

Retinoscopy

What is retinoscopy?

Retinoscopy (also called skiascopy) is a test that helps the eye doctor find out if someone needs glasses. It can show if a person is farsighted, nearsighted, or has astigmatism. The test does not need the patient to choose which lens works better. It works even with babies or people who can't answer questions.

How is it performed?

The doctor uses a tool called a retinoscope [see figure 1]. This tool shines a light into the eye. The doctor moves the light side to side and up and down while watching how the light reflects off the back of the eye. Then, the doctor puts different lenses in front of the eye. As the lenses change, the way the light moves also changes. The doctor keeps trying different lenses until the best one is found. This shows the patient's refractive error, or what kind of glasses they need.



Fig. 1: A handheld instrument called a retinoscope projects a beam of light into the eye during retinoscopy.

When is retinoscopy used?

Retinoscopy is often used for young children, infants, or people who have trouble talking or following instructions. It is a one way to figure out if someone needs glasses even if they cannot tell the doctor how well they can see.

Are dilating eye drops necessary for retinoscopy?

Yes, eye drops are usually used in children before this test. These drops make the pupils bigger so the doctor can see better. The drops also stop the eyes from focusing on their own. This helps the doctor get more accurate results.

Will general anesthesia be necessary for retinoscopy?

Usually not. Most children — even babies — can look at the light long enough to do the test in the office. Sometimes, a child still might need to be gently held. Only in rare cases is general anesthesia needed, like when the child cannot look at the light long enough for the test.

What other techniques can be used to determine the refractive error of a child?

Other ways include:

- Auto-refraction: This uses a special machine (like a computer) to measure the eyes. It works best when the child can stay still and look at a picture for a few seconds.
- Subjective refraction: This is the part of the test where the doctor asks, “Which is better, one or two?” It helps fine-tune the results from retinoscopy or auto-refraction. It only works if the child is old enough to talk about what they see.

Summary for Patients and Caregivers

Retinoscopy is a helpful test to find out if someone needs glasses. Retinoscopy is a safe way to check refractive error early in life. It works well for babies, young children, and others who can't answer vision questions. The doctor shines a light into the eyes and uses lenses to see how the eyes focus. Eye drops are often used to make the test more accurate. Most of the time, the test can be done in the office without needing anesthesia. Other methods like auto-refraction may also help, especially for older children.