Keratoconus in a Private Practice Setting

A look at how to avoid mistakes when establishing yourself as a specialty contact lens clinic.

By Stephanie L. Woo, OD, FAAO, FSLS, & Brooke M. Messer, OD, FSLS

Dr. Woo currently practices at Havasu Eye Center in Lake Havasu, Ariz. She is also the public education chair for the Scleral Lens Education Society and is an Advisory Board member for the GPLI. She is a consultant to Blanchard, X-Cel, and SpecialEyes.

Dr. Messer practices in Minneapolis, Minn. in a private optometry office focused on specialty contact lenses. She is a consultant to Precilens, has received research funding from Alcon and B+L, and has received honoraria from Essilor.

Keratoconus patients are some of the most rewarding patients with whom practitioners work. Having a management plan for their specialty contact lens fittings is essential to a successful experience.

This is especially true in private practice where the process can turn south quickly if patient and practitioner expectations are not clear. Thankfully, our practices have survived the early mistakes in establishing themselves as specialty contact lens clinics. We would like to share our experiences and management tips with you.

Patient Intake

Several items can be addressed before patients are even examined that may help your office manage keratoconus patients.

Prior Records Have patients send any prior medical records, including any surgeries or contact lens history. It may be helpful to review this information before seeing patients.

Insurance Collect insurance information and determine eligibility of medically necessary contact lenses (if applicable). Also encourage patients to research their own insurance eligibility for medically necessary contact lenses.

Fitting Agreements Upon patient arrival to the office, documents such as a contact lens fitting agreement can be very helpful in ensuring patient compliance in the follow-up schedule, lens exchanges and ordering, and payments. The document can be briefly explained to patients by the front desk staff members and then clarified by a technician or the practitioner later.

The contact lens fitting agreement is perhaps the most important tool in setting the stage for the fitting and ordering process. The following items should be included in your agreement:

- Time period for the fitting process (e.g., 90 days)
- What happens if the process takes longer than the defined fitting period
- Price for the fitting, per lens
- Contact lens type
- Contact lens ordering and exchange policy (e.g., unlimited exchanges for 90 days)
- Price of contact lenses and how many are included in a year's supply
- Replacement price in case of lens loss

- Whether your office bills a patient's insurance for fitting and lenses
- What happens in the event of insurance denial for the fitting process or contact lenses
- Whether payment plans are available
- What happens if patients present for reasons other than the contact lens fittings, they will be billed differently (e.g, red eye visit)
- When, and if, payments for materials are refundable

A clear and precise fitting agreement will save staff time on the phone and during visits if patients have been informed of the office policies before the fitting process begins. A good time for this discussion is after the initial testing, when enough information has been gathered to decide on lens type and complexity, so the practitioner or staff member can accurately quote patients their potential costs and vision expectations.

Initial Examination

Different approaches can be taken with patients for the first examination. If a patient is approved by insurance (or cash pay) and wishes to proceed with the contact lens fitting, we suggest a one-hour time slot for the patient's complete examination and contact lens fitting.

Another method involves seeing a patient for an initial consultation before setting up a fitting. This consultation should include a case history, prior contact lens experiences, acuity measurements, refraction, and slit lamp assessment to evaluate for best vision potential. Additional testing may aid in patient treatment and management. Anterior segment photography is great way to document any corneal thinning, iron deposits, or other abnormalities. Corneal topography is one of the best ways to diagnose and manage keratoconus. You can differentiate between nipple cones, oval cones, and keratoglobus, and checking the topography every few months can be helpful in monitoring progression of the disease.

Another useful tool (if your topographer has the capability) is to check the back surface of the cornea, also called posterior float (Figure 1). If there is significant irregularity of the back surface of the cornea, you can utilize the scans to explain potential vision limitations to the patient.

The last thing you want to do is tell patients that you can't give them 20/20 vision, but managing patient expectations is important. Without knowledge of their best vision potential, patients may return for multiple visits and lens changes without gaining acuity. If several lenses are attempted with no improvements, patients may lose faith in the process.

