BACK TO THE BASICS—FITTING A PAL

Everyone knows how to fit a PAL, but—for some inexplicable reason—about 30% of PAL orders arriving in the typical laboratory have binocular PDs! Considering most PAL remakes are due to fitting errors/changes, perhaps a refresher would be helpful.

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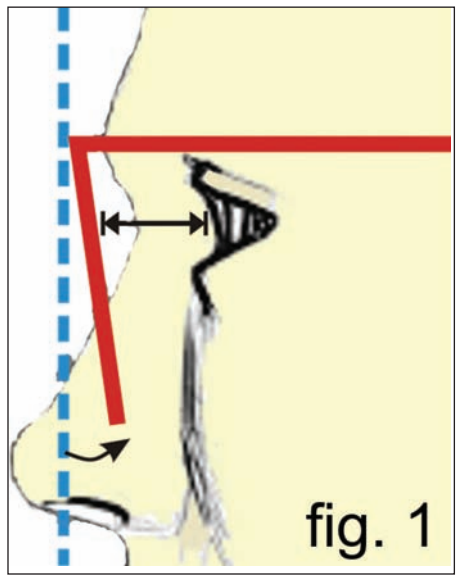
Successful PAL fitting can be broken

down into two basic segments:

Frame selection & adjustment
Care should be taken to select a frame of adequate area above & below the pupil. Frames must provide a minimum of 14mm of viewing area below the pupil, such as Varilux® Ellipse® (Fig. 1), and at least 7mm to 10mm above the pupil (Fig. 2). Once an appropriate frame has been selected, fit the frame to the patient's face prior to taking any measurements with the following adjustments:
General frame alignment—Horizontal alignment across the face.

Vertex distance—Fit the frame as close to the eyes as possible, which will increase field of view and minimize aberrations. To decrease the vertex distance, adjust the pads closer to the frame front.



Pantoscopic tilt—Around 8° of pantoscopic tilt is optimal. (View the frame from the side, and the lenses should tilt in slightly at the bottom.) As a reference, the frame front in Figure 1 has exactly 8° of pantoscopic tilt. Pantoscopic tilt is especially important in a PAL fit, because the patient's pupil is located 4mm above the optical center. The 8° tilt ensures the optical axis of the lens passes through the eye's center of rotation (which is optimal for any lens fit).

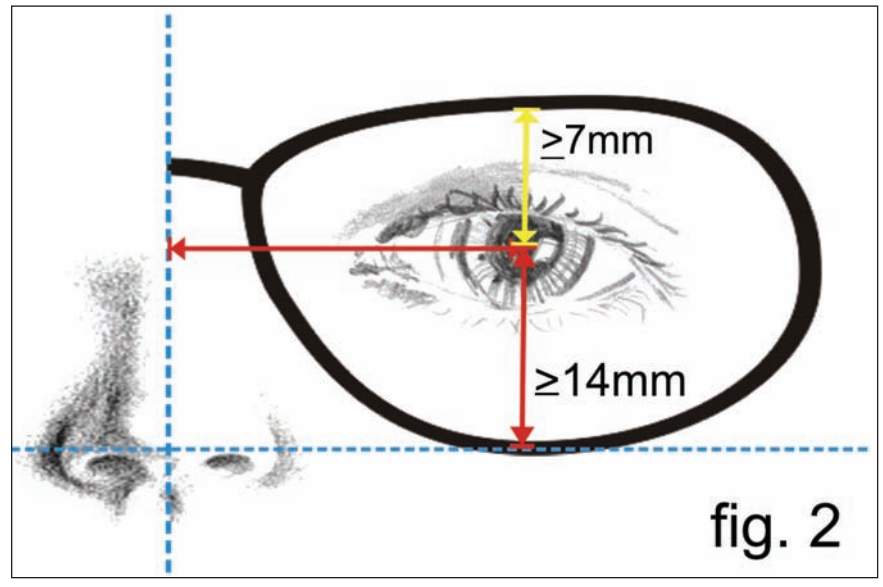
Faceform (a.k.a., "wrap")—Slightly positive faceform is optimal. (View the frame from the top, and the lenses should wrap slightly around the front of the face.) Positive faceform increases field of view and helps reduce awareness of backside reflections.

Fitting & Frame Measurements

Improper fitting is the leading cause of "non-adapts." Once the frame is properly adjusted, take the following measurements:

Monocular fitting heights—Using a ruler or a specialized device, such as the "Y-Stick", individually measure the distance from the pupil centers to the lowest edge of the eyewires (include the bevel height as well).

Monocular pupil distance—Using a corneal reflection pupilometer (CRP) with the knob set to infinity (∞), measure the monocular pupillary distances. Note: Check the CRP regularly to ensure it is properly calibrated. (Set the sliders to 30mm on each eye and measure the distance between the two wires, which should be within 1mm of 60mm. Your Essilor Sales Consultant can assist with this procedure.) Monocular PDs are vital to a proper PAL fit, ensuring the patient's eyes will track through the progression properly.



Indicate the frame box measurements—This is important to ensure lenses will be properly sized (and can affect lens thickness).

- The "A" measurement is the horizontal distance from side to side of each lens.
- The "DBL" is the distance between the inner edge of each lens—the bridge. Both are usually indicated on the frame (e.g., 46□16). The combination of the "A" and "DBL" represents the distance between the centers of the lenses.
- The "B" measurement is the vertical distance from the frame top to frame bottom.
- The "ED" (effective diameter) is the longest meridian across the surface of the lens. Proper ED measurement is especially crucial when ordering plus lenses. (An ED ordered too small will not cut out, an ED ordered to big will result in a thicker lens.) A tracing is the optimal way to send frame parameters to the laboratory, and will ensure optimal lens size and thickness. "Remote tracers" are available from many labs. (The tracer is located in the ECP office and electronically submits information to the laboratory.)

Simple fitting steps, such as these, should go a long way in reducing remakes and make the whole food chain of labs, ECPs, and patients much happier, and satisfied, campers.

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