

Slide 1

Basic Dispensing for the  
Paraoptometric Assistant

©2022  
Alex Yoho, ABOM

---

---

---

---

---

---


---

---

Slide 2

A Completed Form

- Patient's Name
- Date
- Patient's PD
- Lens Type
- Lens Material
- Fitting height
- Coatings and tints
- Frame information
- Frame status
- Check account info



---

---

---

---

---

---


---

---

Slide 3

Patient's PD

A traditional method of taking the interpupillary distance



---

---

---

---

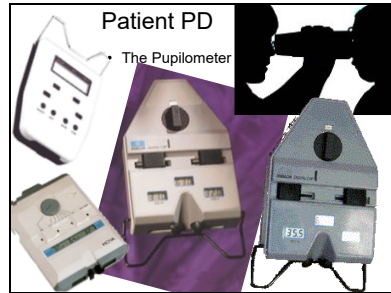
---

---

---

---

## Slide 4



---

---

---

---

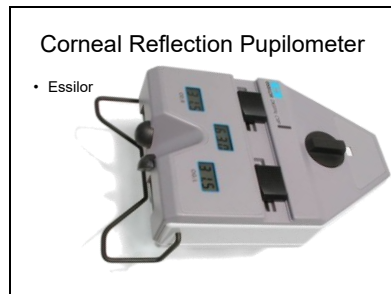
---

---

---

---

## Slide 5



---

---

---

---

---

---

---

---

## Slide 6

- Pupilometers are more consistent and more accurate than the PD rule.
- Pupilometers measure the corneal reflex and hence the distances between the visual axes and not just the pupil centers. This is why the pupilometer appears to read narrow.
- Pupilometers have been shown to reduce reject rates for progressive lenses in practices which have changed from the PD rule to the pupilometer.
- Pupilometers look more professional and give the patient a greater perception of accuracy when filling his/her Rx (appearances do count).
- Pupilometers eliminate parallax errors, which are almost unavoidable when your PD differs appreciably from the client's.
- Pupilometers take monocular PDs quickly, easily and accurately.
- Pupilometers allow you to take near PD measurements for a range of working distances.
- Pupilometers allow you to occlude one of the patient's eyes while taking measurements of someone with strabismus.
- PD rules are great for measuring almost anything other than a PD. They are fine for frames; perhaps we should be calling them 'frame rules'.

---

---

---

---

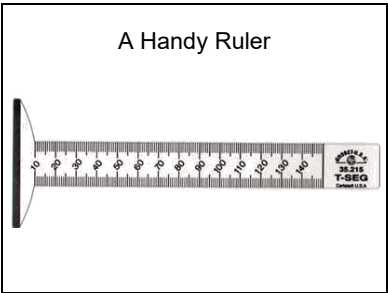
---

---

---

---

Slide 7



---

---

---

---

---

---

---

---

Slide 8



---

---

---

---

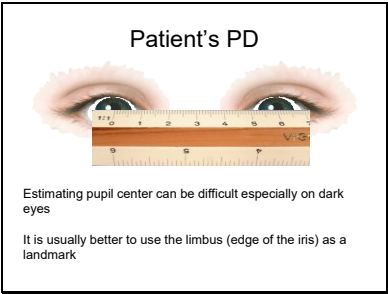
---

---

---

---

Slide 9



---

---

---

---

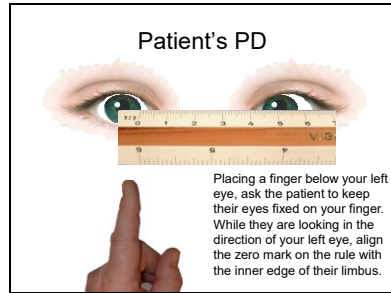
---

---

---

---

Slide 10



---

---

---

---

---

---

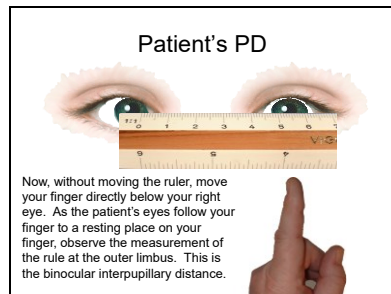
---

---

---

---

Slide 11



---

---

---

---

---

---

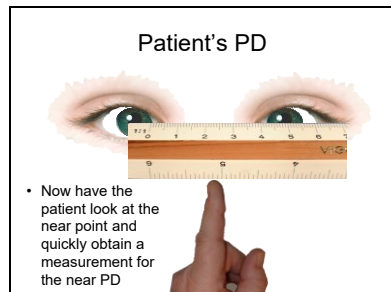
---

---

---

---

Slide 12



---

---

---

---

---

---

---

---


---

---

Slide 13

What about an infant?

