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The Vision in Preschoolers Study Group. Comparison of Preschool Vision Screening Tests as Administered by Licensed Eye Care Professionals in the Vision in Preschoolers Study. *Ophthalmology* 2004;111:637-650. Preschool Vision Screening Tests Administered by Nurse Screeners Compared with Lay Screeners in the Vision in Preschoolers Study. *Invest Ophthalmol Vis Sci* 2005;46:2639-2648.

Cycloplegic Retinoscopy

What Are You Testing?

Cycloplegic retinoscopy measures the child's refractive error. It is the Gold Standard refraction technique. The retinoscopy spectacles ensure that the vertex distance is kept constant and that residual accommodation is relaxed.

What You Need to Do the Test:

1. A streak retinoscope.
2. A distance fixation target in the form of a VCR and tape.
3. Remote control for the VCR system.
4. A retinoscopy rack or trial lens set.
5. Retinoscopy spectacles corresponding to the examiner's working distance: +2.00 DS (50 cm), +1.75 DS (57 cm), or +1.50 DS (67 cm).
6. A box of tissues.

Getting Ready:

Place the examiner's chair to allow for a 50 to 67 cm working distance.

1. Set up the distance fixation target at least 10 feet from the child's chair.
2. Instill the eye drops a minimum of 30 minutes before performing cycloplegic retinoscopy.
3. Lower the VCR to the child's eye level.
4. Dim the lights by manually turning off the overhead lights.

How You Do the Test:

1. Position the child facing the distance fixation device at the end of room.
2. The right eye is measured first.
3. The examiner is positioned facing the child so that his/her right eye is directly in front of the child's right eye.
4. Place the retinoscopy glasses (in the appropriate power for the working distance) on the child's face.
5. The examiner activates the distance fixation target with the remote control.
6. Use a retinoscopy lens rack or hand-held trial lenses to neutralize the refractive error.

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7. The examiner may perform cycloplegic retinoscopy in his/her customary manner.
8. If the child has overt strabismus, care should be taken to perform retinoscopy on axis. Reposition the child and examiner as necessary to achieve distance fixation and to maintain the working distance.
9. The procedure is then repeated for the left eye.
10. Wipe off the temples and bridge of the glasses with a tissue after testing.

What You Tell the Child:

1. Tell the child to keep looking at the distance fixation target.
2. Tell the child that you are going to look in his/her eyes with a light.
3. Repeat the instruction to the child to keep looking at the distance fixation object.

What You Write Down:

1. The refractive error present over the retinoscopy spectacles is recorded in standard prescription notation (either plus or minus cylinder form) on the data sheet. If there is no cylinder, put a dash in each of the fields for Cyl and Axis. If the refractive error is plano, also put a dash in the Sphere field.
2. Record the power of the spherical and cylindrical lenses to the nearest 0.25 diopter. Lens powers must be recorded with two decimal places (.00, .25, .50, or .75).
3. You may use the optical cross on the data form as a scratch pad prior to recording the refractive error in standard prescription notation on the GSE form.

Remember!

1. The examiner must constantly remind the child to maintain fixation on the distance target so that retinoscopy occurs on axis and any residual accommodation, if present, is stable and relaxed.