Many patients are in need of specialty eye care services. This need provides an excellent opportunity for the practicing optometrist to identify a target market and meet the specific needs of those patients. Expertise in a specialty eye care area, such as pediatrics, contact lenses, disease management, refractive surgery, vision therapy, sports vision, hospital-based optometry, prosthetics, low vision, or neuro-optometric rehabilitation, has given rise to the emergence of specialty or niche practices.

Each of these practice modalities requires not only clinical expertise but also sound business planning. The business considerations are similar for each specialty area. These similarities include the need for planning and monitoring. Planning includes determining the services to be offered, selecting the location, making financial decisions, and ensuring appropriate education of employees. Areas that need monitoring are quality control of care and marketing, as well as interpreting practice benchmarks.

A niche practice can be started fresh or added to an existing practice. Once the location and specialty is selected, the office must be prepared to see patients, which means determining a budget, space, staffing, and equipment. Many specialty practices require no additional space or staff. Each specialty area is discussed in this chapter, with the exception of contact lenses (see Chapter 30) and vision therapy (see Chapter 31).

Financial decision making is essential to be sure the fee structure of niche services is appropriate. It must be decided which services or products remain outside third-party coverage and which are covered services. With niche practices, fees are often outside third-party coverage. In cases where there is no third-party coverage for the service provided and the optometrist is a third-party provider, an Advance Beneficiary Notice (ABN) is a necessity. This informs the patient what is not covered by their third-party insurer before the service is performed or materials are provided.

The practitioner must determine that staff delivering the niche services or products are properly educated and trained. Often, with a niche practice, education and training are specialized and may require certification of additional expertise.

Once the niche practice begins to see patients, systems must be in place to monitor the quality control of patient care. Quality control is defined as ensuring every patient receives the same high-quality vision care at every encounter with the practice. To measure quality control, patients may be asked about the care received.

A question to ask patients that may be the best indicator of patient satisfaction is: “On a scale of 1 to 10, how likely would you be to refer a family member or friend to our office for vision care? Why?” Allowing the patient to answer the survey anonymously may lead to the truest result.

Having a caring employee present either a paper survey form or electronic option will increase participation. An incentive of a gift card for care in the office can be awarded to those who complete the questionnaire in-house. The patient may still remain anonymous by giving it in a sealed envelope to your staff or completing the electronic questionnaire. Tabulating the results and fixing areas identified as problems is the key to using a survey for quality control.

Monitoring why patients selected the niche practice for care assists the most effective spending of marketing dollars. It is important that the business management strategy ensures both internal and external marketing is in line with the mission statement of the practice.

Finally and most important, practice benchmarks must be monitored to determine if goals are met and used to steer the niche practice in the correct direction. These benchmarks include but are not limited to appointments seen, income collected, accounts receivable, new patients, treatment plans accepted, cost of goods, and staff expenses. These benchmarks must be analyzed and used to make decisions on practice management, including when to expand, when to invest, and when to make changes within the practice to improve patient care.

With this information being common to all niche optometric areas, the following sections in this chapter present specific knowledge related to the following specialties: pediatric vision, co-management of refractive surgery, sports vision, hospital-based optometry, prosthetics, low-vision care, disease management, and neuro-optometric rehabilitation (NOR).

Each of the specialty areas follows the same format by answering the following five questions:

1. What is needed to prepare the office to see patients?
2. What is needed to enroll patients for care?
PEDIATRIC VISION

1. What is needed to prepare the office to see patients?

Although it is more likely that an optometric practice focusing on the 14-year-old and younger population will also see adults, there are eye care practices devoted only to this population. Whether one has a separate location or simply wishes to increase the pediatric population seen in the current location, space for strollers in the reception area, as well as small chairs and tables, will be necessary. Entertainment centers help to attract and keep children occupied while waiting for care. Many offices are adding flat screen televisions and gaming areas, including the most up-to-date electronic devices.

One should be sure the décor of the office is friendly to children, although it is often best to avoid primary colors and cartoons so that the young teen population is not alienated. Real photographs of patients being examined with framed positive quotations can be placed in the reception area and throughout the office. Framed artwork made by local students with their name and age is appropriate.

The examination rooms must have enough space for parents to sit and observe. Often, siblings will attend the appointment, therefore diversions in the examination room, such as puzzles, Etch-a-Sketch, or handheld video devices, will help parents concentrate on the testing and not their other children.

The dispensing area must contain numerous sizes and styles of kid-friendly eyewear. In addition, there should be specialty eyewear including impact resistant sun wear and eyewear suitable for every sport from football to swimming. Contact lenses are appropriate for young children, including infants so the practice should have the necessary fitting lenses available. Corneal refractive therapy (CRT) should be offered in a pediatric practice as one method of myopia control.

Hiring for a pediatric office should include staff that love children, are not easily irritated, and who have great skills in attitude management such as the ability to easily divert the attention of an upset child to something of interest.

Essential pediatric equipment includes fixation targets, penlights, and alternative acuity assessments such as the tumbling E and Lea cards. Handheld prisms, prism bars, and lens bars are helpful. A handheld slit lamp helps the evaluation of the anterior chamber, lens, and ocular surface. Less essential yet helpful equipment includes Teller acuity cards, contrast sensitivity testing equipment, autorefractors, and handheld imaging devices.

2. What is needed to enroll patients for care?

Screenings of pediatric patients are often done by medical personnel outside the profession of optometry. Most commonly, eyesight screenings take place in the pediatrician’s office and at school by the school nurse. Both the pediatrician and the school nurse will suggest the child be seen for an eye examination if they fail vision-screening criteria. It is important to recognize the high number of false positives and false negatives resulting from this type of cursory vision screening. It is important, however, for the pediatric optometrist to ensure these medical professionals feel comfortable referring to his or her practice.

