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Working with the Older Adult with Low Vision

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Objectives

- Define low vision and describe the four major eye conditions contributing to vision loss in the older adult.
- Identify four ways to foster a successful working relationship with your older adults who are visually impaired.
- List several questions to include when developing a low vision screening tool.
- Describe several ways to modify the environment, the person, the process or the task to promote increased safety and independence in the older adult experiencing low vision.

Defining Vision Loss

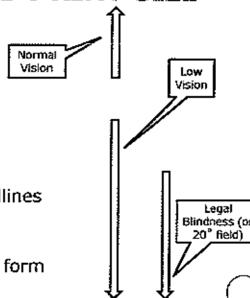
- Vision Impairment: actual damage to the eye that results in a loss of acuity or field and a reduction in the ability of the eye or visual system to perform
- Low Vision:
  - A visual impairment... not corrected by standard eyeglasses, contact lenses, medication, therapy or surgery...
  - A result of visual changes caused by eye disease, poor health, or injury ...
  - Is severe enough to interfere with the performance of activities of daily living but allows some usable vision

What Can Cause Low Vision

- Eye disease – macular degeneration,
- Head trauma
- Eye injury – fireworks, baseball/softball
- Environmental exposure – UV rays (cataracts)
- Eye infection – herpes simplex, "pink eye"
- Systemic disease – diabetes, HIV
- Birth defect – coloboma (gap in an eye structure including the pupil, lens retina, etc.)
- Other - retinopathy of prematurity (supplemental oxygen use in premature infants), albinism

Visual Acuity and Corresponding Print Size

- 20/10
- 20/20 -
- 20/50 – newsprint
- 20/70
- 20/100 - large print
- 20/200
- 20/250 - newspaper headlines
- 20/500 - 1/2 inch letters
- 20/1000 - 1 inch letters
- HM - movement, perhaps form
- LP – light perception



Vision Terminology

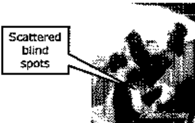
- Visual acuity – the level of detail or clarity with which a person can see objects at a designated distance
- Visual field – the range of the area that one sees without turning the head or eyes; central field 20°
- Contrast sensitivity – ability to distinguish one object next to or against another when they are of similar shades of light and dark
- Glare - an annoying sensation produced by too much light in the visual field that can cause both discomfort and a reduction in visual acuity.

4 Major Eye Conditions/Diseases

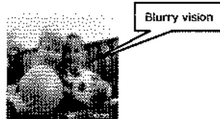
- Macular Degeneration – abnormal blood vessel growth beneath retina in "wet" form, deposits form on retina in "dry" form; only "wet" treatable with thermal photo-coagulation to seal off leaky vessels, Lucentis/Avastin injections
- Diabetic Retinopathy – abnormal vessel growth on retina; photocoagulation, replacement of gel in eye with saline solution (if bleeding occurred), repair of retinal tears or detachment
- Glaucoma – too much fluid produced in front chamber of eye (eye drops) or fluid does not drain (surgery)
- Cataracts – "clumping of protein" in lens forming a cloudy area; cataract removal and replacement with clear, plastic lens

Simulations

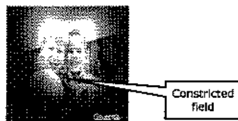
- Diabetic retinopathy



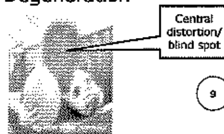
- Cataracts

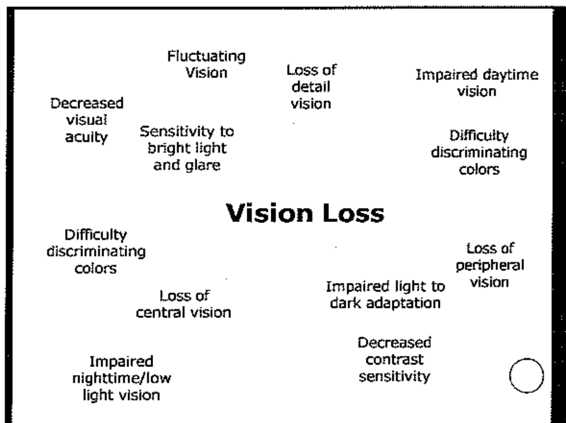


- Glaucoma



- Age-Related Macular Degeneration





Myths about Persons with Vision Loss

- Persons who are blind or visually impaired have heightened senses or have a "sixth sense" about things.