- Simply measure from the inner canthus on one eye to the outer canthus on the other eye.



The diagram shows a close-up of an infant's face. A wooden ruler is held horizontally across the bridge of the nose, with its edge aligned with the inner canthus (inner corner) of the left eye and the outer canthus (outer corner) of the right eye. The measurement is taken from the 0 mark on the ruler to the mark corresponding to the right eye's outer corner.

---

---

---

---

---

---

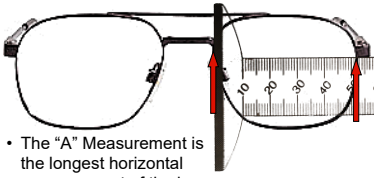
---

---

Slide 14

"A" Measurement

- The "A" Measurement is the longest horizontal measurement of the lens shape.



The diagram shows a pair of glasses with a ruler placed horizontally across the lenses. Two red arrows point to the widest horizontal points of the lenses, indicating the measurement. The ruler shows a measurement of approximately 5.5 inches.

---

---

---

---

---

---

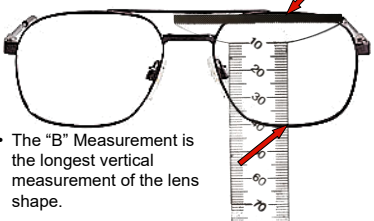
---

---

Slide 15

"B" Measurement

- The "B" Measurement is the longest vertical measurement of the lens shape.



The diagram shows a pair of glasses with a ruler placed vertically next to the lenses. Two red arrows point to the tallest vertical points of the lenses, indicating the measurement. The ruler shows a measurement of approximately 4.5 inches.

