



American Optometric Association
Vision Rehabilitation Section



**ONLINE
RESOURCE
MANUAL**

INTRODUCTION TO VISION REHABILITATION

-- a resource guide for practitioners --



VISION REHABILITATION SECTION
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INTRODUCTION

The following material has been compiled for informational purposes by the American Optometric Association’s Vision Rehabilitation Section for those members who are planning to initiate or expand vision rehabilitation services in their practices. This is a working booklet which is subject to change as new information and resources become available. The purpose of this booklet is to provide a minimum structure for the vision rehabilitation examination and to serve as a resource guide. The description of the vision rehabilitation examination is presented as a basic diagnostic sequence and **is not intended as a comprehensive assessment.**

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DEFINITIONS

VISION REHABILITATION SERVICES:

Vision rehabilitation services are any professional assessment, prescription, instruction, or rehabilitative activity provided for individuals who are visually impaired.

VISION REHABILITATION NEEDS HISTORY ASSESSMENT:

A vision rehabilitation assessment involves a functional assessment of the person who is visually impaired in their environment. The historical background includes the psycho-physical abilities, socio-economic, educational, and cultural influences, goals, interests and expectations of the person.

VISION REHABILITATION CLINICAL EVALUATION:

The vision rehabilitation clinical evaluation involves an assessment of both visual function and functional vision. Visual function looks at visual acuity and visual field. The functional vision assessment reviews how well the person is able to use their vision in real world conditions with special attention paid to contrast sensitivity and glare.

PRESCRIPTIVE VISION REHABILITATION DEVICES:

Any instrument which enables a patient who is visually impaired to improve their visual acuity or enhance their visual performance.

VISION REHABILITATION INSTRUCTIONAL ACTIVITIES:

Vision rehabilitation instructional activities are designed to bring about positive behavioral changes and to teach individuals who are visually impaired how to maximally use optical, non-optical and electronic magnification devices to improve performance. Results may be enhanced by on-going services consisting of multidisciplinary assessment, evaluation and training.

OPTICAL DEVICE:

Any lenses, prisms or telescopic device that through its optical properties enhances the visual capabilities of individuals that are visually impaired.

NON-OPTICAL DEVICES:

Any device which does not include optics as the primary element of the appliance – i.e., large print materials, felt tip pens, etc.

PERIODIC RE-EVALUATION OF PERFORMANCE:

Because of the variable nature of visual impairment and patient condition, periodic evaluation of the patient ensures that the rehabilitative needs of the patient are met.

Figure 1. Model for the “Ideal” Vision Rehabilitation Service

Pre-examination Assessment

1. *Functional Evaluations*
 - a. Motivation assessment
 - b. Psychological set
 - c. Functional ability distance
intermediate
near
 - d. Functional field loss
 - e. Illumination problems
 - f. Other handicapping
conditions
 - g. Family/peer reactions
 - h. Mobility concerns
2. *Assessment of Needs*
 - a. General environmental
 - b. Vocational settings
 - c. Educational settings
 - d. Recreational setting
 - e. Daily living problems
3. *Demonstration of Devices*
 - a. Telescopic
 - b. Microscopic
 - c. Illumination control
4. *Other Pertinent Information*
 - a. Teacher, parent, or employer
concerns
 - b. Rehabilitation teacher,
counselor
 - c. Referring physician
 - d. Other professionals
5. *Medical Data*
 - a. Obtain ophthalmological
reports
 - b. Determine need for additional
medical consultation (one
year)

Clinical Examination

1. *Case History*
 - a. Compared with pre-clinic info
 - b. Read functional reports
2. *Identified Needs*
 - a. Primary needs as reported by patient
 - b. Do they agree with previous reports?
3. *Motivation and Psychological Set of Patient*
 - a. Clinician's impression
 - b. Impressions of others
4. *Visual Acuties*
 - a. Distance
 - b. Near
 - c. Intermediate
5. *Visual Fields*
 - a. Peripheral
 - b. Central
 - c. Near
6. *Refractive Error*
 - a. Spectacle Rx
 - b. Contact Lens
 - c. Refract each eye
 - d. Objective tests
7. *Binocularity Tests*
 - a. Monocular
 - b. Binocular
 - c. Biocular
8. *Ocular Health Assessment*
9. *Magnification assessment*
 - a. Microscopic
 - b. Telescopic
 - c. Magnifiers
 - d. Electronic
10. *Non-optical device review*
11. *Illumination Control Assessment*
 - a. Indoor
 - b. Outdoor
12. *Prescription of Tentative Optical and Non-Optical Devices*
13. *Recommended Training*
 - a. Identify nature & goals of adaptive training
 - b. Training sight/environmental
considerations and time sequence
 - c. Prognosis
14. *Other*
 - a. Send letters to referral source
 - b. Referral back to family eye
specialist/physician
 - c. Report with recommendations to teachers
and parents
 - d. Involve multidisciplinary team as
necessary

Post-examination Training

1. *Prognosis for Success with Device*
 - a. Based on examination data
 - b. Based on in-clinic training
 - c. Consider use of loaners
2. *Post-follow-up Revisit Examinations*
 - a. In conjunction with training
(success/failures)
 - b. Follow-up visits at regular
intervals
3. *New or Previously Unidentified Real Problems with Prescribed Devices*
 - a. New training problems
 - b. New expectations
4. *New Problems*
 - a. New needs
 - b. New goals
 - c. New adjustments to the lifestyle
including work-related
requirements
5. *Satisfaction of Patient*
 - a. Satisfied patient (verbally)
 - b. All needs being met
 - c. Will self-refer if needs change

Modified from Understanding Low Vision, Jose, American Foundation for the Blind, 1982.

One key to the vision rehabilitation examination is to administer tests in a success oriented manner. The tests should emphasize the remaining vision of the patient and not merely the acuity or field loss. It is extremely helpful if the patient is contacted by the office staff prior to an appointment date and informed about the examination process. Patients feel much more comfortable having a "person's name" to ask for when they arrive at the office or clinic.

Case History

The case history should be taken and non-clinical assessments reviewed. A pre-examination intake history by phone or in-office is desirable. A sample form is included in this book.

The initial case history serves as an important diagnostic tool and also presents the opportunity for the clinic and staff to put the patient at ease. An important aspect of the case history is to ensure that the patient has realistic expectations. Specifically, the case history should answer three questions:

- (1) How independently is this patient functioning now (or how well is the patient using his/her residual vision)?
- (2) What specific tasks can be addressed in the examination to best motivate the patient in the rehabilitative process?
- (3) What specific tasks does the patient have difficulty doing with his/her vision?

Visual Acuity

Assessment of visual acuity is an important psychological test. It is important that the patient not fail. An example of a chart which helps assure visual acuity responses is the Feinbloom (DVI) Distance Number Chart, one of the best charts for psychological reinforcement for the patient. This chart provides acuity measurement from 1/700 to 10/10 (20/14,000 to 20/20 equivalent). The examiner can administer the test starting at one foot to ensure a response from the patient. If possible, distance acuities should be taken at ten feet. However, there are many charts that can help a patient achieve success.

For a more accurate and repeatable acuity measurement, a metric chart should be utilized. The LogMAR or Lighthouse E.D.T.R.S. charts are examples of this type of chart. The range of acuity optotypes is still sufficient to result in positive testing. Assess acuities with and without correction.

Near acuities should also be taken with special charts using M system optotypes. The Lighthouse produces near acuity cards in M notation in single letter, single word, single number, and adult's and children's continuous text versions. Acuities can be taken at a standard 40 cm distance and/or at the patient's habitual work distance. These acuities

diagnostic difference between symbol, number, and letter cards – and even a more significant diagnostic difference between single optotype acuities and reading acuities (sentences and paragraphs). Record in the M notation, including work distance, lighting, and optotype:

.5M at 40cm or .4/.5M Paragraph/Bright Illumination

A test of equivalent acuity measurement is included in the appendix at the end of this section.

Refraction

Before considering optical devices, the clinician must be sure the patient has the best acuity with conventional correction. This is particularly important when working with children and post-surgical cases. In most cases, it is best to use a retinoscope with a trial frame and lenses, as opposed to a phoropter. Retinoscopy is an objective measurement of refractive error. Radical retinoscopy techniques (close work distances) may be utilized for the subjective examination. Do not be afraid to use ± 2.00 with bracketing techniques to arrive at a best subjective correction. A good starting point is using “JND” or Just Noticeable Difference lenses. These are arrived at by converting the acuity to a twenty foot Snellen equivalent. The denominator is the “JND” amount. For example, an acuity of 20/400 gives a 4 diopter JND so testing would begin with ± 2.00 diopter lenses. A hand-held Jackson cross-cylinder (± 1.00) for cylinder power and axis is recommended when the acuity is 20/200 or less. For acuities better than 20/200, a ± 0.50 JCC can be used. Keratometry is also an excellent objective tool when pursuing an unknown high refractive error.

The clinician must assess the patient’s ability to sustain binocular vision at distance or near. The decision must be made to proceed with monocular corrections or to attempt to design bi-ocular systems. In addition DOMINANCE should be assessed to ensure that the patient is not prone to use the eye with poorer acuity because it is the dominant eye. If this occurs, fogging or occlusion should be considered.

Field Testing

When performing Amsler Grid testing, it is important to note the location of scotomata, the presence of distortion in the central field, and the extent of the encroachment of peripheral field involvements in the central field. Amsler Grid testing can also provide the clinician with an excellent assessment of the patient’s awareness of the scotoma and or distortion as well as their ability to eccentrically view. Tangent screen and/or static or kinetic perimetry are performed when the pathology and/or history dictates a need for this information. When performing fields, remember to use larger fixation targets or an “X” to help patients with central losses maintain an eccentric viewing posture during testing. Finally, you should be aware that automated, threshold related perimetry testing strategies will often provide results that indicate the patient’s visual field is significantly worse than it actually is. For this reason, use of non-threshold related kinetic visual field testing strategies with automated visual field testing

Analyzer or the use of a Goldmann perimeter will provide more accurate results.

Color Vision

For vocational clients and students, color vision testing should be performed. The large disc D-15 plates are most reliable and provide the best information regarding impaired color recognition. When the clinician desires to test only gross color vision, such tests as the Holmgren Wool test or simply using colored construction paper are adequate. Remember that acquired color deficiencies need to be assessed monocularly.

Contrast Sensitivity Test

Contrast Sensitivity Function (CSF) testing is a routine part of the clinical evaluation. Typically, it is more conveniently performed after the refractive analysis is completed. However, CSF testing can be administered anytime during the exam. This data is an adjunct to acuity data. It typically provides more functional/predictive information than the standards Snellen acuity measurement by giving information relevant to orientation and mobility, problems reading low contrast sources such as newsprint – even helping to assess binocularity. The available distance and near high contrast/low contrast acuity charts are a good options for this testing. They provide acuity and contrast information in one test procedure.

Illumination

The patient's photophobia and/or need for additional illumination should be continually assessed. This evaluation begins at the case history and continues through acuity and field testing. If additional information is required, the clinician can consider glare recovery tests or the Brightness Acuity Test (BAT). These tests will provide the clinician more functional information about illumination control needs, particularly regarding the design of a treatment option.

Optical Device Assessment

At the completion of the initial assessment at distance and near, the clinician assesses specific optical designs pertinent to the tasks being addressed, keeping lighting and contrast in mind. The clinician's choice of optical systems to evaluate will depend on four major criteria of the task:

- (1) How much magnification is needed?
- (2) What is the required work distance?
- (3) How large a field of view is required?
- (4) How much mobility is involved?

