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New York State Continuing Education Main-In Course

Dispensing Eyewear To Children

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Marchon Eyewear Inc. Training Center

NYS CEC Code #00-9

Children up to 10 years of age are among the most difficult age-groups to fit comfortably with eyeglasses. This is because their nose and ear characteristics are soft and rapidly changing and, also, because youngsters are typically careless in the way they handle their eyewear. Thus, dispensing glasses to kids is an art involving mechanical, physiological and managerial skills.

In line with dispensing glasses to children, this ABO-approved course presents five sections, as follows:

- I. Proper Selection Frame.*
- II. Taking accurate A.P.D. measurements..*
- III. Common problems associated with dispensing glasses to kids*
- IV. Solving common problems encountered when fitting eyewear to children.*
- V. Assuring compliance with wearing and caring instructions.*

I. Proper Frame Selection

When selecting proper frames, the dispenser quickly learns there are two persons to satisfy: the child and the parent. Here's how to please both:

1. For fitting kids who have never worn glasses before, the first thing to do is to assure the parent there's no stigma to young persons wearing glasses since modern styling has made specs an "in" thing.

2. Allow new wearers to handle several frames to get the "feel" of them and also to lose any fear about having to wear them.

3. Question the child about his or her favorite color and agree strongly with the shade you know will suit the youngster's eye color, complexion and hair coloring.

4. Of course, parents would like to get into the act here,

but try to convince them youngsters enjoy their glasses much more when they have a hand in the decision. Stress the fact you will be guiding their boy or girl so that they won't choose a frame that's unbecoming or ill-fitting.

5. For kids who have worn glasses previously, look critically at the frame to note what parts have been most abused, and then guide the parent's acceptance into a style that's reinforced at those points.

6. Avoid large sizes. There's no rationale for making glasses too large since, in most cases, a child's prescription will need changing before he outgrows his frames. Oversized eyewear only leads to excessive and unnecessary weight.

7. Designate a special section of your dispensing room for these young people. This area should be outfitted and equipped with frame samples and displays featuring Story book and other favorite children's characters. Displays should also be seasonal, such as toy school buses at back-to-school time or Santa-related toy figures around Christmas time. Pictures of your young patients wearing their new glasses can be displayed, showing that it's fun to wear specs. It's also a good idea to use child-sized tables and chairs and to position mirrors at kids eye level to help provide interesting and friendly surroundings.

8. Separate the parent from the child by placing visitors' chairs a few feet from the fitting table. This permits you to maintain maximum control over proper frame selection.

(Note: Although studies have shown there's very little difference between young boys' and young girls' measurements, girls are usually more mature than boys during childhood and, therefore, tend to be more selective than boys in choosing eyewear.)

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This course is worth one (1) New York State Continuing Education Credit, which can be applied to Ophthalmic Dispensing licensing requirements.

II. Taking Accurate A.P.D. Measurements

Unless you use a sophisticated pupillometer, taking anatomical pupillary distances (A.P.D.s) manually on children can be a frustrating chore because the kids' eyes will wander all over the place. To maintain proper fixation while taking manual P.D.s on these patients, several clever devices are available that not only accomplish their purpose but delight youngsters as well.

Young folks' steady fixation during A.P.D. measurements can be successfully achieved by using a piece of candy (for example, a red-and-white peppermint stick). The candy holds the youngster's attention more effectively than mere finger or penlight fixation. You can offer the candy to the child (with the parents' permission, of course.)

III. Common Problems Associated With Dispensing Glasses To Kids

A basic concept for fitting and adjusting eyewear, of course, is to distribute the frame's weight over the greatest bearing surface, thus keeping pressure points to a minimum.

Essentially, the bridge of the nose has to carry the frame's weight while the temples must stabilize the frame and keep it from sliding forward.

Problems associated with younger patients are the same as those encountered with older persons, but among the younger group they are more acute. Similarly, the methods for solving these problems are also analogous, but with youngsters, they may be more complex.

Failure to maintain the parameters mentioned above could cause several adverse results. For example:

1. Eye tics. Eye tics are sudden, quick movements of certain eye muscles surrounding the eyes and serve no apparent purpose. They develop mainly in children, with 12 to 14 percent of them prone to the disorder at one time or another during their formative years. Fortunately, most eye tics are transitory; that is, they last for only a few months or a year or two, and they trigger only innocuous—but distracting—gestures such as excessive blinking of the eyelids or “scrunching” of the muscles surrounding the eyes.

Eye tics occurring in children are sometimes intensified and may even be provoked by poorly fitting eyeglasses. In an effort to relieve the discomfort caused by excessive pressure of the frame on the bridge of the nose the muscles surrounding the eyes are forced to contort or twitch in an attempt to rid themselves of the annoyance.