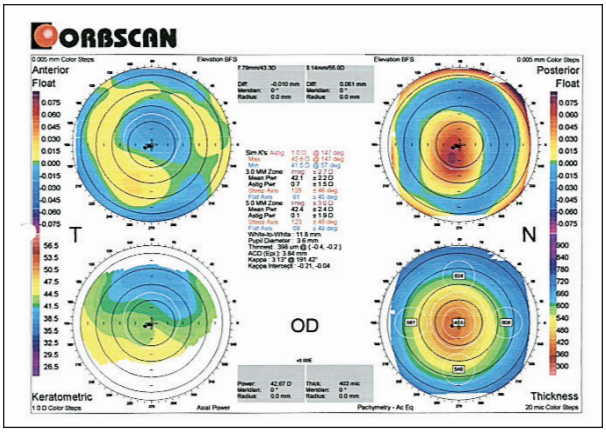

Figure 1. If your topographer has the capability, check the back surface of the cornea, also called posterior float.

Pachymetry is a good tool in itself to check central corneal thickness, but global pachymetry can be even more useful. Global pachymetry shows corneal thickness in many different sections and is also a great tool for monitoring the progression of keratoconus (corneal thinning in particular) (Figure 2).

Keratoconus patients have many questions and fears. Addressing all of their concerns during that first visit can lock in the patient relationship and lead to trust and confidence in you as the practitioner. If you genuinely care about your patients' needs and goals, they will value your opinion immeasurably.

Available Treatments

Be sure to ask patients about any prior contact lens history. What types of contact lenses have they worn? What did they not like about them? Also be sure to educate them about the treatments for keratoconus. Review their options for spectacles, standard contact lenses, specialty contact lenses, intrastromal corneal rings, and cross-linking. If you don't educate them, they might hear about different treatments from elsewhere and be upset that they weren't presented with all of their possible options.

Intrastromal corneal rings are approved by the U.S Food and Drug Administration (FDA) to treat keratoconus. They are small plastic ring segments inserted into the stroma of the cornea with the goal of flattening and repositioning the cone. Intrastromal corneal rings may help to reduce the refractive error, but spectacles or contact lenses are usually needed to optimize vision. The best intrastromal corneal ring candidates are low myopes (spherical equivalent) and those patients who have less than expected vision through a GP lens, based on the clarity of the cornea. Poor

candidates include hyperopes, very high myopes, and those who have 20/20 vision through GP lenses.

Corneal collagen cross-linking (CXL) is a technique that uses ultraviolet light and a photosensitizer to strengthen the bonds of the cornea. It is currently not FDA-approved, and insurance does not cover the treatment. Optimal candidates are young patients who are early in the spectrum of keratoconus and who have good vision, as the goal of the treatment is to slow or halt the progression of ectasia. For example, CXL would benefit a 21-year-old patient more than it would a 60-year-old patient.

Corneal transplants are an option reserved for patients who have significant corneal scarring or for those who have poor visual acuity with a GP contact lens. Many patients believe that a corneal transplant will "cure" their condition and will ask about the procedure at any stage of the disease. Proper education about corneal transplant outcomes and the likely need for a contact lens after the procedure will keep patients from leaving your practice in search of a corneal surgeon to perform their procedure.

Standard corneal transplants are typically cut with a trephine, usually 6mm to 9mm in diameter. While this technique is very successful, it is difficult to control the amount of postoperative corneal astigmatism, and your keratoconus patient will be back in your chair with perhaps an even more difficult contact lens fitting due to significant corneal irregularity.

Advances in corneal transplant methods are improving postoperative visual acuities by utilizing a femtosecond laser to cut the donor tissue to match the profile of the incisions in the host cornea. The incision shapes can include mushroom, top-hat, and zigzag profiles. Different surgeons may prefer different incision types, and all are successful. Penetrating keratoplasty using a femtosecond laser versus a mechanical trephine has demonstrated faster visual recovery and better long-term outcomes in patients who have keratoconus, so this may be an option if you are considering a corneal transplant (Gaster et al, 2012).