The initial assessment for optical devices can be broken down into two components – distance and near. It is customary to do near device testing first, because this is where most patient's goals lie. Obviously if the particular patient's goals primarily revolve around distance tasks, this order may be varied.

magnification needs for reading. To use this chart, hold it at a 40cm distance with the appropriate add and take an acuity. The chart will guide you to the predicted dioptric add (right hand side of chart) to achieve a near acuity of 1M (20/50). Put the indicated lens in place and, at the correct focal distance, determine the near acuity. If 1M is achieved, reading spectacles are a potentially good device to consider. If the patient does not achieve 1M, resists the work distance, or has localization/tracking problems, then alternate designs of near devices will need to be considered (telemicroscopes, magnifiers). Success with the initial lens allows the clinician to pursue design options for near print that will best meet the visual criteria of the tasks the patient wishes to perform or be able to do again. Keep in mind that some reading tasks may require better than 1M acuity while some tasks using large print may allow for weaker reading powers.

Lighting must be evaluated during the near evaluation. Typoscopes will improve performance by enhancing contrast and providing better localization. It is important to evaluate eccentric viewing skills, which will also dictate the design of the final device. (Those with poor eccentric viewing skills often need full field systems.)

Distance: The clinician should try to achieve an acuity of between 20/40 and 20/50 with a telescopic device, depending on the patient's individual needs. Thus, if the patient has an acuity of 10/100 and an acuity of 10/25 is the goal, a 4x telescope would be the first power demonstrated to the patient. If this acuity is achieved, then telescopes have a good prognosis as a treatment option. If the patient has difficulty localizing, then the practitioner can either assist patient with localization to evaluate the power needed or lower power telescopes need to be evaluated. It is best if the examiner focuses the telescope first and then has the patient localize a large object at the end of the room – using a backlit chart in a darkened room may help some patients at first. This should be done prior to finding and reading the acuity chart. Remember, pendular/jerky nystagmus is not a contraindication to the use of a telescopic system.

Categories of Devices

There are five functional categories of optical devices: microscopes, hand-held magnifiers, stand magnifiers, telescopes, and telemicroscopes. Each device has its optical and functional advantages and limitations which must be matched with the task criteria listed above. The selection of devices for the evaluation will depend on the clinician's ability to match the task criteria to the appropriate optical system.

The sequence of presentation of devices listed is thought to be the most efficient when evaluating the average individual with low vision. Near devices are tried first because reading difficulties are the most commonly reported problems. Microscopes and other spectacles are first shown to this group because they are the most familiar type of optical correction to most patients.

This near point device has the functional-optical characteristic of requiring a short work distance while providing a large field. There are several design options available, depending on mobility requirements, power needed, and field of view characteristics.

- **Prism Half or Full Field Glasses** – This design allows for binocular viewing when the patient's two eyes are relatively equal in acuity and magnification needs allow for this power range to be used. These lenses are available in powers up to +12.00 with 14 prism diopters base-in prism in EACH eye. Stock lenses are available from several sources at reasonable cost, both in regular plastic and high index materials. The prism is usually 2 diopters more than the spherical plus power in each eye, although any amount is available on a special order basis.
- **Single Vision Aspheric/Doublet Full Field** – This design affords the largest field of view of all devices for a specific magnification. It precludes mobility and mandates a specific close work distance, depending on magnification. At powers 6x and above, the full field design of the microscope is best, due to the severe field limitation of other designs.
- **Bifocal** – If mobility is a factor and there is a significant distance refractive error, a bifocal should be considered. A Ben Franklin or executive design gives a maximum field of view while allowing distance viewing. This design is best when relatively little mobility is required. If the patient's task requires a lot of movement and doesn't require a large field of view, a round seg bifocal can be considered. For those with mobility needs and demanding a good field of view, the clinician should consider clip-on loupes or a bi-ocular design. If a distance refractive error is not present, half-eye corrections can be considered. Additionally, a press-on 22 mm round bifocal is available which represents a compromise that may be suitable for some patients.

Remember the legal implications of potential falls if the patient is not fully instructed in the proper use and limitations of such devices and if such instructions are not well documented.

• **Magnifiers**

Magnifiers are designed as hand-held and stand systems. The devices are a little more optically complicated than they appear, so the clinician needs to understand the optics of these systems.

- **Hand Magnifiers** – These allow a maximum work distance for a specific magnification. The magnification stays the same at any work distance when the material is at the focal point of the lens – only the field decreases with increased work distance. The extended work

work distances are required to maintain a useful field of view. Hand magnifiers are convenient for short term tasks, but require good coordination to maintain the focal distance and are not the treatment choice when both hands are needed. The patient should generally use a hand magnifier with their distance prescription since this corresponds to the parallel light rays leaving the magnifier when the page is at the focal point.

- **Stand Magnifiers** – The optics of these are complicated. The legs of the magnifier are shorter than the focal length of the lens in many cases, although some of the newer series from COIL and Eschenbach are mounted close to, if not at, the focal length of the lens. It pays to investigate each lens you plan to use to determine the optimum applications and the viewing distance. If the magnifying lens is mounted closer than the focal length, differing adds result in a variation in effective magnification when the system is used. Stand magnifiers are an excellent choice when tremors prevent use of a hand-held system. Both the hand-held and stand designs are considered a compromise in field of view when compared to full field microscopic spectacles. They represent the best solution when tremors are a problem, as in many older patients. High powered stand magnifiers may also be modified to use as microscopic systems, with the advantage of a built in focusing aid which makes it easier for a patient to find and maintain a clear focus at higher magnifications.

- **Telescopes**

Used mainly for distance tasks, telescopes can be designed in hand-held form (including binoculars), or as a spectacle-mounted system. If mobility is the major criteria, a bioptic system must be considered. If field of view needs to be larger and mobility is still a concern, a hand-held telescope or binocular system is the choice. If the task is stationary and low magnification is needed (watching television), a full-field spectacle-mounted clip-on telescope may be considered.

- **Bioptic** – allows mobility, decreased field, best magnification from 2x to 4x.
- **Hand-held** – larger field than bioptic, allows mobility, magnification acceptable from 2.5x to 10x.
- **Binocular** – largest field of view, especially for powers 10x and above. Still allows mobility.
- **Full Field spectacle mounted** – no mobility, large field, mainly lower powers of 1.7x to 2.2x.
- **Clip-on** – allows mobility when removed from spectacle; good field of view; acceptable magnification of 2.5x to 4.0x.

A telemicroscope is simply a telescopic system modified for near point work with an objective reading cap or through focusing the objective/ocular elements. A reading telescope has the near-point cap built into the objective of the telescope. Telemicroscopes can be converted bioptics, hand-held telescopes, clip-on systems, or even binoculars – depending on field of view and mobility requirements.

- **Reading Stands**

The purpose of a reading stand is to hold the reading material in a comfortable position so the patient can maintain a close working distance without straining the neck and back muscles or tiring the arms. Many people find a comfortable chair, a reading stand and a good adjustable lamp very helpful when reading. They provide the comfort needed for extended reading sessions.

Health Evaluation

Although patients should be receiving ongoing medical care, it is important to assess their basic ocular health. A minimum evaluation would include: pupillary responses, external evaluation, tonometry, and a view of the posterior pole. Each clinician should decide on a test protocol on a case-by-case basis. It is best to wait until all functional testing is completed before doing ocular health testing to reduce the effects of glare and fatigue on the patient's subjective responses.

These are some basic considerations when determining which optical system to use in the initial evaluation. During this important aspect of the evaluation process, patients must begin to see a relationship between the devices being evaluated and the tasks they wish to perform. Once this connection is seen, the patient becomes a much more enthusiastic member of the rehabilitation team.

Training Tips

After the best optical design is determined, the patient must be able to develop an acceptable level of proficiency using the system. The clinician or staff provide the patient with instructions related to focusing, handling, localization, tracking, and scanning skills. If the patient cannot use the device successfully in the clinic, the chances of using it at home or work are slim.

Some brief training tips follow:

1. Make sure patients understand their impairment and why you selected the particular device over others to resolve the problem.
2. Make sure the patient knows why an optical device is needed rather than or in addition to a conventional Rx.
3. Make sure the patient understands the use of the device and its limitations.

ground confusion (a back lit chart in a dark room is sometimes a good starting point for telescopes).

5. Make sure the patient can successfully perform the task in the office before releasing the loaner device or final low vision device for home use.
6. Send patients home with **specific** instructions on activities they should practice. Make these activities simple and consistent with activities performed in the office.

It is good psychological motivation when patients do well at home. Be certain that the tasks you assign for home practice are success oriented!

7. Give patients training periods of 5 or 10 minutes. Tell them this is all that is expected. If they do more, it will be very encouraging to them and again increase motivation.
8. Advise patients they may get headaches and eyestrain, the eyes will tire, etc., and that this will not make their eyes worse. Use the analogy that they are exercising new muscles and like any **good** exercise program, they are feeling the “sore muscles.” This, however, indicates that they are improving.
9. If the patient is not able to successfully complete the assigned tasks at home, decrease the magnification and simplify the materials (i.e., go from 4x to 2x and use individual, well-spaced handwritten numbers or large print details instead of paragraphs for reading materials).
10. Be patient and encouraging.

Loaner Devices

At the completion of the initial evaluation, the patient may be loaned a device which is a reasonable facsimile of the prescription being considered, or a device that will provide experience with an optical system so the patient can develop the skills necessary to use the prescription being considered. A patient may need to use a hand-held telescope for a few weeks before learning to localize and scan through a bioptic system. Appropriate training materials that allow successful performance should accompany the loaned device. The loaner time is a training period, a continuation of the evaluation process, and an opportunity for patients to experience the benefits and limitations of a device in their own environment.

Subsequent Visits

Typically, a two-week loaner period is established, and the patient is then seen for a follow-up visit. The success and frustration with the device during the loaner period are then assessed. The examination that follows depends on the results of the loaner period and the experiences of the patient. Subsequent loaner periods and/or

a dispensing/training session at the third visit.

Options For Developing Clinical Skills

1. Obtain experience through interaction with your vision rehabilitation colleagues at the AOA Vision Rehabilitation Section meetings, the Annual Meeting of the American Academy of Optometry, and other continuing education programs. Read available material.

Attend vision rehabilitation continuing education where you can observe and learn. As an example, the AOA Vision Rehabilitation Section and the American Academy of Optometry hold yearly educational meetings which feature low vision. Many state meetings also include presentations concerning vision rehabilitation. The VRS Newsletter includes listings of upcoming continuing education programs.

2. Work with a patient. You can only learn by doing. Experienced members of the Vision Rehabilitation Section will be glad to talk over a case with you – before, during, or after the patient's visit. Take advantage of this congeniality and shared learning experience.
3. Have your equipment and instrumentation available. A list of recommended accessories is provided in this manual. Contact the companies on the resource list and familiarize yourself with other devices and services available.
4. Know your community resources in education, rehabilitation, and gerontology. Meet these professionals, provide them with information on optometric vision rehabilitation services, and obtain literature for your office.
5. Visit an experienced vision rehabilitation practitioner and observe exams.
6. Expand your clinical experiences by providing vision rehabilitation care.