2. Disfigurement of the nasal bridge. Studies have shown that as a child grows older, there are major changes that take place relative to nasal topography. A poorly fitted and adjusted frame could impede nasal growth and eventually lead to permanent nasal disfigurement.

3. Nasal skin irritation and infection. The cutaneous and underlying tissues of the nasal skin may become

irritated and possibly infected when the frame's bridge continually irritates or abrades the patient's nose.

4. Unfavorable visual performance. If the frame slides down the nose, the prescription's visual performance will be adversely affected due to changes in vertex power and the introduction of unwanted prism. Moreover, poorly fitted glasses defeat patching therapy for amblyopia (“lazy eye”) and strabismus (crossed eyes).

5. Poor motivation. The glasses must fit comfortably or the child will lose his motivation to continue to wear them.

IV. Solving Common Problems Encountered When Fitting And Adjusting Eyewear To Children

Locating points of excessive contact

It's a relatively simple matter to locate the points of excessive contact after the patient has worn glasses for a while, but not nearly so easy to pinpoint these areas during frame-selection and frame-measurement procedures. For this reason, no matter how well you think the selected bridge fits or how well you believe the temples conform to face-and-ear topography, you should not stop at this point. Rather, in order to circumvent future problems that probably will occur because of young peoples' skin and subcutaneous deficiencies, you should continue the frame-selection session by fitting the frame *exactly* as the final Rx will be worn. This can best be done in a trial procedure, as follows:

1. After the style, color and size of a frame have been decided upon, a moderate amount of hand pressure should be applied for a few moments to the bridge of the frame against the bridge of the nose.

2. The frame is then removed from the patient's face, and the skin of the nose and behind the ears is carefully examined.

3. Irritated areas now clearly reveal themselves by the telltale signs they leave: specifically, indentations and/or red marks. If such signs are found, the frame must be modified in the areas that need changes.

4. Modification procedures on how to correct these problems (for both plastic and metal bridges) are described as follows:

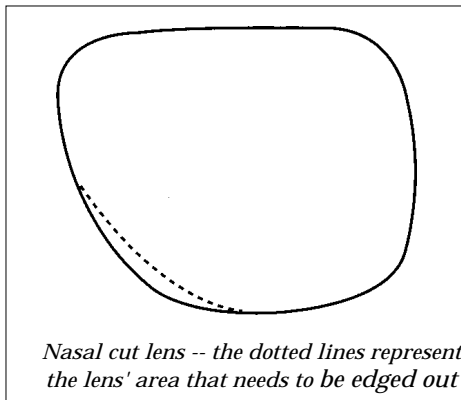
Modification procedures for plastic bridges

1. Saddle vs. keyhole bridge? Children should never be fitted with saddle-bridge frames unless there is clearance between the bridge of the frame and the nose. Failure to properly distribute the weight of the glazed-frame's bridge tends to inhibit natural growth of the nasal crest. A good check for determining proper bridge size is to lift the frame front slightly off the nose and move it to the left and then to the right: There should be about 1 mm of clearance between the nose and the opposite side of the bridge. In almost any case, a keyhole bridge, or a saddle bridge with crest clearance, is a better choice. Exceptions

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to using keyhole bridges are infants whose frames come in sizes ranging from 34 to 40 mm. Because their nasal bridges are flat and almost non-existent, these very young children should be fitted with thick-plastic saddle bridges, or metal frames with adjustable strap bridges, to keep the frames off the cheeks. Infants' frames should also feature flexible cable temples to help hold the glasses in place.

2. Too much weight at the base of the frontal angle. Red marks at the base of the frontal angle indicate a need for frame alteration so that the frame's weight is shared by the full frontal angle. For example, if the frame's bridge fits properly but the bottoms of the eyewires are so narrowly separated that the frame rests at a point inside the slope, it's possible to solve the problem by using a technique called *nasal cutting*. With rimless mountings. This is relatively simple procedure since some of the lower-nasal corner of the lenses can be cut out to provide compatibility between the frontal angles of the frame and the patient's nose. However, with a zyl frame, nasal cutting is a bit more difficult. Follow these guidelines on how to nasal cut plastic frames:

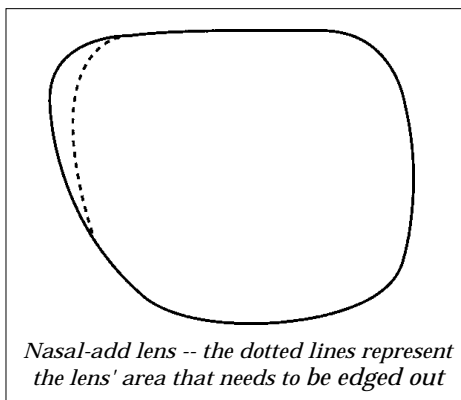


First, edge the lenses slightly oversized (for every millimeter to be cut away nasally, add one-half millimeter overall to the edging size). After being edged larger, the lower nasal area is hand-edged to match the lens shape against the desired amount of flare. When the proper flare is obtained, the lenses are inserted into the heated eyewires, the frame now taking on the modified shape.