Some optometrists hold their own screenings at local health fairs sponsored by schools, churches, or community organizations such as recreation centers. In this case, it is best to do more than a sight test and incorporate stereo testing or binocular assessment. After testing it is important to discuss how these results might affect academic performance. The propriety of performing screenings in the area of one’s own practice needs to be considered. It is generally considered unethical, and in some jurisdictions a violation of state statute or regulation, to “self refer” as a result of providing screenings of this type.

Infant See is a national optometric initiative using public service announcements to encourage all children to be seen before age 1 year for a vision examination. If the optometrist is a member of Infant See, he or she agrees to offer one complimentary vision screening to any child before their first birthday. Any necessary follow-up testing is at usual and customary fees. The goal is to educate parents on the need for early vision care and to help detect amblyopia or other abnormalities for early intervention and/or treatment.

Patient education materials should be present throughout the office, including pictures of babies receiving vision care, children smiling with eyewear, education on preventing amblyopia, and how vision problems may interfere with academics. Pamphlets may be obtained from many sources including the American Optometric Association (AOA).

3. What is needed to manage the financial transactions for this area?

Payment policies for eyewear or medical services mirror those of the adult population.

4. What is needed to deliver care in this area?

All caregivers in a pediatric practice must have patience. It is important to enjoy children, not be upset with messes, and to realize that the schedule will often be altered throughout the day. Proficient skills in objective testing are essential. It is likely that few subjective responses will be obtained with very young children.

When delivering care to the pediatric patient, it is important to work quickly, not waste time and use every moment the child gives to obtain test results. Better results are usually obtained when the child is not required to wait in the reception area, so running on time is a plus.

Knowing when to continue testing an upset child and when to stop and reschedule the visit is important. It is important to speak to the child, even if they do not answer. In addition,
to obtain the best results, be sure to have pediatric friendly equipment such as is listed in question 1 above.

5. What is needed to generate new patients in this area?
The most common internal marketing tool to build the pediatric portion of a practice is to ask all parents when their child’s last vision examination occurred. If they state “In school,” it is time to educate the parent on the difference between a screening and a diagnostic examination. All children are growing and their visual system changes along with this growth.

Since some children are sent for vision care from the pediatrician or school nurse, it is best to establish positive relationships with these health care providers. Make sure pediatricians and local urgent care facilities know the office is available 24 hours for emergency eye care, including trauma and corneal foreign body removal. Visit school nurses and provide continuing education for the school nurse’s associations. Start each school year by ensuring all school nurses in the district are equipped with an eye care kit containing: sterile wash, contact lens solutions, contact lens cases, spectacle lens cleaner, and repair equipment. Let them know you are available for consultation at any time.

When filling out a school nurse’s eyesight screening form, explain the patient’s condition and thank them for sending the patient for care even if no immediate treatment is necessary.

Establishing oneself as having expertise in pediatric care will likely bring other members of the child’s family to the office for care. Once their child is well cared for adult patients understand they also will receive quality care.

CO-MANAGEMENT OF REFRACTIVE SURGERY

1. What is needed to prepare the office to co-manage refractive surgery patients?

Most refractive surgery optometric practices work their surgical patients into the general practice flow. To effectively co-manage these patients, the practice must designate a staff member as a refractive surgery coordinator. This person should be knowledgeable about refractive surgery scheduling, procedures, current treatment ranges, consent forms, required preoperative and postoperative forms, and medicines. The refractive surgery coordinator’s job is to answer all questions when a general patient expresses interest in refractive surgery. This person will keep the office flow moving smoothly while enrolling more patients for co-managed procedures.

A pachymeter and a topographer are additional tools an optometrist needs to effectively co-manage refractive surgery patients. A pachymeter is necessary to determine if the patient’s cornea is thick enough for qualifying for either laser-assisted in situ keratomileusis (LASIK), photorefractive keratectomy (PRK), or implantable contact lens (ICL). A topographer is important to determine if the patient has any signs of keratoconus or irregular astigmatism.

2. What is needed to enroll patients for care?
The initial screening process for refractive surgery begins with a comprehensive eye examination, including a cycloplegic refraction and a dilated fundus examination. Contraindications to refractive surgery are keratoconus, unstable refraction, pregnancy, or history of herpes keratitis. Pachymetry readings will help determine what type of procedure to recommend, such as LASIK, PRK, ICL, or refractive lensectomy. Topography will help determine if the patient is not a good candidate because of signs of keratoconus.

The most successful co-managing doctors attempt to schedule the patient at the refractive surgery center for an initial consult and surgery while the patient is still in the optometric office. The patient should be given the same educational materials typically provided by the laser center to provide consistent education and a smooth transition from the optometric practice to the surgery center. The goal is to have the patient leave the optometric office with an excellent understanding of the surgical options and knowledge of whether monovision or bilateral distance correction is best. It is important to discuss the pros and cons of each treatment approach, and if monovision is desired, it is appropriate to do a trial with monovision contacts before the appointment at the surgery center.

3. What is needed to manage the financial transactions for this area?

Most insurance companies provide no coverage for refractive surgery, however, some do entitle the patient to a discount. The refractive surgery coordinator should have a good knowledge of the protocols for each insurance company. When the optometrist provides preoperative and postoperative care for a refractive surgery patient, a co-managing fee for those services is charged. Typically, this fee is collected by the surgery center and sent to the optometrist after the patient has undergone surgery.

4. What is needed to deliver care for this area?

When the patient returns for postoperative care, it is necessary for the optometrist to have a thorough understanding of potential postoperative complications and how to handle them. Each surgeon has different medication protocols and recommended frequency of follow-up visits that should be known by the co-managing optometrist. The co-managing optometrist should know what is considered a medical emergency and when to refer back to the surgery center.

It is important to treat conditions, such as blepharitis and meibomianitis, in the preoperative period to attempt to reduce dry eye complications in the postoperative period. The most typical postoperative complication with refractive surgery procedures is dry eye. Some patients experience glare while night driving in the early postoperative period. In most cases, this resolves over time and the patient just needs reassurance.

