CHAPTER 31

Binocular Vision and Vision Therapy Specialty Practice

Stuart Rothman

Vision therapy, also called vision training, visual therapy, visual training, orthoptics, eye exercises, and eye training, has been a part of the practice of optometry since the early development of the profession. Dr. A.M. Skeffington founded the Optometric Extension Program in the 1920s as a means of teaching optometrists how to look for functional vision problems and then to prescribe lenses and exercises for the treatment of these nonorganic vision problems. Charles Bates, an ophthalmologist, and others developed exercises designed to allow people to see better without the need for spectacle lenses that compensated for their refractive conditions.

The American Optometric Association (AOA) incorporates vision therapy in its definition of an optometrist. Similarly, vision therapy is specifically described in the AOA definitions of the practice of optometry. Despite this, statistics compiled by the AOA estimate that less than 50% of optometry practices offer some form of vision therapy. There are fewer than 2,000 fellows or associates of the College of Optometrists in Vision Development, which is less than 10% of the total number of active optometrists in the United States. Given increasing technology needs in the workplace, school environments, and our daily lives in general, the incidence of functional vision problems has increased as well, up to 20% of the population in some studies, and the demand for vision therapy services has never been greater.

BENEFITS OF PROVIDING VISION THERAPY SERVICES

For new optometry school graduates, providing vision therapy services can be an entry point into existing private practices, a niche service for those practitioners wishing to start a new optometric practice in saturated demographic areas, and a way for the new owner of an existing optometric practice to revitalize an established practice. For the senior optometrist looking to expand the services of an existing practice, the addition of vision therapy eliminates the need to refer patients away from the office for this service, creates the opportunity to hire a new graduate, and enables a smooth transfer of practice assets if and when the senior doctor decides to retire.

Vision therapy services provided by the optometric practitioner provide existing patients access to comprehensive vision care and address common visual complaints such as blurred vision, visual fatigue, eyestrain, double vision, visual concentration issues, problems with visual tracking and visual memory, and other issues stemming from binocular vision and accommodative, ocular motor, and visual-processing disorders.

MODELS FOR VISION THERAPY SERVICES

Vision therapy can be added to an existing general practice, can be provided in an optometric start-up either incorporated with other services or as a unique service, and can also be offered by an independent contractor in multiple practice locations.

Adding vision therapy to a practice enhances the existing practitioner's ability to expand services, broaden the model of care, and develop a new revenue stream, thus adding to the existing revenue of the practice. Because the addition of vision therapy services may require the practitioner to refresh their knowledge base in this area and reallocate or add time to their schedule, most often this service is added by bringing a new associate into the practice. Having completed externships or residencies in this area makes the prospective associate more attractive to the existing practitioner. The new associate can justify their salary by the increase in revenue they are expected to bring into the practice from these services. A well-prepared prospective associate would have cost and revenue projections ready for the senior doctor during the interview process. The new associate would have responsibility for the planning, logistics, administration, marketing, and clinical care in this practice modality. Prospective patients would be cultivated from internal referrals within the practice, by marketing to the community externally, and through potential professional referral sources in the area. The new "vision therapy specialist" will need to educate the existing practitioner about what kinds of cases to refer and what is required to make the referrals. The new associate must also educate existing staff on how to answer questions about the new service and how to schedule for vision therapy diagnostic and treatment

services. An existing patient base has a tremendous advantage in building a vision therapy service only if the practitioner and staff are interested in making this new service successful within the practice. A new associate who has the potential to "pay their own way" and potentially generate additional income for the existing doctor also has other advantages for the practice and the existing practitioner. The new associate can see patients, such as contact lens patients or ocular disease patients, from the existing patient base of the practice during expanded office hours. Having an associate can allow the existing practitioner additional time off and most importantly provides the senior practitioner a potential buyer for the practice on death, disability, or retirement, allowing an exit strategy with the potential to earn top value for the transfer of equity.

Opening a new optometric practice is a challenge even for the most entrepreneurial. There are few areas of the country where manpower demand exceeds supply. A new start-up is forced to compete for prospective patients by either convincing patients to switch from their existing providers or by marketing to new residents who have not yet selected an eye care provider. In today's marketplace, when the services provided by competing doctors are similar, most new residents will either choose a provider based on their insurance provider lists, followed by word of mouth references from a friend, neighbor, coworker, or relative. The start-up practice incorporating vision therapy may be unique in its market area and would benefit by highlighting this uniqueness in both external and internal marketing.

A new practice that seeks to only offer vision therapy specialty services can go into an area that may be saturated with optometric practices provided the demographics of the area would support this service. Typically, areas with young families; good school systems where education is valued by parents, educators, and students; and middle to upper income socioeconomic levels are favorable demographically for vision therapy practices. Referrals from other health professionals, including optometrists, will need to be cultivated from those existing practices to support a specialty practice. The key marketing point in obtaining these referrals is that the vision therapy specialty practice does not compete for general services or other specialty services with the referring practices.

A new doctor who desires to specialize in vision therapy may find opening a practice a challenge with the planning, overhead costs, and associated risk. They may not feel comfortable adding vision therapy services as a junior associate in an existing practice. Enterprising young doctors can offer to rent space in existing offices providing vision therapy services as an independent contractor. The new doctor may split days or even parts of days among several practices doing evaluations and therapy in the established practices. Typically, the new doctor would be responsible for purchasing equipment, some of which could be transported from location to location. They would do their own billing and collect their own fees, paying either a lump sum or percentage back to the existing doctors for rental of space, use of utilities and staff, and any other services provided for them.

GETTING STARTED

Education

Planning is essential with any business venture and starting a vision therapy service is no exception. Initial planning involves the education needed to be clinically proficient in providing this service. Schools and colleges of optometry teach vision therapy as part of their binocular vision courses. Clinic exposure is generally through a binocular vision clinic. The curriculum hours devoted to binocular vision and vision therapy differ didactically and clinically from school to school. More concentrated clinical training can be received through school externships in which students elect to spend more time in the binocular vision clinic. Many schools offer externship rotations through private practices specializing in vision therapy. Postgraduate residencies exist where learning takes place both clinically and didactically. Residents may also get a chance to conduct optometric research in binocular vision/vision therapy and also be involved in clinical teaching through the supervision of third and fourth year students in the binocular vision/vision therapy clinic. Postgraduate education is also available through materials, coursework, and seminars sponsored by the Optometric Extension Program and the College of Optometrists in Vision Development. Both organizations have promoted the development of study groups for continued educational opportunities.

SCOPE OF SERVICE

Clinical competency in vision therapy may also determine the range of vision therapy services provided. The majority of practices providing vision therapy services will focus on disorders of accommodation and convergence. These are the areas that most optometry school graduates are best prepared to diagnose and treat. Fewer practices will provide therapy for ocular motor and visual-processing (perception) problems. These latter services require the practitioner to have more concentrated education than might be provided in an optometric school curriculum.

Offering these services in the practice also requires more equip ment for diagnoses and treatment. Fewer practices will be found that offer services in the areas of vision rehabilitation for stroke and head trauma, sports vision, and treatment of vision-related learning difficulties. All of these areas will require the practitioner to have more training and equipment.

DOCTOR VS. THERAPIST PROVIDED VISION THERAPY

Where permitted by state law, vision therapists can be used to assist the doctor in diagnostic testing and/or vision therapy. In some offices, where allowed by state law, the vision therapists may provide the therapeutic services while the doctor is involved in diagnostic testing. Even where the use of therapists is permitted by state law, it is generally a requirement that the doctor be physically present in the office during all therapy sessions.

Deciding whether and how to use therapists is important in scheduling and in the allocation of space. The use of therapists allows the doctor to increase the number of people seen at any one time. For scheduling, most therapy sessions tend to be during after-school hours or on weekends because that is when school-age children are available. In offices in which the therapy is done by therapists, the doctor is able to see patients for evaluations after school even as therapy is being done.

The use of therapists generally requires the office to set aside more space for vision therapy. Allowing back-to-back scheduling of evaluations and therapy or increasing the number of therapy patients that can be seen during any session requires a larger, separate therapy room and a larger reception area for the parents and siblings of these patients.

MULTIPLE VS. ONE-TO-ONE THERAPY

In some offices therapy sessions are scheduled with more than one patient per doctor or therapist at one time. In other offices only one patient is scheduled per doctor or therapist. In offices providing multiple therapy, an effort is made to try and have similar kinds of cases treated at the same time. In these offices, the doctor or therapist monitors the patient's performance as the patient works more independently on specific tasks. In offices providing one-to-one therapy, economics dictate that the therapy is performed by therapists with the doctor either supervising or outside of the therapy room doing evaluations. Even when multiple therapy is done, there may be times during the day or allowances made for those patients requiring more closely supervised therapy.

SCHEDULING

Depending on the types of vision therapy services provided, the office may have one evaluation for vision therapy in general or different evaluations for accommodation/vergence problems, ocular motor problems, and vision-related learning problems. The testing performed during these evaluations will determine the therapy required. While it may be convenient to complete all of the required testing at one time, there may be disadvantages to this arrangement. The age of the child undergoing evaluation and their capacity for sustained visual attention will need to be considered. A visual-processing evaluation that continues for 3 hours may be very comprehensive in the scope of testing but may exceed the attention level of the average child. Dividing the evaluation into different sections would allow for the same tests to be performed with greater reliability and repeatability. Insurance guidelines may also be a factor in determining what tests may be performed together and what tests need to be separated for reimbursement purposes.

Patients are generally scheduled for therapy sessions on an ongoing, regular basis. Some offices schedule therapy once a week, others twice per week. Some offices offer an intensive, accelerated therapy program daily until completion. Therapy sessions in most offices vary from 30-minute to 1-hour sessions. Most offices use the schedule that seems to get the best results for their patients.

As mentioned earlier, children are generally scheduled for therapy after school or on weekends. Adult patients may be able come for therapy during the day if they work at home, work nearby, or are not working. Senior patients being seen for rehabilitative care generally prefer late mornings or early afternoons. Evaluations for therapy and reevaluations are one time appointments and can be scheduled during school hours.

Most offices will reevaluate or reassess patients in therapy after a certain number of therapy sessions to determine whether the patient is making reasonable progress. Reevaluations are typically performed after 8 to 12 therapy sessions. In offices that use therapists, the reevaluation can be scheduled with the doctor during the normal therapy time.

HOME THERAPY

Most practices subscribe to the belief that the patient should be doing some therapy at home between office therapy sessions. The expectations for home therapy decrease the more frequently the patient is seen in the office, and home therapy may not be prescribed for those patients undergoing 5 days per week intensive therapy. Some offices prefer to make the majority of their therapy programs home based, using the office time as a monitor for home therapy progress. Typically, home therapy will require some equipment such as lenses for accommodative therapy and prisms for binocular therapy. A number of computerized therapy programs are also available for home use by patients. Most doctors will supply this equipment to the patient for a separate fee, whereas some will incorporate this into fees for a complete therapy program. Since insurance companies will typically not reimburse for materials, those offices in which insurance assignment is accepted will have to bill separately for material fees.

FEES

Fees for evaluations are usually charged per visit, per procedure, or per case. Fees for vision therapy are usually charged on a per visit, per unit (number of sessions between reevaluations), per month, or per complete program basis. Offices in which therapy is billed to insurance are generally required to bill evaluations per procedure and therapy per visit using the appropriate ICD9 and CPT codes. Offices in which patients are paying directly have the option of charging either way. These offices tend to prefer collecting fees globally because it lessens administrative costs and commits the patient toward completion of the program. Many practitioners offer patients the choice of each of these payment options, giving a discount to those patients who pay for a unit of therapy or a case fee in advance.

INSURANCE PARTICIPATION

The decision to participate in insurance plans is an individual one that each practitioner has to make carefully and with full knowledge of the pros and cons of participation. A participating provider for an insurer bills all medical services for the

covered individual to that insurer. An office that specializes in vision therapy only needs to consider the impact of participating relative to the vision therapy services provided. An office that provides vision therapy services in conjunction with primary vision and eye care, as well as secondary and tertiary eye care, has to consider how participation or nonparticipation affects all aspects of the practice. Where there are multiple practitioners in a practice, it may be possible for the vision therapy specialist to opt out of participation even while the practice is a participating provider for all other aspects of eye care. This needs to be checked carefully with the insurer and possibly legal counsel to make sure that all rules and regulations are met.