An alternate procedure consists of heating the empty eyewires and *reshaping* them to conform to the child's facial requirements. A pattern can then be made from this modified shape and both lenses cut to the new configuration.

3. Too much weight on the apex of the frontal angle.

If the bottoms of the eyewires are too widely separated, weight is distributed unevenly with the patients bridge carrying most of the burden. In this case, the problem can be corrected by *nasal adding*, as follows:



In this method, the lenses are edged oversize (here

again, add 0.5 mm to the edging size for every mm that's removed from the lenses). Then, hand edge the lenses evenly around their peripheries in the upper nasal portion.

As in the case with nasal cutting, an alternate procedure consists of heating the entire eyewire and reshaping to conform to the youngster's frontal angle. As mentioned, a pattern then can be made from the modified shape and both lenses cut to the new configuration.

Nasal cuts and nasal adds are especially effective when fitting noses whose right and left sides differ in formation. In these cases, shape the frame by hand to fit each side of nose separately. Patterns can then be made from the modified shapes with both lenses cut out and edged to accommodate the new configuration.

4. Excessive pressure on the splay angle. The nose is wider as it approaches the inner canthi and therefore the pads must not only have an appropriate *frontal angle* but also must present an appropriate *splay angle* so the weight of the glasses is distributed over the entire *flat* surface of the pad. Here are several means to overcome the problem:

- *Flaring nose pads.* Kids' splay angles average around 30 degrees (compared with adults' average of 16 degrees). Thus, in many instances, the frame's plastic pads will dig into the patient's bridge near the nasal canthi. In these cases, the pads should be flared by heating them and gently curving them away from the affected spots.

- To heat these small areas without disturbing other frame parts, place a funnel over the frame warmer or fill a funnel with hot salt or hot beads and heat the pads over the funnel's barrel. Then, carefully "roll" the pads away from the canthi with your thumb. (Note: Cover your thumb with a cloth if you're sensitive to heated plastic).

- *Build-Up Pads.* On the other hand, if the angle of the pads is such that the backs of the pads are farther apart than are the fronts, the fronts of the pads will cut into the sides of the nose, thus producing painful effects. The problem can be corrected by the addition of *Add-a-Pads*[®]. These firm, plastic "build-ups" are easily cemented to zyl bridge and come in a variety of thicknesses, so there's always one style that can be filed and contoured to redistribute the frame bridge's heavy bearing area away from the irritated zone on the patient's nose.

- *Stretching or narrowing bridges.* When the frontal and splay angles are in agreement but the selected bridge is too narrow, the difficulty can be resolved by filing off a bit of stock, or the bridge can be opened by means of stretching pliers. On the other hand, if the bridge is a bit too wide and, thus, causes the frame to slide down the nose, the bridge can be narrowed by means of crimping (or bridge narrowing) pliers.

An alternate method for stretching or narrowing bridges uses a dowel rod, placed firmly in a vise. In this procedure, a 5/8-inch rod enables the bridge to be widened while a 3/

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8-inch rod is used for narrowing the bridge. In either case, the heat-treated bridge is "pulled around the dowel rod by the dispenser's fingers, while keeping the lenses parallel. On the wide dowel rod, the bow of the bridge is stretched, thereby widening the bridge. On the narrow rod, the bow of the bridge is decreased, thus narrowing the space between lenses.

Raising or lowering plastic frame fronts Here's a plastic frame adjustment technique that could come in handy when a selected frame fits comfortably in every way except that it's not sitting at its best cosmetic height on the patient's face. To raise or lower the frame front, order each Rx lens 1 mm oversize and proceed as follows:

To lower the frame front: First, slightly stretch upper parts of the eyewires. Then, insert each lens about ten degrees *low*; that is, viewed from the front, if the edging line ought to be at 180 degrees, insert the right lens at 10 degrees and the left lens at 170 degrees. After insertion, heat the bridge bar and bend the eyewires *upward* until the axes of both lenses are at 180 degrees. This lowers the frame front about 2 mm. If the procedure widens the bridge a bit too much, the discrepancy can be corrected by applying Add-a-Pads, as described above.

