Medicare Coverage for Low Vision Rehabilitation

Though low vision rehabilitation may not be inexpensive, it is still far more economical and dignified than the alternative. Unfortunately, the obtainable savings by increasing independence for individuals who are blind or low vision isn’t clearly recognizable at this point, primarily because there is no national Medicare reimbursement for low vision services.1-2

On April 1, 2006, Congress and CMS (Centers for Medicare & Medicaid Services) began the Medicare Low Vision Demonstration Project, a five-year project established to evaluate the usefulness and utilization of Medicare funding for low vision services.3

Before the project began, Medicare reimbursement for low vision professionals such as low vision therapists, rehabilitation teachers, and orientation and mobility specialists did not exist. The Medicare Low Vision Demonstration Project allows low vision specialists certified by the Academy for Certification of Vision Rehabilitation and Education Professionals (ACVREP) to perform low vision rehabilitation services in clinics and patients’ homes under general supervision of a prescribing optometrist or ophthalmologist.4 The demonstration is

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limited to services provided in New Hampshire, the Medicare Low Vision Demonstration Project limits services to just nine contact hours over a three-month period. 1,2 “Each patient is different,” said Karen Kendrick, OTR/L, CLVT, occupational therapist for the Envision Low Vision Rehabilitation Center. “While I may see one patient for six hours total, another patient may require ten hours or more. It really varies, depending on the patient’s deficits and their individual needs. Low vision rehabilitation is a part of a plan of care, not just an appointment.”

Low reimbursement limits the ability of patients to pay, and limited contact time severely limits possible outcomes, which are necessary for Medicare billing. 3

For many elderly patients on a limited income, the expenses may prevent them from seeking low vision rehabilitation services. If a patient neglects to seek these vital services, their independence will be forever compromised.

Sadly, the drawbacks of the Medicare Low Vision Demonstration Project – low reimbursement rates, limited contact time, and limited geographic coverage areas – prevent many agencies and low vision service providers from utilizing Medicare billing successfully. Many agencies and providers may opt out of Medicare reimbursement because of the extra costs associated with increased paperwork and the need to hire additional billing specialists.

The demonstration project ends March 31, 2011. If low vision providers show little interest and usage, Congress may not see a reason to expand Medicare coverage nationwide for low vision services. “We can’t afford the failure of this project,” said Linda K. Merrill, Envision, Inc. CEO. “As a country, we must work together to establish equality and independence for all, including individuals with vision loss.”

For these reasons, several not-for-profit agencies have banded together through the VisionServe Alliance to once again seek legislative remedy of a national Medicare reimbursement policy for low vision rehabilitation by ACVREP professionals.

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References

Unique Hues, Color Naming and Color Discrimination in a Low Vision Patient with a C203R Gene Mutation

James Nolan, PhD1,2 and Shannon Riley, MA,1

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Compromised color vision is something that many low vision patients encounter as vision loss takes hold, due to decreased cone cells in the retina as a result of numerous retinal degenerative conditions. Genetically, altered color vision can affect many, even those who have standard acuity. Numerous studies report ranges of 6-9 percent of males having altered color vision while approximately 1 percent or less of females show color alterations. In our present study, we are interested in how low vision patients show color naming abilities despite some degree of vision loss and noted discrepancies (or even failure) to pass standard clinical color vision tests.

Berlin and Kay (1969) noted that well-developed languages seem to contain precisely eleven basic color terms. In English, these color terms are red, green, yellow, blue, orange, purple, brown, pink, white, black and gray. Boynton and Olson (1990) suggested that each of these names denotes a different fundamental and unlearned sensory experience. Crawford (1982) proposed a modification to Berlin and Kay’s definition, which includes four criteria that all basic color terms should meet:

**Basic color terms:**
1. Occur in the dialects of all informants.
3. Their signification is not included in that of any other color term.
4. Their application is not restricted to a narrow class of objects.

Boynton and Olson (1990) proposed that the link between basic color sensations and their names is congenital and physiologically based. For our study, the subject (BD) was a 32-year-old male who exemplified 20/160 acuities in both eyes and had been diagnosed with Cone Dysfunction Syndrome. This subject failed all plates in the Ishihara color test as well as other standard color screening tests. Molecular genetic analysis (courtesy of Maureen Neitz, PhD and Jay

Karen Kendrick, OTR/L, CLVT demonstrates a low vision aid at Envision Low Vision Rehabilitation Center.

James B. Nolan, PhD

“Genetically, altered color vision can affect many, even those who have standard acuity. Numerous studies report ranges of 6-9 percent of males having altered color vision while approximately 1 percent or less of females show color alterations.”
Neitz, PhD) was performed on BD to determine the type and numbers of the X-linked pigment genes and subsequently, BD was found to possess a C203R gene mutation in a subset of the M genes. We also measured color naming ability in two color normal control subjects (1 male and 1 female) aged 21 and 35 respectively (M = 28 years), with best corrected acuity of 20/20.