---

---

---

---

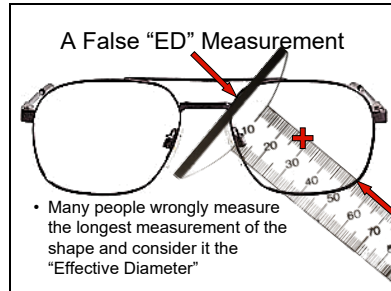
---

---

---

---

Slide 16



---

---

---

---

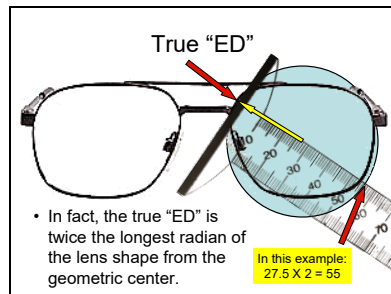
---

---

---

---

Slide 17



---

---

---

---

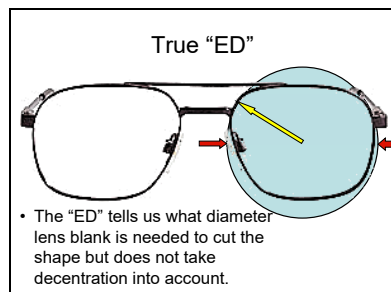
---

---

---

---

Slide 18



---

---

---

---

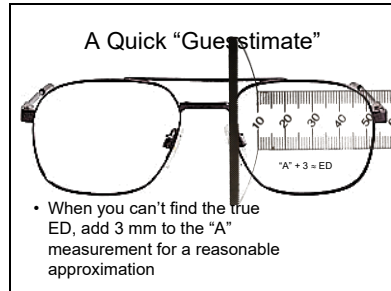
---

---

---

---

Slide 19



---

---

---

---

---

---

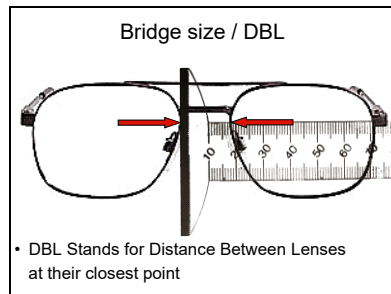
---

---

---

---

Slide 20



---

---

---

---

---

---

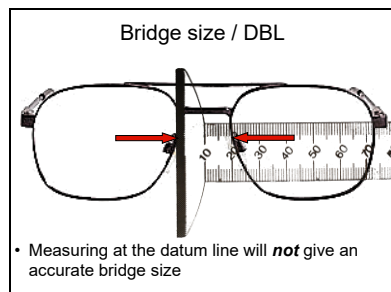
---

---

---

---

Slide 21



---

---

---

---

---

---

---

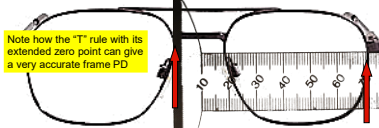
---

---

---

## Slide 22

**Frame PD**



• The "Frame PD" is actually the "A" measurement & the DBL added together

• This measurement is critical to knowing how much to decenter a lens

---

---

---

---

---

---

---

---

## Slide 23

**Calculating Decentration**

- $A + DBL = \text{Frame PD}$
- $\text{Frame PD} - \text{Patients PD} = \text{Decentration}$

---

---

---

---

---

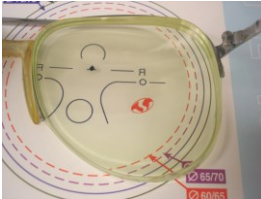
---

---

---

## Slide 24

**Checking Progressives for Cut-Out**



- Place a dot on the sample lens exactly at the patient's pupil.
- Place the lens on the chart with the pupil dot on the cross.

---

---

---

---

---

---

---


---



Slide 25

Measuring for frame selection

- Selecting a frame intelligently demands that you know:
- The patient's PD
- The frame PD
- Why?



---

---

---

---

---

---


---

---

Slide 26

Measuring for frame selection

- It really makes a difference in lens thickness



---

---

---

---

---


---

---

---

Slide 27


Choosing the right frame size to keep lenses thin



The weight and thickness are proportional to the size of the lens

Lens thickness due to size

The knowledge of the frame stylist must be conveyed to the patient



---

---

---

---

---

---


---

---

Slide 28

### Choosing the right frame size to keep lenses thin

The need for decentration is eliminated and the lens is the same thickness on each edge.



A lens must be decentered if the eye is not exactly centered in the frame.

Lens thickness due to decentration

---

---

---

---

---

---


---

---

Slide 29

### Choosing the right frame size to keep lenses thin

Try to select a frame whose frame PD closely matches the patients PD.



A good rule for fitting is to keep the total decentration at 6mm or less.

---

---

---

---

---

---

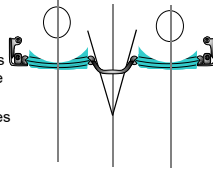
---

---

Slide 30

### Patient's PD

- Why do we take a PD?
- To position the lens correctly before the eye
- Note how the lenses thicken with decentration



---

---

---

---

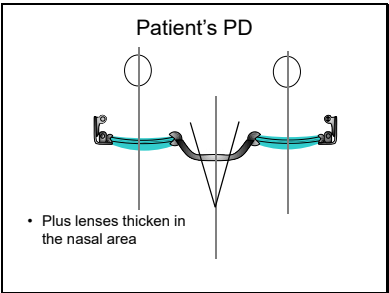
---

---

---

---

Slide 31



---

---

---

---

---

---

---

---

Slide 32

**Summary Checklist for Keeping Lenses Thin**

- Small frames make for thin lenses.
- Decentering lens to match PD creates thickness.
- Use High Index Materials
- Use Aspheric Lenses

