PARAOPTOMETRIC RESOURCE CENTER

An Optician’s Toolbox: Does Your Toolbox Measure Up?
by Pamela Cree-Miller, CPOA

Paraoptometrics want to be professional and excel at what they do for their patients and their practices. Even when working in a very busy practice, and time is a valuable commodity, it is important to keep our professional tools sharp, organized, and up to date for our patients and ourselves. The main compartments in our toolbox are: certification and continuing education, tools of the trade, and reference materials.

CERTIFICATION AND CONTINUING EDUCATION
A paraoptometric may have some job responsibilities that crossover into areas that an optician may perform. A well-rounded optician has knowledge in many areas of the optical industry. There are professional organizations that provide national certification examinations for opticians. The American Board of Opticianry (ABO), National Contact Lens Examiners (NCLE) and Commission on Paraoptometric Certification (CPC) all provide national certification examinations that cover knowledge required to become an optician. The CPC offers three levels of certification that are tailored for a complete optometric practice. Vital information is learned in the many aspects of the business. Certification means being more valuable to the employer and the patients by expanding the staff’s knowledge and increasing their skills. Certification shows dedication to the industry and is a plus on resumes. Many employers now seek paraoptometrics that are certified, or they require certification within a short period of time after hiring. Some states also require licensing for opticians. Take time to evaluate future goals and employment opportunities to make an informed decision on which certification is best.
Earning certification promotes excellence in the field of optometry by encouraging professional growth, and establishes and measures the level of knowledge of the individual. Once certified, continuing education (CE) is necessary in order to stay current and informed on advances in technology and procedures. You can earn CE by attending state, regional and national conferences, taking online courses, or reading educational articles written by industry leaders. It is beneficial to attend a conference at least every couple of years. Conferences provide networking opportunities with others in the profession. Many professional associations, like the AOA Paraoptometric Resource Center, provide CE opportunities for their membership. Membership offers opportunities to earn up to six free CE credits per year along with discounts to the PRC’s annual education conference. Other associations like the National Academy of Opticianry (NAO) and the Opticians Association of America (OAA) offer similar member benefits.

Trade magazines may also contain CE opportunities with a paid subscription. Many of the industry representatives provide training and educational support to increase knowledge and skills. Finding continuing education opportunities is easy; taking time to earn the CE requires commitment and dedication.

Patients rely on the knowledge and expertise of the optometrist and the paraoptometric to meet their vision care needs. It is through certification and continuing education that we keep our knowledge tools “sharpened” rather than having them become dull and inefficient over time.

TOOLS OF THE TRADE

- **Manual lensometer**- It is important to learn to use a manual lensometer proficiently. Knowing how to be able to manually verify and neutralize single vision, multifocal and progressive lenses are an important job responsibility. Be sure to know and be comfortable with prism verification and ANSI standards.
• **Pupilometer for Pupillary Distance (PD)** - Use a pupilometer to take correct monocular PDs dependent on the patient’s visual needs.

• **PD stick or mm ruler** for segment heights - Use a mm ruler to take appropriate segment heights for different multifocal lenses. Do not forget single vision optical center needs.

• **Geneva lens measure for base curves** - You should know how to use a Geneva lens measure and the basics regarding lens base curves.

• **Distometer for vertex distance** - Be able to use a distometer to check vertex distance when the RX warrants it.

• **Lens alignment pliers** - Using a lens alignment plier to change the axis of a lens if needed.

• **Assorted frame adjustment pliers and penlight for checking frame x-ing** - An optician should be proficient with frame adjustments and be able to check frame x-ing using a penlight.

• **Three piece drill mount tools** - Practice taking apart and putting back together a three-piece compression mount.

• **Frame warmers** - The new frame designs on the market today can be challenging to adjust. Become informed on the types of materials, when to use heat, and how much heat is needed.

There are many tools the optician uses each day for routine adjustments and repairs, so become proficient using them. Take time to browse through the various tool catalogs to see what is available. Grobet, Vigor, Western, and Hilco are just a few good resource catalogues to review. Using the right tool for the job will increase efficiency. Representatives for the tool companies can be helpful in how a particular tool should be used. Although many of these tools can
make the job quite a bit easier, weigh the cost of the tool with the expected usage before purchasing.