  False. Persons with vision loss do not have a sharper sense of touch or hearing, better memory or a more innate sense of direction. In order to compensate for their loss of vision many learn to listen and pay attention more carefully.

- All blind people read Braille.
- False. Ninety percent of legally blind people have some usable vision and most of them can read print or magnified print; only the remaining 10 % read braille. Older adults make up 66% of the legally blind population and many lack the sensitivity to learn braille.

More Myths

- Blind people see only darkness, nothing else.

  False. Only 18 percent of people who are visually impaired are classified as being totally blind and the majority of them can differentiate between light and dark.

- If you have low vision getting close to reading material or trying to read smaller print will damage your eyes.

  False. Some persons with vision loss find it easier and more comfortable to bring a book or newspaper close to their eyes. Eyes will not be damaged or worn out. At most a person's eyes may tire out or a headache could result.

Courtesies and Considerations

- Identify yourself
- Speak directly and in normal volume
- Be specific in directions; avoid "over there" or "right here"
- Describe what you are doing or are going to do.
- Tell the patient with low vision when you enter or leave a room as they may not be aware of another person nearby or in the room.
- Request permission before physically assisting
- Avoid safety hazards by keeping doors fully open or closed, and chairs under table
- If in doubt, ask patient; this gives the person with vision loss permission to voice own needs

Teaching The Individual with Low Vision

- Ask the client what he or she sees and use that to guide teaching
- Ask the client if anything makes it easier to see or to see better, or makes it harder to see
- Provide information on what may be seen so that it is known what a sighted person experiences
- Explain how something is set up (use established reference systems such as clock or cardinal positions); if possible let client determine where or how something is placed or set up
- Allow visual and tactual exploration of equipment; describe objects that are too large to handle or how the environment is set up (perimeter of room first than center)

Purpose of A Low Vision Screening Tool

- A vision screening will
  - indicate presence of a vision problem or potential vision problem
  - support referral to ophthalmologist or optometrist for comprehensive eye exam
  - identify need for referral to a low vision rehabilitation professional and area of need (mobility, ADLs, environmental adaptation, etc.)
  - assist professionals to differentiate between persons who are experiencing vision changes which is a natural deterioration of sight due to aging and visual impairment which results from eye disease
  - help determine how to modify program – eliminate negative variables, enhance positive

Low Vision screening tool – General Questions

- Trouble seeing?
- See better straight ahead (central vision) or if you look to one side (peripheral vision)?
- Does lighting make a difference? Does bright light help? Does glare bother you?
- Does your vision change day to day?
- Difficulty seeing an object against its background?
- Problem seeing in dim light? at night time?
- Straight lines appear wavy?
- Difficulty recognizing faces of family members and friends within several feet? Across average size room?
- Tend to sit very close to the television? Gradually moving closer?

Reading Difficulties

- When reading misidentifies or omits words/letters? skips lines? misses beginning of line? misses end of line?
- Slow reading speed?
- Difficulty reading: newspaper headlines? regular newsprint in books/magazines? entries in telephone directory? labels on medication bottles? price tags? mail?
- Difficulty reading own handwriting?

ADL Difficulties

- Able to dial the phone?
- Can see food on the plate, get food on the fork?
- Can readily locate a packaged food product on shelf among other food items?
- See television clearly?
- Difficulty identifying colors of clothing or matching clothing?

Mobility Issues

- Hesitant?
- Missing steps or tripping over curbing?
- Falling or tripping on an obstacle or steps?
- Bumping into objects? on the side? Overhead? Floor level?
- Shuffling feet?
- Shielding eyes indoors? outdoors?
- Can see "walk" sign or street name signs?
- When crossing street do cars seem to appear very suddenly?