Vision therapy services (both examination and treatment) are submitted through a medical insurer rather than through vision insurance. Many insurers have a list of diagnostic codes that have to be met for them to recognize vision therapy as a payable medical service. Box 31-1 lists common diagnoses for which coverage is generally approved.

Therapy for diagnosis codes outside of this list will generally be denied by the insurer. Some insurers will require all services to be preauthorized by the practitioner. Some may require the practitioner to submit a letter of medical necessity, which is then reviewed by the insurer's medical reviewers.

BOX 31-1

List of Diagnoses for which Vision Therapy Is Generally Approved*

- Amblyopia
- Strabismic amblyopia
- Suppression amblyopia
- Deprivation amblyopia
- Refractive amblyopia
- Strabismus (concomitant)
- Monocular esotropia
- Alternating esotropia
- Monocular exotropia
- Alternating exotropia
- Intermittent esotropia, monocular
- Intermittent esotropia, alternating
- Intermittent exotropia, monocular
- Intermittent exotropia, alternating
- Accommodative component in esotropia
- Nonstrabismic disorder of binocular eye movements
- Convergence insufficiency
- Convergence excess
- Anomalies of divergence
- Esophoria
- Exophoria
- Ocular motor disorders
- Saccadic eye movement disorders
- Pursuit eye movement disorders

* Coverage may be for only a limited number of sessions. Coverage even within these diagnostic areas is individually determined by each insurer based on the group contract in force.

Some insurers will place limits on the number of covered sessions regardless of the diagnoses, and some will have different session limits for different diagnoses. It is generally beneficial for the patient to know up front whether their insurance will cover any services before they commit to the service. This is beneficial not only to the patient but also to the practice. Having to try and collect fees for services already provided when there was the expectation that those services would be covered by insurance is awkward and uncomfortable for both patient and doctor. This will quickly negate any perceived benefits that were gained from the vision therapy. The most disturbing situation is when the insurer also denies the practitioner the ability to bill the noncovered service to the patient. In this instance, the practice loses the ability to gain reimbursement for time and effort that has already been expended.

The advantages of insurance participation for vision therapy would be the ability to reach out and provide the service to a wider population base. It also takes the finances out of the decision to undertake the service for those families that legitimately have to prioritize expenses. The disadvantages of insurance participation include the increased payment risks, the increase in administrative and bureaucratic issues, and the shifting of the patient's priority from whether the therapy is needed and will be beneficial to whether it will be covered by insurance.

EQUIPMENT

As a unique service to optometry, a vision therapy practice can be started with a minimal investment in equipment. Equipment can be added as the service generates more income but even with purchase of the most expensive equipment, the service still generates a high net/gross ratio. The amount and type of equipment depends on the types of cases that will be seen. Treating patients with accommodative/ convergence problems may be done rather easily with the standard battery of phoropter tests for diagnosis and vectograms, prisms, and lens flippers for treatment. Treating patients with ocular motor problems and visual processing (perceptual) problems will require additional testing and treatment tools. Box 31-2 lists equipment purchases for various budgets. There are a number of companies that have been providing vision therapy equipment to practitioners for many years. Box 31-3 lists contact information for vision therapy equipment manufacturers and distributors.

SPACE NEEDS AND DESIGN

Space needs for vision therapy can vary from the basic to the extravagant. A doctor opening a new general practice with vision therapy services may decide to use an examination room for therapy. All that may be required is a separate table on which to put some basic therapy equipment such as a vectogram holder. In this scenario, there would obviously not be

BOX 31-2

Equipment list

MINIMUM EQUIPMENT LIST

The following should allow treatment of basic nonstrabismic or perceptual vision disorders:

- Brock string
- Lifesaver/eccentric circle cards
- Telebinocular type instrument
- Visual skills testing cards
- Vectograms, either Polaroid or red/green
- Vectogram holder
- Lens/prism holder
- Eye patches
- Red/green Polaroid filter glasses
- Prism bars, horizontal and vertical

MODERATE EQUIPMENT LIST

Equipment for enhanced treatment of basic nonstrabismic or vision disorders and treatment of some intermittent strabismic vision disorders is as follows:

- Aperture rule
- Macula Integrity Tester (MIT)
- Camera strobe
- Bagolini lenses
- VTS3 computer programs along with projector
- Translid Binocular Interaction (TBI) trainer
- Lens and prism flippers
- Correct eye scope
- Marsden ball
- Pegboard rotator
- Electrotherapist
- Lite Brite
- Mirror stereoscope
- Red/green acetate sheets
- Telebinocular fusion cards (AN, BU, EC type)
- 2.2× telescope

FULL SCOPE EQUIPMENT LIST

Allows for treatment of all of the above along with visual processing (perceptual) disorders:

- Diagnostic testing: examples might be the Test of Visual-Perceptual Skills (TVPS) , Gardner reversal frequency test, Developmental Eye Movement (DEM) test, Beery copy forms, or any other recognized test that is graded by perceptual age.
- Developmental learning materials (DLM) such as cubes, parquetry shapes, and design books
- Walking rail
- Balance board
- Chalkboard or white board
- Visual perceptual computer programs from HTS or Bernell
- Metronome
- Visagraph/Readalyzer
- Wayne Saccadic Fixator
- Eyeport

BOX 31-3

Vision Therapy Equipment Manufacturers and Distributors

Academic Therapy Publications 800-422-7249
Franklin Ophthalmic Instruments 800-343-5544
GTVT 800-848-8897
Gulden Ophthalmics 800-659-2250
HTS Inc 800-346-4925
Keystone/Mast Products 702-324-2799
Taylor Associates 800-732-3758 (Visagraph)
Vision Training Products (Bernell) 800-348-2225; www.bernell.com
Visionaires 800-617-6656
Wayne Engineering 847-674-7166
Wilson Ophthalmic 800-222-2020

the opportunity to do an examination at the same time therapy was taking place unless there was another free examination room. A separate therapy room is ideal and conveys to the patient that this service is important to the practice. The therapy room would be used for diagnostic testing, as well as therapy. The size of such a room would depend on the number of patients expected to be seen at one time. It would also depend on the type of cases seen. Practices that are doing only accommodative/convergence therapy would not need as large a room as the practice that is also treating ocular motor or visual-processing (perception) cases. These latter cases require some gross and fine motor activities that take up more space. A basic therapy room might be in a space as small as 60 square feet. A room to accommodate two patients with gross motor activities might require closer to 100 square feet. An elaborate therapy setup might include a general therapy room, a room or area where lights can be dimmed or shut for projected distance tasks, another area for testing, and an area for gross motor activities.

Regardless of the size of the room, counters are usually placed against the walls for equipment and computers and for patients to complete paper/pencil tasks. Cabinets above or below this space can be used for additional equipment and supplies, including a place for testing and training forms to be organized. It is beneficial to have an open space for patients to be able to perform visual motor and distance binocular activities. It is also recommended that there be free-standing tables where an examiner or therapist can sit across from the patient either in testing or therapy. This allows for easier monitoring of the patient's eyes.

A professional space designer who specializes in office design and one that has had experience in designing space for therapy would be valuable. Asking for recommendations from colleagues who have been through the design phase and visiting as many therapy practices as possible would be helpful.

FORMS AND RECORD KEEPING

There are currently no major optometric software programs that are specifically designed for vision therapy in electronic health records. Many current programs can be adapted to incorporate vision therapy examination and treatment records. Commercial word processing, spreadsheet, or database programs can also be adapted. The following forms should be developed:

- *Vision therapy policy form* outlines the office policies, including fees, insurance assignment, what is expected from the patient, and home therapy services.
- *Vision therapy contract* specifies fees and payment expectations and would be signed by the patient. A copy is given to the patient and the original would be kept in the office.
- *Letter of medical necessity* would be given to the patient or submitted to an insurer directly.
- *Patient symptom checklist* is filled out by the patient before the appointment.
- *Patient symptom progress form* is filled out before reevaluations.
- *Home therapy folder* holds home therapy directions, with a checklist to record when the therapy was done.
- *Home therapy explanation forms* provide an explanation of common home therapy activities.
- *Success story form* is generally given to patients at the completion of therapy describing how they have benefited from therapy. The patient could indicate on this form that the office can share this with other patients.