---

---

---

---

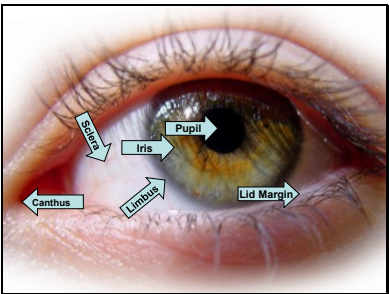
---

---

---

---

Slide 33



---

---

---

---

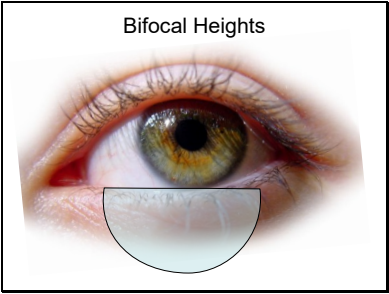
---

---

---

---

Slide 34



---

---

---

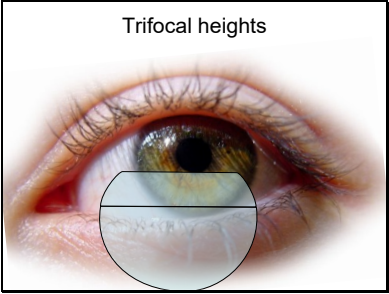
---

---

---

---

Slide 35



---

---

---

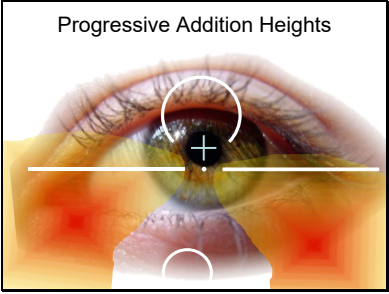
---

---

---

---

Slide 36



---

---

---

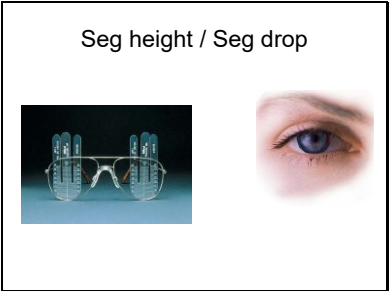
---

---

---

---

Slide 37



---

---

---

---

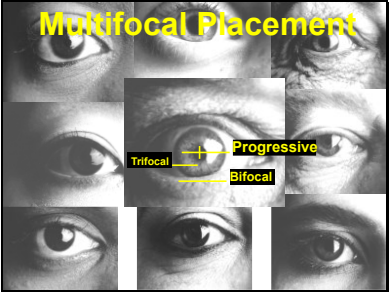
---

---

---

---

Slide 38



---

---

---

---

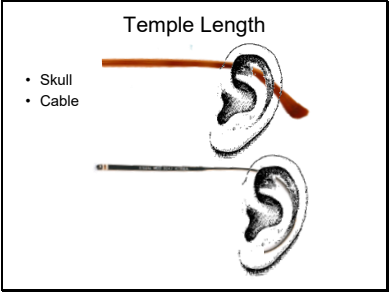
---

---

---

---

Slide 39



---

---

---

---

---

---

---

---

Slide 40

### Selecting Eyewear With a Purpose

- Analyze the prescription to determine limiting factors, and opportunities to correct them.
- Know the patients interpupillary distance. Consider how it will impact the frame selection.
- Determine the visual lifestyle needs of the patient, i.e. safety, occupation, recreation, hobbies.

---

---

---

---

---

---

---

---

Slide 41

### Selecting the Proper Bridge

- Do not allow the patient the opportunity to become fond of a frame until you have made sure that **maximum contact** is possible
- Place the nosepad between the ridge of the septum and the eye

---

---

---

---

---

---

---

---

Slide 42

### One Piece bridges

---

---

---

---

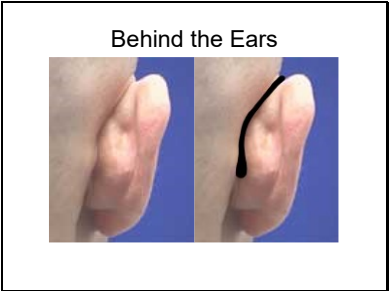
---

---

---

---

Slide 43



---

---

---

---

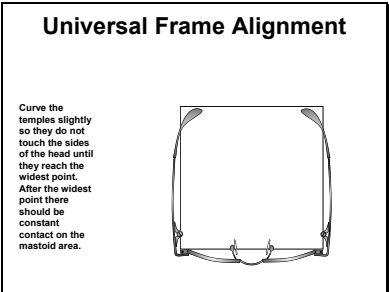
---

---

---

---

Slide 44



---

---

---

---

---

---

---

---

Slide 45

UNIVERSAL ALIGNMENT  
(Use the system!)