Enhancing the Environment

- How much more light?
  - Most older people – 3-4x than previously
  - Persons with visual impairment – 4x than those with normal vision
- Ambient lighting – includes ceiling lights, wall sconces, barrel style table lamps; intended for detection of large objects/forms and for mobility; lighting should be consistent throughout room with minimal difference between room lighting and task lighting
- Task lighting – includes desktop/floor lamps, under counter lights; intended for near tasks, tasks with detail; task lamp should be placed behind or to side

Ways to Improve Lighting

- Clean dusty bulbs/fixtures - a dusty light bulb reduces bulb efficiency by 50%
- Replace old or darkened bulbs
- Halve the distance from the light source to the task will quadruple the amount of light
- Increase wattage of bulb if lamp permits
- Try alternate kinds of bulbs

Hallway

If door were not open, then entire hall would be dark, presence of open door guides person down hall

Paint door or door frame in a contrasting color to the walls to provide greater visibility.

Uneven illumination with light and dark patches – windows cast light onto ceilings

To make pathway more visible install a runner in a light, contrasting color down the center of the hallway insuring that the edges are tacked down

Hallway dark in color – dark absorbs light, light colors reflect light

Marking Steps

Often only need to adapt first and last step, not all steps.

Mark on the edge of the steps to indicate where the drop-off or step-up will be.

Use contrasting masking tape, light reflecting tape, paint or a textured advance warning strip.

Cover landing areas at top and bottom of stairs with carpeting or non-slip material that provides textural contrast with stair treads.

Other Environmental Modifications

- Add contrast - put contrasting pillow or throw on furniture, light placemats against dark table,
- Reduce glare – encourage low gloss waxes on floors/furniture, promote window treatments that allow sunlight in but keep glare out, cover shiny surfaces
- Incorporating organization – "a place for everything and everything in it's place," keep like items together or keep items in area of use

Developing the Persons' Skills

- Attending to cues in the environment for orientation
- Learning to use residual vision

Using the Environment to Your Advantage

- Listen for the hum of the refrigerator and cooking odors to locate the kitchen.
- Notice the distinctive scent of air freshener to locate the bathroom.
- Feel the sense of openness when entering open living room from narrow hallway
- Notice the sounds of the birds chirping to find the direction of patio door or window.

- Feel the change in temperature such as the cool air from a fan or air conditioner to locate the bedroom.
- Feel the difference in textures underfoot when leaving a tile or linoleum kitchen to a carpeted living room.

Using ReMaining Vision

Macular degeneration – affects diseased central or straight ahead vision, **not the healthy peripheral or side vision**

AMD patient experiences a blind or blurry spot in the center of their vision when they look straight ahead. This blind or blurry spot is called a scotoma

Eccentric viewing training teaches a person to **look slightly to the side** (slightly above, below, to right or left) so that the blind scotoma is not in their central field of vision. Described as "not looking at what you want to see"

Using ReMaining Vision

Technique helps individual maximize their vision through learning to view objects with their peripheral vision, area often called the preferred retinal locus (PRL)

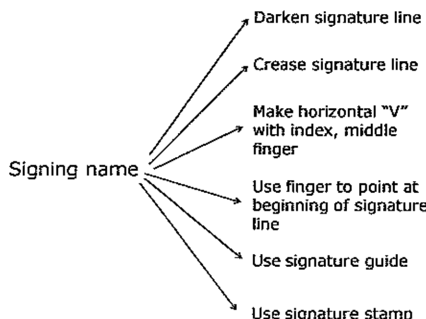
With this training the patient must learn to control their eye movement and place the object of interest on a particular location of the retina.