Lens Selection

Similar to selecting candidates for surgical procedures, assessing appropriate candidates for the different contact lens designs is key to a successful contact lens fitting. From a private practice standpoint, it is almost more important to select appropriate candidates for each lens design, as every trial fitting can affect your bottom line. With that said, it should be reiterated that quality patient care comes first on the priority list, above any dollar amount, and there are

times when we strike out a few times before finding the correct design for a difficult patient.

With the assistance of technology such as corneal topography and optical coherence tomography (OCT), we can make educated decisions on lens design selections. The more advanced the case, the more selective you must be when choosing a lens type; some are not designed for more advanced cases, and you may be limited in parameter adjustments.

When considering initial lens selection, ask your patient about his career, hobbies, and general lifestyle, and consider this information in addition to the data findings. This may help when selecting a lens and replacement schedule. For example, a patient who is involved with sports and complains of lens dislodgement is probably not a good candidate for a small corneal GP lens, due to the possibility of lens ejection.

Also ask your patients about their goals. Do they drive? Do they want to wear the lenses as long as possible each day or for only a few hours? Do they want to be able to see up close and far away with the lens? The patients' goals will assist you in choosing the appropriate lens design.

A key to any specialty lens fitting is matching your patient with the right lens design. Do not feel like you must reserve the most complex lens designs for your most advanced patients. If a certain lens design matches a patient's needs, regardless of condition severity, it should be prescribed.

Options by Stage

Early/Mild Patients who have early keratoconus have many options for vision correction. In many cases, they are correctable to 20/20 with just a spectacle prescription, but many will choose to use soft toric contact lenses. Occasionally, a patient will need a custom soft lens design made in a larger overall diameter or with a higher astigmatism correction power to perfect the fit and vision. There are many custom soft lenses designed specifically for keratoconus that provide adequate visual acuity and allow patients to stay in soft contact lenses. Lastly, patients who have high vision demands may appreciate the vision correction of GP contact lenses. Regardless of the vision correction modality that these patients choose, they need to be educated that keratoconus is a progressive condition, and that their prescription will likely change in the future.

Moderate to Advanced Patients who have moderate keratoconus will likely need a lens that provides GP-quality optics to reduce glare, halos, and vision distortion. Options include corneal GP lenses, hybrid lenses, and scleral lenses. Best candidates for corneal GP lenses are those who have mild-to-moderate keratoconus, but they can also be successful in some cases of advanced keratoconus.

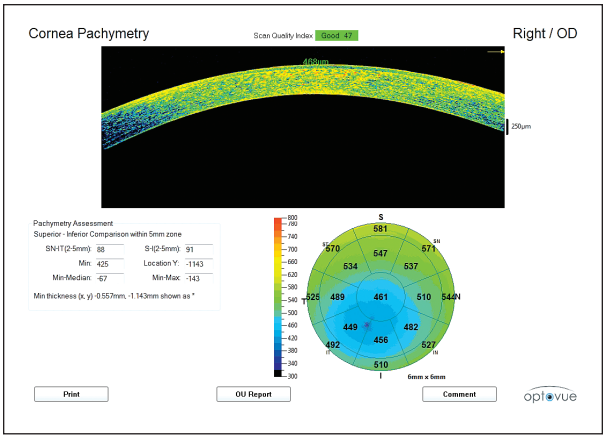

Figure 2. Global pachymetry of a keratoconus patient.

Corneal topography can be very useful in the decision to fit a corneal GP lens. A patient who has a central corneal apex will likely be successful in corneal GP lenses, even in the moderate-to-advanced cases. If the apex of the cornea is significantly decentered inferiorly, as many are, it may be difficult to fit the more advanced cases successfully, and the patient will likely need a scleral contact lens. Much like GP corneal lenses, hybrid lenses will try to center over the corneal apex; they can provide comfortable lens wear and GP-quality vision for those who have a central keratoconus.

As the technology of hybrid lenses advances, we are able to fit patients who have more severe corneal ectasia without significantly bearing on the corneal apex. These lenses are very stable and are now available in a high-Dk skirt and more skirt curvature options to accommodate more irregularly shaped eyes.