**REFERENCE MATERIALS**

1. Computer - it is hard to imagine a dispensary not using computers for order entry. Increase knowledge of the desktop shortcuts to keep information close at hand.

2. A copy of the ANSI standards for dress and safety eyewear is critical to have available for quick references.

3. Information from lens representatives, emailed to the office as a PDF file can be saved to a desktop folder.

4. Lens material availability and coating compatibility is very useful at the order entry process.

5. Access to various lens thickness calculators can be helpful to give the patient an overall idea of the finished lens thickness. Opticampus.com, the Optical Tool application on an iPhone and thelensguru.com are handy Web resources.

6. One document folder in your computer that holds the different lens attributes i.e. index of refraction, specific gravity, and Abbe value.

7. Formulas listed on a “cheat sheet” may be helpful at first to refer to while learning them. A few of the formulas to know include:

   - **Decentration** - \( \frac{1}{2} \) (FPD – Patient PD) = decentration. The Datum system adds the eye size and DBL to get the FPD. I was taught to add 1 mm to the frame PD in this equation to compensate for the eye wire. DBL is short for distance between lenses or bridge size.

   - **Lens blank size** - this is used to find the minimum blank size for single vision lenses. Frame ED+(2 x decentration)+2 = MBS (minimum blank size)

Using a finished or stock lens has many advantages for the myopic patient. Stock lenses can have a 1.0 –1.4 mm center thickness and that means a thinner more cosmetically appealing product for your patient. Using stock SV anti-reflective lenses have a quicker turn-around time without sacrificing quality.
Stock lenses also cost less. If the patient is hyperopic, stock lenses are acceptable for powers less than 2 diopters. For stronger plus powers, your lab will be able to surface a semi-finished blank to get a thinner end product.

- **Prentice’s Rule** - \( P = \frac{(d \times F)}{10} \). \( d \) = (decentration) or distance from the optical center in mm. \( F \) = the power of the lens in diopters. \( P \) = the prism diopters. This formula gives you the prismatic effect when the PD measurement on the eyewear does not match the patient's PD.

- **Lens thickness** - If your patient inquires about the lens thickness of their SV lenses, you will be able to approximate this with the lens thickness formula. There are internet calculators that will do the work for you, quite quickly. The formula is: \( \frac{(MBS/2)^2 \times \text{Power (spherical equivalent)}}{2000 \times (n-1)} \). \( MBS \) is minimum blank size and \( n \) is the index of refraction. You then need to add edge thickness of a plus power and center thickness if a minus power. You can check with your lab for their required minimum thicknesses. Your lab must follow ANSI standards, which differ between dress and safety. These requirements can vary depending on actual lens materials used. Edge thickness on a plus power with a standard bevel will be a minimum of 1.2 mm. The same plus power with a grooved mounting will be a minimum 1.8 mm. Center thickness for a minus power with a standard bevel will vary depending on whether the lens is a stock product or is being surfaced by your lab. If you are able to use a stock lens, the center thickness can be as low as 1.0 mm. A lens that is surfaced will have a center thickness more like 2.0 mm. The end result should be an approximate center thickness for plus powers and edge thickness for minus powers. Using this formula helps you understand how frame sizes, lens materials and lens mountings can affect the cosmetics of the finished product.

There are many textbook and internet sources to aid you in learning the many formulas used in optics today.

8. Many frame companies have virtual catalogs for quick access. This is great in showing a patient various spectacle colors or styles. Frame representatives can help keep the catalogs up-to-date. Save on costs by ordering fewer frames for
patient viewing. The FRAME data quarterly subscription is available in DVD and print. This subscription also includes the Contact Lens Quarterly and a lens availability book. The lens availability book tells about the numerous lenses on the market today.

9. Take advantage of technology by accessing information via smart phones and tablet devices. Patients love technology. It is why they are open to the latest and greatest digital lens designs. Use technology for patient education with the help of various lens manufacturer applications. Critique the whole application before using it in the dispensary. Use an education approach rather than a sales pitch. This technology can definitely increase sales. When patients are educated on frames, lens materials and options, they will be more satisfied with their choices. Make sure all opticians are trained well with each application. Increase patient trust by being knowledgeable of the technology being used in the practice.