For the purpose of exploring how the phenomenological color world of a subject who possesses a C203R gene mutation matches that of color normal observers, and to assess whether the sensitivity of receptors will influence one’s description of color, two variations of a color naming procedure were utilized. In order to examine the experience of color and detect whether the sensitivity of receptors influence subjects description of color, measurements of unique hues were taken based on a stair-step methodology, requiring subjects to choose from stimuli presented on a computer monitor, based on their “best” views of the hues red, blue, yellow and green.

A set of 424 Optical Society of America color chips (Boynton and Olson, 1987) served as stimuli in the color naming experiment for both the subject and controls. Our subject and controls assigned a name for each chip using whatever color term they chose (procedure repeated three times to assess consistency).

For the color discrimination procedure, the subject and controls (n=2) were tested using a standard pallet of nominal color regions. Procedures were similar to those of previous studies (Berlin and Kay, 1969). Subjects individually viewed the most saturated palette of Munsell colors and reported which region of chips corresponded to 11 basic color terms (white, black, pink, orange, yellow, red, brown, green, blue, purple, and gray). This procedure was carried out for the subject with a C203R mutation under both incandescent and natural lighting conditions.

Our results indicate that despite poor performance on the color discrimination task, BD makes unique hue settings of blue and green that fall within the range of color normal control subjects.

BD shows consistency in naming colors as well as characteristic shifts and confusions. There are specific shifts in BD’s categories consistent with his color deficiencies (e.g. black for red, enlarged blue, yellow, and green regions, yellow towards green, and blue towards purple). BD’s large areas of color categorization under natural lighting conditions are similar to those reported for incandescent data. Thus, he is able to consistently label the chip colors even when the light falling on the chips (and thus the spectral composition of the light reaching the eye) is dramatically altered. Control subjects’ categories were consistent with previous data from color normal subjects. All subjects indicate individual shifts in color space unique to their perceptual color experience. BD shows much less consensus use of color terminology as compared to controls. BD used color terms consistently for 139 out of a possible 424 color chips. In contrast, each control named an average of 260 out of a possible 424 color chips consistently.

These data imply that, despite his inability to pass most color vision tests, BD’s color naming ability is remarkably intact. Our unique hue results suggest that BD’s settings are within normal ranges for some hues and only slightly out of normal range for others. BD’s regions for the 11 basic color terms, while quite large and slightly shifted, were in rough agreement with control subjects’ This calls into question whether standard color vision screening tests do an adequate job of addressing the “perceptual” experience of color in some low vision patients. As the spectral composition of the light reaching the eye is altered, along with the appearance of the chip, BD’s color naming ability remains mostly intact and consistent, thus, indicating a remarkable degree of color constancy. Despite the fact that BD shows reduced cone function, he shows consistency in naming colors as well as characteristic shifts and confusions.

References
Boynton, R.M., & Olson, C.X., (1990), Salience of chromatic basic color terms confirmed by three measures. Vision Res. 30: 9, 1311-1317.
The Challenges of Multiple Sclerosis and Visual Impairment

Multiple Sclerosis (MS) is a chronic neurological disorder that affects the central nervous system resulting in inflammation and damage to myelin insulation of the nerve fibers and other cells of the nervous system. Impaired nerve signaling may impair normal sensation, movement and thinking. MS typically presents in adults who are 20 to 45 years of age. Occasionally, the disease presents in childhood or late middle age. Twice as many women are affected as men, and persons of Northern European descent appear to be at highest risk for the disease.1

Visual disturbances include ocular pain, distortion or loss of vision in one eye, diplopia (double vision), impairment of color perception, nystagmus (jerky eye movements), depth perception, decreased ability to see low contrast objects and optic neuritis (inflammation of the optic nerve), which is a common first symptom of MS.2

Approximately 50 percent of people with MS will experience a major depressive episode during the course of their illness, compared to 5 to 15 percent in the general population. Fatigue—which can be an outgrowth of depression or occur as a primary symptom—frequently compounds depression in persons with MS.3

It has been the author’s experience that MS is a devastating chronic disease, often producing tremendous psycho-social aspects, primarily due to the wax and wane phenomenon of visual performance due to episodes vs. remission.

The psychosocial issues are more often far more frequent and troublesome (as I have seen throughout my years practicing) if the female is afflicted with the disease, as opposed to the male when it comes to marital status considerations.

This case indicates the importance of early referral for low vision rehabilitation, where visual acuity is only a number and does not necessarily correlate with that individual’s quality of life and further areas of life that the individual considers paramount to self worth and well being.