Scleral lenses can be utilized for any stage of keratoconus, but they are most commonly used in moderate-to-advanced conditions. Scleral lenses are designed to completely vault the cornea and are fit to the more regular sclera; this can not only simplify the fitting process, but also improve patient comfort and lens stability.

Lastly, as is the case for every patient who wears contact lenses, having a back-up pair of spectacles is important. Remember that keratoconus patients classically present with anisometropic prescriptions with high amounts of astigmatism. Consider reducing both sphere and cylinder power in the eye that has worse acuity to balance lens weight and magnification for the best functional prescription. Taking the time to

trial frames and adjust your refraction can save chair time and troubleshooting for you and the patient.

Office Prep

Prepping your office to fit specialty lenses does not take an excessive amount of money or much time to get started. First, decide on which fitting sets to order or loan from a laboratory of your choice. It's a good idea to have a few lens options to accommodate mild-to-advanced corneal cases. Specialty sets designed for keratoconus include corneal GPs, intralimbal-sized lenses, hybrid options, and scleral lenses. You may also want to consider custom soft lenses designed for keratoconus for GP-intolerant patients. If you already work with a manufacturer, contact your representative to see what that manufacturer recommends.

If you do not want to commit much money to a fitting set, you can ask for a loaner set, which will be sent to you at no charge as long as it is returned within a certain time frame. This is a great option for new practitioners and also for recent graduates who do not have the financial means to purchase a fitting set.

Also, make sure your office is stocked with the appropriate care systems such as soft contact lens multipurpose solutions, GP solutions, large and small contact lens application plungers, fluorescein strips for evaluation of GP fits, and finally, preservative-free saline, if you plan to fit hybrid or scleral contact lenses.

Not all insurance covers medically necessary contact lenses, and the fees may be transferred to the patient.

Billing and Profitability

The contact lens fitting is often the easy part of the experience. Ensuring that your office stays profitable and organized is sometimes the real challenge!

The first step is the contact lens fitting agreement, which, as mentioned previously, outlines what the patient can expect from your office. Your staff should also be familiar with the key points of the agreement so that the policy presentation is uniform regardless of who the patient may interact with from your office.

Specialty lens laboratories include an exchange policy with the order of the initial lens. Usually, the policy is around 90 days to reorder adjusted lenses for little or no cost. If the fitting is successful, many laboratories do not require previous lenses to be returned. But, if the fitting is not successful and you wish to cancel it, you must return *all* of the lenses ordered to obtain a refund from the laboratory.

As you can imagine, having a method to organize the trial lenses is very important to staying profitable. We recommend a tray for each patient that holds all of the previously ordered lenses. The tray should be taken into each visit with the patient to prevent trial lenses from being placed in less desirable places, such as unlabeled flat packs, desk drawers, or white coat pockets.

When the fitting is complete, the previous lenses can be thrown away or returned to the laboratory, depending on the laboratory's policy. We also recommend designating a staff member in the office to monitor the patients' trays for return deadlines and to contact those patients who have not scheduled follow-up appointments.

Billing and coding for medically necessary contact lens fittings and materials could be an entire article in itself, as each insurance plan reimburses differently, and the rules for appropriate billing may vary by state. If a vision insurance plan is in place, your contract will outline your reimbursements and global period for fitting fee.

When billing medical insurance, use 92072 for the initial fitting of each eye. Code follow-up visits as general ophthalmologic services, usually a level 2 or 3 code depending on the amount of time and testing performed at each visit.

For contact lens material billing, patients should be aware that not all insurances cover medically necessary contact lenses, and the fees may be transferred to them. If a patient's insurance denies material coverage, we provide letters or call the patient's insurance to begin an appeal. To begin this process, we request payment for the amount due, and any reimbursement gained from the appeal process is promptly refunded to the patient. Of course, this situation should be clearly stated in your contact lens agreement.

In Conclusion

As you can see, managing patients who have keratoconus is not a simple process. But, with proper planning and organization, it can be a very rewarding and profitable area of your practice. **CLS**

For references, please visit www.clspectrum.com/references and click on document #231.