NEAR AND INTERMEDIATE TASKS

- I. Observe Patient
- II. Social Conversation
- III. Patient Objectives
 - A. Discuss those already noted
 - B. Add to list
 - C. Prioritize
- IV. Eye Condition
 - A. Patient's concepts vs. reality
 - B. Discuss functional implications, especially as they affect specific tasks
 - C. Discuss health implications – prognosis/stability
- V. Eccentric Viewing
 - A. Amsler Grid Results
 - B. Blind Spot Awareness
 - C. Blind Spot Control
 - D. Facial Details Missing
- VI. Reading
 - A. Discuss device
 1. Name
 2. Monocular or binocular
 3. Working distance
 4. Advantages and disadvantages
 5. Lighting
 - B. Assessment
 1. Timed reading
 - a. Reading stand
 - b. Appropriate lighting
 - c. Patient reads aloud
 - d. Note print size for comfortable start/practice
 2. Determine best physical setting
 - a. Reading stand or clipboard
 - b. Lighting – intensity, direction
 - c. Discuss posture
 3. Ability to localize
 4. Ability to focus
 5. Ability to fixate
 6. Ability to scan
 - C. Begin instruction based on assessment

D. Second timed reading – 2ND VISIT

VII. Other Near Tasks / 2ND VISIT TO AVOID CONFUSION

- A. Begin instruction based on assessment
 - 1. Practice based on strengths and weaknesses
 - 2. Use of non-optical devices

VIII. General Discussion

- A. Patient's understanding of use of device(s)
- B. Patient's questions concerning training session
- C. Patient's feelings about success of device in reaching stated objectives
- D. Instructions to Patient

Sources noted in parentheses

Testing Materials

- **ETDRS Distance Chart** (8, 13, 17)
- **ETDRS Near Chart** (8, 13, 17)
- **LEA Symbols Distance Chart** (8, 13, 17)
- **LEA Symbols near Chart** (8, 13, 17)
- **Feinbloom Distance Chart** (4)
- **Single Words/Number Card** (13, 17)
- **Continuous Text – Adult** (13, 17)
- **Continuous Text – Child** (13, 17)
- **Contrast Chart – Mars** (14)
- **Amsler Grid** (13)
- **Chart Illuminator – optional (ETDRS distance chart can be front illuminated)**
- **Chart Illuminator Stand – optional (allows the Chart Illuminator to be easily moved)** (8, 13, 17)

Optical Magnification Devices

- **Prism Spectacles (half eye or full frame)** (2, 4, 6, 13, 18, 19, 22)
 - +4.00D with 6 prism diopters base in OU
 - +5.00D with 7 prism diopters base in OU
 - +6.00D with 8 prism diopters base in OU
 - +7.00D with 9 prism diopters base in OU
 - +8.00D with 10 prism diopters base in OU
 - +10.00D with 12 prism diopters base in OU
 - +12.00D with 14 prism diopters base in OU
- **Aspheric High Plus Spectacles** (2, 6, 13, 18, 19, 22)
 - +12.00D OU
 - +16.00D OU
 - +20.00D OU
- **Aspheric Microscopic Spectacles** (2, 4, 6, 13, 18, 19, 22)
 - 6x OU
 - 8x OU
 - 10x OU
- **Aplanatic Lens Systems** (4, 18)
 - Clear Image II (8D to 80D)
 - Clear Image II Telephoto Microscopic lenses (32D to 64D)
 - ML Aplanat (to 52D)
- **Custom Bifocal Systems** (8D to 40D) (4, 18, 21)
 - Bifocal Microscopes (Type E/R)
 - High Add Executive Bifocals

- +5.00D
- +8.00D
- +10.00D
- +12.00D
- +16.00D
- +20.00D
- +22.00D
- +24.00D
- +28.00D
- **Stand Magnifiers (Illuminated/Non-Illuminated) (4, 6, 13, 18, 19, 22)**
Magnabrite globe magnifier (2.5 and 3.5 inch models)
8.00D
12.00D
16.00D
20.00D
28.00D
- **Loupes (13)**
Optivisor (4.00D, 7.00D and 10.00D)
- **Around the Neck Magnifiers (13)**
3 diopter
5.3/13 diopter
- **Hand Held Telescopes/Binoculars (1, 6, 13, 18, 22, 24)**
Selsi 2.5x hand held Galilean
Selsi 2.8x clip on Galilean
4x12 hand held Keplerian
6x16 hand held Keplerian
8x20 hand held Keplerian
8x21 binoculars
- **Head Borne Telescopic Systems (1, 3, 4, 6, 13, 18, 24)**
1.7x – 4x Galilean
2x - 8x Keplerian
- **Head Borne Reading Telescopic Systems (1, 3, 4, 6, 13, 18, 24)**
2x – 4.5x Galilean
2.5x - 8x Keplerian
- **Absorptive Lenses (various sizes) (13, 15 18, 25)**
Grey (light, medium, dark)
Plum (light, medium, dark)
Yellow
Amber
NoIR filters 505, 533, 553, and 570
Corning CPF
Multilens filters

Electronic Magnification

- **Prisma (7)**
- **Portable - single magnification**
QuickLook (7)
PocketViewer (9)
Compact + (13)
Pico (20)
- **Portable - variable magnification - choose one**
Amigo (5)
Nemo (5)
Traveller (13)
Olympia (20)
- **Arm mounted**
Acrobat (5)
ClearNote (13)
PCT (16)
- **Transportable – full size**
The View (23)
- **Full sized CCTV CRT or flat-panel) (5, 6, 7, 9, 13, 20, 23)**

Non-Optical Devices_(10, 11, 13, 18, 22)

- **Reading Stand**
- **Lap Desk**
- **Reading/Writing/Signature Guides**
- **Bold Tipped Pens**
- **Daily Living Products (household items, clocks, watches)**
- **Lighting**

Patient/Family Educational Materials_(13)

- **Pamphlets**
- **Videos**
- **Vision Simulators**

Suppliers

1. Beecher Research, Inc.
672 Wing Street
Elgin, IL 60123
Tel: 800-408-7249
Fax: 847-697-5848

2. Chadwick Optical
1763 Old River Road
White River Junction,
VT 05001
Tel: 800-410-1618
Fax: 800-468-9301
www.chadwickoptical.com

3. Conforma Contact Lenses/Low Vision Department
4705 Colley Avenue
Norfolk, VA 23508
Tel: 800-426-1700
Fax: 800-423-8706
www.conforma.com

Inc.
760 Koehler Avenue
Ronkonkoma, NY 11779
Tel: 800-345-4009/631-
585-3300
Fax: 631-585-3404
www.designsforvision.com

5. Enhanced Vision Systems
2310 Main Street # 250
Huntington Beach, CA
92648
Tel: 800-440-9476
Fax: 714-374-1821
www.enhancedvision.com

6. Eschenbach Optik of America
904 Ethan Allen
Highway
Ridgefield, CT 06877
Tel: 203-438-7471
Fax: 203-438-1670
www.eschenbach.com

7. Freedom Vision
615 Tami Way
Mountain View, CA
94041
Tel: 650-961-6541
Fax: 650-968-4740
www.freedomvision.com

8. Good-Lite
1540 Hannah Avenue
Frest Park, IL 60130
Tel: 708-366-3860
Fax: 708-362-3860
www.good-lite.com

9. HumanWare
11 Mary Muller Drive
P O Box 3044

New Zealand
Tel: +64 3 384 4555
Fax: +64 3 384 4933
www.humanware.com

10. Independent Living Aids, Inc.
27 East Mall
Plainview, NY 11803
Tel: 800-537-2118
Fax: 516-752-3135
www.independentliving.com

11. LS&S, LLC
1808 G. JankeeDrive
Northbrook, IL 60062
Tel: 800-468-4789
Fax: 708-498-1482
www.lssgroup.com

12. Lighthouse International
111 East 59th Street
New York, NY 10022
Tel: 800-829-0550
Fax: 212-821-9705
www.lighthouse.org

13. ShopLowVision.com by Optelec
3030 Enterprise Court
Suite D
Vista, CA 92029
Tel: 800-826-4200
Fax: 760.597.5972
www.shoplowvision.com

14. The Mars Perceprix Corporation
49 Valley View Road
Chappaqua, NY 10514

Fax: 914-239-3557
www.marsperceprix.com

15. NoIR Medical Technologies Inc.
6155 Pontiac Trail
South Lyon, MI 48178
Tel: 313-769-5565
Fax: 313-769-1808
www.noir-medical.com

16. Optron
P.O. Box 5454
Morton, IL 61550
Tel: 309-694-2077
www.optronusa.com

17. Precision Vision
944 First Street
LaSalle, IL 61301
Tel: 815-223-2022
Fax: 815-223-2224

18. Schweizer & Multilens of America, LLC
85 Industrial Drive
Lincoln, RI 02865
Tel: 866-922-1108
Fax: 401-722-1109
www.schweizermultilens.com

19. Tech Optics International
58 Hanse Avenue
Freeport, NY 11520
Tel: 800-678-4277
Fax: 516-623-1355

20. Telesensory**Products**

650 Vasqueros Avenue,
Suite F
Sunnyvale, CA 94085
Tel: 408-616-8700
www.telesensory.com

25. Winchester Optical

888 Main Street
Winchester, MA 01890
Tel: 781-729-4553
www.winchesteroptical.net

21. Unilens

10431 72nd Street North
Largo, FL 33777
Tel: 727-544-2531
Fax: 727-545-1883
www.unilens.com

**22. Vision Advantage
International, Inc**

1401 Infinity Road, Suite
B
Lincoln, NE 68512
Tel: 760-862-9040
Fax: 760-862-9994
info@visionadvantage.net

**23. Vision Technology,
Inc.**

8501 Delport Drive
St. Louis, MO 63114
Tel: 800-560-7226

**24. Walters Low Vision
Optics**

30423 Canwood, Suite
115
Agoura Hills, CA 91301
Tel: 818-706-2202
Fax: 818-706-2206
www.walterslowvision.com

TABLE 1
APPROXIMATE TABLE OF EQUIVALENT* VISUAL ACUITY NOTATIONS FOR NEAR**

Meters Equivalent Acuity(3)	Snellen Equivalent	Jaeger(1)	Lower A.M.A. Notation	Approx. Case Point	Visual Height in m.m.	Angle (In. Min.)	Usual Text Size(2)
0.4M	20/20		14/14	3	.58mm	5.00	
0.5M	20/25	J1-J2	14/17.5	4	.75mm	6.25	Footnotes
0.8M	20/40	J4-J5	14/28	6	1.15mm	10.00	Paperbook Print
1.0M	20/50	J6	14/35	8	1.50mm	12.50	Newspaper Print
1.2M	20/60	J8	14/42	10	1.75mm	15.00	Magazine Print
1.6M	20/80	J9-J11	14/56	14	2.30mm	20.00	Children's Books
2.0M	20/100	J11-J12	14/70	18	3.00mm	25.00	Large Print Material
4.0M	20/200	J17	14/140	36	6.00mm	50.00	Newspaper Sub-Headlines
5.0M	20/250	J18	14/175		7.50mm	62.50	Newspaper Headlines
10.0M	20/500	J19	14/350		15.00mm	125.00	½ inch letter
20.0M	20/1000		14/700		30.00mm	250.00	1 inch letter

(1) There can be as much as a 25% difference in size of letters, words, etc., from one Jaeger Chart to another.

(2) This refers to the comparisons of letter size. Indicates vision needed for reading labels and other short term identification tasks.

(3) This refers to the acuity needed in order for most patients to comfortably read the indicated materials. Calculations based on review of Clinical Charts at University of Houston.

* There will be differences in the numbers presented in various published charts. This is indicative of the lack of standardization in charts and varying clinical experiences. (See Jose, Randall and Ray Atcherson.)

** Near is 40 cm.

DESCRIPTION OF OPTICAL DEVICES FOR THE LAY COMMUNITY

The same level of magnification can be prescribed in a wide variety of designs. It is important, therefore, for the patient to understand the benefits and limitations of each system. It is not in the scope of this manual to present all the individual devices available, but an effort will be made to introduce the practitioner to the various types of devices, with some potential applications for each.

Hand-Held Telescopes

The hand-held telescope is designed for spotting distant objects or other short-term distance tasks. It is small and can be kept in a pocket, purse or hung around the neck between uses. The hand-held telescope is used when a distant object has to be recognized; a street sign for example. Some uses of telescopes by patients are as follows:

1. To enhance independent travel by allowing the patient to see stop lights, street signs, store signs, bus numbers, etc.
2. To watch television for short periods of time.
3. To see who is coming up the front walk or is at the front door.
4. To watch birds, squirrels in the backyard.
5. To view flowers in one's garden.
6. To find the location of the daily paper when thrown on the front lawn.
7. To use at ball games, concerts, etc.
8. To sightsee while riding as a passenger in the family car.
9. To see the chalkboard in school.
10. To see activities of employees (patient is a factory floor supervisor).
11. To watch children in the other room or in the backyard without disturbing them (patient has three very young children).
12. To see pins/scores for bowling.
13. To see street names, house numbers, etc., from the car (patient is a traveling salesman with 20/60 vision).
14. To use on hikes, in parks, and other nature-related activities.