DC, a 42-year-old African American male from Oklahoma, was originally seen on April 13, 2009 as a result of a referral from his ophthalmologist. The patient was having difficulty with visual acuity and decreased visual performance in his activities of daily living secondary to manifestations of Multiple Sclerosis (MS).

Chief complaint consisted of the desire to “drive again and to be able to read books to my granddaughter.” The patient reported his vision to be stable at the time of this examination.

Medical history revealed a systemic diagnosis of MS (duration two years) confirmed by an MRI and spinal tap. Treatment had consisted of fusion IV treatments with no history of hospital admissions or exacerbations.

DC reported medium to low energy levels, musculoskeletal weakness (using a cane), dehydration with malaise and loss of function with increased environmental temperature along with escape of visual problems. Family ocular history was significant for cataracts (uncle) only.

Functional history was significant for difficulty with all reading tasks, financial management, use of a computer and orientation and mobility skills related to vision and systemic implications. There was a history of an increase in falls in the last month (wife voicing this difficulty more than patient).

Social history revealed he lived in a house with his wife and family and was disabled from his job of working in a warehouse due to his MS. He was currently receiving home nursing assistance and physical therapy concerning extremity strength issues. His spouse revealed that he was significantly more incapacitated than he expressed.

Uncorrected visual acuity was right eye (OD) 20/125, left eye (OS) 20/800, both (OU) 20/125 (eccentric viewing was with either monocular or binocular focus). Near-point VA was 25cm/2.5M print habitually with difficulty, complaining of not seeing entire words. Confrontation fields revealed constriction in all quadrants. Contrast sensitivity was profoundly impaired to 1.20 log units.

Extra Ocular Muscles (EOM) were full with poor conjugate gaze, poor EOM skills (saccades, pursuits, tracking) with rotary nystagmus and no presence of a null point. There was no presence of binocularity or stereopsis. DC demonstrated straight upright posture, right hand dominance with good grasp and use of a cane for stability.

Anterior segment evaluation revealed no apparent pathology. Intraocular Pressure (IOP)/Di- lated Fundus Exam (DFE) were both deferred due to ophthalmologic care six weeks prior to the visit.

Humphrey visual fields demonstrated a generalized temporal arcuate relative field loss in the right eye and absolute to relative field loss throughout the majority of the central field. A brief telescopic evaluation was performed with a preferred subjective/objective direction to a 3X Design for Vision spiral Galilean telescope obtaining 20/60 in the distance. Filters elicited a dramatic resolution in light sensitivity and enhancement of contrast, subjectively.

Due to fatigue, the evaluation was terminated. A return visit was scheduled for re-evaluation, assessment by occupational therapy and referral for rehabilitative resources and devices.

DC was seen again two months later for a scheduled consecutive 5-day evaluation. Scheduled objectives were: clinical re-evaluation, D-15 Farnsworth color perceptual testing, micro-perimetry, Goldmann visual field, IOP/DFE, OT referral and possible orientation and mobility training.

Visual acuity and contrast sensitivity findings were the same as the initial visit. Telescopic acuity and the preferred telescopic device to be loaned (OD 3x DVI biopic) based on clinical assessment were established.

The patient was referred for further evaluation of recommended visual devices, baseline assessment of ADLs with other testing scheduled after occupational therapy assessment and therapy.

Occupational Therapy

Karen Kendrick, OTR/L, CLVT

DC was referred to occupational therapy for a low vision evaluation. Upon initial OT assessment, the patient required maximum assistance with read-
ing mail, the newspaper, and magazines. He could read labels and price tags with minimal assistance, but was unable to read menus in restaurants at all. He was also unable to manage his medications and was dependent on his spouse to read and dispense the medications to him. This patient required moderate assistance when it came to setting appliance dials on the washer/dryer as well as microwave. He required minimal assistance with writing. DC was also very light sensitive both indoors and outdoors. Because DC was from Oklahoma, the patient made arrangements to stay in Wichita for a week and was seen by occupational therapist on a daily basis. He was also unable to manage his medications and was dependent due to the increased comfort he experienced throughout the week. Magnification devices were also assessed. The closed circuit television (CCTV) was found to be the most beneficial for reading. DC was able to place a children’s book under the CCTV and was able to read a book, while at the same time his granddaughter could view pictures on the monitor. After demonstrating the ability to read with the CCTV, DC exclaimed, “I haven’t been able to read in so long!” This patient also practiced writing using the CCTV and was able to write his name, address and shopping list independently utilizing the CCTV and a 20/20 pen. DC was also assessed for a hand magnifier to increase portability. He demonstrated the capability to read price tags, labels, and children’s books independently using a 5x lighted stand magnifier. DC and his spouse were also instructed in Independence Boulevard on how to tactually mark appliances with bump dots and how to modify his environment utilizing contrast manipulation (i.e. dark towels against white wall to allow him to locate them easier). Independence Boulevard is a simulated environment within Envision Low Vision Rehabilitation Center that includes a grocery store, restaurant, and fully functional apartment with kitchen, bedroom, laundry room, and living room.