<p>•Start with the bridge</p> <ul style="list-style-type: none"><li>• Check for "x-ing"</li><li>•Make sure lenses are coplanar.</li><li>•Check for frontal alignment.</li><li>•Always double check previous adjustments.</li><li>•Make nose pads even.</li></ul>	<p>•The Eyewire</p> <ul style="list-style-type: none"><li>•Check for rolling.</li><li>•Look for Pressure points.</li><li>•Make sure the barrels are closed.</li><li>•Make sure the eyewire follows the bevel (base curve).</li></ul>
<p>•The Endpiece</p> <ul style="list-style-type: none"><li>•Temples should be square with front. (X axis)</li><li>•Temples should lay flat. (Y axis)</li><li>•Temples should fold well. (Z axis)</li></ul>	<p>•The Temples</p> <ul style="list-style-type: none"><li>•Must butt well at hinge.</li><li>•Shank may be curved.</li><li>•Bottom bend standard.</li></ul>

---

---

---

---

---

---

---

---

Slide 46

### FITTING FROM A UNIVERSAL ALIGNMENT

•A good fit is usually determined by the patient as a comfortable fit that will not slide down the nose.

•As you pull the eyewear forward they should catch the ears evenly.

•If the pressure is even, there will be a balance that creates no pressure at all on the sides of the nose.

---

---

---

---

---

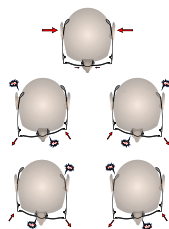
---

---

---

Slide 47

### FITTING FROM A UNIVERSAL ALIGNMENT



---

---

---

---

---

---

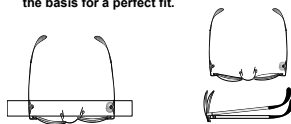
---

---

Slide 48

### Universal Frame Alignment

Beginning at the bridge, and aligning the frame to the very tips of the temples provides the basis for a perfect fit.