Most hand-held telescopes are monocular, are focusable to allow for viewing at varying distances, and are used with the preferred eye. Some telescopes will not focus for objects closer than 8 feet. The patient therefore, should determine the focal range in the clinic to be sure it is sufficient for the tasks to be performed. Stronger telescopes have smaller fields of view.

Clip-On Telescopes

The clip-on telescope is usually used monocularly. When a telescope is needed, the patient simply takes out his clip-on telescope and slips it over the top rim of his glasses. Often the patient will have better results if he patches the eye without the telescope during the initial stages of training.

Plastic clip-on patches are often used for this purpose. The clip-on telescopes are focusable to allow for viewing at varying distances. It is useful for short-term telescope needs. For example, if a student has to see the chalkboard during a class he can sit at his desk and clip the telescope on while it is needed. It can also be used for TV viewing, concerts, or things of that nature. As with the hand-held telescope, the increased magnification will reduce the field of view. As with any device, use of clip-on telescopes are most effective after practice in getting used to viewing through it. Since it covers the entire eye, it cannot be used when the person must move around. It is too difficult for most people to learn to adapt to the spatial distortions of the telescope while walking. Its major advantage is that it leaves both hands free; its major disadvantage is its weight.

Biopic Telescope

When a person needs a telescope for constant use and yet is frequently moving about, a biopic telescope may be prescribed. This type of telescope uses an ophthalmic lens as a carrier. A small hole is drilled in the top part of the lens and a miniature telescope is mounted through the prescription lens. When a distant object is to be viewed in detail, the head is dropped down and the person raises his eyes in order to view through the telescopic portion. After viewing the object through the telescope to gain the necessary information, the head is raised again and the person proceeds to walk looking through the conventional lens. This type of telescopic correction is very useful when the tasks or activity require the patient to be mobile. A clip-on biopic can be prescribed, but it must be inserted and removed for each visual task.

As stated, a telescope magnifies the image and reduces the field of view. While making things look closer, a telescope also makes them move faster. The major disadvantage of the biopic telescope is that it is miniaturized, so the field of view is even smaller than hand-held or clip-on telescopes. This makes spotting objects through it very difficult. Training should follow a step-by-step process similar to that used with the hand-held telescope. The individual should not become frustrated but realize this is a difficult system to learn to use and progress will be slow. It is a very valuable system and learning to use it effectively will pay off well. It is particularly useful in vocational and educational settings.

Full Field Telescope

Some telescopes are prescribed with the telescope covering the full lens in the frame (similar to the clip-on). This type of telescope gives a larger field of view than the biopic but is used only for visual activities requiring the patient to be standing or sitting. It is extremely difficult to learn to walk about with this type of lens. If a patient is prescribed one of these devices, he must receive very special instructions on how and when to use it. This type of telescope is usually prescribed for unique vocational or recreational needs.

Magnifiers

Magnifiers are designed to help individuals that are visually impaired with reading and close tasks, such as sewing or knitting. These devices come in two basic categories: those mounted on stands and those held in the hand. Typical uses of magnifiers are:

1. To read newspapers.
2. To read labels, prices, etc., while shopping.
3. To see dials, gauges and other controls on ovens, grills, ranges, etc.
4. To read recipes.
5. To look up phone numbers and addresses.
6. To read mail.
7. To scan large print (headlines, titles, sub headlines, etc.) of books or newspapers prior to reading smaller print with microscopes.
8. To see measuring tapes, dials, gauges, etc., in the workshop setting.
9. To read labels on medicine bottles.
10. To proofread manuscripts or typed materials.
11. To thread the needle on a sewing machine.
12. To read **TV Guide**.
13. To provide a quick check of prices, figures, etc., from manuals related to jobs (salespersons).
14. To check hygiene of contact lenses.
15. To read bus/train schedules.
16. To read maps.
17. To use in classroom activities.
18. To read menus in a restaurant.
19. To verify checks that has been made out for the visually impaired person by another person.
20. To write or verify correct denominations of currency.
21. To see in a variety of vocational tasks.

As with telescopes, the purpose of a magnifier is to assist vision by providing a magnified image on the retina.

Hand-Held Magnifiers

The most common optical device is the hand-held magnifier which is designed to be used mainly for short-term near visual tasks, as can be seen from the list of activities previously described. For example, if one wanted to look up a telephone number or see the stamped price on an item at the store, a hand-held magnifier would be the optical aid of choice. Often the hand-held magnifier is a second optical device for people who do not want to put on their reading spectacles. It can be used as a training aid preliminary to prescribing a spectacle microscope because it can be used at a more customary working distance than the spectacle devices.

Stand Magnifiers

The stand magnifier is preferred by many people because it is relatively easy to use. It is a recommended device for use during training periods. The stand magnifier automatically sets the lens at the correct distance from the reading material. Thus it is frequently used when hand tremors or palsies prevent the patient from maintaining a consistent working distance with a hand-held magnifier or microscope. Stand magnifiers are usually of two types, focusable and non-focusable. The former will bring the image in clearly by screwing the lens up or down. If one prescribes a focusable stand magnifier, instruct the patient carefully on how to use it. Non-focusable stand magnifiers have a preset distance between the lens and the reading material.

Microscopic spectacles

A microscopic spectacle correction is chosen because it allows the user to keep both hands free to hold the material to be viewed. Powers from 2x to 20x are available. Microscopic spectacles are prescribed for similar tasks as outlined for magnifiers, as well as:

1. Long-term reading sessions (texts, newspapers).
2. Writing tasks/signatures (2x-6x).
3. Making out checks, balancing books.
4. Crocheting, knitting, needle pointing, etc. (2x-4x).
5. Gardening – inspecting for insects on plants.
6. Reading mail, bills, shipping invoices, receipts, etc.

When using microscopic spectacles, the patient has to hold the reading material very close. Some high power microscopic spectacles require the material to be held as close as $\frac{1}{4}$ inch from the patient's eye. The stronger the microscope, the closer the patient will have to hold it to the eye. Each microscope has a critical focal distance and material must be held at exactly that distance. This close distance will seem very uncomfortable at first, but with patience and practice it will become easier and more relaxing. You may wish to start the patient out with low magnification and large print, and slowly work up to the needed magnification for small print. Newspapers should be used only after the patient has demonstrated success with other materials.

For some patients, learning to read with a microscope is the first time they have seen small print in many years. They are actually teaching their brain to see again. Often after learning to use the microscope to read, the patient will report an improvement in distance vision. This learning process is slow and requires patience and effort.

Telemicroscopes

A telemicroscope is essentially a near point telescope. It is designed to give the magnification needed without requiring the reading distance to be so

close to the eye. Some people find it very difficult to hold material very close to their eyes as required by microscopic spectacles, but still need a spectacle device to have both hands free. Other people have occupations or specific visual tasks which must be done at a longer distance; for instance, someone who is required to read gauges on machinery and physically cannot get extremely close to them. It is for these people that the telemicroscope is designed. A telemicroscope typically has a working distance of 8 to 16 inches. Although a telemicroscope provides magnification at a longer working distance, it has a very critical focal point and a very small field of view. The small field may make it difficult to do continuous reading. It will take much practice before the patient can use it comfortably and efficiently. Usually the individual using a telemicroscope loses his place and has difficulty keeping a target in focus for extended periods of time. It is used more successfully for intermediate distance spotting tasks such as reading labels and gauges. Some typical tasks this device is prescribed for are:

1. Seeing timing marks, inside carburetors, etc., by mechanics.
2. Looking at gauges, dials, etc., which are not accessible.
3. Writing (when a microscope does not leave enough working distance).
4. A few people can read with them more comfortably because of the longer working distance and they are not bothered by the very small field and critical focus.
5. Reading music while playing instruments.
6. Working with power tools (added distance increases safety).
7. Interviewing, in order to observe expressions on the face of the person being interviewed.

Non-Optical Devices

Non-optical devices are often useful in enhancing the use of vision with or without optical devices. Generally, non-optical devices are for one of three different purposes: increasing illumination, increasing contrast, and providing physical comfort and visual efficiency.

Illumination

One of the most important things to aid patient's with vision loss is proper illumination. It should be adjusted on the printed material to avoid having it shining in the eyes (glare). A gooseneck lamp or a flexible-arm lamp can be of tremendous benefit. These lamps can be positioned to provide optimal illumination for the individual task. This is accomplished by directing the light from the side, as opposed to from over the top. Not all patients need strong lighting – ask the patient what is most comfortable.

Contrast

Contrast is extremely important in helping a person read printed material. Contrast can be enhanced by using a felt tip pen, yellow acetate filter, etc. One can also write larger to give a magnified image.

Another effective contrast enhancer is a piece of yellow filter paper placed over the print or yellow clip-on filters over the patient's spectacles. Yellow filters tend to make print look blacker.

A typoscope is a piece of black cardboard with a slit in it which has two general uses. By blocking out all but the line of print viewed through the slit, it helps the patient keep his place while reading. Also, when a single line of print is framed by black, that line seems to stand out better and appear blacker, thus increasing contrast.

PARTIAL LIST OF VISION REHABILITATION SECTION RESOURCES

AMERICAN COUNCIL OF THE BLIND, INC.

2200 Wilson Blvd., Suite 650
Arlington, VA 22201
202/467-5081
800/424-8666
FAX: 703/465-5085
www.acb.org

Membership organization of individuals, agencies, and organizations concerned with blindness; an advocate group; membership primarily visually impaired individuals; local chapters.

AMERICAN FOUNDATION™ FOR THE BLIND (AFB)

National Consultant in Low Vision
11 Penn Plaza, Ste. 300
New York, NY 10001
212/502-7600
800/232-5463
FAX: 212/502-7777
www.afb.org

National clearinghouse for information about blindness and visual impairment; regional office; national low vision consultant based in New York.

AMERICAN PRINTING HOUSE FOR THE BLIND (APH)

1839 Frankfort Avenue
P.O. Box 6085
Louisville, KY 40206
502/895-2405
Toll Free: 800/223-1839
FAX: 502/899-2274
info@aph.org

Produces literature and educational devices; non-optical low vision devices; large print; talking computer software and hardware.

ASSOCIATION FOR EDUCATION AND REHABILITATION OF THE BLIND AND VISUALLY IMPAIRED (AER)

1703 N. Beauregard Street, Ste. 440
Alexandria, VA 22311
703/671-4500
FAX: 703/671-6391

www.aerbrl.org

Membership organization of teachers and rehabilitators who work with blind and visually impaired children; establishes professional standards and certifies teachers and teaching assistants working in the field AER also hosts special interest groups for; teachers of the multi-handicapped and deaf-blind, orientation and mobility instructors, rehabilitation teachers and sixteen others

AER meets biennially and also has regional meetings to conduct educational workshops. The Association also publishes an annual newsletter, a bimonthly newsletter, and a monthly job exchange newsletter.

ASSOCIATION FOR MACULAR DISEASES, INC.

210 East 64th Street, 8th Floor

New York, NY 10065

212/605-3719

FAX: 212/605-3795

www.macula.org

Membership organization which publishes newsletter with updates on developments in macular degeneration research, and offers educational seminars.

BLIND CHILDREN'S FUND

201 S. University Avenue

Mt. Pleasant, MI 48858

989/779-9966

FAX: 989/779-0015

www.blindchildrensfund.org

Central coordinating agency which provides information and resource center for teachers, parents and others concerned with the early development and education of visually impaired and multi-disabled visually impaired preschool children. Scope is international; develops materials, maintains library in several different languages; quarterly newsletter; conducts workshops for parents and professionals.

BLINDED VETERANS ASSOCIATION (BVA)

477 H. Street, NW

Washington, DC 20001

202/371-8880

FAX: 202/371-8258

www.bva.org

Encourages and assists blinded veterans to take advantage of services for visually impaired veterans; regional groups.

COUNCIL OF CITIZENS WITH LOW VISION INTERNATIONAL (CCLVI)

906 N. Chambliss Street
Alexandria, VA 22312
800/733-2258
www.cclvi.org

Advocacy group to establish right of full use of remaining eyesight and to ensure access to available services.