MARKETING YOUR THERAPY PRACTICE

Internal Marketing

When adding vision therapy to a general practice or when starting a general practice with vision therapy, patient referrals for vision therapy should be self-generating. It is believed that up to 20% of the population has symptoms of binocular vision disorders, so there should not be a problem generating vision therapy cases in a busy practice. Nevertheless, the practitioner needs to know what questions to ask during a case history and what tests are required in the examination to uncover these potential cases. An example of this would be asking the parent of a child about school performance, or an adult about their level of visual comfort after a day of work. These problems may not be brought up by patients because either they did not know that their symptoms were abnormal or because previous practitioners may not have acknowledged these symptoms as the result of a vision problem. The practitioner also needs to be competent in case presentation. Explaining the need for vision therapy services to a patient who may never have previously heard of vision therapy can be a challenge. Explanations need to be concise and presented in layman's terms based on the potential benefit to the patient.

Education needs to be provided for staff so that they can answer basic questions when asked. They should know how to schedule patients for evaluations and therapy. The office Website can highlight vision therapy as a service provided and can serve as a major source of information or resources for patients seeking information about their problem or about the vision therapy program. Pamphlets and brochures can be kept in the reception room and in the examination rooms for patients to either pick up on their own or be given by the doctor and staff. Sending the patient home with a report of findings is helpful because it allows the patient or parent to accurately explain the problem to other family members. It also keeps the information in front of the patient after they have left the office.

External Marketing

External marketing can be done directly to the potential patient or through potential referral sources. Examples of marketing directly to the prospective patient would be office seminars about vision topics, presentations to local PTA groups or in libraries, health clubs, or other neighborhood settings, infomercials in local media, or an information column placed in a local newspaper, in the yellow pages, or in Internet listings.

Establishing referral networks are beneficial because it allows someone other than the optometrist to present the initial message of the benefit of vision therapy. A patient that comes to the office after being referred for vision therapy by another optometrist or by a learning consultant has already made a decision that they feel there is a need. The vision therapy practitioner's job is just to confirm or deny that need. Examples of prospective referral sources would be other optometrists who do not provide vision therapy services, other health professionals, school and other educational resources, patients who have successfully completed vision therapy, and community organizations.

Cultivating and maintaining these referral sources is a constant challenge. There has to be a perceived benefit to the referral source in making these referrals. It can simply be seeing that their patients are being well cared for and that patient needs are met. Or it could be the possibility of a mutual referral relationship. Certainly, in the case of another eye care provider, there must be the reassurance that the patient will be referred back for all other vision and eye care services.

Making connections to these potential referral sources personally and continuing to communicate both verbally and in writing is important in keeping the referral sources in the loop and maintaining their connection to the practice and the patient.

CONCLUSION

Providing vision therapy services can accelerate practice growth for an existing and a new practice. More importantly, it allows treatment of patients whose needs are not being met by the more traditional eye health and refractive model of care. There is nothing more rewarding than taking a child who is floundering because they lack the ability to concentrate in school and turning them into a successful student and avid reader or taking the senior citizen who has not been able to read comfortably and watching their whole attitude change after his or her convergence insufficiency is treated. For those practitioners thinking of adding this service, continuing education is available through the Optometric

BOX 31-4

OEP and COVD Addresses

Optometric Extension Program (OEP), Inc.

1921 E. Carnegie Avenue, Suite 3L
Santa Ana, CA 92705-5510
949-250-8070
Fax 949-250-8157
www.oep.org

College of Optometrists in Vision Development (COVD)

215 West Garfield Road, Suite 200
Aurora, OH 44202
888-268-3770
Fax 330-995-0719
www.covd.org

Extension Program and the College of Optometrists in Vision Development (COVD). A fellowship process through COVD should be considered by anyone serious about providing vision therapy services. Box 31-4 has the addresses of these organizations. Both organizations can provide the names of consultants who can be helpful in helping the optometrist build a successful vision therapy practice.

BIBLIOGRAPHY

Bleything W: *Developing the Dynamic Vision Therapy Practice,* Santa Ana, CA, 1998, Optometric Extension Program.

Practice Administration: Development, and Management for Behavioral Optometrists, *Journal of Optometric Vision Development* 29(4): 1998.

Tannen B: Integrate Vision Therapy into Your Practice, part 1, *Optometric Management* 66–69, 2007.