The most serious complications are a dislodged flap in LASIK patients, significant stromal haze in PRK patients, wound leaks in ICL patients, or endophtalmitis in lensectomy patients. All of these situations call for an immediate referral back to the surgeon or at least a phone consult with the surgeon regarding the appropriate care for the patient.

Other complications include epithelial ingrowth, striae, and diffuse lamellar keratitis (DLK) (“Sands of Sahara”). Education on complications is easily obtained via an Internet search or in refractive surgery textbooks.
5. What is needed to generate new patients in this area?

Marketing to current patients is the best way to generate new refractive surgery patients. Inform patients about the benefits of this medical specialty. Awareness can occur by adding the following question to the patient questionnaire, “Are you interested in seeing without glasses or contacts?” End each examination of a refractive surgery candidate with the statement: “If you wish to reduce your dependence on glasses or contact lenses, you are a candidate for refractive surgery.”

Most laser centers provide co-managing doctors with informational DVDs and educational pamphlets that can be displayed in their office to encourage patients to ask if they are a candidate. Laser centers typically link to the optometric center’s Website or place contact information on their own Website. Website links are a great way to enhance external marketing.

It is important to let patients know that the optometric practice supports laser eye surgery. Knowing this helps patients feel comfortable asking about the procedure. Patients value the opinion of their doctor regarding what particular surgeon would be their best choice. Refractive surgery co-management can be a very rewarding and profitable addition to the optometric practice.

SPORTS VISION

1. What is needed to prepare the office to see patients?

Space considerations vary based on level of care provided. Much can be done in a standard examination room that is equipped with instruments that can measure visual function down to its absolute limit (e.g., visual acuity down to 20/8 or stereo vision to 10 to 12 sec of arc). Often, this enhancement in acuity translates into improved performance for the athlete.

For those who wish to go beyond lens therapy and choose to test and train visual integration, the room size may vary greatly in size, depending on the equipment installed. The room can range in size from 8 × 8 feet to 30 × 30 feet (for those who want a putting green or a basketball hoop).

2. What is needed to enroll patients for care?

Sports vision screenings are a great way to attract patients to this type of niche practice. The screening is an entry point that can lead to a complete sports vision workup. Screenings can be done at a local college or university, high school, or recreational sports league. A contact should be made with the appropriate person (e.g., the school’s athletic director) to plan the sports vision screening. A logistics meeting should occur to discuss the importance of vision in sports and how the screening will be conducted. These screenings are often done at no charge or minimal charge to encourage as many athletes as possible to participate.

To maximize enrollment in the screening schedule, a time when most of the players are able to attend should be determined. As a consequence, enrollment is often at its peak in the evening or weekends.

Athletes should have tests that relate to various levels of the pyramid in Figure 29-1. Visual acuity, contrast sensitivity, binocular vision, and visual integration are the most relevant tests.

The M&S Professional Sport Vision Testing System (PSVTS) evaluates visual function on the bottom two levels of the pyramid. Visual integration and eye-hand coordination can be tested with the SVT (sport vision tester) and the Bassin anticipation timer. Other instruments, such as the Wayne Saccadic Fixator, can also be used.

At the completion of the screening, each athlete should receive a printout of the screening results on the doctor’s letterhead explaining his or her areas of strength and weakness. In addition, the athlete should be given educational materials that are available from the AOA Sports Vision Section Website. Members in good standing of the section have access to these materials at no charge.

3. What is needed to manage the financial transactions for this area?

Sports vision can easily become a profit center within the office. The services provided are outside third-party coverage, so there is no need to contact third-party payers to determine coverage. Payment is received directly from the patient and due on the day services are rendered and products are obtained. The testing and training of athletes can certainly generate its own income, but in addition, seeing athletes for sports vision also enhances contact lens and optical sales. Sale of home training vision therapy equipment can also be a new revenue source for the office.

4. What is needed to deliver care for this area?

The first and most important step the doctor needs to do to successfully launch a sports vision practice is to understand and embrace the different mindset necessary when examining athletes. The visual demands in many fastball sports often far exceed the levels tested in a standard eye examination. The doctor performing a sports vision examination cannot stop refracting until the athlete’s maximum visual potential has been reached. Stopping the refraction at 20/20 when, with further refractive adjustments the athlete will yield acuities of 20/12, is counterproductive to being successful in this specialty. Optimization is the key word. It is necessary to optimize the visual system of the athlete. This is true in basic monocular visual functions, binocular vision abilities, and visual integrative functions.
SECTION 6 Evaluation and Management of Specialty Services

One way of looking at the diagnosis and treatment of visual abilities in the athlete is presented in Figure 29-1. The strength of the apex of a pyramid is a function of the solidity of its base. In the case of the vision of athletes, to ensure the best on-field performance (apex of the pyramid), each level of the pyramid must be optimal. Monocular visual functions, such as visual acuity and contrast sensitivity, form the base of the pyramid. Once these functions are optimized, binocular visual intervention can be added and optimized. This can be done through a targeted vision therapy program. When the eyes are working together as efficiently as possible, then it is appropriate to enhance the visual integrative functions that effectively teach the brain to use the available visual information and funnel it into a coordinated motor action.

5. What is needed to generate new patients in this area?

Although screenings are one method to bring athletes into the office for care, an additional method of building the sports vision practice is to educate patients and parents that currently part of the primary care database. Target marketing to these patients will result in many phone calls to the office.

Having staff that understand and speak the language of the athletic community is essential. Each patient that calls to schedule a vision examination should be asked, “Are you scheduling this vision evaluation to improve your performance in your sport?” This creates awareness and causes patients to ask questions.

Finally, when patients enter the practice for their primary care examination, the history questionnaire should ask these two questions: “In which sports do you participate?” and “Do you wish to improve your performance?” The doctor can then use this information to discuss the patient’s athletic visual needs and to enroll the patient in sports vision care.

HOSPITAL-BASED OPTOMETRY

1. What type of patients are seen in a hospital-based optometric practice?

There are two common delivery approaches used by optometrists to provide hospital-based vision care.

Approach 1: The most common approach is for the optometrist to maintain a private practice outside the hospital and to travel to the hospital to see patients in the hospital. In this model, optometrists are recruited by the hospital to provide specialty services, such as emergency medical care, or because of their background, they are asked to provide rehabilitative visual care.

Approach 2: The second approach to hospital-based optometry is to establish 1 or 2 examining lanes within the hospital. In this situation, the optometrist typically rents space from the hospital. The space is used to create an optometric practice setting on hospital premises where both traditional care, such as contact lens services, and specialty care, such as low vision services, are provided.

2. What is needed to enroll patients for care?

Approach 1: When the optometrist is recruited by the hospital to provide acute and long-term visual rehabilitative services, the patients seen are part of the hospital system and therefore are evaluated in their hospital rooms. Patients are referred by occupational therapists, physical therapists, and physicians. One way patients are sent for vision care is after a screening by the occupational therapist. The screening procedure and referral criteria is set up by the optometrist and administered by the occupational therapist. Physicians, such as physiatrists (medical doctors with specialized training in physical medicine, rehabilitation, and pain medicine) or physical medicine doctors, test and perform case histories resulting in referrals. When scheduling an in-hospital patient evaluation, the nursing staff contacts the optometrist’s private office to inform that a patient has been referred. The nursing staff secures a time for the patient to be seen in the hospital and makes records available. Insurance information is forwarded to the optometrist that will enable preparation for billing the third party. A brochure regarding vision rehabilitation should be provided to the patient or their family. Treatment often occurs in the physical therapy gym or occupational therapy gym.

Approach 2: Another approach to integrating optometry into the hospital setting is a private practice located within the hospital. Specialty services, such as low vision or contact lenses, are provided in this setting. The additional space requirement for this model usually includes two primary care lanes, a low vision/specialty testing lane, administrative space, and a reception area. The staff needed includes the optometrist, ophthalmology resident, optometry intern, receptionist, and if possible, an occupational therapist with low vision training. Equipment needed includes fully equipped primary care lanes, a low vision lane with a 10-foot testing system, trial frame and lens kit, telescopes, magnifiers, a retinal imaging device, a visual field testing unit, and ocular coherence tomography. Most of these eye care patients are seeking other hospital-based care or are attracted by the reputation of the hospital. Typically, they do not have extraordinary vision care concerns, but they likely have been seen by an ophthalmologist who then sends them for optometric care. They are most often sent to the hospital-based optometric facility for the following optometric services.

- Low vision services
- Contact lens services
- Specialty services such as retinal photography, automated visual field testing, and ocular coherence tomography

3. What is needed to manage the financial transactions for this area?

For both optometric hospital-based approaches, major medical insurance is billed for services and is often accepted as payment in full. Noncovered expenses, including eyewear, low vision devices, contact lenses, and Fresnel prisms, are billed directly to the patient. If the patient has third-party vision coverage, it may be accepted as payment.

4. What is needed to deliver care for this area?

Approach 1: Additional training, certification, and equipment is helpful in delivering care in a hospital setting (Box 29-1). The rehabilitative hospital setting requires treatment of many conditions, including but not limited to diplopia, visually induced balance disorders, and visual field loss.
Approach 2: In addition to clinical care, the role of the optometrist in a hospital setting may require lecturing and providing clinical instruction to optometry interns and ophthalmology residents. Conducting research and publication is helpful in this setting.

5. What is needed to generate new patients in this area?

Approach 1: New patients are referred when progress is made with existing patients in visual rehabilitative care. In addition, family members who are present during testing and therapy often seek the optometrist for vision care in their private practice setting.

Approach 2: Increased referrals and consultations from ophthalmology happen when successful treatment occurs and physicians become more aware of what services can be done in this setting. Letters, in-service programs, and networking can be used to educate physicians about the optometric care that can be delivered in this setting. Patients frequently send family members for vision care. In addition, the optometrist should participate in hospital public relations and consider providing community outreach vision care.

**PROSTHETICS**

The methods and technology available to cosmetically enhance the appearance of eyes that have been disfigured or lost have evolved significantly. Optometry is uniquely positioned as primary eye care providers knowledgeable in ocular disease, anatomy, physiology, contact lenses, low vision, and other associated areas to provide the services and prosthetic devices needed. It is appropriate that optometry take the lead in this area of specialized patient care.

Ocular prosthetic practice is the evaluation, design, fitting, and provision of a natural-looking ocular shape to enhance the appearance of a disfigured or missing eye and/or the therapeutic treatment of the ocular tissue to relieve a debilitating symptom or complaint.

There are essentially four ocular prosthetic options to be considered. Ocular prosthetic devices can be in the form of a reform eye (artificial eye), shell eye, corneal prosthetic contact lens, or soft prosthetic contact lens. The last three designs can incorporate optics if needed.

1. What is needed to prepare the office to see patients?

A typical eye care examination room can be used to fit patients in need of prosthetics. To maintain privacy the examination room door should be kept closed so the patient is not seen by others. It is best to have the room walls painted a neutral color (light gray is good) so accurate color matching is possible. Lighting can be fluorescent with daylight bulbs, and it is important to have an incandescent light source available to check scleral and iris color in different types of lighting. Utilize white or gray cloth to drape over the patient’s shoulders to mask any bright-colored clothing being worn.

If the prosthetic work is done sporadically, then additional staff may not be necessary. A staff member trained in contact lens handling may assist and be trained to do polishing and cleaning.

For specialized equipment refer to Box 29-2.
With party

3. What is needed to manage the financial transactions for

E/M Codes for All Patients

New Problems

Established Problems

Prosthetic Service

coding for services must use the 99000 code series.

V2600 codes are used for materials. Prosthetic services billed
under 92000 codes will not be paid.

4. What is needed to deliver care for this area? To meet patient’s
needs, it is important to invest in prosthetic eye shape fitting
sets, at least one shell eye shape fitting set, and hydrophilic lens
fitting sets.

Additional training can be obtained through continuing
education or specific educational programs such as an individual
course on prosthetic eye fitting through Monoplex Eye
Prosthetics (Box 29-3).

5. What is needed to generate new patients in this area?
Because of the few number of prosthetic niche practices,
marketing to other eye care practitioners is often successful.
Additionally, articles in local newspapers about the possible
cosmetic effects that can be achieved with prosthetic contact
lenses is very successful. Before and after pictures are great
“selling points”. The public often refers patients to the practice
with this type of external marketing.

LOW VISION SERVICES

As the baby boomers age, the prevalence of low vision in the
United States will drive the need for low vision practitioners.
The Eye Diseases Prevalence Research Group found 3.3 million
Americans over the age of 40 have blindness or low vision
(2004). Statistical breakdown of the data in this study revealed
that 1 in 28 Americans over age 40 years have low vision.
Visual impairment followed an exponential curve when
 correlated to age with 15% between 45 and 64 years of age, 17%
between 65 and 74 years of age, 25% older than 75 years of age,
and 69% older than 80 years of age. Based on population trends,
they predicted that there will be 5.5 million Americans with
visual impairment by 2020.

In 2004 the United States Department of Labor reported that
there were 30,000 optometrists, with a projected job growth of
18% to 26% by 2014. The AOA’s Low Vision Rehabilitation
Section lists approximately 800 optometrists, which is 3,000
patients per low vision optometrist! At the current rate, each low
vision rehabilitation must increase.

In 2004 the United States Department of Labor reported that
there were 30,000 optometrists, with a projected job growth of
18% to 26% by 2014. The AOA’s Low Vision Rehabilitation
Section lists approximately 800 optometrists, which is 3,000
patients per low vision optometrist! At the current rate, each low
vision specialist will have 4,391 patients in 2020. To meet the
current demand, the number of practitioners who provide low
vision rehabilitation must increase.

1. What is needed to prepare the office to see patients?
Determining what is needed to prepare the office to see low
vision patients depends on the level of care the office will
provide. Typical levels of care are as follows:

• Level 1: Basic mixed practice (high adds, prism half-eyes)
• Level 2: Advanced mixed practice (at least 30% low vision)
Level 1 practices can exist without adding any additional facilities, equipment, or personnel. These types of practices exist to provide a needed service for their own patients. Practices that have a large percentage of ocular disease or geriatric patients stand to benefit financially while providing a valuable service.

It is important to separate the low vision service from the patient’s routine care to maximize revenue. This separation emphasizes to the patient that they are receiving something above and beyond their routine care and allows for proper third-party or out-of-pocket billing of the service. A separate code for extended low vision refraction needs to be generated. Markup on low vision prescriptions needs to be higher to account for a higher return and remake rate.

Level 2 low vision practices actively market to prospective patients and referring physicians in addition to providing low vision service to their own patients. These practices often designate 1 to 2 days a week as “low vision days”. Facilities may be modified to provide for orientation and mobility or activities of daily living (ADLs) training. Additional staff may be hired, or existing staff may be trained to assist in the care. A typical inventory list for a Level 2 low vision practice is found in Box 29-4. Fact finding and market research should look at managed care and state programs that may help fund devices. Diagnostic inventory should be dictated at least partially by devices that are covered vs. those that would be out of pocket. Purchasing groups, such as www.shoplowvision.com, offer discounts as order volume increases, allowing increased profit margins. When possible, the practitioner can reduce risk by prescribing conservatively. For example, custom devices that require drill mounting cannot be easily reused for another patient, and the laboratory may have a very limited return policy. If a patient’s needs can be satisfied by a handheld or clip-on device, the practice will have less chance of losing money if the device is returned. Comparable products can be ordered to try once the patient sees the basic idea of how the device works. Doctors will have to work with vendors to ensure technologic devices stay up-to-date by developing exchange agreements. When starting a Level 3 or Level 4 practice, or a low vision-only practice, facilities should initially include at least 2 examination rooms, an adaptive technology room, and a training room. Fact finding and market research should

---

**BOX 29-3**

**Product/Material Sources**

**OCULAR PROSTHETIC DEVICES AND SUPPLIES**

**Reform Eyes**  
Monoplex Eye Prosthetics, LLC  
54 Main Street  
Sturbridge, MA 01566  
508-347-3818

**Shell Eyes**  
Monoplex Eye Prosthetics (see above)

**SCLERAL CONTACT LENSES/INTRA-LIMBAL DESIGNS**

Danker Laboratories Inc.  
PO Box 1899  
Sarasota, FL 34230-1899  
941-758-7771

Innovations in Sight, Inc.  
1325 Progress Drive  
Front Royal, VA 22630  
877-533-1509

**CORNEA PROSTHETIC LENSES**

Monoplex Eye Prosthetics (see above)

Universal Contact Lenses of Dallas  
P.O. Box 12203  
Dallas, TX 75225  
800-255-8989

**HYDROPHILIC PROSTHETIC LENSES:**

Adventures in Color  
1611 Washington Street  
Golden, CO 80401  
800-537-2845

CIBA VISION Special Eyes Program  
333 E. Howard Avenue  
Des Plaines, IL 60018  
800-488-6859

Cooper Vision  
200 Willowbrook Office Park  
Fairport, NY 14450  
800-341-2020

Crystal Reflections, Inc.  
170 N. LaCanada, Suite 80  
Green Valley, AZ 85614  
520-648-6425

Custom Color Contacts, Inc.  
55 W. 49th Street  
New York, NY 10020  
800-598-2020

Specialty Tint  
2525 Nabel Street  
Escondido, CA 92025  
800-748-6500

IN-OFFICE SOFT LENS TINTING

Softchrome, Inc.  
2551 San Ramon Valley Boulevard, Suite 101  
San Ramon, CA 94583  
925-743-1285
look at managed care and state programs that may help fund devices. Budget planning will have to account for the practitioner “learning curve” during the first 1 to 2 years. Box 29-4 includes a typical inventory list for a Level 3 or 4 practice. 

Training rooms often have mock kitchens, workshops, and mobility courses. A supply of nonoptical equipment, such as long oven mitts, large timers, large clocks, large button phones, syringe auto-loaders for diabetics, and check writing guides, is typical. 

Committing to the low vision-only model of practice has a significant upside. As volume increases, laboratories are more likely to provide the practitioner with reduced price or complimentary diagnostic fitting kits. Buying groups, such as www.shoplowvision.com, provide discounts as volume increases, resulting in higher profit margins. Referring doctors are more likely to send their patients to a practice that does not provide competing services. Finally, practices that focus their energy on doing one thing well are more likely to provide a consistent high-quality service compared to generalist practices.

2. What is needed to enroll patients for care?

Patients are classified as having low vision if best-corrected acuity is 20/60 or worse in the better eye, or if they have significant visual field loss, including constricted fields, arcuate defects, altitudinal loss, or hemianopic defects. The common thread between all patients with low vision is a vision condition resulting in reduced function. Patients are identified and referred to a low vision clinic by their physician, ophthalmologist, optometrist, occupational therapist, physical therapist, speech therapist, neuropsychologist, vocational rehabilitation counselor, or other health professional.

Scheduling depends on the strategic plan of the practice. Level 1 practices might schedule the patient for a half-hour low vision refraction, whereas Levels 2, 3, and 4 more likely will schedule 60 to 80 minutes. Typically, all of the testing needed can be completed in one visit. Results obtained from previous examinations can be very helpful to decrease total examination time. A trial frame refraction is a generally accepted practice and is typically performed even if the patient has recently had a traditional refraction. Additional functional testing will be done at the initial visit such as continuous text acuity and contrast sensitivity. Dilation may be repeated or fundus photos reviewed to correlate retinal finding to visual loss. They can also assist the practitioner in selecting a trained retinal locus (TRL) for eccentric viewing training. Dispensing and training occurs on a separate visit and is delegated in most practices to an optician, certified low vision therapist (CLVT), or occupational therapist (OT).

3. What is needed to manage the financial transactions in this area?

Traditionally, low vision practice has not been considered a profitable business endeavor. Lack of insurance coverage in this typically economically depressed population makes regular purchasing of visual aids difficult or impossible. Times have changed over the last 10 to 15 years as optometrists have become providers under more medical insurance plans. Low vision services have not been considered a medical service to date. There is, however, a sense of change in this area with Medicare’s low vision demonstration project. Medical insurances still fall short in providing the equipment and extended refractive evaluations needed for this population, but change is inevitable as the numbers of visually impaired increase. The need for cost-effective low vision care will emerge and is the focus of this section.

All professional services, with the exception of the low vision refraction, are billable to insurance using 99000 or 92000 CPT (Current Procedural Terminology) codes under the ICD-9 (International Classifications of Diseases 9th Revision Clinical Modification) of visual impairment or the ocular diagnosis. Currently, there is no separately defined CPT code for low vision examination. Some vision plans provide low vision examination, refraction, and devices with prior authorization. State Medicaid programs vary in their coverage of devices but cover the 99000 and 92000 codes. Examination fees are billed in an identical manner under Medicare; however, Medicare does not currently supply any low vision aids unless the person is aphakic. Training in ADLs with the low vision aid is billable under most medical plans using 97000 physical medicine codes, assuming the person has not used their allowance. Billing is done in units based on carefully documented time. Check a current CPT manual under the 97000 codes for guidelines.

**BOX 29-4**

**Typical Inventory List for a Level 2, 3, or 4 Low Vision Practice**

**LEVEL 2 INVENTORY LIST**

- Trial frame set with ±1 and ±1.50 and handheld Jackson cross cylinder
- Low vision charts, including a Feinbloom
- MNREAD and Pelli-Robson Contrast Sensitivity charts
- Humphrey Visual Field Analyzer
- Goldmann bowl
- 1–2 types of diagnostic biopic telescopes in 4× and 6× powers
- 4 powers of handheld monocular telescopes (2.5×, 4×, 6×, or 8×)
- 1 diagnostic telemicroscope with a variety of lens cap powers
- 1 diagnostic full-diameter telescope
- Prism half-eyes fitting set
- Simple microscope fitting set (aspheric lenticular, microscopic doublet, or microscope)
- Closed-circuit television (CCTV)
- Stand and handheld magnifier fitting set

**LEVELS 3 AND 4 INVENTORY LIST**

- All equipment listed above for Level 2 in duplicate (so each room has its own equipment)
- Adaptive technology: 2 or more types of CCTVs
- Computer workstation with a screen reading and screen enlargement
- ZoomText
- MAGic screen magnifier
- Kurzweil 1000
- Arm-mounted video magnifier such as the Flipper
- Handheld CCTV such as the compact
4. What is needed to deliver care in this area?

Postgraduate training in low vision is available through residency programs, locally offered courses by vendors such as Eschenbach, online Websites such as the Low Vision Institute and Lions Club International, and at conferences such as Envision. Practitioners can also be assigned a mentor through the AOA’s mentor program who acts as a continual resource for day-to-day issues and advice. The American Academy of Optometry (AAO) offers academy fellowship and diplomate programs in low vision, and some states, such as Michigan, have a certification process. The AOA’s national meeting also has many courses on low vision.

5. What is needed to generate new patients in this area?

If the practitioner chooses solo or group private practice, new patients are often generated from the current patient base. These private practitioners may also be employed part-time by hospitals, rehabilitation centers, or school districts. Patients referred from these entities may be seen in the private practitioner’s office or at an alternative site.

Both inpatient and outpatient hospital-based multidisciplinary models of care were shown to be effective to significantly improve all measures of visual function and quality of life in the recently published Low Vision Intervention Trial (LOVIT). The typical hospital-based multidisciplinary team includes any of the following: optometrist, ophthalmologist, medical doctor, CLVT, orientation and mobility specialists, adaptive technology specialist, driving rehabilitation specialist, optician, and OT. Patients are referred by any member of this multidisciplinary team for vision services.

**DISEASE MANAGEMENT**

1. What is needed to prepare the office to see patients?

Most optometric practices emphasize diagnosis and treatment of ocular disease using existing examination rooms for care. When treating ocular disease, additional instrumentation may be needed that may require additional office space. Such testing may include visual field analysis, retinal nerve fiber layer analysis, and retinal photography.

Consider whether additional seating space might be needed in the reception area for urgent visits. Some practices use a separate area with adjustable lighting for patients who are dilating, which is typically more comfortable for the patient and better for office flow.

Many practices that emphasize disease management have less-than-full-size examination rooms equipped with a chair and microscope, with no phoropter, for urgent visits or progress visits not requiring refraction. Staff members must be trained to understand the diseases managed and the implications if they are not assessed and treated properly.

Staff members need to be trained to triage phone calls appropriately and to determine whether a patient needs to be seen immediately, later the same day, the following day, or next week. The philosophy that should be communicated from the doctors to the staff is that patients should be seen as timely as possible to manage acute diseases quickly and to put the patient’s mind at ease.

The equipment needed should be selected for the diseases being managed in the office. An anterior segment kit should include punctal dilators, foreign body spud, an Alner brush, cilia forceps, and forceps for punctal plugs and foreign body removal. Instruments needed for management of glaucoma should include but are not limited to a Goldmann tonometer, handheld pachymeter, handheld tonometer, gonioscopy prisms, visual field instruments, retinal nerve fiber analyzers, and a Pascal tonometer.

2. What is needed to enroll patients for care?

Scheduling patients in a primary care ocular disease practice requires well-trained telephone personnel. Telephone triage begins when the staff member asks a systematic set of questions. The patient’s answers will typically lead to the appointment being scheduled appropriately.

Once the patient enters the office, a history is taken. All visits for disease management must include a medical reason for the visit. History should follow coding guidelines, including history of present illness, review of systems, and past family and social history.

Testing for each medical condition is disease specific. For nonacute cases, doctor’s orders are entered before the visit, informing staff what tests are to be performed before the patient sees the doctor. For example, patients arriving for a glaucoma workup will have orders such as visual acuity, intraocular pressure, visual field analysis, pachymetry, and retinal nerve fiber analysis. Another example includes orders for a 6-week follow-up visit on a known vitreous detachment. Staff testing might include acuity, instillation of dilating drops, and visual field analysis. Acute conditions also have specific tests the staff will perform before the patient sees the doctor. The doctor may determine additional testing needed when he or she sees the patient.

Patient education materials ensure the patient has written instructions on the diagnosis and recommended treatment. This improves patient compliance with medication and other treatment modalities. These documents can easily be personalized with the patient’s name, date of follow-up appointments, color photographs of the condition, and Website links for additional information.

Materials should describe the treatment you have prescribed such as the use of hot compresses, when and how to instill drops into the eye, and a description of the medication prescribed and its possible side affects. All of these materials highlight the education and experience of the prescribing doctor or doctors in the practice.

3. What is needed to manage financial transactions in this area?

Disease management can be a profit center for the optometric practice. Knowledge of appropriate medical coding, scheduling management, and efficient staff usage increase profits in this area.

Third-party considerations include more than proper coding. The third-party experts in the office must not only ensure reimbursement is received but also know and collect the patient’s deductibles and co-pays at the time the patient receives services.
Knowing which services and materials are not covered for each third party for which the optometrist is a provider is essential. If the third party will not be covering a needed procedure or treatment, the patient needs to be informed before the service or treatment is initiated, an ABN signed, and then can the patient’s private-pay payment be accepted.

4. **What is needed to deliver care for this area?**

There are a number of intangibles to consider when deciding to venture into the disease management area of eye care. Interest or passion for the area is one essential for success. Just as an intolerance for toddlers drooling on you or the unpredictability of infants and doting mothers may direct a doctor away from pediatric care, likewise, disinterest in the technology surrounding glaucoma or the inability to persuade a patient to treat a condition for which they have no pain or discomfort could direct a doctor away from the treatment of eye diseases.

Comfort in dealing with medical conditions is another vital aspect of creating a niche practice in disease management. If the doctor is not comfortable bringing cilia forceps or an Alger brush in contact with a lid or cornea or to do so without shaking, it might not be an appropriate specialty.

The doctor must have a good knowledge base before embarking on the treatment of any disease condition. All doctors need to know when they have reached the limit of their knowledge and capability. Scheduling a patient with an alternative practitioner may be warranted.

5. **What is needed to generate new patients in the area?**

It is important to educate the patient population that 24-hour emergency care is available and that contacting the optometric practice is a better option for eye emergencies than going to the emergency room.

Marketing to local family practice doctors and primary care optometrists that do not provide treatment of eye disease or eye trauma will generate referrals. If the referring doctor is an optometrist, reassuring the referring practitioner that you will only see patients for secondary services and that all primary eye care wear will be done through their office is essential. Building these relationships will increase the number of disease cases the office will manage.

**NEURO-OPTOMETRIC REHABILITATION**

1. **What is needed to prepare the office to see patients?**

Adapting the optometric practice for NOR can be as easy as using the existing examination room or as complicated as adding an entire vision therapy room for in-office NOR.