DELTA GAMMA FOUNDATION

3250 Riverside Drive
Columbus, OH 43221-0397
614/481-8169
www.deltagamma.org/foundation

National fraternity group; with local chapters that serves United States and Canada. Can be source of funding for visually impaired individuals devices, custom made telescopic, microscopic, and telemicroscopic systems.

DIRECTORY OF AGENCIES SERVING THE VISUALLY HANDICAPPED IN THE U.S.

www.loc.gov/nls/reference/circulars/blindorg2001.html

Available through the American Foundation for the Blind; separate section of low vision services state by state.

LIBRARY OF CONGRESS

National Library Service for the Blind and Physically Handicapped
1291 Taylor Street, N.W.
Washington, DC 20011
202/707-5100
FAX: 202/707-0712
www.loc.gov/nls

Federally funded national program to supply Braille and recorded reading materials to visually and physically handicapped individuals; regional and state libraries. Publish several reference circulars and bibliographies that list sources of reading aids, books, and magazines, including large type.

LIGHTHOUSE INTERNATIONAL

111 East 59th Street
New York, NY 10022

212/821-9200
800/829-0500
FAX: 212/821-9707
www.lighthouse.org

LIONS CLUBS INTERNATIONAL

300 West 22nd Street
Oak Brook, IL 60523-8842
630/571-5466
FAX: 708/571-8890
www.lcif.org

International service agency with a major service interest in visually impaired individuals. Has local chapters and can be source of funding for visually impaired individuals.

NATIONAL ACCREDITATION COUNCIL FOR AGENCIES SERVING PEOPLE WITH BLINDNESS OR VISUALLY IMPAIRED

7017 Pearl Road
Middleburg Hts., OH 44130
440/545-1601

Administers a program of accreditation for agencies and residential schools. Sets standards for programs and services such as workshops, rehabilitation centers, mobility services, social services, production of materials in large type, discs, and Braille. Currently setting up guidelines and standards for low vision services.

NATIONAL ASSOCIATION FOR PARENTS OF THE VISUALLY IMPAIRED

Perkins School for the Blind
P.O. Box 317
Watertown, MA 02471
617/972-7441
800/562-6265
FAX: 617/972-7444
www.spedex.com/napvi

Membership organization for parents and family of visually impaired children; provides network for emotional support and information.

NATIONAL ASSOCIATION FOR VISUALLY HANDICAPPED, INC.

22 West 21st Street, 6th Floor
New York, NY 10010
212/889-3141
FAX: 212/727-2931
www.navh.org

Agency solely devoted to the partially seeing; acts as a clearinghouse of services; large type materials.

NATIONAL FEDERATION OF THE BLIND

1800 Johnson Street
Baltimore, MD 21230
410/659-9314
FAX: 410/685-5653
www.nfb.org

National membership organization of blind persons with affiliates in all states focusing on advocacy.

NATIONAL RETINITIS PIGMENTOSA FOUNDATION

11350 McCormick Road, #800
Hunt Valley, MD 21031-1002
800/638-5683

The foundation fighting blindness. To cure RP (retinitis pigmentosa), macular degeneration, Usher syndrome and related retinal degenerative diseases. Formerly known as the RP Foundation Fighting Blindness.

NEW YORK TIMES LARGE TYPE WEEKLY

CS Box 9564
Uniondale, NY 11555
800/631-2580
201/342-2539

Weekly summary of the news in large type. \$35.10 for 26 issues; \$70.20 for one year.

OFFICE OF SPECIAL EDUCATION PROGRAMS

400 Maryland Avenue, S.W.
Washington, DC 20202
202/245-7468
www.ed.gov/about/contacts/gen/index.html

Federal agency concerned with the education of visually impaired children at the federal level. Each state will have its own education structure through a state education system or a state commission for the blind.

PREVENT BLINDNESS AMERICA

211 West Wacker Drive, Suite 1700
Chicago, IL 60606
800/331-2020

708/843-2020
www.preventblindness.org

Group with state affiliates focused on public and professional education, research, industrial and community services.

READER'S DIGEST LARGE TYPE EDITION

Readers digest Fund for the Blind
P.O. Box 241
Mt. Morris, IL 61054
800/678-9746
800/877-5293
FAX: 815/734-1223

RP INTERNATIONAL

P.O. Box 900
Woodland Hills, CA 91365
818/992-0500
FAX: 818/992-3265
www.rpinternational.org

Group which supports research and provides information and human services to patients with retinitis pigmentosa and families.

REHABILITATIVE SERVICES ADMINISTRATION, OFFICE FOR THE BLIND & VISUALLY IMPAIRED

330 C Street, S.W.
Washington, DC 20202
202/619-0257

Federal agency concerned with the vocational rehabilitation of visually impaired individuals. Each state has its own vocational rehabilitation organization. Services to visually impaired individuals are provided through local counselors; services for ages 16-65 (this may vary from state to state; some services for geriatric population).

SCHOOLS FOR THE BLIND AND VISUALLY HANDICAPPED

<http://sdsbvi.northern.edu/wwwresources/list.htm>

Educational alternative for visually impaired students K-12 in most states. May have summer sessions available for pre-college instruction.

STATE COMMISSION FOR THE BLIND

Located in some states for visually impaired individuals. Usually administers all state programs – educational, rehabilitative, geriatric, infant, and pre-school.

TEXAS ASSOCIATION OF RETINITIS PIGMENTOSA (TARP)

Consultation Services

P.O. Box 8388

Corpus Christi, TX 78468-8388

Tel/FAX: 361-852-8515

<http://www.geocities.com/hotsprings/7815/front.htm>

National organization chartered in Texas which provides information through a telephone hotline, newsletter and publications. An advocacy organization that provides referrals and support.

LISTING OF PUBLISHED RESOURCES

Australian National Council of and for the Blind/Low Vision Ahead: Proceedings of the First Australian Pacific Conference on Low Vision.

Melbourne: The Association for the Blind, 1980, 463 pgs.

Bishop, Virginia E. **Teaching the Visually Limited Child.** Springfield, Ill., Thomas, 1978, 224 pgs.

Bonner, Ruth E., and Lovett, Mary E. **The Visually Limited Child.** New York, Irvington. 1970, 74 pgs.

Brady, Frank B. **A Singular View; The Art of Seeing with One Eye.** 4th Ed. Annapolis, MD, Frank B. Brady, 1988, 129 pgs.

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Foundation for the Blind, 1983, 555 pgs.

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ADDITIONAL RESOURCES

The following materials which are related to vision rehabilitation interests are available for purchase from the American Optometric Association Order Department. For information on prices of any of the following, or a complete catalog of Order Department materials, contact the

AOA Order Department
243 North Lindbergh Boulevard, Floor 1
St. Louis, MO 63141
800/262-2210
FAX: 314/991-4101

DIABETIC RETINOPATHY FACT SHEET MACULAR DEGENERATION FACT SHEET

Optometric Clinical Practice Guidelines:

Care of the Patient with:
Diabetes Mellitus;
Age Related Macular Degeneration;
Primary Angle Closure Glaucoma

Living with Low Vision – This patient education pamphlet provides information on causes of low vision and various ophthalmic devices that assist low vision patients. It also explains the role of the optometrist in providing low vision care.

A Gift of Sight – This 18-minute videotape provides an introduction to optometric low vision care. It centers around a musician with macular degeneration and how low vision care helps her to continue her career and independent lifestyle. The tape also discusses other conditions that require low vision care and explains a thorough low vision exam. 100 copies of the AOA pamphlet “Living with Low Vision” accompany each purchase of the videotape.

ADDING VISION REHABILITATION TO YOUR PRACTICE

The need for optometric vision rehabilitation services is increasing due to a number of factors including the aging of America and the Americans with Disabilities Act. Much attention is being paid to the provision of vision rehabilitation services not only by optometry, but also by ophthalmology, occupational therapy and other health care providers. Optometrists are uniquely qualified to provide these services due to our knowledge of optics, lenses, and visual function, yet many optometrists choose to not get involved with providing vision rehabilitation services in their community. This paper will outline some of the factors which should be considered when getting started with vision rehabilitation care.

Whether just getting started in practice or considering adding vision rehabilitation services to your existing practice, some preliminary information gathering will help to determine the need for such services in your community. Answering the following questions will help define what may be an unmet need:

1. Is there another health care practitioner already providing vision rehabilitation services in your community?
 - If not, your direction is clear. If there is another optometrist or ophthalmologist providing services, this does not necessarily mean there is no additional need.
 - You may find the other provider (particularly the ophthalmologist) is interested in working with someone with an interest or expertise in the field, AND you will still want to take care of your own patients. In addition, you might find other rehabilitation professionals (such as OTs) who are anxious to work with you, especially if they are working alone.
2. Are there medical specialists (retinologists, endocrinologists, diabetic nurse educators, geriatric medicine specialists, pediatric ophthalmologists, etc.) who might refer to you for these services?
 - Most of these practitioners will see patients who could benefit from vision rehabilitation services.
3. Is there a state blind and visually impaired rehabilitation agency or a general rehabilitation commission in your community?
 - Vision rehabilitation services may be mandated by the agency or the state, and at the very least you will be welcomed by the counselors as a resource.
4. Is there a special educational department serving school age child who are visually impaired?

- Again, vision rehabilitation services may be required by law. The education system can be a source for referral of a variety of children with special needs. It seems that once your expertise with children who are visually impaired is established, it is also assumed that you could manage other learning related vision problems.
5. Is there a Veteran's Administration hospital with an ophthalmology service?
 - Referrals of service-connected veterans with a disability to appropriate providers for vision rehabilitation might be arranged.
 6. Do you see elderly patients in your practice?
 - Even if there is an established vision rehabilitation provider in the community, most practitioners can handle the basic needs of many of their elderly patients with, for example, early macular degeneration.

Approach practitioners, agencies and professionals regarding their need for vision rehabilitation services and what they would expect you to provide. They may be able to supply estimates of the numbers of patients or clients in need of such services (agencies should have access to the census information regarding the number of legally blind in the community). Often you will find there is a pattern of patients being sent out of the community to the nearest large city or university-based clinic to get basic services which could be provided locally.

Once you have determined a need in the community, consider your options for providing services: in your practice, as a consultant in a hospital based service or ophthalmology setting, as a rehabilitation hospital or agency, in a nursing home, or in a school setting. Each of these settings will offer unique advantages and disadvantages. Most private practitioners, however, can and will prefer to provide vision rehabilitation care in their own offices as part of their usual service delivery system.

How does one prepare for the practice of vision rehabilitation patient care?

I. Doctor Education

Vision rehabilitation courses are offered annually at both the American Optometric Association and the American Academy of Optometry meetings and at other large optometric education meetings as well. Basic courses designed to familiarize the practitioner with examination techniques, treatment options, fitting procedures, management techniques, and psychological considerations are often available. In addition, there are several good texts and numerous articles and papers for home study available from the

International Library, Archives and Museum of Optometry (refer to recommended reading list).

II. Assessment of Equipment Needs

Much of what is needed to provide a good vision rehabilitation evaluation is already in the primary care optometrist's office:

- standard exam lane (chair, stand, projector chart, slit lamp, direct and indirect ophthalmoscopes, retinoscope)
- trial frame
- trial lenses with hand-held Jackson Cross Cylinder
- Amsler grid
- color vision test
- keratometer

In addition, a vision rehabilitation practitioner should also have appropriate charts for both distance and near acuity measurement and contrast sensitivity assessment, a tape measure for accurately determining working distances, and assorted diagnostic vision rehabilitation devices in each of the following categories:

- spectacles (prism half eyes and microscopes)
- hand magnifiers
- stand magnifiers
- telemicroscopes
- hand-held telescopes
- spectacle mounted telescopes (fittings sets for sophisticated systems can often be acquired on loan or consignment).
- filters (for glare reduction and contrast enhancement)

Basic non-optical devices and task lighting, as well as catalogs to reference other non-optical aids and activities of daily living aids should be available.