---

---

---

---

---

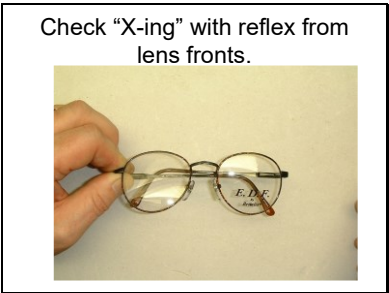
---

---

---



Slide 49



---

---

---

---

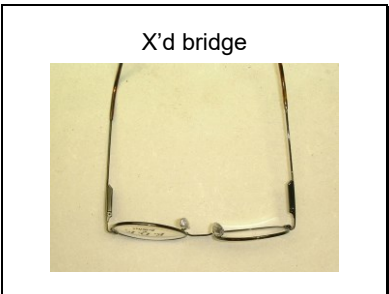
---

---

---

---

Slide 50



---

---

---

---

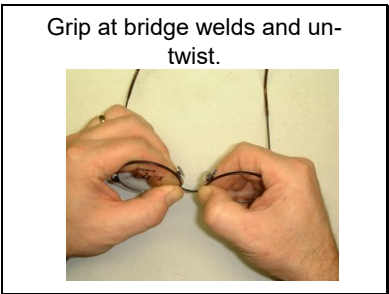
---

---

---

---

Slide 51



---

---

---

---

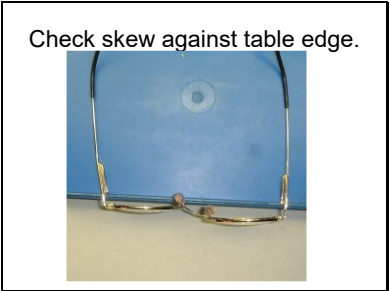
---

---

---

---

Slide 52



---

---

---

---

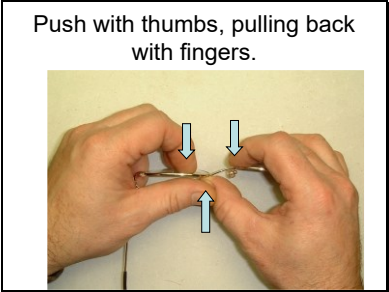
---

---

---

---

Slide 53



---

---

---

---

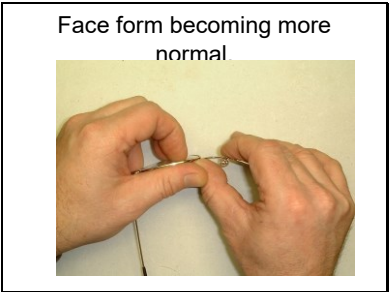
---

---

---

---

Slide 54



---

---

---

---

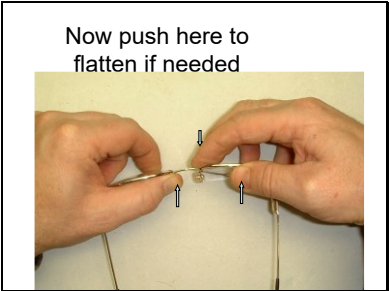
---

---

---

---

Slide 55



---

---

---

---

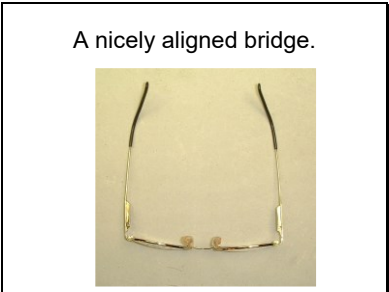
---

---

---

---

Slide 56



---

---

---

---

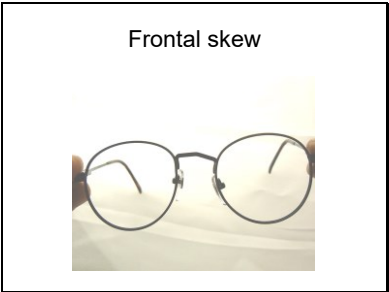
---

---

---

---

Slide 57



---

---

---

---

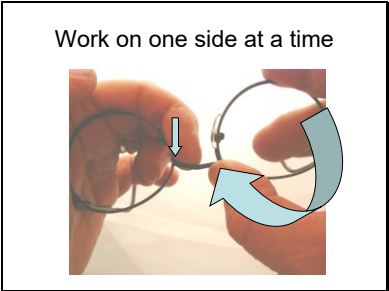
---

---

---

---

Slide 58



---

---

---

---

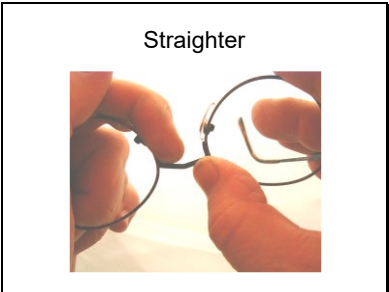
---

---

---

---

Slide 59



---

---

---

---

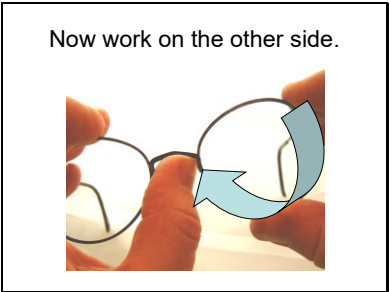
---

---

---

---

Slide 60



---

---

---

---

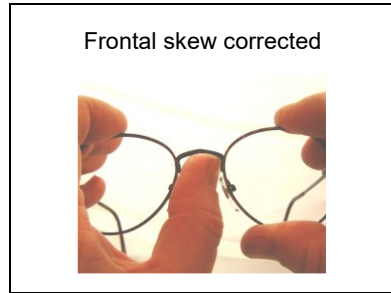
---

---

---

---

Slide 61



---

---

---

---

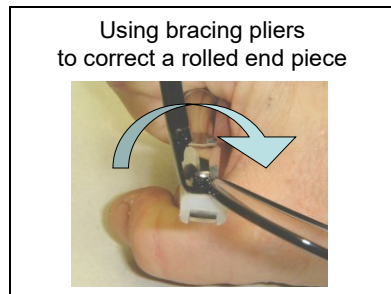
---

---

---

---

Slide 62



---

---

---

---

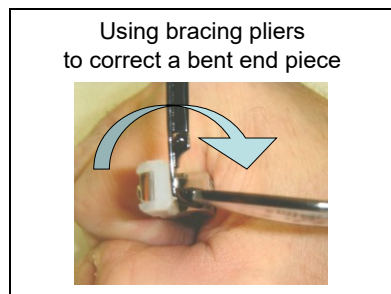
---

---

---

---

Slide 63



---

---

---

---

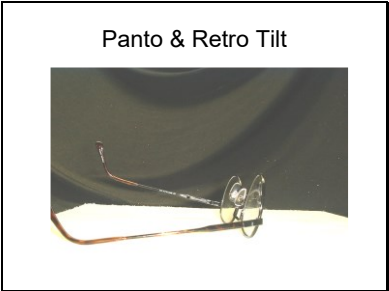
---

---

---

---

Slide 64



---

---

---

---

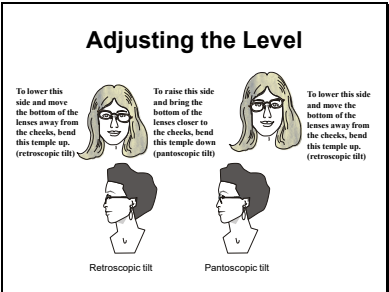
---