When the optometric practitioner chooses to provide only chairside NOR, treatment is done in the same room as diagnosis. After the evaluation, the doctor may choose to treat some of the patient’s challenges, such as dry eye, or the need for specialty contact lens services and refer the patient for other treatments such as low vision services or vision therapy services.

For the optometrist who wants to be more involved in the treatment program, it is helpful to have a space of at least 10 × 12 feet that can accommodate both low vision and vision therapy services for neurologically impaired patients.

In-office NOR involves hiring, training, and possibly certifying low vision and vision therapy assistants. Any office that ventures into this care must prepare all employees to understand and handle patients with severe special needs. Patience is important when gathering case history information and performing pretesting on patients needing NOR. The doctor and optician need to be versed in specialty prescriptions and asymmetric face adjustments for these patients.

Special considerations need to be made when evaluating NOR patients. The office environment should be calm and quiet. Loud noises may be disturbing. High contrast with excessive visual patterns on wall coverings or carpet are not recommended as they may cause overstimulation. Dimmer room illumination is often less fatiguing for patients with brain injury.

Review of wheelchair assessable recommendations by the ADA is helpful. In general, most doorways that are 3 feet or wider will accommodate a wheelchair. Ramp slope and handrail heights are also specified under the ADA. All optometrists providing NOR should comply with these requirements.

Wheelchair accessible instrumentation is beneficial. Handheld instruments, such as tonometers and handheld slit lamps, are quite useful for patients with limited head and neck mobility.

2. **What is needed to enroll patients for care?**

Scheduling patients is often done through a caretaker, on recommendation of the occupational therapist, physical therapist, physical medicine doctor, or speech therapist. These patients often require more time to schedule. A caring staff is most important when scheduling brain injury patients for care.

3. **What is needed to manage financial transactions in this area?**

Knowledge of appropriate medical coding is essential to NOR. Consultative medical coding is typically used for diagnostic services, and these procedural codes are usually reimbursed for medical services. Coverage for press on Fresnel prisms and in-office NOR may be outside covered services. If the third party will not be covering a needed procedure or treatment, the patient needs to be informed before the service or treatment is initiated, an ABN signed, and then the patient’s private pay payment may be accepted.

Knowing which services and materials are not covered for each third party is essential. This allows trained staff members to explain to the patient and caregiver the financial obligations of the recommended treatment on the day of testing.

4. **What is needed to deliver care for this area?**

Evaluation of NOR patients requires a comprehensive anterior and posterior eye health examination, a complete neuro-optometric examination and an extended visual field assessment. Additional testing may include anterior segment and fundus photography, ocular coherence tomography, corneal topography, sensorimotor evaluation, higher cerebral functional assessment of visual information processing, nystagmus assessment, contact lens refit, dry eye testing, low vision evaluation, and electrodiagnostic testing.

Automatic refraction is convenient, but optometrists need to be prepared to do distance retinoscopy and use lens and prism bars along with a trial frame and lens kit. Some patients will not be able to undergo phoropter-based refraction or fixate long enough for automatic refraction.
Several automated visual field analyzers are available for extended visual field assessment. Those that require longer periods of time to complete are poorly tolerated by this population. The unit providing a full gray scale in the shortest time possible will be satisfactorily completed by a larger percentage of NOR patients. Inability to hold fixation and a delayed reaction time can be complicating factors in gathering accurate visual field information.

Evaluating diplopia for brain injury patients involves using the Parks three-step method, the rotating Maddox rod for cyclotorsion, vertical and lateral prism bars, Streff wedge, and Fresnel press-on prisms.

Chairside vision treatment programs might include prescribing patching, bi-nasal occluders, press-on prism, home visual experience activities, and environment modification recommendations.

Special prescriptions for various visual demands may need to be used. One example would be single-vision readers for patients with inferior visual field defects. Clinically, many NOR patients have ocular motor ataxia. Single-vision readers are also helpful for this group. Some patients with progressive addition lenses may need to switch to a lined bifocal. Prisms or special occlusion may be incorporated with a current prescription. Special tints for photophobia need to be considered because of the negative effect of bright light on this population.

Comprehensive NOR of patients incorporates a wide variety of treatment interventions. Some of these might include direct treatment, and other treatments may be co-managed with other health care professionals. A prescription for ocular disease or dry eye may be prescribed. A specialty lens, prism, or occlusion prescription for disorientation, vision loss, or photophobia may be used. Low vision or vision therapy may be prescribed and provided by the NOR optometrist or co-managed with other health professionals.

NOR also involves counseling and the education of the patient, family, or caregiver about the patient’s diagnosed visual problems and their functional implications. The NOR optometrist is often a member of the patient’s rehabilitation team that will discuss the patient goals, prognosis, and management options with other professionals involved in the rehabilitation.

5. What is needed to generate new patients in this area?

New patients will be referred by the medical team that cares for NOR patients. Letters must be sent back to the medical team when the patient is seen for a consultation. These letters communicate the care the NOR optometrist is delivering and also educate the medical team about the optometric care that can be delivered. Caretakers often form strong bonds with other families that are caring for a loved one with similar issues. Caretakers discussing with other families the services provided in the NOR office often results in new patients being scheduled for care.

CONCLUSION

Providing additional services to patients in optometric practices may be realized through specialty or niche eye care. These niche eye care services provide excellent opportunities for the practicing optometrist to identify target markets and meet the specific needs of these patients. Achieving expertise in an area adds value to the practice through new revenue streams and new dimensions of care for the practice and create innovation and refreshing experiences for eye care providers and their staff.

ACKNOWLEDGMENTS

The following additional contributing optometric authors have given their time and expertise to the information presented in this chapter: Drs. Melissa Bollinger, Scott Edmonds, Carl Hillier, Kevin Houston, Brenda Montecalvo, and Jeff Myers.

BIBLIOGRAPHY