To raise the frame front: First, slightly stretch the lower parts of the eyewires. Then, insert the lenses about ten degrees *high* at the outer corners; that is, insert the right lens at 170 degrees and the left lens at 10 degrees instead of 180. Finally, heat the bridge bar, and bend the lenses *downward*. This raises the frame front around 2 mm. However, if the procedure narrows the bridge too much, the problem can be resolved by filing or stretching with bridge widening pliers, as described above.

Modification procedures for adjustable pad-bridge frames 1. *Reversing pad's position.* If your selected pad-bridge frame leaves a red spot on the patient's bridge after the trial test, the pads must be relocated away from the weight-bearing area. Sometimes it helps to merely reverse the pads' position; that is, by attaching the pads upside down.

2. Altering the design of the pad arms themselves frequently affords relief for reddened or indented areas. Among effective pad designs that can be substituted for conventional (hard) pads are:

- *Silicone pads.* Silicone nose pads are hypo-allergenic, impervious to extreme heat and cold, and gas permeable. Substituted for conventional pads, their softness provides greater comfort in sensitive areas. In addition, their texture helps prevent frames from sliding down the nose.

Silicone pads are also available in "stick-on" form, so they adhere firmly to either plastic or metal-pad bridges. Once applied, the silicone stick-ons are virtually invisible to the observer since they are only 1/32 of an inch thick. However, they need periodic replacement.

- *Boot-type pads.* Soft plastic boot-style pads are available for permanent wear. As their name suggests, they encase conventional pads the way boots fit over feet. The

plastic boot pads have the qualities of being fairly elastic when new and of hardening as they age. Thus, as the frame is worn, the pads tend to conform more closely to the contour of the nose. However, these, too, need periodic replacement.

- *Jumbo pads.* For pad-bridge frames, oversized (jumbo) pads are a useful substitution for conventional pads since they offer a much greater bearing space. The pads are fashioned from an acetate material with a metal central core for reinforcement and for joining the pad to the pad arm. The pads readily lend themselves to being formed or shaped to fit the youngster's bridge.

- *Conversion to saddle bridges.* Another means of relieving pressure on the sides of the nose is to convert a pad-bridge frame to a saddle- or strap-type bridge, being careful not to have the nosepiece rest directly on the youngster's bridge. The conversion is easily done by removing the fixed pads and substituting a unifit saddle bridge. Be careful, though, to make sure the frame bridge clears the nasal crest of the patient's bridge.

- *Special cases.* In cases of congenital or injury-related nasal deformities, the dispenser should consider the use of plastic molding compounds available from most dental supply houses and some optical distributors. These products form soft, non slip linings between the hard surfaces of the frame and the delicate tissue of the nose, thus preventing irritation resulting from nasal irregularity. The compounds bond to virtually all acetate or acrylic bridges. Follow these instructions for modifying bridges with molding compounds:

1. Select a frame that is closest to the needed bridge style.

2. Prepare the plastic material according to directions.

3. While the material sets, coat the patient's bridge area with petroleum jelly.

4. After the compound has partly set, apply a small quantity to the inside of the frame's bridge area.

5. Wait a few minutes for the compound to set into a dough-like consistency. At this stage, press the frame front to the nasal bridge in the estimated fitting position.

6. After a several seconds, remove the frame and allow the compound to hard set, which takes approximately 15 minutes.

7. Finally, file, sand, and color the edges (lens-tinting dyes work fine here). (If you have neither the time nor the inclination to work with these materials, consider enlisting the services of a local dentist. These professionals are familiar with plastic compounds since they use them regularly when making denture molds.)

Fitting And Adjusting Temples

Every effort should be made to correct irritated areas behind the ears. As pointed out earlier in this paper, indentations and/or red marks will reveal themselves when the selected frame is worn for the recommended wearing time. Following are suggestions for plastic and/

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or metal frames to help reduce chafing and slippage when the need for temple alteration is indicated:

1. *Silicone temple tips.* If plastic skull temples are long enough to fit around the mastoid process but still present a problem, try non-slip silicone temple tips. These soft covers come in several core sizes and colors and are easily slipped over the back-ends of conventional skull temples

2. *Comfort-Cote.* Comfort-Cote (distributed by major optical suppliers) provides an effective plastic coating that helps prevent frame slippage. Comfort-Cote comes in 4-ounce jars, with a 2-ounce thinning compound that allows texture control of the temple-ends.

