Living With Low Vision: How you can help

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Living With Low Vision: How you can help

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Overview

We will define low vision and discuss:

• Goals of vision rehabilitation
• Who should have a low vision evaluation
• Components of a structured examination
• Core principles of vision rehabilitation
• Resources
Prevalence Data

Number of low vision cases in the U.S. by race/ethnicity, 2010
Prevalence Data

Projected number of low vision cases in the U.S., 2010–2050
Poll Question

Some patients believe that low vision means having difficulty seeing objects below their waist.
Poll Results

Some patients believe that low vision means having difficulty seeing objects below their waist.

- True: 16.7%
- False: 83.3%
Low Vision

A visual impairment, not correctable by standard glasses, contact lenses, medicine, or surgery, that interferes with a person’s ability to perform everyday activities.
Low Vision Rehabilitation

• Is indicated if a visual impairment is serious enough to result in functional limitations or disability.

• Is available regardless of level of visual acuity or field loss.

• Is the only nonsurgical treatment for vision loss.
The goal of low vision rehabilitation:
Maximize daily functioning, increase independence, and improve quality of life.
Enhancing Functional Abilities

Accomplished by:

- Prescribing optical and electronic devices
- Educating patients
- Teaching strategies that enhance functioning
- Referring patients to other vision rehabilitation services:
  - Rehabilitation teaching
  - Orientation and mobility training
  - Counseling
Causes of Visual Impairment

• Retinal diseases
  • Macular degeneration
  • Diabetic retinopathy
  • Retinitis pigmentosa

• Optic nerve diseases
  • Glaucoma
  • Optic atrophy
  • Ischemic optic neuropathy
  • Leber’s hereditary optic neuropathy

• Media opacities
  • Cataract
  • Keratoconus

• Brain injury
  • Stroke (hemianopsia)
  • Trauma

• Congenital causes
  • Albinism
  • Optic nerve hypoplasia
Who Needs Vision Rehabilitation Services?

Developed by Roy G. Cole, O.D.
Determining Who Needs Vision Rehabilitation Services

Screen patients in one minute.

- Does your vision make it hard to:
  - Read the mail?
  - Watch television?
  - Recognize people?
  - Pay bills?
  - Sign your name?
  - Climb stairs, walk down curbs, cross the street, or drive?
Determining Who Needs Vision Rehabilitation Services

• During the past month, have you felt:
  - Down, depressed, or hopeless?
  - Little interest or pleasure in doing things?
    - ~90% effective in detecting depression
• Dr. Cole’s take-home message: Think about implementing vision rehabilitation strategies when—
  ▪ Visual acuity is 20/40 or worse;
  ▪ Visual field is 20 degrees or less; OR
  ▪ One or more functional complaint(s) are related to decreased vision.
Vision Rehabilitation:
An Integral Part of the Continuum of Eye Care
The Vision Rehabilitation Team

- Low vision doctor
- Occupational therapist
- Orientation and mobility specialist
- Rehabilitation teacher
- Physical therapist
- Teacher of students with visual impairments (TVI)
- Social worker
- Speech and hearing
- Nurse/nurse educator
- Psychologist
Stages of Adjusting to a Disability/Loss

- Shock
- Anxiety
- Bargaining
- Denial
- Mourning
- Depression

- Withdrawal
- Internalizing/externalizing anger
- Acknowledgment and acceptance
- Adjustment–adaptation
Vision Loss and Depression

• Some older adults may experience depression (approximately 3%).

• Depression is more common in those with significant vision loss (approximately 30%).

• 64% of those with depression will not use vision rehabilitation services/devices.

• Treatment options include counseling, education, and problem-solving therapy.
Structured Low Vision Exam

- **Case history**
  - Ocular history
  - Medical history
  - Developmental history
  - Educational history
  - Visual difficulties
  - Functional task analysis

- **Examination**
  - Distance visual acuity
  - Near visual acuity
  - Glasses
  - Refraction
  - Predicted reading

- **Visual function tests**
  - Amsler grid
  - Contrast sensitivity function
  - Visual field
  - Color vision

- **Trial of low vision devices**

- **Ocular health assessment**
Structured Low Vision Exam

- A vision rehabilitation plan is developed based on the information gathered during the exam.
- The plan is guided by an individual’s specific needs and functional abilities.
Types of Visual Impairments

Based on:

- Pathology of the visual system
  - Ocular media
  - Retina
  - Brain
- Pathology’s effect on the visual field
Pathology’s Effect on the Visual Field

• No field defect/overall blur
  ▪ Refractive media
  ▪ Macula
    – Impaired central resolution without scotoma
• Central vision loss/scotoma
  ▪ Macula
• Peripheral field loss/constriction
  ▪ Retina
  ▪ Visual pathways
Poll Question

Do you know where to refer a patient for a low vision evaluation?
Poll Results

Do you know where to refer a patient for a low vision evaluation?

- Yes: 78%
- No: 22%
Low Vision Devices
To Prescribe the Appropriate Device(s)

- Start with the patient’s needs:
  - Distance
  - Intermediate
  - Near

- Determine the magnification required

- Review results of the visual function tests

- Understand the optical properties of the systems

- Discuss available lighting
To Prescribe the Appropriate Device(s)

• History
  ▪ Cause of vision loss
  ▪ Devices used in past

• Working distance requirements
  ▪ Depth of field (object plane)

• Weight
• Trial of devices
• Cost
• Cosmesis
Conventional Spectacles/Bifocals

• Power is determined by a trial frame refraction:
  ▪ For distance acuity improvement
  ▪ For near/intermediate tasks
  ▪ To use optical devices

• Electronic magnification devices need to be accommodated (or have a reading correction) for the working distance at which they will be used.
Optical Options

- Reading spectacles
- Magnifiers
  - Hand
  - Stand
- Telescopic systems
  - Hand held
  - Spectacle mounted
- Absorptive lenses
Electronic Options

• CCTV
  - Full size
  - Hand held
  - Transportable

• Head borne

• Tablets
Computer Accessibility

- Screen enlarging software
- Screen reading software
- Operating system software
- Voice recognition software
- Text to speech software
Non-Optical Devices

- Absorptive lenses
- Reading stands and clipboards
- Typoscopes and contrast enhancing options
- Lighting
Lighting

Illumination is the most important factor.

- Illumination
  - Incandescent
  - Fluorescent

- Light fixtures
  - Flexible
  - Angle of the light
  - Contrast
Core Principles of Low Vision Examination

• Individuals whose vision loss affects their functional abilities and quality of life should be referred for services.

• Visual needs and visual functioning cannot be predicted based on diagnosis or distance visual acuity alone.
Patient Story

http://www.nei.nih.gov/lowvision/content/profiles/ruth_l.asp
NEHEP Resources

Living With Low Vision:
What you should know

Includes companion DVD

NIH...Turning Discovery Into Health®
NEHEP Resources

Living with low vision DVD for professionals
http://www.nei.nih.gov/lowvision
NEHEP Resources

http://www.nei.nih.gov/nehep/programs/lowvision
See Well for a Lifetime Toolkit module 3
VisionAware

http://www.visionaware.org
Additional Resources


YouTube: /NIHOD
Facebook: /NationalEyeHealthEducationProgram
NEI Twitter: @NatEyeInstitute
NEHEP Twitter: @NEHEP
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Thank you for participating in today’s webinar