Pinhole

If a patient cannot see 20/20, it is helpful to know if the eye is capable of 20/20. This can be determined by using a pinhole. Most phoropters and trial lens sets have a pinhole, which is an opaque disk with a tiny hole in the center. It may be easier for the patient, however, to use a pinhole device that has multiple holes in it, making it simpler to “find” a hole to look through (Figure 8-17).

If subnormal distance vision is caused by a refractive error, then acuity should improve through the pinhole. This works because the pinhole cuts out the scattered light rays, and you only get light that is coming straight into the eye. If the pinhole does not improve acuity, then it is assumed that the reduction is due to some type of pathology.

The patient is told to “look straight through one of those little holes” then asked to read the smallest line of letters possible. This is recorded as pinhole vision. Theoretically, the patient’s refractometric measurement should be at least the pinhole vision or better.

Pinhole vision may usually be done with or without the patient’s current glasses. Some patients have difficulty seeing through the pinhole. It may be helpful to isolate the line the patient last read without the pinhole as a starting point, as you know he/she should at least be able to see this.

Some clinics have a policy that if a patient’s vision is not 20/25 or better (with current glasses, if worn) then a pinhole vision is automatically done. Likewise, if the vision of a returning patient has fallen two lines below his/her last acuity check, a pinhole is done as well. Finally, doing a pinhole on a legally blind patient is key as well, because visual potential can be very important when it comes to disability qualifications.

Case Study

A new 75-year-old patient has 20/80 distance vision with and without his current glasses. Pinhole vision is 20/40. Assumption: Refractometry should improve acuity to at least 20/40. In addition, there is probably some type of pathology preventing 20/20 vision.