---

---

---

Slide 65



---

---

---

---

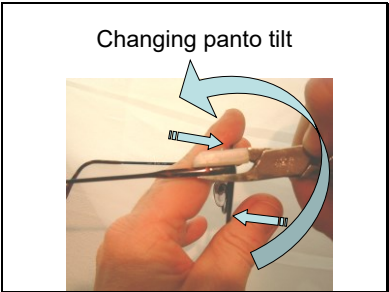
---

---

---

---

Slide 66



---

---

---

---

---

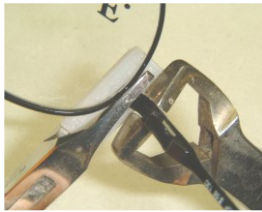
---

---

---

Slide 67

A two pliers approach for major bends



---

---

---

---

---

---

---

Slide 68

Overlapping fold



---

---

---

---

---

---

---

Slide 69

“Cross swords” fold



---

---

---

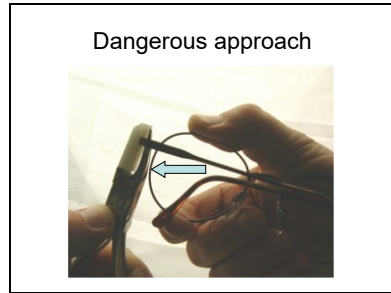
---

---

---

---

Slide 70



---

---

---

---

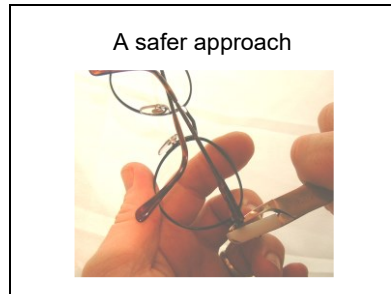
---

---

---

---

Slide 71



---

---

---

---

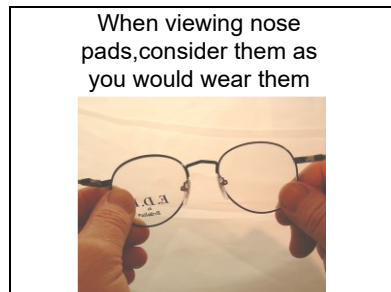
---

---

---

---

Slide 72



---

---

---

---

---

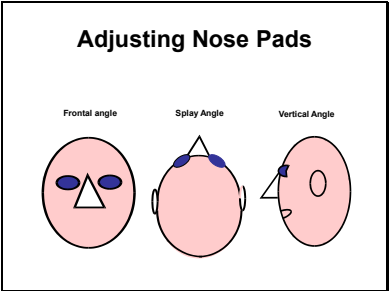
---

---

---



Slide 73



---

---

---

---

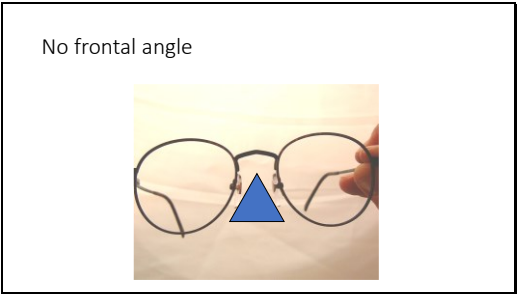
---

---

---

---

Slide 74



---

---

---

---

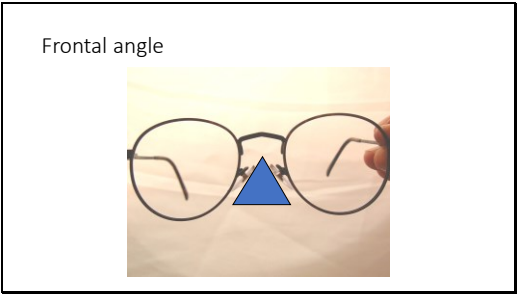
---

---

---

---

Slide 75



---

---

---

---

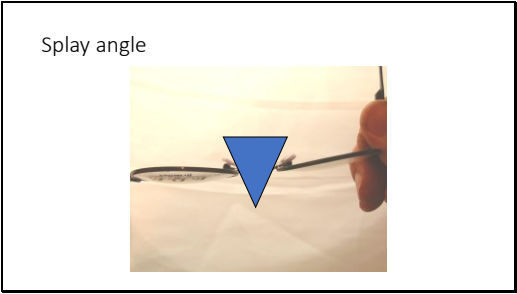
---

---

---

---

Slide 76



---

---

---

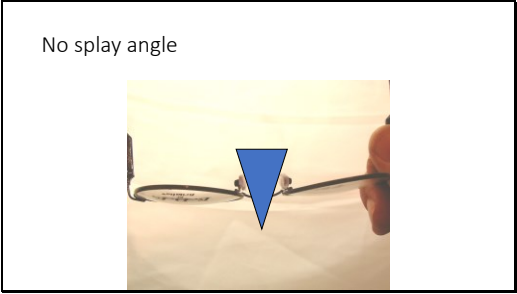
---

---

---

---

Slide 77



---

---

---

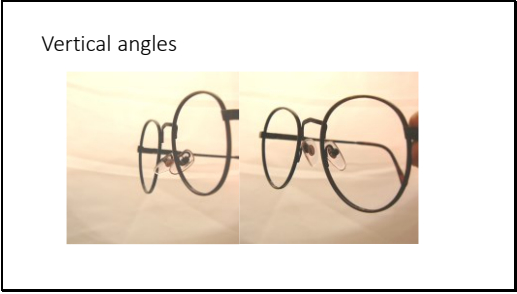
---

---

---

---

Slide 78



---

---

---

---

---

---

---

Slide 79

Narrowing Nose Pads

- Moves pad position up and out
- Frame position follows

---

---

---

---

---

---

---

Slide 80

Holding the pad like a key,  
Turn the top toward the center.



---

---

---

---

---

---

---

Slide 81

Now push the bottom inward.



---

---

---

---

