CONCAVE MIRROR RETINOSCOPY

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“You can see a lot just by looking!”
“Yogi” Berra

Earlier (pp. 57-58), we described a concave mirror test to assist in evaluating the frequently puzzling AGAINST reflex. Here is an amplification of those techniques for advanced students.

For high myopic patients it is often difficult to see the AGAINST motion. You sweep the streak of the retinoscope all the way on and off the pupil of the patient’s eye, but the AGAINST motion that you see doesn’t occur until the streak is halfway across the patient’s pupil. To make it easier to see the AGAINST motion, try reversing the sleeve of the retinoscope. In other words, reverse the sleeve to the concave mirror position. With Copeland-types, this would mean sleeve down. When you see the WITH reflex in the concave mirror position, you know that the motion you were seeing in the plano mirror position was the exact opposite, or AGAINST motion. You may then add minus lenses until the WITH motion is neutralized. Again, placing the sleeve in the concave mirror position will give the exact opposite of what one sees in the plano mirror position. So if you saw WITH motion in the plano mirror position, the reflex will be AGAINST in the concave mirror position. Also, if you see neutralization in the plano mirror effect, then it will be neutral in the concave mirror effect.

EXAMPLE 1:
SEEING WITH IN THE CONCAVE MIRROR POSITION, SIMPLE MYOPIA

Set the schematic eye, such as the Western Ophthalmics (WO-109), in a −3.00 diopter position by pulling the schematic eye outward to create the “long” eye of myopia. Position yourself at the normal working distance (26 inches). First, look at the reflex in the plano mirror position (sleeve up using the Optec 360 and sleeve down using the Welch Allyn). Note that the AGAINST motion is puzzling. Now, reverse the sleeve of the retinoscope (concave mirror effect) and see WITH motion. Add minus spherical power (the opposite of what you’d do to neutralize WITH motion in the plane mirror position), until the reflex is neutralized. Note that if you chose to neutralize the 90° meridian first, you would then check the 180° meridian second, to see if astigmatism is present. In this example all meridians will be neutralized with a −3.00 sphere, so the refractive error in this example is simple myopia (SM).