the eye). It is *very important* to assure that the image is crisp and clear.
5. The entire eye should be visible and centered in the photo. The eyelids should be opened as wide as possible. No shadows should cover the eye.
6. Hold the phone steady while capturing the photo. Use a tripod or position your elbows tightly against your body to steady the phone.
7. Keep the eye still. It may be helpful for the subject to lie flat or use hands to brace the head.
8. Tap on the phone screen over the area of interest to adjust the camera focus and brightness to this area.
9. We recommend taking multiple photos while looking in different directions:
 - a. Straight
 - b. Up (pull the lower eyelid downward while looking up)
 - c. Down (hold the upper eyelid up while looking down)
 - d. Left
 - e. Right
 - f. Eyelids gently closed
10. Take as many photos as you need to obtain quality images over the area of interest.
11. Repeat the process to obtain photos of the other eye. Each eye should be photographed separately.
12. If capturing eye videos, we recommend setting the camera resolution as high as possible. Keep the camera **flash on** throughout the entire video for best lighting and move the eye in different positions while pulling the eyelids out of the way.

High Quality Examples

Below are quality photos of a 5-year-old patient taken with an iPhone (2.5x zoom and flash enabled). Notice that the eye is centered and well-focused. Blood vessels and other details are clearly visible.



Poor Quality Examples



Problem: Too dark. Details are not easily visible.

Solution: Enable the camera flash or take photos in a well-lit space.



Problem: Too bright. The blood vessels appear “washed out” and not all visible.

Solution: Move the subject out of direct lighting. Tap the white part of the eye on the phone screen prior to taking the photo to adjust the photo brightness to this area.



Problem: Poor focus. Details appear blurry.

Solution: Make sure the phone and subject are as still as possible. Hold the phone farther away until clear focus is achieved. Tap on the area of interest on the phone screen prior to taking the photo to adjust the camera focus to this area. Make sure the lens on the back of the phone is not dirty.