Fitting for Success: Understanding the Rx and Guiding the Patient to the Proper Frame

By Tim Elinski

Introduction to Eye Conditions

- Myopia
- Hyperopia
- Astigmatic
- Presbyopia
- Cataract

Myopia – Condition where the Cornea is steeper than normal, causing light rays to fall short of the Retina

Hyperopia – Condition where the cornea is flatter than normal

Astigmatism - Condition where the cornea is shaped like a football, light rays fall in 2 different areas
Astigmatism

Presbyopia – age related condition where the Crystalline lens loses elasticity and focusing at near becomes difficult

**Presbyopia**
- ADD Powers Chart
  - Anyone over 30 may experience vision loss
    - 40 – 44  +1.00 to +1.25
    - 45 – 49  +1.25 to +1.50
    - 50 – 54  +1.50 to +2.00
    - 55 – 60  + 2.00 to +2.50
    - 60 – up  + 2.50 to +3.00

**Anatomy of the EYE** – It is good to know these parts of the eye to help the patient to understand
Cataract – Condition where the Crystalline lens starts to become cloudy and vision becomes impaired

Successful Dispensing
• Analyze the Prescription and direct the patient toward suitable frames.
• The 3 causes of lens Thickness
  • 1 The Rx
  • 2 The Size of the Frames
  • 3 Decentration (How far OC from GC)

Thickness considerations
Rx over + or - 3.00

Lens options
  Polycarbonate
  Mid-Index
  Hi-Index
  Aspheric

Lens Styles
• Single Vision - (stock or grind)
• Bifocal
• Tri-Focal
• Progressive
• Occupational - computer, large segment, HD & Others

Frame Selection
• The Bridge is the most important part in Fitting
• The Frame front should be as wide as the head
• B measurement not hitting cheeks
• Long enough Temple

The Patients old glasses
• Why are they getting new glasses
• Neutralize old lenses
• Base Curve
• Check old measurements PD & SEG
• Check frame fitting
**New Measurements**
- Pre-adjust frames and mark temple
- Dot the frames for center of pupil
- Sometimes the patient’s nose will be unsymmetrical, Pupilometer, and
- Dot lens for PD

**Communication Skills**
- In Myopia, the early stages of presbyopia the patient will tend to take the glasses off to read.
- In Hyperopia, the early stages the patient uses the glasses for reading more than for distance

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**Lense Thickness - Rx, Frame Size & Decentration**

<table>
<thead>
<tr>
<th>Rx</th>
<th>Frame Size</th>
<th>Decentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.60</td>
<td>-1.00 Sphere</td>
<td>9.7 mm</td>
</tr>
<tr>
<td>1.60</td>
<td>-3.00 Sphere</td>
<td>0.3 mm</td>
</tr>
<tr>
<td>1.70</td>
<td>-3.50 Sphere</td>
<td>7.4 mm</td>
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</tbody>
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**Index Versus Edge Thickness for Minus Lenses**

- **1.5 Index**
- **1.6 Index**
- **1.7 Index**

**Aspheric Lense Design**

- \( R - 4.00 - 3.00 \times 180 \)
- \( L - 3.50 - 4.50 \times 180 \)
- \( R - 2.75 - 3.25 \times 90 \)
- \( L - 3.50 - 3.50 \times 90 \)
Small narrow frames with thick Temples

Plus Lenses – oval or round frames

Two clear advantages: Thinner Profile and better Peripheral Optic

Digital aspheric lens design will minimize Chromatic Abberation

Sunlight is the main source of Blue light
Indoor sources are TV, computers, cell phones, fluorescent lights

Visual Light Spectrum 380 – 740 nm
Studies show children absorb more blue light than adults from digital devices
**Blue light – Good or Bad**

- **Pros**: Boosts Alertness, helps Memory, Elevates Mood, used in Therapy for Depression, and help Sleep cycles
- **Cons**: A deficiency in blue light can increase Myopia

**A/R Coatings ?**

- **Pros**: More light passing through 99%, better Acuity, less eyestrain, look better.
- **Cons**: Cost, Many Types, Fingerprints, Grease buildup, Require Special cleaning, Scratch, can Peel and wear off

**A/R Coatings 8 to 10 layers**

**Use care in selecting High Index**

**Digital Technology**

**Properly adjust frames and measure Height**
Progressive lens markings are very important in solving problems (before & after)

**Digital or HD lens design**

- **Pros** – Accuracy up to .001 diopter, wider field of view, less distortion, Thinner profile
- **Cons** – Cost, not only lenses but measuring devices. What Rx is best suited to make a difference?

**Oval or Round Shapes**

Best for High Scripts

**Plastic vs Metal & Rimless**

Large amounts of decentration

High minus mio-disk and lenticular aspheric
Important Considerations

- On Stronger Rx’s I check the base curve, old PD & Seg ht, and in some cases stay closer to what they were used to.
- Same with frames: with stronger Rx’s stay close to (old glasses) their style and fix.
- This also applies to High Astigmatic corrections especially at the oblique axis 45% 135% X

Lens Selection

- Glass – Only about 6% are made of Glass, they are the heaviest weight of lenses, but have superior optics.
- CR-39 – One of the best choices regular prescriptions (+ or – 1.50) also tint well for sunglasses and fashion tints.
- Polycarbonate – I use it about 25% of the time, what I don’t like is scratches too easy, tints poorly, A/R coats decay easily, warp.
- Mid and Hi-Index – I use it in the range (+ or – 3.00 or above)
- Specialty Lens – HD, Trivex, Aspheric – All 3 are great choices but at a higher cost $$$

Communication Finale

- There is really no finale to communication with your Patient but I have found that through my experiences that most the problems that I have had with unsatisfied patients could have been avoided if I had communited with a better understanding.
- My first question is why are we getting new glasses today? This will usually get many responses, and can get a lot of information from them, i.e. frame doesn’t fit, don’t like them, can’t read, computer distance, seeing at night, etc.
- Now at this point I can start steering the Patient proper lenses and certain frames. I also give them options of multiple pairs for different situations and explain.

Frame Selection

- Keep in mind what the Rx thickness will be the frames.
- The Bridge is one of the most Important parts of Fitting.
- Pre-Adjust frame for two reasons. 1. For Proper measurements and 2. So you won’t have to do at Delivery
- PD & SEG HT
  - I always dot the frame for center of Pupil seg ht and sometimes to check PD along with pupilometer.
  - I’m always Double checking - patient sitting and standing

Questions?