10. Spend a little time on the computer to become familiar with all the applications for optical use. There are applications that take a picture of the patient with different frames on. Visually challenged patients will love this great customer service benefit. If you have an iPad, no application is needed. Consider patient confidentiality by having a background screen to take a picture against so no other patients are in the viewfinder. If the patient would like to get an opinion from a friend, email the photo directly from the iPad. Delete photos promptly as they can come up in other applications from a photo album.

11. The Optical Laboratories Association (OLA) publishes a Progressive Lens Identifier. This is a printed resource that can be used daily. Check out their website [http://www.ola-labs.org/i4a/pages/index.cfm?pageid=1](http://www.ola-labs.org/i4a/pages/index.cfm?pageid=1) for attaining other useful resources.

Taking into consideration the information in this article, how well does the practice’s optician toolbox measure up? Is staff sharing knowledge with each other? Is there a set plan for gathering ongoing resources and information to expand upon the tools that are in the practice’s current
toolbox? If not, discuss with staff ways to acquire information and assign someone as the toolbox resource person.

The more tools the practice has available and the more knowledgeable the staff is in their use, the better that translates into a more rewarding and satisfying experience for the patient.

Ms Cree-Miller has worked in the optical field since 1983. She has worked in private practice, retail optical and returned to the clinical setting. She has enjoyed working as an optician, paraoptometric technician, refractive surgery coordinator, lab technician, and business office manager. She loves to inspire and share her knowledge with others. When you love what you do, it shows!
An Optician’s Toolbox: Does your toolbox measure up?

To receive one hour of continuing education credit, those taking the quiz must be AOA Associate members and answer seven of the 10 questions correctly. This exam consists of multiple-choice questions designed to measure the level of understanding of the material covered in the continuing education article “An Optician’s Toolbox: Does your toolbox measure up?”

This article is worth one hour of continuing education credit from the Commission on Paraoptometric Certification. Expiration date: Dec. 31st of this year

To receive continuing education credit, complete the information below and mail with your $10 processing fee, $10 per hour of CE before December 31st of this year to the:
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Select the option that best answers the question.

1. Who publishes a Progressive Lens Identifier?
   a. Optical Laboratories Association (OLA)
   b. Commission on Paraoptometric Certification (CPC)
   c. National Opticians Association (NOA)
   d. AOA Paraoptometric Section (PS)

2. What does MBS stand for?
   a. Maximum blank size
   b. Minimum blank standard
   c. Minimum blank size
   d. Minimum bifocal size
3. In this formula, \((MBS/2)^2 \times \text{Power (spherical equivalent)}/ 2000 \times (n-1)\), what does the \((n)\) represent?
   a. Plus power
   b. Minus power
   c. Thickness of the lens
   d. Index of refraction

4. What is the essential tool in the office to neutralize lenses?
   a. Prentice’s Rule
   b. Lensometer
   c. Keratometer
   d. Progressive lens identifier

5. What system adds the eye size and DBL to get the FPD?
   a. Decentration system
   b. Datum system
   c. ANSI standard system
   d. ABBE value system

6. Which of the following is NOT a factor in determining prism using Prentice’s Rule?
   a. Decentration
   b. Power of lens in diopter
   c. Dividing by “10”
   d. Determining astigmatic deviation

7. What is the edge thickness for a standard bevel for hyperopic?
   a. Not important if it is a polycarbonate lens
   b. \(\frac{1}{2} \cdot (\text{FPD} – \text{Patient PD})\)
   c. Not less than 2 diopters centration
   d. Minimum of 1.2 mm

8. The formula \(MBS/2)^2 \times \text{Power}/2000 \times (n-1)\) relates to:
   a. ANSI- standards
   b. Prentice’s Rule
   c. Vertex distance
   d. Minimum blank size and the index of refraction

9. What does the distometer measure?
   a. Base curve
   b. Pupillary Distance
   c. Vertex distance
   d. Prismatic Effect
10. The CPC offers how many levels of certification for a Paraoptometric?
   a. Two levels
   b. Three levels
   c. CPC does not offer certification
   d. Three levels plus a Master Paraoptometric Certification

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