Recommended Diagnostic Devices- See page 16

III. Preparing Your Staff

Your staff should be sensitized to the needs of individuals who are visually impaired. Many of these patients will be elderly and some will have other handicapping conditions requiring physical assistance and added patience on the part of your staff. The staff member (and the doctor as well) should always identify herself ("Hi Mrs. Jones, it's Susie") as the patient may not be able to recognize faces. In filling out paperwork, it may be necessary to read the document to the patient. When asking for a signature, offer a bold felt tip pen and put a heavy line where the patient is to sign, or use a signature guide. When making a payment, assistance may be needed in writing out the check or reading the fee slip. Appointment time should be written in

large, clear block letters with a bold tip pen, and all typed correspondence should be double spaced and in caps, even if the patient reads with a device. When finished at your office, a phone call for transportation may be needed, as many individuals who are visually impaired do not drive. Lastly, your patients who are visually impaired will need extra assistance with frame selection, as they may not be able to see their own faces in the mirror.

The most important thing for your staff to keep in mind is to be patient. One last note: there is no need to speak more loudly to a person who is visually impaired!!!

IV. Preparing The Waiting Room

Sit in your waiting room. Are the chairs comfortable? Friends and family members may be seated in the waiting room for an hour while you do a thorough vision rehabilitation evaluation. Are the chairs easy to get out of? Chairs with sturdy arms are best for the elderly or physically challenged to push up from. Is there room for a wheelchair? Is there adequate contrast between the chairs and carpet? Is there a bothersome glare source (window or light) which can be modified? Likewise, is the waiting area adequately lit? There should be at least a few publications related to vision rehabilitation, such as the large print edition of the Reader's Digest or a large print weekly newspaper (Large print NY Times) or appropriate support newsletters such as Voice of the Diabetic, the National Association for Parents of the Visually Impaired, Inc. (NAPVI) newsletter, a quarterly publication for Council of Citizens with Low Vision, International. These items are not only of interest to your patients who are visually impaired, but alert your other patients to your interest in providing vision rehabilitation care.

V. Scheduling Concerns

a. Initial Visit

When considering how to schedule your vision rehabilitation evaluations, one must take into account the components of the evaluation process:

- comprehensive medical and ocular history as well as functional and social history
- clinical exam, including acuities, refraction, ocular health (with dilation as indicated), visual field assessment, binocularity assessment, contrast sensitivity
- magnification evaluation, including determining the add and evaluating equivalent-powered systems
- training in the use of specific aids
- filter assessment
- non-optical aids assessment
- other procedures as indicated

Not all of these components must be done at the initial encounter. Generally the comprehensive history, clinical testing (comprehensive exam with dilated fundus examination) and magnification assessment are done on the first visit. However, this can take up to 90 minutes. At that time, some practitioners will continue with the training session (which may be delegated) with the intention of deciding on a loaner system or a final prescription (in selected cases). Other practitioners prefer to appoint the patient for continuation, with the next session beginning with training and the use of a system or systems determined at the initial visit. Training sessions can last 30-60 minutes, and several sessions may be required before a final system(s) can be prescribed. It is important not to overly fatigue the patient; visits lasting more than 90 minutes may reach a point of diminishing returns. The practitioner must allow time as well for discussion of the findings, proposed treatment plan, prognosis and any questions the patient or family may have.

When the appointment is scheduled, certain pertinent information should be discussed. As the fee for your vision rehabilitation services is likely to be greater than that for a routine eye exam or contact lens fitting, the patient should be advised at the outset of the anticipated fee (or range of fees, "up to \$XXX), as well as what is not likely to be covered by third party payors such as Medicare. The patient and family should also be forewarned that the examination could be lengthy; debilitated patients and diabetics may want to schedule these longer visits at a certain time of day when they function best. If the patient has been referred, it is helpful to get all relevant information and records from the referral source prior to seeing the patient. It is helpful, for example, to identify the goals of the teacher or rehabilitation counselor as well as eliciting the patient goals during the history. Lastly, if vision rehabilitation devices are currently being used (even if not satisfactorily), they should be brought along so you can see what the patient has tried. Also ask the patient to bring along examples of reading materials or tasks he desires to do.

Assuming the patient who is visually impaired identifies himself as such (or your staff is educated to determine this when the appointment is made), it can be helpful to schedule several of these exams on the same day, assigning a morning or afternoon session devoted to vision rehabilitation care. This allows both you and your staff to be mentally set for the challenge unique to this population and helps avoid getting backlogged on a day filled with shorter patient contacts. If a patient who is visually impaired presents in a routine exam time slot, do as much as you would ordinarily do for the routine exam and reschedule the vision rehabilitation aspects, including the more complicated refraction.

b. Follow-up Visits

Follow-up visits are generally scheduled to:

- continue the initial evaluation
- assess use of loaner aids or previously prescribed devices
- evaluate the patient's progress with training activities
- evaluate changes in visual functioning
- dispense prescriptive optical aids

Each follow up contact should begin with a brief history pertinent to the purpose of the visit. It should include questions regarding any changes in vision functioning or the patient's goals, changes in general health, and success or failure with previously recommended activities or vision rehabilitation devices. Visual acuity should be done to document stability and then the visit should go on to address specific needs. It is possible that some of these follow-up visits can be delegated, at least in part, to a trained assistant. The doctor can then review the findings and indicate what steps should be taken to modify the treatment plan. For example, if the patient was loaned a particular reading device to be used with large print practice materials, the follow-up might include assessment of the ability to read large print as well as regular print with the device. Depending on the outcome, modification of magnification levels might then be indicated, with retraining as needed.

New needs might be identified by the patient, or the assistant could explore other needs which might have been overlooked at previous visits (such as specific non-optical aids). Time will vary, but generally 30 minutes is needed for a follow-up visit and trainings session.

VI. Fees

Many optometrists do not become involved in vision rehabilitation care due to concerns regarding fees, time requirements and reimbursement issues. While it is certainly true that you may spend more time with patients who are visually impaired, this does not mean that reasonable compensation for your services is unattainable. It is true that with our current Medicare system (and many Medicaid systems as well), vision rehabilitation is NOT COVERED. Additionally, there are codes which exist for vision rehabilitation devices, but these are also non-covered. Some private practitioners bill separately for an office visit or consultation (assuming the patient was referred by another physician), and any appropriate field testing (which are covered services). Refraction, magnification evaluation and device training (which are non-covered services under Medicare) are billed directly to the patient. This is also true of many insurance companies, although occasionally a letter discussing that the patient is legally blind, requires specialized services to maintain his independence/employment/educational access, and that services are to "restore the functioning of a malformed or damaged body part" may produce payment for traditionally non-covered services. Follow-up visits are generally billed no different than follow-ups for other patients.

Keep in mind that standard health insurance is not the only means by which your services can be purchased. State rehabilitation agencies, education agencies and Lions' Clubs are a few resources which may also sponsor patient visits, glasses or prescriptive optical systems.

Finally, it is unfair to both you and the patient to assume that they will not be able to pay your reasonable fee, and therefore, you will not provide the services. Most individuals who are visually impaired will gladly pay for good comprehensive vision rehabilitation services, which benefit them in some meaningful way. Motivation is key here.

VII. Loaner Systems

Arguments can be made both for and against the use of loaner optical systems. On one hand, some practitioners feel the use of loaner systems can lessen the patient's commitment to the rehabilitation process, encourages rejection of more difficult to use optical systems, and diminishes patient confidence in the doctor. Not unimportant, a lot of space and money can be tied up in inventory, both in your office and out on loan. Nevertheless, many vision rehabilitation practitioners do advocate use of loaner systems at least in some cases. The purpose of the loaner system is varied, depending on the patient. Certainly, this approach allows the patient to try the optical system in their own environment with their own environment with their own reading materials prior to purchasing. It is also invaluable for training patients to use high powered aids which may require beginning with less than optimum magnification and working into the higher power system. There may be situations where a loaner is used until a declining or improving visual status stabilizes. Some patients who are visually impaired have been so disappointed with previously unsuccessful experiences that they are hesitant to purchase "one more thing that won't work." The loaner approach, if done properly, will almost eliminate prescription of something the patient can't or won't use. This is especially true of high plus spectacles where adaptation to the close working distance may take a few weeks.

Some offices keep a supply of some items to loan, which are re-circulated through the loaner system. It may be more practical to loan a new item (assuming of course the in-office response was positive), then have the patient either purchase the loaned item or return it in excellent condition in an agreed upon reasonable amount of time. In a large practice, keeping track of loaner aids can be a monumental task, requiring follow up phone calls, billing and sometimes even personal retrieval of devices from patient who are unable to return them easily. (Use of UPS call tags is helpful in these instances.) A master calendar or card file system can help keep track of this so that things don't get lost in the shuffle; but be forewarned that it can be time consuming with a heavy load, requiring several hours of staff time per week.

Whether or not you choose to utilize loaner devices will depend on a number of factors, such as the nature of your patient population, the in-office patient response, your level of confidence in prescribing a specific aid for a specific outcome, and requirements of outside individuals or agencies such as teachers, employers, rehabilitation agencies, etc. If you determine a loaner system is not indicated for your practice, then you should establish an office policy to fairly handle prescription or power changes, inability to utilize the prescribed system successfully, significant changes in vision, or other unanticipated difficulties which may arise within the time period immediately after the device is dispensed (with a maximum time limit specified).

VIII. Follow-Up Contacts

It is a good idea, particularly when loaning devices but also when dispensing the final prescription, to have a knowledgeable staff person telephone the patient within one week after the visit. This allows the patient to ask any questions regarding proper use of the aid, lighting, fatigue, etc. You will also have the benefit of being aware of any problems early on and prior to the next visit, so that possible alternatives or solutions can be considered. If needed, the patient should return sooner than originally planned, for assessment of ocular status, adjustment, additional training or modifications of the treatment plan. Furthermore, the phone call is a much appreciated gesture, reminding the patient that you are truly interested in his/her success and well being.

Some practitioners also make follow-up phone calls at a 2 to 4 week point and at the 3 to 6 month point. Concerns at these later contacts would be with continued success with dispensed devices, changes in vision or changes in the patient's needs. If the patient is under the care of an ophthalmologist for general concerns, then any changes in the vision should be referred back to the primary doctor before you would modify the vision rehabilitation treatment plan. This is not only wise conduct with respect to your referring doctor, but it is of course in the patient's best interest that we do everything possible to maintain vision at the best possible level.

IX. Dispensing Visit

If a custom or specialized system has been prescribed and ordered for the patient, a dispensing visit should be scheduled with either the doctor or a knowledgeable assistant, depending on the complexity of the system. Most spectacle-mounted systems should be at least briefly checked at the dispensing visit by the optometrist for proper alignment, as vertex distance, nose pad and temple adjustments, and pantoscopic angle are more critical than with conventional spectacles. Proper use of the system including working distances, lighting requirements, what tasks the devices are designed to be used for, whether or not to walk around while wearing the aid, etc., should be thoroughly reviewed. For some spectacle mounted systems

which do not meet ANSI safety standards, a release (such as the Designs for Vision release form) explaining the necessity for this type of lens and stating that they are not safety ophthalmic lenses should be signed by the patient (after, of course, it is read to him/her in its entirety). Proper care, cleaning, battery and bulb replacement and other housekeeping issues should be covered as well. A lens cleaning cloth with your office logo and phone number in a very convenient place helps to ensure that the patient will not damage the sophisticated optical system by using inappropriate cleaning materials.

X. Letter Writing

Writing letters or reports back to the referral source (doctor, teacher or agency) is not only a good marketing tool, but is often required by some agencies before payment will be made for services. It is also required by Medicare if a consultation code is used for any portion of your services (assuming the patient was referred). When drafting a letter, keep in mind the purpose of the letter:

- To report to a referring doctor your assessment and treatment plan.
- To report to a teacher a child's vision problem, level of impairment and description of what he can and cannot do.
- To report to a rehabilitation counselor the patient's visual status, visual capabilities and needs, and to recommend a treatment plan.