3. *Conversation to comfort cables.* If temple tips cause red marks behind the ears or cause the frame to slide down the nose, conversion to comfort-cable design frequently solves the dilemma. Conversion can be made on both metal and plastic temples, as follows:

For metal temples. Metal skull temples can be converted to plastic comfort cables by means of Comfort Cable Adapters. These attachments are made of soft, flexible plastic material that curve around the ear. They are available in 90-mm lengths and are highly recommended for children's frames. Comfort Cable Adapters are easily attached to metal skull temples. Follow these five easy installation steps:

A. *Calculate the needed comfort-cable length.* Subtract 90 mm from the desired cable length, and add 4 mm for the insert depth. (Here's an easy way to determine the length of comfort-cable temples when you only have skull temples to use as a guide: Merely add 20 mm to the skull temple's length. Example: skull temple = 120 mm. Comfort cable temple = 140 mm.)

B. *Measure* from the center of the screw hole back toward the temple end. Then, cut the temple at this point.

C. *Smooth the roughened edges* caused by cutting the metal temple's end. Use a medium-cut file or emery paper.

D. *Warm the end of the cable operator.* With a hot air blower, warm the end of the Comfort Cable Adapter that's intended to fit on the temple shaft. If the temple wire is thicker than the opening of the adapter, heat the latter's opening, and gently stretch it over the metal tip.

E. *Attach the comfort cable adapter.* After checking the length, remove the adapter and place a tiny amount of Crazy Glue on the temple's cut end and reattach the adapter.

For plastic temples, remove plastic equal to the amount of the Comfort Cable Adapter's insert depth (4mm) to expose the wire innercore. Then, continue the procedures with metal temples, above.

4. Spring-hinged Temples. Spring-hinged temples, as their name implies, are temples having spring mechanisms that cause the frame to hug the head, thus adding gentle pressure that helps prevent glasses from sliding down the nose. An added benefit of spring-hinged temples over conventional temples is that the former help prevent breakage caused by rough handling. Spring-hinged temples come in a variety of designs, depending on which

position the springs are attached on the temples. Adjustment principles for all styles of spring-hinged temples, however, are the same regardless of design.

When fitting spring-hinged temples, care must be exercised to make sure *both* temples are *exerting equal pressure* to the sides of the head. If one temple is greater tension than its mate, one lens will rest closer to the face than its partner. If this happens to be the case, open or close the temples' open angles to create equal pressure.

Lens Tips

The following lenses should be recommended to parents in order to provide utmost conformance with accepted safety standards for kids' eyewear:

1. Ultraviolet protection. It's been established that overexposure of children to ultraviolet rays could lead to the formation of cataracts later in their lives. Proper use of UV protective sunglasses will help prevent development of cataracts (due to UV overexposure) during the patient's early years.

2. Polycarbonate (poly) for active youngsters. This material was developed by NASA for use in astronauts' face shields because it's virtually unbreakable. You can hammer polycarbonate lenses and only nick them in the process.

Polycarbonate lenses are the safest impact-resistant lenses on the market and come highly recommended as the best choice for use in children's glasses and active sports. An added benefit is the material's ability to absorb UV rays, thereby eliminating the need to purchase added UV protection.

Poly has several other advantages over glass and CR-39. For one thing, prescriptions can be ground much thinner with poly than they can with either glass or CR-39. They are also lighter in weight. However, they are more expensive than glass or CR-39 and they require scratch-resistant coating since the material is quite soft. This makes poly lenses even more costly- a factor that is taken into consideration by cost conscious parents.

3. Anti-scratch coatings. These film-like applications that protect against accidental scratching or marring of lenses are now being factory applied, thereby making them more readily accessible as well as less costly.

4. Base curves. Be alert to kids' lashes brushing against the lenses. This often happens because the youngsters' shallow nasal bridges limit clearance between the frame and the back surfaces of the lenses. Watch the action of the lashes as the lids blink and also look for an oily smear on the lenses. Often, the problem can be solved by ordering deeper inside curves; for example, an increase of 2.00D in the base curve affords 1.2 mm of additional eyelash space.

5. High-powered prescriptions. Always recommend high-index lenses for strong minus Rx's. These, of course, refract light rays more effectively than standard

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lenses, thereby enabling prescriptions to be ground as much as 30% thinner. Also, because the edges of concave lenses get thicker the farther away from the center, lenses with rounded corners should be the shape of choice when possible.

6. Aspheric lenses. Aspherics are ground on an exciting new use for a technique formerly limited to the fabrication of cataract lenses. As their name suggests, aspherics have out-of-round aspheric curves that gradually change as they move from their centers to their edges. Convex aspherics gradually flatten as they move toward the edges of the lenses while concave aspherics gradually steepen as they move toward the lens' edges.

When prescribed in conjunction with high-index materials, aspherics are able to reduce lens thicknesses by 40%, thereby rendering the lenses substantially lighter in weight.

V. Assuring Compliance With Wearing And Caring Instructions

Compliance is an important part of successfully dispensing glasses successfully to children, for if the kids and their parents fail to carry out instructions for proper wearing and caring of the glasses, the prescription will not be as beneficial as it might be. In addition to being uncomfortable or unsightly, the eyewear may even have undesirable optical effects. Accordingly, dispensers should take the time to teach parents and kids how to wear and care for their eyeglasses. Instruction should stress the following points (it's a good idea to make up a printed brochure along these lines for distribution to parents and children).

- Teach children to clean their lenses at least once a day by first blowing on them to remove dust or grit. Then wash them in warm, soapy water and dry with a soft, clean cloth. *Never attempt* to clean glasses without first wetting them.
- If chemically treated papers are used to clean the lenses, follow the instructions on the label; *not all papers* are safe for cleaning plastic lenses.
- When resting glasses on a hard surface, such as a table top, be sure they are placed face up in order to prevent scratching the lenses. Better yet, keep eyewear in an eyeglass case when not in use.
- The glasses' side pieces should be able to swing freely.

If they tend to bind, they can be made to swing easily with a drop or two of a thin lubricant placed directly on the hinges. The surplus should then be wiped off with a soft cloth or tissue. Oiling the hinges is especially important if the glasses have been exposed to salt air or excessive perspiration, as the salt crystals that form after evaporation restrict their movement.

- If the glasses have plastic movable pads, the pads *should be scrubbed occasionally* with a detergent. An old or ready-to-be-discarded toothbrush makes an ideal scrub brush.

- When putting on or taking off eyeglasses, the youngster should be taught to use both hands so that he or she will not disturb the frame's alignment. The temples should be gripped about half way between the hinges and the temple ends and gently slid on and off.

- Occasionally, parents should look for pressure marks on the child's nose or behind the ears, since this means a frame adjustment is needed. Parents should also be cautioned never to adjust the glasses themselves but, rather, to bring in the child to your office for the required frame realignment.

- The eyeglass case is designed to protect lenses against scratching. Accordingly, advise the parent that it's a good idea to clean out the case in the event any dust or dirt may have accumulated during the course of use. The nozzle of a vacuum cleaner or an old toothbrush are ideal tools for accomplishing the clean up. However, if the case lining becomes so soiled and gritty that it can no longer be cleaned, tell the parent to stop by your office for a new case. Explain that the damaged case will be replaced at modest or no cost depending upon your office policy.

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Dispensing Eyewear to Children Mail-In Test

(NYS CEC Code #00-9)

Circle the best answer for each question and return to:
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Name: _____ License #: _____

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NYSSO Member: Yes No **If no, the registration fee is \$30.00; please complete the Method of Payment section below or the membership application included:**

Method of Payment: Check (payable to NYSSO) Credit Card (please complete section below):

Type of Credit Card: Visa Mastercard Dollar Amount _____

Expiration Date: _____ Card #: _____ Signature: _____

1. After stretching the eyewires' lower segments in order to raise a plastic frame front, insert each lens about:
 - a. Ten degrees high
 - b. Ten degrees low
 - c. Twenty degrees high
 - d. Twenty degrees low
2. To help calculate the length of comfort-cable temples when you just have skull temples on hand, how many millimeters should be added to the skull's length?
 - a. twenty
 - b. fifteen
 - c. ten
 - d. five
3. Overexposure to ultraviolet rays in the younger years could lead to which of the following eye diseases in later years?
 - a. Ocular albinism
 - b. Glaucoma
 - c. Cataracts
 - d. Optic atrophy
4. Which of the following is true?
 - a. Girls' and boys' facial measurements differ during childhood.
 - b. Boys mature faster than girls during childhood.
 - c. Boys are more selective than girls when choosing eyewear.
 - d. None of the above.
5. The average splay-angle in young children is:
 - a. 15 degrees
 - b. 25 degrees
 - c. 30 degrees
 - d. 40 degrees
6. To equalize tension against the sides of the head when fitting spring-hinged temples:
 - a. Place a drop or two of oil on the hinges.
 - b. Check the temple fold angle.
 - c. Tighten the temples' open angle.
 - d. Adjust the endpieces to create equal pressure.
7. Telltale signs of improper frame fit include:
 - a. Indentations
 - b. Red marks
 - c. Slippage
 - d. All of the above
8. When lowering a plastic frame (as viewed from the front):
 - a. Insert the right lens at 10 degrees and the left lens at 170 degrees.
 - b. Insert the right lens at 20 degrees and the left lens at 160 degrees.
 - c. Insert the right lens at 170 degrees and the left lens at 10 degrees.
 - d. Insert both right and left lenses at exactly 180 degrees.
9. Which statement is correct?
 - a. Convex aspherics gradually steepen as they move toward the edges.
 - b. Convex aspherics gradually flatten as they move toward the edges.
 - c. Concave aspherics gradually flatten as they move toward the edges.
 - d. Concave aspherics rapidly flatten as they move toward the edges.
10. So as not to disturb the frame's alignment, youngsters should be encouraged to put on and take off eyeglasses:
 - a. With the right hand.
 - b. With both hands.
 - c. With the left hand.
 - d. In a sweeping motion.
11. The optimum dispensing room for youngsters contains all of the following except:
 - a. A special section featuring child-targeted frames and displays.
 - b. Child-sized tables and chairs.
 - c. Mirrors pointed at kids' eye level.
 - d. Parents chairs right beside youngsters' chairs.
12. Eye tics:
 - a. Are prevalent in 12 to 14 percent of children during their formative years.
 - b. Usually last for a few months or as long as two years.
 - c. Can be intensified by poorly fitting glasses.
 - d. All of the above.
13. When the frontal and splay angles are in agreement, but the selected bridge is too narrow:
 - a. File off a bit of stock.
 - b. Crimp the bridge to fit.
 - c. Open the temple angle.
 - d. Remove the nose pads.
14. The average splay-angle in adults is:
 - a. 10 degrees
 - b. 12 degrees
 - c. 14 degrees
 - d. 16 degrees
15. When nasal cutting a lens, allow _____ for every mm removed from the original lens.
 - a. 0.25 mm
 - b. 0.50 mm
 - c. 1.0 mm
 - d. 2.0 mm
16. When checking bridge sizes during frame selection, lift the selected frame slightly off the nose and move it from left to right. There should be about _____ mm of clearance between the nose and the opposite side of the bridge.
 - a. two mm
 - b. three mm
 - c. one-half mm
 - d. one mm
17. Increasing the base curve by 2.00D affords _____ mm in additional eyelash space.
 - a. .72 mm
 - b. .82 mm
 - c. .92 mm
 - d. 1.2mm
18. Comfort Cable Adapters are used to:
 - a. Convert RB temples to CCs.
 - b. Help youngsters adapt to their new glasses.
 - c. Convert skull temples to CCs.
 - d. Adjust temple lengths.
19. Diagram A represents:
 - a. Nasal cut.
 - b. Nasal add.
 - c. Inferior cut.
 - d. Superior cut.
20. True or False: To determine the monocular A.P.D. in children whose eyes are not equidistant from the nose, measure the total A.P.D. and divide the result by two.
 - a. True
 - b. False
21. If the eyelashes rub against the eyeglasses:
 - a. Instruct the parent to trim the lashes.
 - b. A-R coat the lenses.
 - c. Reduce the lens size.
 - d. Order lenses with deeper inside curves.
22. Polycarbonate lenses are:
 - a. Virtually unbreakable.
 - b. The safest impact-resistant lenses.
 - c. Able to absorb U-V rays.
 - d. All of the above.
23. Diagram B represents:
 - a. Superior cut.
 - b. Unwanted prism.
 - c. Nasal cut.
 - d. Nasal add.
24. Infants should be fitted with saddle bridge frames when:
 - a. They require eye sizes 34 to 40 mm.
 - b. Comfort-cable temples are attached.
 - c. The bridges are thick enough to help keep frames off the cheeks.
 - d. All of the above.
25. True or False: In unusual cases, an estimate of the patient's A.P.D. can be taken by measuring from the outer canthus of one eye to the outer canthus of the other eye.
 1. True
 2. False
26. If glasses slip down the nose, their visual performance will be affected due to:
 - a. Excessive reflection.
 - b. Alteration in the base curve.
 - c. Pressure on the crest angle.
 - d. Changes in vertex power.
27. Which of the following parameters should be considered when fitting a high-minus youngster?
 - a. Large lenses.
 - b. Flat base curves.
 - c. Thin rims.
 - d. Lenses with rounded corners.
28. Plastic molding compounds are:
 - a. Useful when fitting nasal deformities.
 - b. Unable to control frame slippage.
 - c. Useful for office decor
 - d. Bonding lenses into frames.
29. When prescribed in conjunction with high-index lenses, aspherics are able to reduce lens thicknesses by:
 - a. 10%
 - b. 20%
 - c. 30%
 - d. 40%
30. Children between the ages of 4 to 10 years are among the most difficult age-groups to fit comfortably with glasses because:
 - a. Their facial characteristics are soft and rapidly changing.
 - b. They are notoriously careless in the way they handle their eyewear.
 - c. They usually fail to comply with caring and wearing instructions of their glasses.
 - d. All of the above.

Membership Application

INDIVIDUAL'S NAME _____ COMPANY _____

HOME ADDRESS _____ FAX # _____

BUSINESS ADDRESS _____ EMAIL ADDRESS _____

PHONE (HOME) _____ PHONE (BUSINESS) _____

Preferred Address: Home Business Preferred Phone: Home Business

Membership Type: Active (\$150) Newly Licensed Active (\$75) Associate (\$75) Student (\$10)
(see below for category descriptions) Retail Corporate (\$150) Associate Corporate (\$150)

Method of Payment: Check (payable to NYSSO) Credit Card (please complete section below)

Type of Credit Card: Visa Mastercard Dollar Amount: _____

Expiration Date: _____ Card #: _____ Signature: _____

Membership Year is September 1-August 31.

(Membership fees with applications received after March 1 will be pro-rated at 50%)

Mail Application to: NYSSO, 48 Howard Street, Albany, NY 12207.

NYSSO Membership Services Line: (518) 426-0599 • NYSSO Membership Services Fax Line (518) 463-8656

To be listed accurately in the NYSSO Membership Directory, please indicate which of the following services are offered by your business:

- Artificial Eyes Contact Lenses
 Eyeglasses Refractions Available
 Hearing Aids Low Vision

Please Complete the Following:

Chapter (see map) _____ Date of Birth: ____/____/____

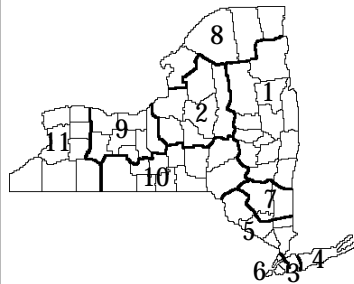
NYS License # _____ Sex: Male Female

Contact Lens Fitter # _____ Signature _____

Sponsor (if applicable): _____ Date _____

Please indicate to which organizations you belong:

- American Board of Opticianry Certified (ABO)
 Fellow, National Academy of Opticianry (FNAO)
 Opticians Association of America (OAA)
 National Contact Lens Examiners (NCLE)
 Contact Lens Society of America (CLSA)



NYSSO Chapters

- | | |
|------------------------|----------------------|
| 1. Capital District | 7. Mid Hudson Valley |
| 2. Central | 8. North Country |
| 3. Long Island-Nassau | 9. Rochester |
| 4. Long Island-Suffolk | 10. Southern Tier |
| 5. Lower Hudson Valley | 11. Western |
| 6. Metropolitan | Out of State |

Membership Categories

ACTIVE MEMBERSHIP – Annual dues of \$150.00. Any person possessing a valid New York State ophthalmic dispensing license is eligible to become an Active Member. Only Active Members are eligible for free Continuing Education credits at regional chapter meetings.

NEWLY LICENSED MEMBERSHIP – Annual dues of \$75.00 (first year), \$100.00 (second year), and \$150.00 (third year). Any newly licensed optician (licensed within the past six months) is eligible for the special three-year pro-rated membership incentive. Newly licensed opticians who join under the special offer will be entitled to full Active member benefits.

ASSOCIATE MEMBERSHIP – Annual dues of \$75.00. Any person not qualified for active membership, but engaged in opticianry, shall be eligible to become an Associate Member. Associate Members are entitled to all the rights of an Active Member, except voting and free NYS Continuing Education credits. They may participate in all activities of this Society, unless specifically excluded by the Board of Directors.

STUDENT MEMBERSHIP – Annual dues of \$10.00 while in an accredited program. Any person who is an enrolled student in a New York State-accredited

program for ophthalmic dispensing is eligible to become a Student Member. Student Members are entitled to all rights of an Active Member, except voting and free NYS Continuing Education credits. They may participate in all activities of this Society, unless specifically excluded by the Board of Directors.

RETAIL CORPORATE MEMBERSHIP – Annual dues of \$150.00. Any proprietorship or corporation maintaining 51% of its licensed opticians as members of this Society and upholding the By-Laws and Constitution of the Society is eligible to become a Retail Corporate Member. Retail Corporate Members are entitled to all rights of an Active Member, except voting and free NYS Continuing Education credits. They may participate in all activities of the Society, unless specifically excluded by the Board of Directors.

ASSOCIATE CORPORATE MEMBERSHIP – Annual dues of \$150.00. Any firm which does not qualify as a Retail Corporate Member, but which supports the objectives and purposes of this Society is eligible to become an Associate Corporate Member. Associate Corporate Members are entitled to all rights of an Active Member, except voting and free NYS Continuing Education credits. They may participate in all activities of this Society unless specifically excluded by the Board of Directors.