

- Corneas with significant astigmatism will produce a typical hourglass shape in one color along one axis, and another color will appear along the opposite axis.
- In irregularly shaped corneas, one area of the cornea will be steep, but the area across from the steep portion may not be as steep.

How-To: Topography

- Wipe areas of patient contact with alcohol.
- Seat the patient in front of the unit and ask him or her to look straight ahead. Ask the patient to blink periodically to ensure that the cornea is moist, which results in sharper images.
- Obtain a clear and focused view of the ring-covered cornea.
- Capture the image by pressing a button on the joystick or clicking on the mouse, depending on the unit.
- The image is then analyzed by the computer. If the computer determines that the image is reliable, then it will “draw” a series of colored rings on top of the corneal image from the center of the cornea to the midperiphery. If the computer does not think that the image is reliable, then the colored image will not appear, signaling you to “try again.”
- Once you have obtained an image that the computer has analyzed as reliable, a second screen appears. This gives the exact level of reliability of the image as analyzed by the computer. Reliability is presented as a confidence level, from high to low, based on such things as focus and centering of the cornea. If the level of reliability is acceptable, save the image. Patient demographics (such as age, sex, and eye) are saved as well.

Ophthalmoscopy

- Ophthalmoscopy is the examination of the internal structures of the posterior chamber of the eye through the tiny window of the pupil.
- Many systemic diseases that exhibit ocular manifestations have been diagnosed simply by the appearance of the retinal vasculature of the eye.
- Ophthalmoscopy is an integral part of the diagnosis and management of ocular diseases such as glaucoma, ocular lesions, abnormalities, and trauma.
- Two types of ophthalmoscopes may be utilized in performing the ophthalmoscopic examination. The direct ophthalmoscope and the indirect ophthalmoscope each have distinct advantages and disadvantages (Table 10-1).
- Direct ophthalmoscopy can be performed through an undilated pupil; however, dilation of the pupil is necessary for a thorough ophthalmoscopic examination utilizing either the direct or the indirect ophthalmoscope.