In general, letters to other physicians should be succinct or they will not be read. Letters to teachers or rehabilitation counselors may need to be more basic; the assumption being that these individuals need more information and specifics in order to accommodate the individual's needs and develop appropriate teaching regimens. Keep in mind that for these professionals, educational decisions and vocational choices may be made based on what your letter states (or does not state). Letters may also be needed for disability determination, to obtain restricted driver's licenses, and to maintain employment. In all cases, your recommendation should be well thought out and substantiated, as it is likely they will carry a lot of weight.

XI. Marketing Your Vision Rehabilitation Services

Once you have gotten your feet wet and are comfortable not only with your knowledge of vision rehabilitation (optics as well as training), but also with your patient management abilities, you may be ready to increase your patient load. One of the simplest ways to market your vision rehabilitation services is to send reports to doctors involved in the patient's care, not only eye care practitioners, but other physicians as well. If there are ophthalmologists or optometrists in town who are not aware of your services, personally visit them and explain what you can do for their patients. A brochure describing your services (or a generic brochure such as that

available from the AOA, "Living with Low Vision") should be left in appropriate quantities with each person you visit. This is effective not only in stimulating the doctor and his staff to make the referrals, but in ensuring that the patient follows through. These brochures are also useful as mail out information for phone call inquiries. Phone calls or personal contacts are also appropriate for other possible referral sources such as school nurses and diagnosticians, rehabilitation counselors, teachers of the visually impaired, etc. Independent opticians can also be a source of referrals, as consumers will often look there for "a stronger magnifier."

Yellow pages listings can generate patients, but are most productive if placed under non-traditional heading such as "Blind Organizations" or "Rehabilitation Services." Check which listings are available in your local directory.

Human interest stories featuring a patient who was helped by your vision rehabilitation services are often a good way to access news media. These can be tied to national media releases such as coverage of the Americans with Disabilities Act or the announcement of vision rehabilitation products (national campaigns are sometimes done by larger corporate sponsors when new technology is developed). If you go this route, be prepared to receive a lot of phone call inquiries, many of which can be turned into patient contacts.

Low Vision Reading Materials for the Waiting Room:

Readers Digest

(Large Type Edition)
Dept ADTH PO Box 241
Mount Morris, IL 61054

Vision Access

Council of Citizens with Low Vision
International
Pat Price, Editor
5707 Brockton Drive, #302
Indianapolis, IN 46220-5481

Parent to Parent

The Institute for Families of Blind
Children
Mail Stop #111
PO Box 54700
Los Angeles, CA 90054-0700

Voice of the Diabetic

National Federation of the Blind
811 Cherry Street, #309
Columbia, MO 65201

Awareness

National Awareness for Parents of
the Visually Impaired, Inc.
PO Box 317
Watertown, MA 02272-0317

Date _____
Name _____ SSN _____ DOB _____ Age _____
Address _____ Phone (H) _____ (W) _____
MS _____ Next of kin _____ Acc by _____
Ref by _____ Eye doc _____ last/next _____
Oc hx _____

best eye OD OS vision stable? N Y for _____ fam hx _____
eye meds/tx _____
current Rx N Y helps for _____ how old? _____ LV ex? _____
aids/use _____
print ability: headlines _____ LP _____ small print _____
avid reader? N Y reading goals _____
TV _____ chalkboard _____
Education _____
reg print? _____ spec ed/CMC _____
Occupational retired disability _____

Driving _____ valid lic _____
Mobility _____
Street crossings _____ goes alone _____
Cane traveler N Y _____ public transp _____
Photophobic N Y sunny cloudy night _____ best light _____
L D adapt _____ sunwear _____ adequate? Y N _____
Leisure/hobbies cards crosswords dominoes fishing hunting gardening
sewing/needlework crafts radio TV reading _____
Living situation _____ ADL _____
stove dials measuring cooking grooming mending writing/signature
Goals: 1. _____ 2. _____ 3. _____
Comments _____

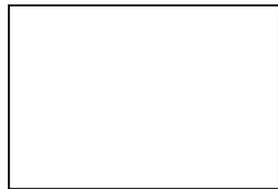
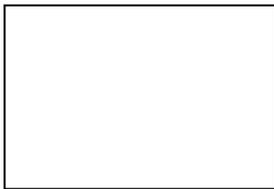
Time in _____ Time out _____

Name _____ Date _____

Chief complaint _____

Acuity	VAsc	RX	VAcc	Aid/VA
OD /			/	
dist				
OS /			/	
OD /			/	
near				
OS /			/	
Refraction				Keratometry
OD -		X	/	OD
Ret				
OS -		X	/	OS
OD -		X	/	EOM:
cyc				
OS -		X	/	nystagmus
BVA				
OS -		X	/	pd /

TF Phor



tangent screen
arc perimetry
bowl perimetry

confrontation



D-15

OS

OD

Color vision screening: blue = red = green = yel = or =

External OD OS

O.D.

O.S.

- adnexa _____
- conj _____
- cornea _____
- sclera _____
- angle _____
- iris _____
- lens _____
- IOP _____

Internal

- media _____
- disc _____
- vessels _____
- macula _____
- fundus _____
- periphery _____

Magnification evaluation

	Aid (eye)	VA	text	response
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

Impression/recs Dx: _____

Training objectives	additional objectives
1. _____ sunfilters _____	
2. _____ O&M _____ ADL _____ light _____	
3. _____ writing _____ CCTV _____	
4. _____ other _____	

Plan _____
 Loaners _____ order _____
 Rx _____ disp _____ revisit _____
 phone f/u _____ next visit concerns _____
 Referrals TCB State Lib Bible AI Phone co. Viatrans other transport
 Letter _____ ADL clas peer counseling _____

Items checked below were discussed in detail with patient and family attending:
 Eye condition: _____ nature of dz _____ prognosis _____ functional implications
 Rehab therapies: _____ vision enhancement _____ visual skills training _____ ADL _____ O&M
 _____ eccentric viewing training
 Visual concerns: _____ OK to use eyes _____ close to TV will not harm _____ driving
 _____ fear of total blindness unfounded _____ fatigue normal
 Instructions in adaptations: _____ importance of practice in acquiring adaptive skills _____ light
 _____ contrast _____ eccentric viewing principals of mag
 _____ specific reading techniques _____ electronic aids _____ specific ADL adapt
 Psychological factors: _____ independence _____ importance of activity _____ attitude
 _____ emotional reaction _____ ability to deal with the challenge _____ depression

Other _____
 Total doctor time with pt: time in _____ time out _____ sig _____
 Comments _____

On practice letterhead

To whom it may concern:

_____ was seen in the Vision
Rehabilitation Clinic on _____.

At that time the best corrected acuities were:

RE

LE

The visual impairment is due to _____
and is permanent. This level of vision qualifies
_____ as legally blind, and entitles him/her to
benefits and services pertinent to the legally blind.

Sincerely,

On practice letterhead

To whom it may concern:

_____ was seen in this office
on _____. At that time visual field testing
with _____ indicated:

RE _____

LE _____

This visual impairment is due to _____

and is permanent. This level of visual field loss qualifies

_____ as legally blind, and entitles him/her to benefits and
services pertinent to the legally blind.

Sincerely,

To whom it may concern:

RE: _____ DOB _____

_____ was examined on
_____ for the complaint of poor vision.
_____ was diagnosed with
_____ (_____).

Best corrected visual acuities were:

OD

OS

Regular glasses, surgery or treatment will not improve the vision. The following prescriptive vision rehabilitation lenses have been recommended to improve the functioning of this patient's malformed or damaged eyes:

It should be noted that these devices are not regular glasses, but will improve the visual functioning significantly, allowing _____ to remain independent. Your careful consideration of these needs is greatly appreciated. Please feel free to contact the office should additional information be required.

Sincerely,

SAMPLE TELEPHONE QUESTIONNAIRE

PATIENT _____ DATE TO BE CALLED _____
DATE ACTUALLY CALLED _____

Hello, this is _____ at Dr. _____ office calling
(patient) _____. Dr. _____ has
asked me to call you regarding your _____
aid(s).

SPECIFIC QUESTIONS TO COVER WITH THIS PATIENT:

1. _____
2. _____
3. _____
4. _____

GENERAL QUESTIONS

1. Have you been practicing regularly? _____
 2. Are you able to follow Doctor's directions? _____
 3. Is the device doing what you expected? _____
 4. What materials are you practicing with? _____
 5. How close are you holding the material? _____
 6. What questions do you have at this time? _____
- _____
- _____

IF NEGATIVE RESPONSE:

Dr. would like you to:

1. Practice for _____ minutes at a time for _____ times a day.
2. Use (regular print)(large print), holding the material closer until the print becomes as black as possible.
3. Be sure to use a bright light, placed close to the reading material.
4. Increase reading time by _____ minutes every day.
5. I will call you on _____ to check your progress; if you see no improvement at that time we'll consult with the doctor and determine the next step.

IF POSITIVE RESPONSE:

1. Good, be sure to continue practicing daily.
2. Be sure to use bright light, placed close to the reading material.
3. If any questions, please call the office.
4. You should return for further evaluation in _____ months, or sooner if new needs arise.
5. Be sure to keep your next appointment with your Ophthalmologist.

OTHER NEEDS

1. Are you having any problems getting around your home? _____
2. Are you having any problems getting around environments outside the home?
3. Are you familiar with the WHITECANE and what it's used for?
4. Are you able to take care of personal needs such as picking out clothes? _____ Can you do simple tasks like putting toothpaste on a toothbrush?
5. How are you doing in the kitchen? _____ Can you use your stove with ease?
6. Are there any other areas which you feel you might need help with?

CALLER'S COMMENTS:

CALLER'S SIGNATURE

CHECK LIST FOR NEW VISION REHABILITATION PATIENTS

Staff _____

NAME _____ DATE _____

DEMONSTRATED/DISCUSSED:

- | | |
|------------------------------------|-----------------------------|
| _____ CCTV | _____ BOLD LINED PAPER |
| _____ LIGHTING | _____ MAGNIFYING MIRROR |
| _____ LARGE CHECKS | _____ SIGNATURE/LINE GUIDE |
| _____ LIGHTHOUSE CATALOG GIVEN OUT | _____ LARGE PRINT MATERIALS |
| _____ BLIND SERVICES HANDOUT | _____ FILTERS; TYPE _____ |
| Y N NEED LEGAL BLINDNESS LETTER | _____ PROMOTIONAL MATERIAL |

RE-EVALUATED

- _____ MICROSCOPE; POWER _____
- _____ MONOCULAR; POWER _____
- _____ 3x ESCHENBACH TELESCOPE
- _____ PRISM GLASSES; FOR _____
- _____ MAGNIFIERS; TYPE _____
- _____ OTHER _____

ALSO ORDERED:

1. _____ 3. _____
2. _____ 4. _____

STAFF IMPRESSION:

PATIENT RESPONSE:

1. WERE YOUR VISUAL GOALS MET? _____
2. DO YOU UNDERSTAND HOW TO USE THE DEVICES PROVIDED? _____
3. COMMENTS _____

INITIAL CONSULTATION – VISION REHABILITATION SERVICE

NAME: _____ IN: _____ / OUT: _____
ADDRESS: _____ DATE: _____
REF DR. _____
REF DR. _____
PHONE: _____

AGE: _____ DOB: _____ ACCOMPANIED BY: _____

MEDICAL EYE HX / (SYSTEMS EVALUATION) _____

MEDICAL HX: _____

(record additional Hx on progress sheet and file immediately behind this sheet)

ICD-9 DX _____

OCCUPATIONAL HISTORY: (current job, retired, student) _____

PATIENT'S PREFERRED EYE: OD: _____ OS: _____ STABILITY: _____

PRIOR LOW VISION EXAM: Y / N DR: _____

RESULTS _____

CHIEF COMPLAINT: _____

PATIENT'S VISUAL GOALS: _____

PREFERRED INDOOR ILLUMINATION:

Incandescent: Bright _____ Dim _____
Average _____

Fluorescent: _____ Other: _____

Glare Sensitive Indoors: Yes _____ No _____

Contrast Problems? _____

Color: Difficulty identifying primary colors? _____

Shades? Yes _____ No _____

VISUAL ACUITY: (DISTANCE)

VSC OD: _____

OS: _____

(NEAR)

Single Optotype (test used) _____

OD: _____

OS: _____

Single Word (test used) _____

OD: _____

OS: _____

Continuous Text (test used) _____

OD: _____

OS: _____

Predicted Add for 1M _____

Better Functional Eye: _____ Pts Opinion _____

Notes _____

FUNCTIONAL TESTS:

1. Amsler Grid Test (Standard, Illuminated, Threshold)

--	--	--

2. Contrast Sensitivity Test

O.D.		O.S.	

3. Brightness Acuity Test (B.A.T.)

	OFF	LOW	MED	HI
OD				
OS				

4. Color Identification

Test Used: _____ Results: _____

5. Perimetry: _____ (attached)

CURRENT Rx(s)

OD: _____ ADD _____
 OS: _____ ADD _____
 OD: _____ ADD _____
 OS: _____ ADD _____
 OD: _____ ADD _____
 OS: _____ ADD _____

CURRENT DEVICES: (list devices & VA)

REFRACTION: Cycloplegic? Y / N Trial Frame Y / N Halberg Clip Y / N

Retinoscopy: OD: _____

OS: _____

\

SPHERE	CYLINDER	AXIS	PRISM	BASE	V/A	ADD	VA
OD							
OS							

Rx taken? _____ Was patient given specific instructions or warnings Y / N

TRIAL OF DEVICES: (telescopes)

TYPE OF DEVICE	POWER	PRINT USED	VA	ACCEPTED?

TRIAL OF DEVICES: (near aids)

TYPE OF DEVICE	POWER	PRINT USED	VA	ACCEPTED?

Recommended Devices: _____

Absorptive Lenses: (Tried) _____

Recommended: _____

VIDEO MAGNIFIERS: _____

NON-OPTICAL (recommended)

- | | | |
|-------------------------|---------------------|-----------------------|
| Boldline Paper _____ | Bold Pens _____ | Typoscope _____ |
| Large Watch _____ | Talking Watch _____ | Talking Clock _____ |
| Bold Clock _____ | Large Alarm _____ | Talking Calcu _____ |
| “Pour” Alarm _____ | Food Bumper _____ | Kitchen Timer _____ |
| Playing Cards _____ | Bingo Cards _____ | Lrg Print Books _____ |
| Lighting Fixtures _____ | Spot Bulbs _____ | Address Books _____ |

Referrals _____

Patient eligible for legally blind classification? Y / N, Certificate given? Y / N
 Attending Physician _____ Date / /

PATIENT INFORMATION; MEDICARE POLICIES AND PROCEDURES

NAME: _____ SS#: _____
ADD: _____ INS: _____
_____ #: _____
PHONE: _____ CO-INS: _____
DOB: _____ STATUS: _____ #: _____
REFERRED BY: _____
EMERGENCY CONTACT: NAME: _____ PHONE: _____
ADDRESS: _____

I understand that I must pay an annual deductible toward any qualified health care before Medicare will pay for any services. After the deductible has been met for the year, Medicare will pay 80 percent of their "approved fee," and I pay a 20 percent as a copayment plus any uncovered fees. If I have supplemental insurance (such as Blue Cross/Blue Shield), it may cover the cost of the deductible and copayment.

Dr. _____ will bill Medicare and accept payment of authorized Medicare benefits directly from them. Any charges Medicare will not cover are payable by me at each visit. I authorize Dr. _____ to release to the Center for Medicare and Medicaid Services and its agents any information needed to determine these benefits or the benefits payable for related services.

MY SIGNATURE ON THIS FORM ACKNOWLEDGES THAT I HAVE READ AND UNDERSTAND THE ABOVE, AND IT WILL ALSO SERVE AS MY "SIGNATURE ON FILE" FOR PROCESSING MEDICARE FORMS.

Patient Signature

Date

Patient Name Printed

MEDICARE NON-COVERAGE OF SERVICES AND MATERIALS

I have been advised that Medicare may not fully reimburse the procedure(s) listed below, at either this or any future visits, because Medicare may not consider them reasonable and necessary. Although Medicare may deny coverage of these procedures, I have advised the doctor to proceed with any of the services deemed necessary and I will assume full responsibility for payment.

Complex Refraction

Vision Rehabilitation Evaluation

Vision Rehabilitation Training

Vision Rehabilitation Dispensing

Vision Rehabilitation Follow-up

Other: _____

Magnification Evaluation

I understand that Medicare will not cover eyeglasses or contact lenses unless I have had cataract surgery (with certain restrictions), and I also understand that Medicare will not cover the cost of any vision rehabilitation devices prescribed.

Patient Signature

Date

PATIENT REFERRAL INFORMATION

DATE: _____

PATIENT INFORMATION

NAME: _____

ADDRESS: _____

PHONE: _____ DATE OF BIRTH: _____

DIAGNOSIS: _____ OD/OS/OU

_____ OD/OS/OU

_____ OD/OS/OU

VISUAL ACUITY: OD _____ OS _____

MEDICATIONS: _____

FIELDS: _____

LAST EXAM DATE: _____

REFERRING PHYSICIAN INFORMATION

NAME: _____

ADDRESS: _____

PHONE: _____

UPIN NUMBER: _____ (for patients with Medicare)

Please send this form to:

For questions, information, or appointments, call _____

RELEASE OF PATIENT INFORMATION

DATE: _____

TO: _____

[] I authorize the release of information regarding my evaluation and treatment by Dr. _____ to the individual indicated above.

[] I authorize the release of information from the records of the doctor listed above to _____ . Please send a report of your findings, or a copy of your records, to

Thank you for your cooperation in this matter.

Patient Signature

Patient Name – Printed

Patient Address

VISUAL IMPAIRMENT CODES

		IMPAIRMENT LEVEL OF BETTER EYE						
		TOTAL IMPAIRMENT NLP	NEAR-TOTAL IMPAIRMENT <20/1000 =<5 Degrees	PROFOUND IMPAIRMENT 20/500 - 20/1000 =<10 Degrees	SEVERE IMPAIRMENT 20/200 – 20/400 =<20 Degrees	MODERATE IMPAIRMENT 20/70 – 20/160	NEAR – NORMAL IMPAIRMENT 20/30 – 20/60	NORMAL IMPAIRMENT 20/10 – 20/25
I M P A I R M E N T L E V E L O F B E T T E R E Y E	TOTAL IMPAIRMENT NLP	369.01	369.03	369.06	369.12	369.16	369.62	369.63
	NEAR-TOTAL IMPAIRMENT <20/1000 =<5 Degrees		369.04	369.07	369.13	369.17	369.65	369.66
	PROFOUND IMPAIRMENT 20/500 – 20/1000 =<10 Degrees			369.08	369.14	369.18	369.68	369.69
	SEVERE IMPAIRMENT 20/200 – 20/400 =<20 Degrees				369.22	369.24	369.72	369.73
	MODERATE IMPAIRMENT 20/70 – 20/160					369.25	369.75	369.76

NAME:

Date: / /

REFERRED BY:		ACCOMPANIED BY:	
CC—DV & NV SX:			
EYE MEDICAL HX: LEE (who, when)			
ONSET:		STABLE:	
PREFERRED EYE:		LAST READ:	
		CERTIFIED LB?	
LENSES/LVA'S: (Previous LV Care)			
MEDICAL HX: 1) HPB 2) Diabetes 3) Heart 4) Arthritis 5) Thyroid 6) Parkinsons 7) Allergies 8) Hearing 9) other meds			
ADL: 1) Sees food 2) Personal Finances 3) Sees Meds 4) Phone Dial 5) TV			
MOBILITY:		LIGHTING/GLARE:	
Falling		Indoors:	
Familiar Areas		Lighting	
Strange Areas		Outside:	
Crossing Streets		Sunwear	
		COLORS/SHADES:	
OTHER INFORMATION:			
Education			
Occupation			
Hobbies			

Rx #1:	VA	Add	Near VA	NoRx-DV	NoRx-NV	Pinhole
OD						
OS						
Age of Rx:	OU	////////	/			
Rx #2:	VA	Add	Near VA	[] Additional Rx's on Reverse Side		
OD						
OS						
Age of Rx:	OU	////////	/			

Other LVA:

K's	OD _____ mires	#4	OD _____
	OS _____ mires		OS _____
#7	OD _____ VA _____	OU _____	VA with _____ X TS _____
	OS _____ VA _____		

RESPONSE TO #7: _____ **PREDICTED ADD:** _____ **PD:** _____

FUNCTIONAL TESTS: (Cover Test/Binocularity: Amsler: Contrast: Color VA: BAT)	R

_____	L

EXTERNALS—SLIT LAMP: OD (Angle: _____) OS (Angle: _____) Pupils: _____

TONOMETRY:	FIELDS: [] enclosed	OS
Instr: _____	OD	
Time: _____		
Drops: _____		
IOP-OD: _____ OS _____		

OPHTHALMOSCOPY/BIO

: OD _____ OS _____

Drops Used: _____

Dx (1): _____	#: _____	Dx (3): _____	#: _____
Dx (2): _____	#: _____	Dx (4): _____	#: _____

Rx #1 (/ /) (Coat: _____ Dispensed / /)

Sph	Cyl	Axis	Prism	Add	PD	Seg Style	Seg Ht	BC	Lens Mtrl	Tint
OD					/					
OS										

Frame (Name, color, size): _____

Special Instructions: _____

Rx #2 (/ /) (Coat: _____ Dispensed / /)

Sph	Cyl	Axis	Prism	Add	PD	Seg Style	Seg Ht	BC	Lens Mtrl	Tint
OD					/					
OS										

Frame (Name, color, size): _____

Special Instructions: _____

Rx #3 (/ /) (Coat: _____ Dispensed / /)

Sph	Cyl	Axis	Prism	Add	PD	Seg Style	Seg Ht	BC	Lens Mtrl	Tint
OD					/					
OS										

Frame (Name, color, size): _____

Special Instructions: _____

Date	Device	CatNum	LNCatNum	Disp	Cost
/ /				/ /	
/ /				/ /	
/ /				/ /	
/ /				/ /	
/ /				/ /	
/ /				/ /	
/ /				/ /	
/ /				/ /	
/ /				/ /	
/ /				/ /	
/ /				/ /	
/ /				/ /	

NON-OPTICAL DEVICES RECOMMENDED: _____ Light: _____ Bulb: _____
 _____ Large Print: _____ Boldline Paper _____ Flaire Pens _____ Lap Desk

_____Typoscope	_____Check Template	_____Envelope Template	_____Visor
REFERRAL	_____CBVH	_____O&M at	_____ADL at
S:	_____	_____	_____
Other:			

Dear _____ :

Thank you for referring Mr./Mrs./Ms. _____ for a vision assessment and I vision rehabilitation evaluation.

I recently had the opportunity to see one of your patients, Mr./Mrs./Ms. _____ for a vision assessment and vision rehabilitation evaluation.

He/She was initially seen on _____. The main complaint(s) presented was/were _____.

The following is a summary of the main findings and recommendations:

Habitual Entering Acuties:

Distance: O.D. _____ with no/patient's Rx
 O.S. _____ with no/patient's Rx
Near: O.D. _____ with no/patient's Rx
 O.S. _____ with no/patient's Rx

Best-corrected Distance Acuties:

O.D. _____ with _____
O.S. _____ with _____

Further Evaluation:

Vision Assessment:

Mr./Mrs./Ms. _____ has a _____ visual impairment in the right eye and a _____ visual impairment in the left eye secondary to _____ .

Recommendations:

- (1) _____

- (2) _____

- (3) _____

- (4) _____

- (5) _____

I hope you will find the above information useful. If you have any questions, or need additional information, please do not hesitate to contact us. Thank you for referring this most interesting patient to us.

Sincerely,
