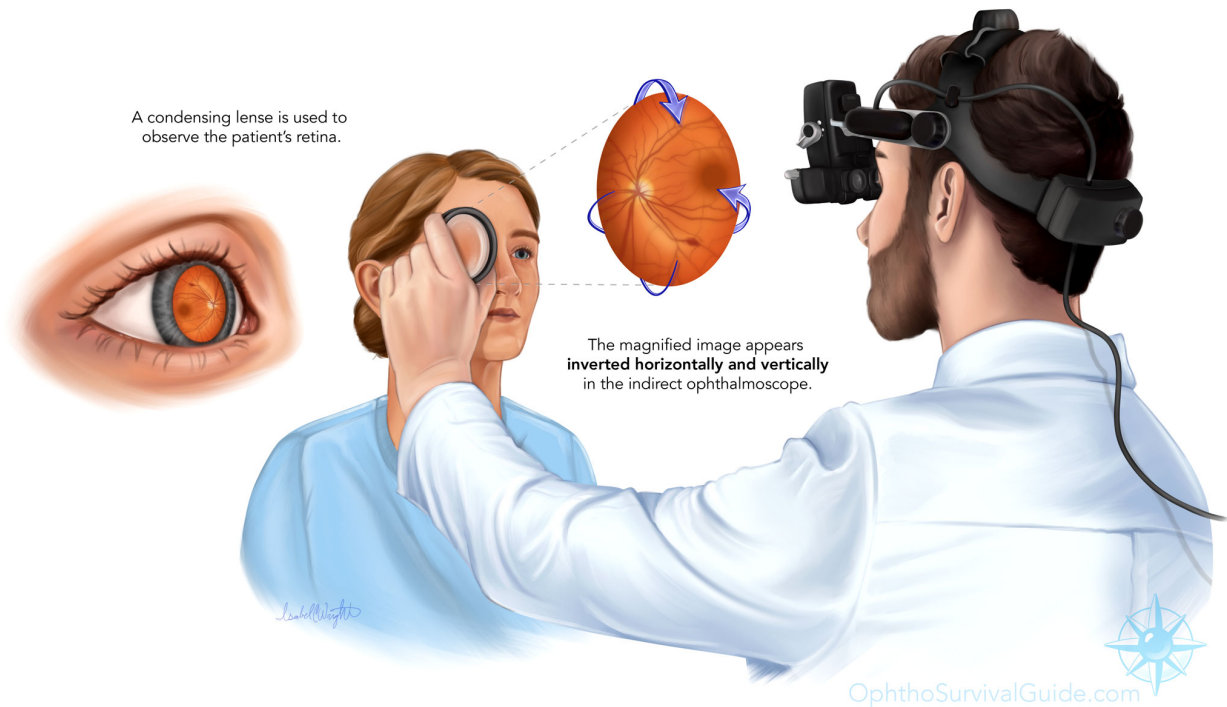




The Ophthalmology Survival Guide

The Binocular Indirect Ophthalmoscope (aka "The Indirect")

In spite of its deceptively simple design, few examination items are as tricky to use early on as the indirect ophthalmoscope. Unlike the direct ophthalmoscope, which essentially functions as a light source and peep hole to look at the retina, the indirect ophthalmoscope uses a handheld condensing lens (ie. 20 or 28 diopter lenses are most common) and a coaxial light source mounted on the head to create an image of the retina between the condensing lens and the observer that is magnified and inverted. It is this magnified, inverted image that is viewed through the oculars of the indirect. Sounds simple. Well, not so much. At least not at first. The key is holding the condensing lens at the correct distance from the patient's eye to get a magnified view of the pupil, while maintaining coaxial alignment between the light source and the image. Holding the lens inappropriately far or close to the eye will dramatically reduce the observable size of the retinal image and the ability to establish coaxial alignment. Lack of coaxial alignment will make it impossible to view the image.



Similar to the direct ophthalmoscope, the effective use of the indirect is markedly enhanced by pupillary dilation. Having the patient seated or somewhat reclined is very helpful as well. Because the light source tends to be quite bright it is often helpful to apply gentle pressure to hold the patient's eyelids open while examining. Asking the patient to look in different gaze directions will allow you to examine the entirety of the retina. Always remember that the image you are viewing is inverted, both horizontally and vertically (upside down and backwards), from its actual orientation in the eye. For example, the fovea is located temporal to, and slightly below the center of the optic nerve. In the view you will see with the indirect, the fovea will appear to be nasal to and slightly above the center of the optic nerve.

As you gain proficiency in using the indirect you can learn more advanced techniques such as scleral depression and the use of different condensing lenses.

Visit OphthoSurvivalGuide.com to learn more.