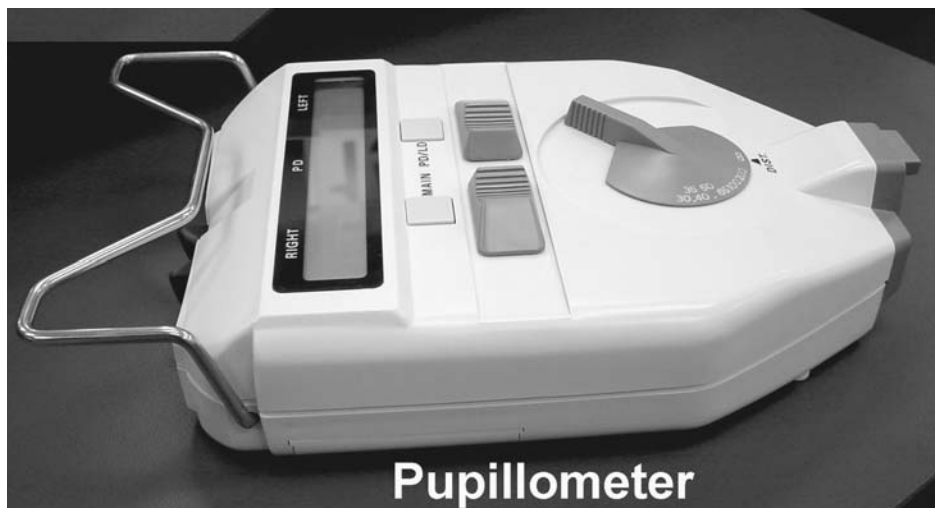


Measurements

PD

PD (pupillary distance) refers to the distance, in millimeters, between pupil centers. It is indicated as either **monocular** (each eye is measured individually) or **binocular** (both eyes measured together). Following is the correct way to take these measurements.

The instrument used to measure a PD is a **pupillometer**.



To Measure a Monocular PD

- Make sure you are at eye level with your patient and that the pupillometer remains level.
- Set the dial for ∞ (infinity).
- When measuring the right eye, **occlude** or block the left eye, by using the L or R eye indicator switch.
- Move the lever for the right eye until the vertical line on the pupillometer bisects or divides the light reflection on the cornea.
- Repeat the process for the left eye, occluding the right eye.
- Turn the pupillometer over and record the measurement for each eye. Example measurements are 31/30. (The first number always refers to the right eye.) Note: If there is a greater difference than 2 mm between the measurements, repeat the steps to verify your findings.

It is extremely important to take monocular PD measurements when fitting progressive lenses.

To Measure a Binocular PD

- Make sure you are at eye level with your patient and that the pupillometer remains level.
- Set the dial for ∞ (infinity).
- Do **NOT** occlude the eyes.
- Move the levers for both eyes until the vertical lines on the pupillometer bisect (divide) the light reflection on both of the corneas.
- Turn the pupillometer over and record the single binocular number. Adult distance PDs will typically range from 60-64 mm.
- Reset the dial for 40 mm to measure the near PD.
- Move the levers for both eyes until the vertical lines on the pupillometer bisect the light reflection on both of the corneas.
- Turn the pupillometer over and record the single binocular number. A typical near PD will be 3 to 4 mm smaller than the distance PD. The reason for this is that eyes converge, or move inward, when they focus at near such as for reading. An example of a binocular PD reading is 64/61. (The first number is always for distance; the second number is for the near.)

It is imperative that you pre-adjust all frames before taking any measurements.

Optical Center

The **optical center (OC)** of a lens is the point at which light rays can pass with no deviation. It is important that a lens is ground so that its optical center is directly in front of the patient's pupils to allow optimum vision through the lens. The patient's PD and an optical center height will determine the placement of the lens within the frame. It is important to specify an optical center height when fitting any polycarbonate, high index or progressive lens. This measurement is critical to insure patient satisfaction.

To Measure for an Optical Center



- Make sure you are at eye level with your patient, taking their posture into consideration.
- Closing one eye, place a small dot at the center of the pupil. (Close the eye that is opposite the patient's, i.e. close your right eye if you are dotting the patient's right eye and vice versa.)
- Instruct the patient to look at your open eye.
- Remove the frame and, using a PD ruler, measure from the dot to the deepest part of the frame. This is the optical center (OC) height.

Measurement example:

