

A Contact Lens Primer for Florida-Licensed Opticians

(Home Study Course HS-16)

by

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Course Objectives

Upon completing this two-hour home study module, participants should:

- Have a deeper understanding of the history and development of contact lenses.
- Be able to more effectively screen candidates for contact lens wear.
- Have the ability to communicate findings to the patient.
- Be able to identify common contraindications to contact lens wear.
- Conduct Insertion and Removal (I&R) sessions more confidently and efficiently.
- Possess a comprehensive wearing and handling guide to share with patients.
- Adhere more strictly to post-fitting care and the handling of no-shows.
- Take record keeping more seriously and adhere to proper documentation guidelines.
- Be more knowledgeable with regard to the Florida Statutes which govern contact lenses.
- Be more knowledgeable with regard to the Federal Statute regarding prescribing and selling of contact lenses.
- Obtain a minimum score of 75% on the 60-question final assessment.

A Brief History of Contact Lenses

If you ask most people where the idea for contact lenses originated, you would likely be informed that Leonardo da Vinci was the first to envision it. Like many things that come down to us through antiquity, it's just not so. While it is true that in his *Codex of the Eye* (1508), da Vinci described a way of changing corneal power by submerging one's head in a bowl of water, or by "wearing" some type of water-filled glass globe against the eye, neither method was seen as practical in his time. He performed these experiments to gain more understanding about the accommodating powers of the eye, but he never even suggested using his idea as a way of correcting any vision disorders. On the other hand, a little more than a hundred years later, the French philosopher and mathematician, Rene Descartes, in his work *Dioptric*, describes his theories on light and vision and the use of a corneal contact lens. A few years later, another Frenchman, mathematician and astronomer Philippe de la Hire, created drawings and wrote how he believed a concave lens placed against the cornea would send light into the retina.



Leonardo da Vinci (1452-1519)

The first written description of a device approximating a contact lens as we know it first appeared in 1823. Sir John Herschel, an English astronomer, thought that "some transparent animal jelly contained in a spherical capsule of glass applied to the surface of the eye" might correct astigmatism. He also suggested that a mold of the cornea could be taken and impressed on some transparent medium. He proposed that "a temporary distinct vision" might be obtained through one of these methods, but it is not known whether Herschel ever attempted to create his own ideas. Writing in *The Early History of Contact Lenses*, authors Jan Beiting and Jack Schaeffer, O.D. write, "In the late 1880s, at least three men are thought to have independently invented the first contact lenses. Adolph Eugen Fick, a Swiss ophthalmologist, and Eugene Kalt, a French ophthalmologist, devised glass lenses with the goal of correcting corneal abnormalities. Around the same time, August Müller, a German medical student who wanted to correct his own high myopia, also produced a glass lens. These first contact lenses were crude by modern standards, made of blown glass bubbles or ground and polished glass, and were primarily scleral designs that covered much of the eye. They were heavy and unwieldy and let no oxygen through to the cornea. Patients could tolerate the lenses only briefly and usually suffered from signs and symptoms of corneal hypoxia rather quickly. Nevertheless, the improvement in visual acuity that a piece of glass on the eye could provide was encouraging. Between 1890 and 1935, there were no developments of any great consequence. Two German companies, Karl Zeiss Optical Works and Mueller Co., as well as small labs in the U.S. and elsewhere, continued to make glass contact lenses, but demand was very limited. According to the American Academy of Optometry,

approximately 10,000 pairs of glass contact lenses were sold in the United States between 1935 and 1939.”



William Feinbloom, OD (1904-1985)

In 1939, the first contact lens made from plastic (PMMA [polymethyl methacrylate]) was developed. In 1936, optometrist William Feinbloom introduced the lighter and more comfortable plastic lenses. Corneal contact lenses began to be sold in the 1940s, but it was in 1961 that Czech chemist Otto Wichterle invented soft contact lenses. He produced four hydrogel contact lenses on a home-made device using a Merkur children's building kit (similar to an American erector set), a bicycle dynamo belonging to one of his sons, and a bell transformer. All the molds and glass tubing needed to “inject” them with monomer were also made by Wichterle. On Christmas afternoon, with the help of his wife, Linda, using the crude machine on his kitchen table, he finally succeeded. He tried the lenses in his own eyes and although they were the wrong power, they were in fact, comfortable. Wichterle had invented a new way of manufacturing the lenses using a centrifugal casting procedure. A few days later, he completed his patent application and produced over 100 lenses by spin casting. He built several new prototype machines using Merkur sets with increasing numbers of spindles which required the stronger motor taken from his gramophone. With these primitive devices, in the first four months of 1962 Wichterle made 5,500 lenses.

After a few years of development, and two years of trying to gain FDA approval in the United States, ten years later, in 1971, Bausch and Lomb introduced the first commercially available soft contact lenses. They were made of poly-HEMA and marketed with the name Soflens.

In 1978, gas permeable contact lenses were introduced. In 1981, the FDA approved some lenses for extended wear and overnight wear. Five years later, in 1986, they also approved some gas permeable lenses for overnight wear. The next real breakthrough came in 1987, when disposable contact lenses first hit the market. In 1992, colored disposables became available. The next major breakthrough came in 2002, when silicone-hydrogel lenses were released.

According to a 2010 article in *Contact Lens Spectrum*, more than 38 million Americans wear contact lenses. Worldwide, nearly 150 million people wear contacts. Globally, contact lenses represent a market of more than \$10 billion dollars!

In the Beginning

Please note, nothing in this module should be interpreted as encouraging you as a Florida-licensed optician to exceed the scope of your practice. In fact, you should remember that the statute that governs your practice (FS 484, part I), specifically admonishes that you are not to diagnose or treat human eyes, or to do anything to try to determine the refractive power of the eye. So always keep that in the back of your mind. Having reminded you of that, there is, however, no denying that when it comes to providing eye care to the public, opticians and other dispensers are definitely on the front-lines. Many times, Eye-Care Professionals (ECPs) are the triage point – we direct a patient where to go. Sometimes that referral may be to the patient’s general practitioner. Other times it may be an optometrist or ophthalmologist. In rare instances, the right referral might well be, “Get thee to an emergency room!”

So, keeping our position on the front-line of eye care in mind, what should be our approach when a client expresses an interest in wearing contact lenses? While the approach with a “known” patient might be a bit different, let’s assume that this person – we’ll call her Julia – is a potential client, but someone you have never met. Julia wanders into your office and says she’d like to buy some contact lenses. First things first. You should ask Julia if she has a prescription for contact lenses. She says she does not. She says she’s always just worn glasses. At this point, I would ask to see her glasses. Discovering if her prescription is mostly spherical or mostly astigmatic would make it a lot easier to answer questions about visual acuity, cost, and adaptation. You look at her glasses and discover she is wearing -3.50 sphere OU. You happily inform her that based solely on the nature of her prescription she would be an ideal candidate for contacts, in that her vision would probably be as good, if not better, with the contacts when compared to her glasses. She asks how much an exam will be, and you tell her \$129. “Whoa!” Julia is taken aback, saying she never paid more than \$50 for a routine eye exam. You explain that the exam for contacts is different than the one for eyeglasses, and that the fee includes all her follow-up care, instructions on placing and removing the lenses, and all follow-up visits for 90 days. Once she reconciles the cost with the care, she says she wishes to schedule an appointment. But wait...not so fast.

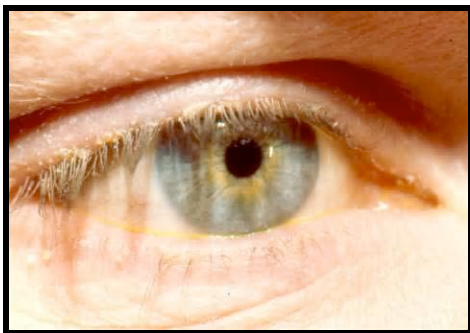
During this initial encounter with Julia, you as an ECP, should have been making a cursory evaluation about Julia, her overall hygiene, her communication abilities, and more specifically you should have tried to notice some things about her head, eyes, neck, and hands. Does she appear to be generally clean? What about her hair? Is it clean, or is it dirty and oily? What about her skin? Do her hands seem clean...or are they filthy dirty? What about her fingernails? Are they trimmed and/or clean? Or are they two inches long and nasty? These are all things you should be noticing as you *decide* whether or not to make an appointment for Julia to see your doctor. If everything seems in order regarding Julia’s hygiene and ability to communicate...no problem. Let’s assume however, that you determine there might be a problem here – regarding hygiene. You’ve always heard that cleanliness is next to godliness, but in Julia’s case cleanliness ain’t even close! What would you do? Would you turn her down? Would you hem and haw? Or would you simply make the appointment and let your doctor deal with it? After all, she makes the big bucks! I say that last approach would be the worst way to deal with this. I say that for three reasons: First, you are setting Julia’s expectations unreasonably high. Second, you are wasting your doctor’s precious chair time. Third, I believe you are in a sense,

abdicated your responsibilities on the front line. So, what is the best way to communicate to a client that you think contacts might not be a great idea? I believe the best way is the easy way. Allow me to explain.

Whenever you have to communicate bad news to a patient, follow what is known as the EASY script. EASY is an acronym that stands for:

- Express how you feel (we're talking about your emotions)
- Address the situation (this is the bulk of the conversation)
- State what you want to happen (be specific)
- Yes or no (in other words, end it with a yes or no question)

So if you were going to use the EASY script with Julia, you might say, "Ma'am...I'm concerned about you wearing contact lenses [you've expressed how you *feel* – concerned. Continue by addressing the situation.] I don't know if you realize it, but more than two-thirds of the problems that arise with contacts have to do with them not being kept clean. I know you work in the phosphate plant, and with that dust, dirt, and debris, that might be a real problem. [State what you want...] So, why don't you take a few of these brochures home with you, and read exactly what's required when it comes to wearing contacts. After that, if you still think it's a good idea, call me up and I'll schedule an appointment. Would you be willing to do that?" (Which is a closed-end, yes or no question.) Approached that way, watching your body language and facial expressions, most clients would truly appreciate it, and would do exactly what you asked them to do...and how EASY was that!



Blepharitis

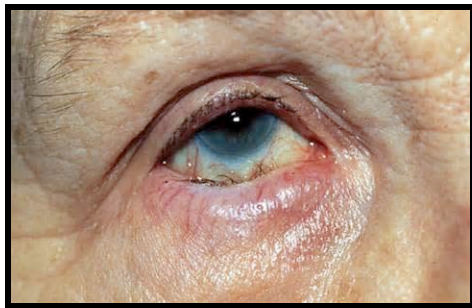
Next, look at the person's eyelids and eyelashes. Are they clean? Do they show signs of blepharitis? According to the American Optometric Association (AOA), "Blepharitis is an inflammation of the eyelids causing red, irritated, itchy eyelids and the formation of dandruff-like scales on eyelashes. It is a common eye disorder caused by either bacteria or a skin condition such as dandruff of the scalp or acne rosacea. It affects people of all ages. Although uncomfortable, blepharitis is not contagious and generally does not cause any permanent damage to eyesight." Until this condition is under control, contact lens wear would be contraindicated. In a spirit of not diagnosing yourself, be sure to refer this person to his or her optometrist or ophthalmologist. This condition can become chronic, so the patient will have to become involved with treatment at home, which usually includes administering warm soaks to the eyelids, as well as eyelid scrubs. Instructions for each, provided by the AOA are as follows:

Directions for a Warm Soak of the Eyelids:

1. Wash your hands thoroughly.
2. Moisten a clean washcloth with warm water.
3. Close eyes and place washcloth on eyelids for about 5 minutes, reheating the washcloth as necessary.
4. Repeat several times daily.

Directions for an Eyelid Scrub:

1. Wash your hands thoroughly.
2. Mix warm water and a small amount of non-irritating (baby) shampoo or use a commercially prepared lid scrub solution recommended by your optometrist.
3. Using a clean cloth (a different one for each eye) rub the solution back and forth across the eyelashes and edge of the closed eyelid.
4. Rinse with clear water.
5. Repeat with the other eye.



Entropion



Ectropion

Another observation to make concerns the client's lid margins. You are looking for signs of entropion, ectropion, madarosis, or distichiasis, all of which can be contraindications to contact lens wear. Entropion is a condition (usually, but not always, caused by genetics) in which the eyelid turns or folds inward. This mostly occurs with the lower lid, and with people over 60 years of age. This folding inward causes the lashes to rub against the cornea and irritate it. Ectropion is the exact opposite – it's when the lower lid turns outward, usually due to weakening in the tissues of the lower eyelid. Madarosis is an absence of eyelashes (and sometimes even eyebrows), caused by genetics or by some serious infection such as leprosy or alopecia. Since the lashes act as a filter for dust, dirt, and debris, contact lens wear would not be a great idea. More common in dogs, distichiasis in humans is a rare disorder defined as the abnormal growth of lashes from the orifices of the meibomian glands. According to an article found on Medscape.com, "Two types of distichiasis can be identified, acquired and congenital. In the acquired form, most cases involve the lower lids. Lashes can be fully formed or very fine, pigmented or nonpigmented, properly oriented or misdirected. The congenital form is dominantly inherited with complete penetrance. It can be isolated or associated with ptosis, strabismus, or congenital heart defect."



Madarosis



Distachiasis

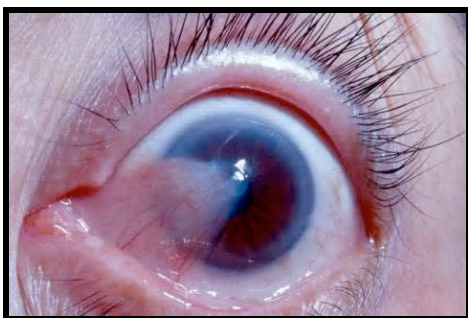
Overall, the eye should just look clear, clean, and healthy. Once described to me as an optical cleft palate, a coloboma occurs when the choroid fissures fail to close completely, leaving a gap in the iris, causing an irregular pupil. The conjunctiva and cornea should be clear, and the cornea free from any abnormalities such as pinguecula, pterygium, iridotomy scarring, or persistent pupillary membranes. A pinguecula is a yellowish or white deposit of fatty tissue on the sclera, usually associated with overexposure to ultraviolet radiation. Sometimes called Surfer's Eye, a pterygium is a benign growth on the cornea, usually found on the nasal side of the eye, and almost always within the palpebral fissure. Any scarring that has occurred on the iris, regardless of how it was caused, can be problematic for contact wear. Persistent pupillary membranes occur when fetal tissue that nourish the eye during gestation do not atrophy and fall away, as they normally do by birth to eight weeks.



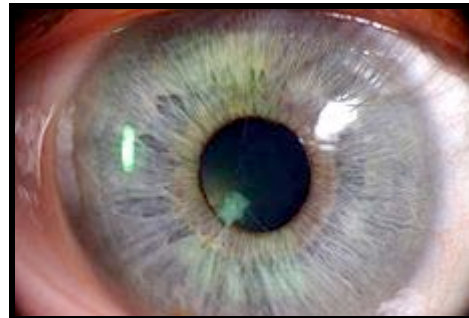
Coloboma



Pinguecula



Pterygium



PPM

The Fit

While for most spectacle-oriented opticians, the fitting of the contact lens will be left to the prescriber, in Florida, if you are a Board-Certified Optician, you are allowed to fit soft contact lenses without the direct supervision of the doctor. This means in addition to the requirements necessary for your opticianry license, you have successfully completed the 20-hour course regimen as proscribed by statute, and you have received your license. Undoubtedly you have been trained and have your own specific approach, but in general, a contact lens fitting first involves taking the spectacle refraction and determining the spherical equivalents for each, individual contact, or deciding on the sphere, cylinder power, and axis if it is an astigmatic correction. Generally, there are three reasons to fit a toric (astigmatic) lens: a spherical lens does not yield good acuity, the cylinder power is over one diopter, or the cylinder power is greater than the spherical power. In years past, the next step would be to determine the proper base curve by taking a K reading, using the keratometer. These days, however, due to the limited availability (some lenses only come in one or two different base curves), most practitioners simply place the lens on the eye and check for proper placement, coverage, and movement. If the lens does not sit properly on the eye it could affect proper vision, cause discomfort and potentially damage the cornea.



Keratometer



Slit Lamp

Using a slit lamp, the prescriber should check the overall health of the eye. Is there enough tear production? Is the eye too dry? Is the cornea free of any damage? Lenses should not be placed on any eye that displays any of the problems listed in the previous section. Once the trial lenses have been placed on the eye, 20-30 minutes should be allowed for the lenses to “settle” before they are checked under the slit lamp to make sure they are not too tight or too loose. Once this has all been completed, the prescriber will determine the final specifications for the lenses. If the patient is a first-time wearer, now it is time for the I&R (insertion and removal) session, in which he or she will be instructed in not only the insertion and removal process, but also wearing schedules, replacement regimens, and troubleshooting.

The I & R Session

One of the reasons people drop out (attempt to wear contacts but then give up) and go back to wearing spectacles can be traced back to improper instruction on the insertion and removal (I&R) of the lenses. Here are six key factors in conducting a successful I&R session with a new contact-lens wearer:

1. Demonstrate proper personal hygiene and cleanliness. Notice I said “demonstrate,” not “talk about.” Even if you thoroughly washed your hands two minutes before your client arrived for his I&R session, I say do it again. Talk about the importance of personal hygiene *while* you are actually washing your hands. Talk about the importance of working in a sterile environment *as* you are wiping down the work area. Actions always speak louder than words.
2. Tell the patient what to expect, and demonstrate the process. Telling the patient exactly what to expect – especially with regard to one key factor – will shorten the length of time necessary to complete the I&R, and make the client more confident. Here’s the one key piece of information: Make sure the client realizes that the contact lens is bigger around than the colored part of his eye (notice I said “colored part” not “iris.”) Always use language the patient is sure to understand. Now...connect the dots for your client. What that golden piece of information means is that as he attempts to place the lens upon his eye, if he cannot see a couple of millimeters of white around the colored part of the eye, don’t even bother trying to place the lens. Later, as he attempts to insert the lenses you need to act as a coach. As he approaches his eye with the lens upon his finger, if you can’t see white all around the iris, tell him, “stop.” I also believe it’s important (whether you routinely wear contacts or not) to demonstrate the whole process for the new wearer.
3. Talk about the client’s fears. If touching his eye is something he is apprehensive about, consider the Artificial Tears Exercise. Have him place a drop or two of saline on his finger, and touch his eye with that until he feels comfortable.
4. Talk them through it. As I said before, consider that your role in conducting an effective I&R session is that of a coach. Rule: Never place the contact on the eye for the patients. They must do it themselves.
5. Three In / Three Out. My definition of a successful I&R session is one in which the client successfully places the lenses on the eye...unassisted...three times. Likewise, he must also remove the lenses...unassisted...three times.
6. This last key to an effective I&R session relates to how you determine that your client truly understands his wearing schedule, the importance of the follow-up exam, cleaning regimens, and replacement schedules. While I would encourage you to give them a printed copy of all of it and have them sign it, verbal confirmation is also vital. With regard to that, eliminate the following two questions from your conversation with the client: Do you understand? Do you have any questions? Why? Because it gives him an easy out. Do you understand, can easily be answered with, “Sure do.” Likewise, do you

have any questions can easily be answered with, “Nope, I’m good.” And of course, you are left to *assume* that the client understands and has no questions. So instead of those ineffective, closed-end questions, ask instead, “So John...what time will you take your lenses out tonight?” Another effective statement might be, “John, this stuff is really important, and sometimes I don’t think I explain it as well as I should. Just humor me here...tell me how you’re going to clean these lenses.”

Bonus Suggestion: If your client is a child or teenager, do whatever you must do to get rid of the parent! Without getting into detail, take it from me and more than 30 years of experience: The kid will be more receptive to your coaching if the mom or dad isn’t there. Siblings too. You want it to be a one-on-one experience between coach and player. Trust me on that.

In my opinion, one of the most useful and comprehensive guides for Patient Contact Lens Care can be found at www.clecontactlenses.com. CLE Contacts is an on-line competitor to such on-line contact lens sellers as 1-800 Contacts. It is with CLE’s permission that I share it here with you:

1. Preparing the Lens for Wearing

It is essential that you learn and use good hygienic methods in the care and handling of your new lenses. Cleanliness is the first and most important aspect of proper contact lens care. Your hands should be clean and free of any foreign substances when you handle your lenses. The procedures are:

- Always wash your hands thoroughly with a mild soap, rinse completely, and dry with a lint-free towel before touching your lenses.
- Avoid the use of soaps containing cold cream, lotion, or oily cosmetics before handling your lenses, since these substances may come into contact with the lenses and interfere with successful wearing.
- Handle your lenses with your fingertips and be careful to avoid contact with fingernails. It is helpful to keep your fingernails short and smooth.

Start off correctly by getting into the habit of always using proper hygienic procedures so that they become automatic.

2. Opening the Multipack and Lens Package

Multipack

It is simple to open the multipack. Locate the opening flap on the front of the multipack and pull up to break the seal. Inside you will find six lenses. Each lens comes in its own lens package designed specifically to maintain sterility. To close the multipack for storage, just tuck in the flap.

Lens Package

To open an individual lens package, follow these simple steps:

1. Shake the lens package and check to see that the lens is floating in the solution.
2. Peel back the foil closure to reveal the lens. By stabilizing the lens package on the tabletop, you will minimize the possibility of a sudden splash.

Occasionally, a lens may adhere to the inside surface of the foil when opened, or to the plastic package itself. This will not affect the sterility of the lens. It is still perfectly safe to use. Carefully remove and inspect the lens following the handling instructions.



Note: Always start with the lens for your right eye. Making this a habit will help ensure that you always place the correct lens on the correct eye.

3. Handling the Lenses

- Develop the habit of always working with the same lens first to avoid mix-ups.
- Remove the lens from its storage case and examine it to be sure that it is moist, clean, clear, and free of any nicks or tears. If the lens appears damaged, do not use it. Use the next lens in the multipack.

Verify that the lens is not turned inside out by placing it on your forefinger and checking its profile. The lens should assume a natural, curved, bowl-like shape (Fig. A). If the lens edges tend to point outward, the lens is inside out (Fig. B). Another method is to gently squeeze the lens between the thumb and forefinger. The edges should turn inward, forming what looks like a mini taco shell. If the lens is inside out, the edges will turn slightly outward.

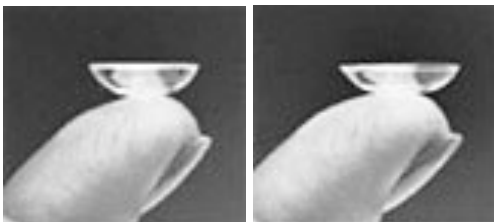


Fig. A

Fig. B

4. Placing the Lens on the Eye

Remember, start with your right eye.

Once you have opened the lens package, removed and examined the lens, follow these steps to apply the lens to your eye:

- a. Place the lens on the tip of your forefinger. BE SURE THE LENS IS CORRECTLY ORIENTED (see "Handling the Lenses").
- b. Place the middle finger of the same hand close to your lower eyelashes and pull down the lower lid.
- c. Use the forefinger or middle finger of the other hand to lift the upper lid.
- d. Place the lens on the eye.
- e. Gently release the lids and blink. The lens will center automatically.
- f. Use the same technique when inserting the lens for your left eye.

Note: If you need to rinse the lens before you insert it into your eye, use only fresh sterile saline solution. Never use tap water.



There are other methods of lens placement. If the above method is difficult for you, your eye care practitioner will recommend an alternate method such as using a contact lens inserter.

Note: If after placement of the lens, your vision is blurred, check for the following:

The lens is not centered on the eye.

If the lens is centered, remove the lens (see "Removing the Lens") and check for the following:

- a. Cosmetics or oils on the lens. Dispose of the lens and insert a fresh new lens.
- b. The lens is on the wrong eye.
- c. The lens is inside-out (it would also not be as comfortable as normal).

If you find that your vision is still blurred after checking the above possibilities, remove both lenses and consult your eye care practitioner.

If a lens becomes less comfortable than when it was first inserted or if it is markedly uncomfortable upon insertion, remove the lens immediately and contact your eye care practitioner.

After you have successfully inserted your lenses, you should ask yourself:

- How do the lenses feel on my eyes?
- How do my eyes look?
- Do I see well?

If your examination shows any problems **IMMEDIATELY REMOVE YOUR LENSES AND CONTACT YOUR EYE CARE PRACTITIONER.**

5. Centering the Lens

A lens which is on the cornea will very rarely be displaced onto the white part of the eye during wear. This, however, can occur if insertion and removal procedures are not performed properly. To center a lens, follow either of these procedures:

- a. Close your eyelids and gently massage the lens into place through the closed lids



Or...

- b. Gently manipulate the off-centered lens onto the cornea while the eye is opened, using finger pressure on the edge of the upper lid or lower lid.

6. Removing the Lens

Always remove the same lens first.

- a. Wash, rinse and dry your hands thoroughly.

CAUTION: Always be sure the lens is on the cornea before attempting to remove it. Determine this by covering the other eye. If vision is blurred, the lens is either on the white part of the eye or it is not on the eye at all. To locate the lens, inspect the upper area of the eye by looking down into a mirror while pulling the upper lid up. Then, inspect the lower area by pulling the lower lid down.

- b. There are two recommended methods of lens removal: The Pinch Method and the Forefinger and Thumb Method. You should follow the method that was recommended by your eye care practitioner.

Pinch Method:

- a. Look up, slide the lens to the lower part of the eye using the forefinger.
- b. Gently pinch the lens between the thumb and forefinger.
- c. Remove the lens.

Forefinger and Thumb Method:

- a. Place your hand or towel under your eye to catch the lens.
- b. Place your forefinger on the center of the upper lid and your thumb on the center of the lower lid.
- c. Press in and force a blink. The lens should fall onto your hand or the towel.

Once the lens is removed, DISCARD the lens.

Note: The lens may come out but remain on the eyelid, finger or thumb.

- d. Remove the other lens by following the same procedure.



Note: Pinching the lens between the thumb and forefinger is not harmful, provided the fingernails do not contact the lens. Some people find a mirror helpful when removing the lens.

e. Follow the required lens care procedures described under the heading, "Caring for Your Lenses (Cleaning, Rinsing, Disinfecting, Storage and Rewetting/ Lubricating)".

CARING FOR YOUR LENSES

1. Basic Instructions

For continued safe and comfortable wearing of your lenses, it is important that you first clean and rinse, then disinfect [and neutralize (for hydrogen peroxide systems)] your lenses after each removal, using the care regimen recommended by your eye care practitioner. Cleaning and rinsing are necessary to remove mucus, secretions, films or deposits which may have accumulated during wearing. The ideal time to clean your lenses is immediately after removing them. Disinfecting is necessary to destroy harmful germs. You should adhere to a recommended care regimen. Failure to follow the regimen may result in development of serious ocular complications.

If you require only vision correction but will not or cannot adhere to a recommended care regimen for your lenses, or are unable to place and remove lenses or have someone available to place and remove them, you should not attempt to purchase and wear contact lenses.

When you first get your lenses, be sure to put the lenses on and remove them while you are in your eye care practitioner's office. At that time, you will be provided with a recommended cleaning and disinfection regimen and instructions and warnings for lens care, handling, cleaning and disinfection. Your eye care practitioner should instruct you about appropriate and adequate procedures and products for your use.

For safe contact lens wear, you should know and always practice your lens care routine:

- Always wash, rinse and dry hands before handling contact lenses.
- Always use fresh unexpired lens care solution.
- Use the recommended system of lens care, chemical (not heat), and carefully follow instructions on solution labeling. Different solutions cannot always be used together, and not all solutions are safe for use with all lenses. Do not alternate or mix lens care systems unless indicated on solution labeling.
- Always remove, clean, rinse and disinfect your lenses according to the schedule prescribed by your eye care practitioner. The use of any cleaning solution does not substitute for disinfection.
- Do not use saliva or anything other than the recommended solutions for lubricating or rewetting your lenses. Do not put lenses in your mouth.
- Lenses prescribed on the frequent replacement program should be thrown away after the recommended wearing period prescribed by your eye care practitioner.
- Never rinse your lenses in water from the tap. There are two reasons for this:
 - a. Tap water contains many impurities that can contaminate or damage your lenses and may lead to eye infection or injury.
 - b. You might lose your lens down the drain.

- Your ECP should recommend a care system that is appropriate for your Contact Lens. Each lens care product contains specific directions for use and important safety information, which you should read and carefully follow.

Remember, some solutions may have more than one function, which will be indicated on the label. Read the label on the solution bottle and follow instructions.

- Clean one lens first (always the same lens first to avoid mix-ups), rinse the lens thoroughly with recommended saline or disinfecting solution to remove the cleaning solution, mucus and film from the lens surface. Follow the instructions provided in the cleaning solution labeling. Put that lens into the correct chamber of the lens storage case. Then repeat the procedure for the second lens.
- After cleaning, disinfect lenses using the system recommended by your eye care practitioner and/or the lens manufacturer. Follow the instructions provided in the disinfection solution labeling.
- To store lenses, disinfect and leave them in the closed/unopened case until ready to wear. If lenses are not to be used immediately following disinfection, you should consult the package insert or your eye care practitioner for information on storage of your lenses.
- Always keep your lenses completely immersed in a recommended disinfecting solution when the lenses are not being worn. If you discontinue wearing your lenses, but plan to begin wearing them again after a few weeks, ask your eye care practitioner for a recommendation on how to store your lenses.
- After removing your lenses from the lens case, empty and rinse the lens storage case with solution(s) recommended by the lens case manufacturer; then allow the lens case to air dry. When the case is used again, refill it with fresh storage solution. Replace lens case at regular intervals.
- Your eye care practitioner may recommend a lubricating/rewetting solution for your use. Lubricating and rewetting solutions can be used to wet (lubricate) your lenses while you are wearing them to make them more comfortable.

2. Care for a Sticking (Non-moving) Lens

If a lens sticks (stops moving) on your eye, apply a few drops of the recommended lubricating solution. You should wait until the lens begins to move freely on the eye before removing it. If non-movement of the lens continues, you should IMMEDIATELY consult your eye care practitioner.

3. Chemical (Not Heat) Disinfection

- Clean the contact lenses with a recommended cleaning solution and thoroughly rinse them with a recommended rinsing solution.
- After cleaning, to disinfect, carefully follow the instructions accompanying the disinfecting solution in the care regimen recommended by the lens manufacturer or the eye care practitioner.
- When using hydrogen peroxide lens care systems, lenses must be neutralized before wearing. Follow the recommendations on the hydrogen peroxide system labeling.

- Thoroughly rinse lenses with a fresh solution recommended for rinsing before inserting and wearing, or follow the instructions on the disinfection solution labeling.
- Do not heat the disinfection solution and lenses.
- Leave the lenses in the unopened storage case until ready to put on the eyes.

Caution: Lenses that are chemically disinfected may absorb ingredients from the disinfecting solution which may be irritating to the eyes. A thorough rinse in fresh sterile saline solution prior to placement on the eye should reduce the potential for irritation.

4. Lens Case Cleaning and Maintenance

Contact lens cases can be a source of bacteria growth. Lens cases should be emptied, cleaned, rinsed with solutions recommended by the lens case manufacturer and allowed to air dry. Lens cases should be replaced at regular intervals, as recommended by the lens case manufacturer or your eye care practitioner.

5. Care for a Dehydrated Lens

If a soft, hydrophilic contact lens is exposed to air while off the eye, it may become dry and brittle. If this happens, dispose of the lens and use a fresh new one.

6. Emergencies

If chemicals of any kind (household products, gardening solutions, laboratory chemicals, etc.) are splashed into your eyes: **FLUSH EYES IMMEDIATELY WITH TAP WATER AND IMMEDIATELY CONTACT YOUR EYE CARE PRACTITIONER OR VISIT A HOSPITAL EMERGENCY ROOM WITHOUT DELAY.**

Post-Fitting Evaluations / Record Keeping

Judging by the way most practitioners/prescribers handle their re-evaluation schedule for most patients, when you see the stated AOA protocol, I think you will be surprised:

- 1 week to 10 days
- 4 weeks
- 8 weeks
- 6 months
- 12 months

After wearing the lenses for a week to 10 days, the new wearer should return to your dispensary for an evaluation of fit, comfort, eye health, and of course, acuity. While the prescriber will be the ECP to evaluate all those things, as a front-line optician, it will be up to

you to schedule the follow-up appointment, and to make notes upon the patient's return to clinic. How you record what the patient relates to you is critical. Most believe that the SOAP method of medical documentation should be adhered to. SOAP is an acronym:

S – Subjective. This should be a very brief description (quoted as close to verbatim as possible) of the patient's chief concern and/or the chief reason for the visit. If this is the patient's first visit, or if the patient has some serious complaints or problems, healthcare officials employ another acronym – OLD CHARTS. It stands for:

- O – Onset
- L – Location
- D – Duration
- CH – Character
- A – Alleviating or Aggravating factors
- R – Radiation
- T – Temporal Pattern (morning...afternoon...upon waking...?)
- S – Severity

O – Objective. This includes all empirical findings as a result of examination and observation.

A – Assessment. A medical diagnosis for the purpose of the medical visit on the given date of the note written is a quick summary of the patient with main symptoms/diagnosis including a list of other possible diagnoses usually in order of most likely to least likely. It is the patient's progress since the last visit, and overall progress towards the patient's goal from the prescriber's perspective.

P – Plan. This can be seen as “where do we go from here?” It will include what the prescriber will do to address the chief complaints. This will include any prescriptions issued, directions given, changes made, etc.

The Top 10 most common complaints of contact lenses wearers include:

1. Blurred vision
2. Feel the lens moving
3. Difficulty reading
4. Lenses sting on insertion
5. Eyes are injected (red)
6. Blink rate has increased
7. They “feel” the lens upon gazing far away
8. They feel “sleepy” sometimes when wearing
9. Seems to be a haze, especially at night
10. Eyes feel itchy

While there are potentially several different reasons for each of these 10 complaints, let's look at some of the most common explanations. The reasons for blurred vision while wearing

contacts are many. The most “obvious” reason is that the prescription (refractive findings) was incorrect. While this can sometimes be the culprit, let’s be honest. Most prescribers, especially optometrists, are pretty good at what they do. So usually the blurry vision is caused by something else like the lenses are old and need to be replaced, or they are dirty and need to be cleaned. Lenses should move slightly on the eye (gas permeable lenses more than soft lenses), but if too much movement is the chief complaint, the lens is probably fitting too loosely. It is also possible that a defective lens is the culprit. If the patient cannot read while wearing contacts, but can see well at a distance, perhaps mono-vision is called for. Also, reading glasses might be considered. If contacts sting upon insertion, it is most likely due to some allergic reaction to the cleaning and/or storage solutions. It could also be that the lenses aren’t 100% clean. Also, if this is occurring in the morning, perhaps the eye is a little dry. If this is the case, a quality rewetting drop (NOT a vasoconstrictor like Visine) could be used prior to insertion. Often, the cause of red eyes is simply from over wearing the lenses, either by sleeping in them or not changing them often enough. The more a contact lens is over worn, the dirtier it will get and the less permeable to oxygen it becomes; the dirt on the lens simply doesn’t allow it to breathe. If a client’s blink rate is increasing when wearing contacts, check for fit and/or allergies. Feeling the lenses when gazing far away is probably a sign of an ill-fitting lens. If a patient feels sleepy when wearing contacts, he or she might just not be used to them yet. If vision seems hazy, the lenses may be dirty or drying. And while a lens that’s fit too tight could result in the patient complaining of a haze, the prescription may indeed need modification. Finally, if the eyes feel itchy, look first to the most obvious reason: the season and/or general allergies. Sensitivity to cleaning and/or lubricating solutions could cause itch, as could over wear. In some instances of itch, the patient may be experiencing Giant Papillary Conjunctivitis, aka GPC. Giant Papillary Conjunctivitis is a condition of the conjunctiva in which the structures known as the papillae become very large. In severe cases this is accompanied by itching and mucus discharge. It was first observed in the 1970s and can be caused by over wearing soft contact lenses.



Giant Papillary Conjunctivitis

If severe giant papillary conjunctivitis develops, patients who wear contact lenses purely for cosmetic purposes should discontinue contact lens wear for at least 4 weeks (during this time symptoms may begin to reverse and improve). In severe cases the use of steroids might be indicated. However, combination mast cell stabilizers and antihistamine ophthalmic medications usually suffice without exposing the patient to the known risks of topical steroids. Most patients will not require more aggressive treatment.

Accurate records need to be kept, and everything the patient says and everything that is observed should be recorded in an objective manner (remember SOAP). If a patient is a “no-show” for a follow-up exam, that needs to be recorded in the patient record, as well as all efforts to reschedule the missed appointment. And speaking of missed follow-up appointments, I believe that they should be handled with as much (or more) seriousness of purpose as a new patient who misses an appointment. Too often that is not the case.

Rules and Laws Relating to Contact Lenses



State Capitol Building, Tallahassee, FL

Florida:

In FS (Florida Statute) 484.012, the state legislature addressed the issue of prescriptions. It allows that “any prescription written by a duly licensed...physician or optometrist...for any lenses, spectacles, eyeglasses, contact lenses, or other optical devices must be kept on file for a [minimum] period of two years with the optical establishment that fills it.” This part of the statute also states, “However, the licensed optician may maintain a copy of the prescription.” This section also states that if the patient, or an agent of the patient (someone acting on behalf of the patient), requests a copy of the prescription within that two-year period, it must be provided. Additionally, unless otherwise restricted by the prescriber, a contact lens prescription is valid two years from the date it was written. This is true regardless of what type of contact lens is prescribed.

In Florida Administrative Code (FAC) 64B12-10.006 it states that all prescription files that are two years old or less when an optician dies, terminates or relocates the practice shall be transferred to a location where they are available to clients. The records must be maintained for two years beyond that point, and it must be advertised where these records may be obtained within 60 days.

FAC 64B12-10.0065 is known as the “Duplicate Prescription Form” rule. This rule, in conjunction with FS 484.012, allows an optician to transcribe a prescription. The Duplicate Prescription Form must contain the name of the client, the name of the prescribing doctor, the date of the original prescription, the sphere, cylinder, axis, prism, and reading power. Any such copy shall be considered a valid prescription, which if not otherwise restricted by the prescriber, may be filled for up to five years if for spectacles, and up to two years if for contact lenses.

If contact lens fittings take place in a dispensary, 64B12-10.007 requires that a “keratometer or similar instrument, and a slit lamp or similar instrument” must be present. Additionally, a “non-expired set of trial soft contact lenses” must also be present.

According to 64B12-10.009 “The technical fitting of contact lenses is embraced in the field of opticianry.” A licensed optician may engage in the fitting of contact lenses while under the direct supervision of the prescriber, while an optician who has become Board Certified may fill, adapt, or dispense prescribed soft contacts independently.

All the requirements and duties related to Board Certification may be found in FAC 64B12-14. It consists of two sections. The first lays out all the requirements that must be fulfilled to apply to become Board Certified. It lists the application which must be submitted, and stipulates that application must be made no longer than two years after the applicant has completed the Board Certification requirements. The second section lays out the make-up of the 20 required hours – 16 of which are in classroom, and 4 of which are clinical. The classes must be taught by qualified instructors. For the classroom hours the student-to-teacher ratio must not exceed 40 to 1, and for the clinical hours the student-to-teacher ratio must not exceed 20-to-1. Once an optician becomes board-certified, in order to maintain that status, he/she must ensure that at least four of the technical hours required for license renewal relate to contact lenses. The classroom hours must consist of:

- 2 hours of contact lens theory
- 2 hours of pre and post-fitting observations; evaluation; and record keeping
- 2 hours of customer follow-up care
- 1 hour of contact lens solutions
- 2 hours of induced contact lens pathology
- 2 hours of ocular surface anatomy
- 2 hours of instrument use and maintenance
- 3 hours of basic contact lens fitting

The clinical hours must consist of:

- 1 hour of lens modification
- 1 hour of contact lens insertion and removal
- 1 hour of observation, evaluation and referral of customers...
- 1 hour of actual use of equipment

For more in-depth information, or to view a copy of all the rules and laws that govern the practice of opticianry in Florida, follow this link:

www.floridasopticianry.gov



Capitol Building, Washington, D.C.

Federal:

The Fairness to Contact Lens Consumers Act (FCLCA) is a federal law that was signed into law by President George W. Bush in December 2003. While it is not a perfect document, it ostensibly was enacted to improve patient safety, while making it easier for contact lens wearers to purchase their contact wherever they choose – not just from the prescriber. Here are 12 questions and answers related to the FCLCA:

1. Does a patient have to request a copy of their contact lens prescription?

NO. A prescriber must automatically give the patient a copy of their contact lens prescription whether or not the patient requests it. This is the same as the long-existing Federal Trade Commission (FTC) Eyeglasses Rule.

2. When must a prescriber give the patient a copy of the patient's contact lens prescription?

The patient is entitled to a copy of the contact lens prescription when the prescriber completes a contact lens fitting for the patient. This is the point when the patient should be given a copy of the contact lens prescription. A contact lens fitting is defined by

Section 11 of the FCLCA to mean the process beginning after the initial eye examination of the patient and ending when a successful fit has been achieved or, in the case of a renewal prescription, ending when the prescriber determines that no change in prescription is required. The fitting process may include an examination to determine lens specifications, an initial evaluation of the fit of the lens on the eye (but not for a renewal of a prescription), and any medically necessary follow-up examinations.

3. Can a prescriber charge a patient a fee for providing them with a copy of their contact lens prescription or for verifying a contact lens prescription to a seller?

NO. A prescriber cannot charge such a fee.

4. Can a prescriber refuse to give the patient a copy of the patient's contact lens prescription if the patient does not pay for their eye examination, fitting, and evaluation, and the prescriber requires such immediate payment of all patients, even if their examination reveals no need for contact lenses or any other ophthalmic goods?

YES. Section 3 of the FCLCA allows that under this limited circumstance a prescriber may refuse to give a patient a copy of their contact lens prescription. However, a patient cannot be denied a copy of their contact lens prescription just on the basis that the patient owes a past debt to the practice - it has to be based on a failure to pay for the current eye examination, fitting, and evaluation, and the prescriber has to require all patients to make such immediate payment, even those who do not need ophthalmic goods of any kind. And if the patient presents proof of insurance coverage for the service rendered, that constitutes an immediate payment and the patient must be given a copy of his or her contact lens prescription.

5. Will the FTC fine the prescriber if he/she fails to verify a contact lens prescription to a seller?

NO. The FCLCA states that a prescriber "shall, as directed by any person designated to act on behalf of the patient provide or verify the contact lens designated to act on behalf of the patient, provide or verify the contact lens prescription by electronic or other means." If a prescriber fails to communicate with a seller within 8 business hours, or a similar time frame as defined by the Federal Trade Commission, after receiving from the seller a verification request, the consequence is that the seller will be able to sell the patient the contact lenses. You cannot be fined by the FTC for allowing the 8 business hours to elapse. That is a verification event for which no fine can be imposed.

6. Am I liable for the seller giving the patient incorrect contact lenses?

NO. You are not liable for the ophthalmic goods and services dispensed by another seller pursuant to your correctly verified prescription. Section 7 of the FCLCA specifically exempts you from such liability. However, you would be liable to potential malpractice lawsuits if you incorrectly verify a prescription, or if you knowingly fail to correct an incorrect prescription that causes harm to your patient.

7. Can a prescriber have a patient sign a waiver of my liability for the accuracy of the eye examination?

NO. Under Section 7 of the FCLCA, a prescriber can neither require a patient to sign such a liability waiver, nor place such a liability waiver on any contact lens prescription, nor deliver any such liability waiver form to a patient.

8. Can a prescriber have a patient sign a waiver or release of any kind as a condition of verifying or releasing the patient's contact lens prescription?

NO. Under Section 2 of the FCLCA, a prescriber cannot require the patient to sign a waiver or release of any kind as a condition of verifying or releasing the patient's contact lens prescription.

9. Can a prescriber require a patient to purchase contact lenses from him/her or another person as a condition of providing a copy of the patient's contact lens prescription or verifying a patient's contact lens prescription?

NO. A prescriber cannot require a patient to purchase contact lenses from him/her or another person as a condition of providing a copy of the patient's contact lens prescription or verifying a patient's contact lens prescription.

10. What is the expiration date for a contact lens prescription?

Section 5 of the FCLCA sets a one-year expiration date for contact lens prescriptions, unless a state law sets a longer expiration date. If a prescriber has a valid medical reason with respect to the ocular health of the patient, he/she may set an expiration date shorter than one year. Such medical reasons would need to be well documented in the patient's record.

11. Can a seller dispense lenses if a prescriber verifies that the contact lens prescription expired, inaccurate, or otherwise invalid?

NO. The seller can be fined by the FTC up to \$11,000 per incident for filling a contact lens prescription that has been verified as being expired, inaccurate, or otherwise invalid. However, if the prescription communicated to the prescriber by the seller is inaccurate, he/she must correct it.

12. Can the FTC fine the prescriber for anything?

YES. Prescribers are subject to the same potential FTC fines of up to \$11,000 per incident if they fail to obey the provisions of the FCLCA. However, they cannot be fined merely because they allow 8 or more business hours to elapse in the contact lens prescription verification process. That is not an event that triggers any FTC penalty for the prescriber.

If you wish to read the entire text of the law, you can follow this link:

<http://www.gpo.gov/fdsys/pkg/PLAW-108publ164/pdf/PLAW-108publ164.pdf>

This ends “A Contact Lens Primer for Florida Licensed Opticians.” You are also encouraged to read or listen to two other CE modules. “Contact Lens Dos and Don’ts,” a one-hour continuing education module that consists of four lists: Optician Dos, Optician Don’ts, Patient Dos, and Patient Don’ts. All are related to contact lenses. “Contact Lens Solutions” is a one-hour course that delves into all aspects of contact lens solutions: cleaners, disinfectants, storage, rewetting and lubrication.

Thanks for participating in this module. Good luck on the final assessment.

Final Assessment

1. If a contact lens wearer is complaining of discomfort because the lens is moving too much, it might indicate:
 - a. The wearer is a bad candidate for contact lens wear
 - b. The lens is fitting too loosely
 - c. The K readings were inaccurate
 - d. The patient probably requires a gas permeable lens

2. Disposable contact lenses were first available in what year?
 - a. 1967
 - b. 1977
 - c. 1987
 - d. 1997

3. The best way for an ECP to communicate the importance of proper hygiene to a new contact lens wearer is:
 - a. Demonstrate proper hygiene in front of the patient
 - b. Talk about it continually during the I&R session
 - c. Make the patient sign an affidavit that says they will use proper hygiene
 - d. Make it the first thing that is discussed when a patient inquires about contacts

4. In what 1508 work by Leonardo da Vinci did he describe changing corneal power by submerging the head in a bowl of water?
 - a. *Anatomy of Refraction*
 - b. *Codex of the Eye*
 - c. *I Can See Underwater*
 - d. *Corneal Reaction to Water Magnification*

5. If an optician dies, closes or sells his practice, he or she must advertise where clients may obtain a copy of their records. This advertisement must be placed within ___ days of one of those things occurring?
 - a. 30
 - b. 60
 - c. 90
 - d. 365

6. For the clinical section of the course needed before application is made for Board Certification, the student-to-teacher ratio may not exceed:
 - a. 10 to 1
 - b. 20 to 1
 - c. 30 to 1
 - d. 40 to 1

7. While inventing soft contact lenses, Otto Wichterle used parts from:
 - a. An automobile and a piano
 - b. A toy and a gramophone
 - c. A keratometer and a slit lamp
 - d. A harmonica and a ball-point pen

8. Bausch and Lomb first marketed soft contact lenses with what trade name?
 - a. Soflens
 - b. Softouch
 - c. Spincast
 - d. Spinlens

9. The main reason we should make initial observations, and be aware of conditions that are technically above our scope of practice is because:
 - a. The practice of opticianry is ever expanding
 - b. We provide a kind of triage on the front-lines of eye care
 - c. Some opticians may do so in accordance with their Board Certification
 - d. If we have the knowledge, we ought to put it to good use

10. As of 2010, contact lenses are worn by about _____ million Americans, and about _____ million people worldwide.
 - a. 58 / 175
 - b. 48 / 195
 - c. 38 / 150
 - d. 28 / 100

11. If a disposable contact lens appears to be damaged when the package is open, what is the best thing for your contact lens wearer to do?
 - a. Place it on the eye and if it's comfortable it's probably okay
 - b. Hydrate the lens for 30 minutes in saline solution, then re-inspect
 - c. Take it to the prescriber so that it can be evaluated
 - d. Throw it out and use a different/new lens

12. If a new contact wearer is apprehensive about touching his eye during an I&R session:
 - a. Tell him he should think twice about wearing contacts at all
 - b. Encourage him by using the Artificial Tears Exercise
 - c. Show him he's being a baby by repeatedly touching your own eye
 - d. Inform him that your ten-year old niece did it with no problem

13. Who was the first to create drawings illustrating that a concave lens placed against the cornea would send light into the retina?
 - a. Leonardo da Vinci
 - b. Carl Zeiss
 - c. Philippe de la Hire
 - d. Rene Descartes

14. RGPs were first introduced in what year?
 - a. 1948
 - b. 1958
 - c. 1968
 - d. 1978

15. Difficulty reading, blurred vision, itchiness, and feeling sleepy are all:
 - a. Contraindications for contact lens wear
 - b. Indications for contact lens wear
 - c. Some of the top 10 complaints of contact lens wearers
 - d. Reasons for switching from soft lenses to gas permeable lenses

16. The Fairness to Contact Lens Consumers Act was signed into law by:
- George H.W. Bush in 1989
 - Bill Clinton in 1993
 - George W. Bush in 2003
 - Barack Obama in 2012
17. Of the 20-hour Board Certification required class, how many hours are in-classroom?
- 4
 - 8
 - 12
 - 16
18. If a contact lens seller dispenses contacts despite the fact that the prescriber informed the seller that the prescription had expired, the Federal Trade Commission can impose a fine per incident of:
- \$1,000
 - \$10,000
 - \$11,000
 - \$100,000
19. If fetal tissue that covers the eye in-utero fails to atrophy and fall away before or soon after birth, it will result in a patient suffering from:
- Coloboma
 - Persistent Pupillary Membranes
 - Distachiasis
 - Madarosis
20. The in-classroom hours required for Board Certification include all of the following topics except:
- The history of contact lenses
 - Ocular surface anatomy
 - Basic lens fitting
 - Lens modification

21. Between 1935 and 1939 about how many pairs of glass contact lenses were sold in the United States?
- 1,000
 - 10,000
 - 100,000
 - 1,000,000
22. Another term for Surfer's Eye is:
- Pinguecula
 - Pterygium
 - Coloboma
 - Strabismus
23. Conducting an I&R with a juvenile is usually more successful if:
- The parents actively participate
 - The ECP performs it one-on-one with the client
 - The contact lens wearing siblings get involved
 - Two or three ECPs help out
24. In the OLDCHARTS acronym for documenting serious patient complaints, the "D" stands for:
- Duration
 - Danger
 - Do
 - Don't
25. According to federal law, unless it is medically justifiable, a prescribing doctor cannot make a contact lens prescription expire any sooner than:
- 1 year
 - 2 years
 - 3 years
 - 5 years

26. A Duplicate Prescription Form in the state of Florida, must contain eight specific pieces of information. All of the following, except:
- The signature of the prescribing doctor
 - The sphere, cylinder, axis, add, and prism
 - The date of the initial exam
 - The name of the patient
27. The first written description of a device approximating a modern-day contact lens first appeared in what year?
- 1723
 - 1823
 - 1873
 - 1923
28. According to the FCLCA, upon the request by a patient (or an agent of the patient), how long does the prescriber have in which to verify the Rx is valid, before the seller may assume it is?
- 8 business hours
 - 24 hours
 - 1 week
 - The FCLCA mentions no time guidelines
29. A yellowish-white deposit on the sclera usually caused by overexposure to UV is called:
- A pinguecula
 - A pterygium
 - A corneal scar
 - Persistent pupillary membranes
30. Reasons for fitting a toric lens include:
- The cylinder power is greater than the sphere power
 - The spherical correction does not provide adequate acuity
 - The cylinder power is more than 0.50 diopter
 - A and b only

31. A gap in the iris, causing an irregular-shaped pupil is called:
- An ocular anomaly
 - A coloboma
 - Hyperopia
 - Hypoxia
32. An inflammation of the eyelids causing red, itchy eyelids and dandruff-like scales is:
- Blepharitis
 - GPC
 - Entropion
 - Ectropion
33. A condition in which the eyelid turns inward is called:
- Entropion
 - Ectropion
 - Madarosis
 - Distachiasis
34. Regarding SOAP documentation, which letter describes what a prescriber decides to do to address the patient's chief complaint?
- S
 - O
 - A
 - P
35. To avoid mixing up lenses, a patient should be instructed to:
- Clearly mark the cases – R for right; L for left
 - Always work with the same lens first
 - Alternate days: Monday, right first; Tuesday, left first; etc.
 - Keep the right and left lenses in separate drawers in the bathroom

36. When it comes to effective, medical documentation, most practitioners follow:
- The SOAP method
 - The EASY script
 - The PLDM approach
 - The BOGO promotion
37. Soft contacts were invented by Otto Wichterle in what year?
- 1951
 - 1961
 - 1971
 - 1981
38. Which of the following statements is true?
- Any Florida-licensed optician may diagnose ailments of the eye
 - Only Florida-licensed opticians may independently fit contact lenses
 - A prescriber is ultimately responsible for the actions of the optician
 - Only a Board-Certified Florida optician may independently fit soft contact lenses
39. Once the 20-hour instruction has been completed, how long does an optician have to make application to become Board Certified?
- 30 days
 - 60 days
 - 1 year
 - 2 years
40. The first contact lenses made from PMMA (polymethyl methacrylate) appeared in:
- 1939
 - 1949
 - 1959
 - 1969

41. In extreme cases of itchiness while wearing soft contacts, the patient may have developed:
- GPC
 - Conjunctivitis
 - Blepharitis
 - A coloboma
42. Unless otherwise restricted by the prescriber, how long is a prescription for gas permeable contact lenses valid in the state of Florida?
- 1 year
 - 2 years
 - 3 years
 - 5 years
43. Florida statutes say that optical establishments must keep copies of contact lens prescriptions they have filled on file for a minimum number of years. How many?
- 1
 - 2
 - 3
 - 5
44. One reason not to rinse contact lenses with tap water is:
- Tap water may contain contaminants that might damage the lens or eye
 - Distilled water is completely chemical free
 - ECPs lose profit from fewer contact lens solution sales
 - Tap water is always dirty and unhealthy
45. A contact lens case should:
- Never be made from plastic
 - Always be washed with soap and water
 - Be replaced frequently
 - Be clearly marked with a big R for right and a big L for left

46. The most effective way to check for understanding toward the end of an I&R session is:
- By asking direct, closed-end questions
 - By asking open-ended questions
 - By making them sign an affidavit that they understand
 - Have a quiz
47. Which letter in the SOAP acronym describes all empirical findings as a result of examinations and observations?
- S
 - O
 - A
 - P
48. In 1971, the first commercially available contact lenses were introduced by:
- Bausch and Lomb
 - Wesley Jessen
 - Cooper Vision
 - Ciba
49. According to the author of this module, what is the one “Golden” piece of information you can share with a new contact wearer during an I&R session?
- Anyone can do it
 - The lens is bigger than the colored part of the eye
 - If the lens is too wet it will stick to the finger and not to the eye
 - Practice makes perfect
50. In years past, what was considered the first step in fitting a contact lens?
- Taking a K reading
 - Placing the lens on the cornea
 - Slit-lamp evaluation
 - Post-fitting observations

51. Silicone Hydrogel lenses were first available in what year?
- 1992
 - 1997
 - 2002
 - 2007
52. Saying to a client, “I’m worried about you wearing contacts. I know you work around paint fumes all day, and that could be a problem. Why don’t you check out allaboutvision.com; they have a lot of information about wearing contacts. After that, if you still want to make an appointment give me a call. Would that be okay?” is a good example of:
- The SOAP method
 - The EASY script
 - The GPC approach
 - The PLDM philosophy
53. Warm eye soaks and eyelid scrubs would probably be indicated if the patient suffered from:
- Coloboma
 - GPC
 - Blepharitis
 - Madarosis
54. A turning outward, usually of the lower lid is called:
- Entropion
 - Ectropion
 - Madarosis
 - Distichiasis
55. An absence of eyelashes is called:
- Entropion
 - Ectropion
 - Madarosis
 - Distichiasis

56. An overabundance of lashes may indicate:
- Entropion
 - Ectropion
 - Madarosis
 - Distachiasis
57. If resting the eye and ocular antihistamines do not clear up GPC, a prescriber would probably resort to:
- Never prescribing contacts again
 - Prescribing a topical steroid
 - Changing lens solutions
 - Trying a different brand of contact lenses
58. Contact lenses represents how big of a worldwide market?
- \$ 1 billion
 - \$ 5 billion
 - \$ 10 billion
 - \$ 25 billion
59. To make lenses more comfortable while wearing, an ECP might suggest:
- Visine
 - A lubricating or rewetting solution
 - Distilled water
 - Saline solution
60. An absence of eyelashes could be caused by:
- Myopia
 - Hyperopia
 - Presbyopia
 - Genetics, Alopecia, or Leprosy

Answers:

1. B
2. C
3. A
4. B
5. A
6. B
7. B
8. A
9. B
10. C
11. D
12. B
13. C
14. D
15. C
16. C
17. D
18. C
19. B
20. A
21. B
22. A
23. B
24. A
25. B
26. A
27. B
28. A
29. A
30. D
31. B
32. A
33. A
34. D
35. B
36. A
37. B
38. D
39. D
40. A
41. A
42. B
43. B
44. A

- 45. C
- 46. B
- 47. B
- 48. A
- 49. B
- 50. A
- 51. C
- 52. B
- 53. C
- 54. B
- 55. C
- 56. D
- 57. B
- 58. C
- 59. B
- 60. D