Due to financial hardship, a letter was written to the Oklahoma Multiple Sclerosis Foundation to request funding for a CCTV and plum filters, which were the two devices that this patient felt would be of greatest benefit.

At discharge from occupational therapy at the end of the week, DC was able read the newspaper, a children’s book and a magazine with modified independence utilizing the CCTV. He reported decreased glare both indoor and outdoor with use of light plum and dark plum filters. He was also able to spot-read labels and medication bottles with modified independence using either the CCTV or 5x illuminated stand magnifier. Resources recommended for this patient included free directory assistance and talking books. The patient was given the applications to receive these free services.

Orientation and Mobility
Tyler Hamilton, MA, COMS
Patient initially refused O&M services. After reiterating the need for the patient to be able to function more independently, he agreed. An O&M assessment was completed and the O&M specialist found the patient to be using his support cane to scan the environment in unfamiliar places. He was issued a 50” white cane with an Ambu Tech roller tip. He was shown basic cane skills and protective techniques.

Due to family illness, the patient and his family were called to return home to Oklahoma, prematurely ending scheduled rehabilitation efforts. Unfortunately, he was not able to complete all his training.

Sensory Evoked Potential Testing
Evoked potentials (visual, brainstem auditory, and somatosensory) may be useful in demonstrating the presence of subclinical lesions in sensory pathways or in providing objective evidence of lesions suspected on the basis of subjective complaints. Of the sensory evoked potential tests, the visual evoked potential is the most useful because it can provide objective evidence of an optic nerve lesion that may not be evident on an MRI scan. The patient was referred to Northwestern State University, Oklahoma College of Optometry for a baseline electro-diagnostic scan.

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References
the previous year.

“We know conferences are struggling with decreased num-
bers because of the economy,” said Linda K. Merrill, CEO.
“But, I am thrilled to report that we actually surpassed last year’s
registration numbers, proving what we already know – low
vision professionals around the world care tremendously about
the best practices of patient care and the field of low vision
rehabilitation.”

The mission of the Envi-
sion Conference is to improve
the quality of low vision care
through excellence in profes-
sional collaboration, advocacy,
research and education. The
focus of Envision 09 was
“Excellence through Col-
laboration.” This mission and focus
was illustrated through several
educational sessions, as well as
the “Excellence through Col-
laboration” Symposium and the
Mission Keynote.

With 48 clinical education
sessions, 10 research sessions,
and eight workshops, Envision
09 provided 111 hours of low
vision rehabilitation and re-
search education. Those certi-
fied through professional orga-
nizations were able to collect 29
hours of continuing education.

Envision 09 also saw an
increase in the number of
exhibitors this year. Attendees
had the opportunity to visit with
vendors from 24 low vision
companies.

“If you are in
low vision, you
definitely have to
be at the Envision
Conference,” said Jim Keriotis,
Sales, Nidek, Inc.

In addition to
educational ses-
sions, workshops
and exhibits,
attendees were
able to enjoy
several network-
ing opportuni-
ties including an opening night
welcome reception, numerous
coffee breaks
and a lunch buffet.

“The conversations
I am having outside of the lec-
tures and outside of the main
speaking halls have been the
most beneficial for me,” said
Michael Crossland, OD, PhD,
a speaker at Envision 09.

Planning for Envision 2010 is
underway and online registra-
tion and submissions will be
open soon. Envision 2010 will
be held September 22 - 25,
only in San Antonio. The
focus of the 2010 conference
will be “Excellence in Advo-
cacy.”

Please contact Michael Epp,
Director, Outreach & Continu-
ing Education with questions
about the Envision Conference
at michael.epp@envisionus.
com.

Important dates to remember:
• December 1, 2009 - Online registration and Submissions Open
• March 29, 2010 - Deadline for Clinical Education and Research Submissions
• April 30, 2010 - Clinical Education and Research Presentation Selection Notification
• July 9, 2010 - Deadline for Early Bird Registration
• July 16, 2010 - Deadline for Advance Price Exhibitor Registration
Save the Date
2010
A multi-disciplinary low vision rehabilitation & research conference
Excellence in Advocacy

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www.envisionconference.org

About Envision Low Vision Rehabilitation
The Envision Low Vision Rehabilitation Center provides comprehensive, multi-disciplinary low vision rehabilitation and services for people with vision loss. The center’s goal is to help patients maximize their independence and realize their best functional vision. The center achieves this by offering a comprehensive low vision rehabilitation program unique to the needs of each patient. Envision provides low vision rehabilitation regardless of ability to pay. Call to find out about the availability of financial, medical assistance.

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