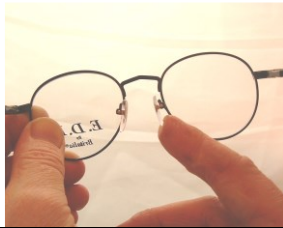
---

---

---

Slide 82

The narrowed nose pad



---

---

---

---

---

---

---

Slide 83

Widening pads

- Moves pad position down and in
- Frame follows pad position

---

---

---

---

---

---

---

Slide 84

Holding the pad like a key,  
angle the top outward.



---

---

---

---

---

---

---

Slide 85

Now push the bottom in with your thumb.



---

---

---

---

---

---

---

Slide 86

Widening completed.



---

---

---

---

---

---

---

Slide 87

Frame Position

- To raise frame – lower pads
- To lower frame – raise pads
- Do **NOT** Change the width between pads!

---

---

---

---

---

---

---

Slide 88

Lowering nose pads



---

---

---

---

---

---

---

Slide 89

Open the pad arm bend.



---

---

---

---

---

---

---

Slide 90

Grip the pad arm close to the weld.



---

---

---

---

---

---

---

Slide 91

Tighten the curl by pushing the pliers toward the frame while turning.



---

---

---

---

---

---

---

Slide 92

Lowering completed.



---

---

---

---

---

---

---

Slide 93

Raising nose pads

- To lower frame – not change pad position

---

---

---

---

---

---

---

Slide 94

Open the bend.



---

---

---

---

---

---

---

Slide 95

Apply the pliers close to the pad.



---

---

---

---

---

---

---

Slide 96

Apply upward pressure with the pliers as you tighten the bend.



---

---

---

---

---

---

---



Slide 97

Pad has been raised



---

---

---

---

---

---

---

Slide 98

Questions

---

---

---

---

---

---

---