One such informal method is called the clock face method

Eccentric Viewing – Clock Face Method

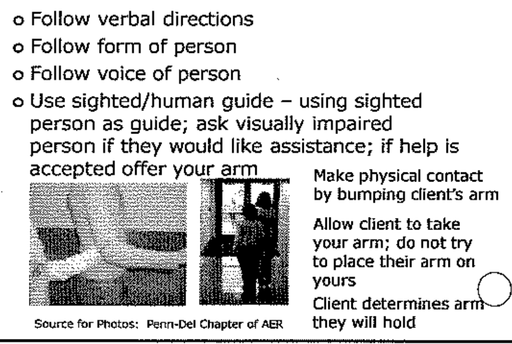
- Instruct client to view clock so that the scotoma is obscuring star in center
- While maintaining this position, some of the numbers around the edge of the clock should be seen more clearly than the star in the center
- Client should systematically move the eye toward each clock position starting at 1 on the clock and continuing clockwise, each time comparing the clarity of the star to former positions
- The client should find at least one position in which the star is clear when looking straight ahead.
- Instruct the client to look directly at the star again and notice that it looks blurry or has disappeared
- Have client practice on targets around home – vase of flowers, bowl of fruit, coffee pot, clock on wall, tv screen

Modifying the Process



Getting from here to there

- Follow verbal directions
- Follow form of person
- Follow voice of person
- Use sighted/human guide – using sighted person as guide; ask visually impaired person if they would like assistance; if help is accepted offer your arm



Source for Photos: Penn-Del Chapter of AER

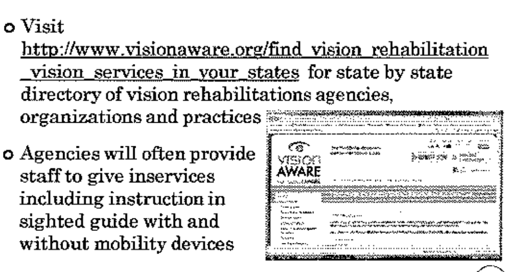
Make physical contact by bumping client's arm

Allow client to take your arm; do not try to place their arm on yours

Client determines arm they will hold

Getting from here to there - Resources

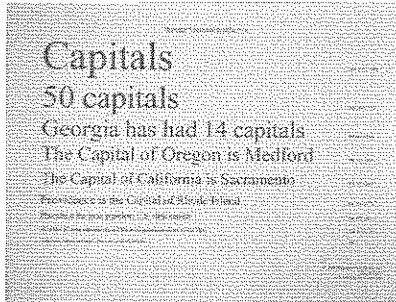
- Visit http://www.visionaware.org/find_vision_rehabilitation_vision_services_in_your_states for state by state directory of vision rehabilitations agencies, organizations and practices
- Agencies will often provide staff to give inservices including instruction in sighted guide with and without mobility devices



Adapting the Task

- Incorporating large print
- Facts about large print
  - Standard print (usually 8 to 12 point); large print ranges from 14 point (U.S. postal service) to 18 – 24 point for large print books and magazines
  - Many individuals who are legally blind are able to read large print (about 20% according to the Lighthouse 1995 survey)
  - 3 pages of large print = 1 page of 11/12 point print

Mattingly Contextual Reading Test



Adapting the Task

- When large print doesn't work try recording on cassette tape
- Procedure
  - Use recorder with external microphone
  - Speak clearly and read at even pace
  - Spell unfamiliar words
  - At beginning of tape announce
    - Side of tape
    - Tape number if multiple tapes in series
    - Indicate page number where reading for that side will begin
    - Label tapes with large print, Braille or a raised dot on first side of each tape
  - Leave enough blank tape so requested exercise can be performed

Resources – Other Professionals

- Ophthalmologist – medical doctor who diagnoses and treats eye diseases and visual system problems, prescribes medications, and performs surgery to improve, or prevent the worsening of, eye and vision-related conditions
- Optometrist (OD) - diagnoses eye diseases vision disorders, and prescribes eyeglasses, contact lenses, low vision rehabilitation and devices, vision therapy, and medications to treat eye diseases
- Low Vision Specialist - Many optometrists and some ophthalmologists have an additional specialization in low vision testing, diagnosis, and treatment, and are trained to conduct low vision eye examinations and prescribe special low vision optical devices

Professionals in the Blindness Field

- Vision Rehabilitation Therapist (CVRT) - provide instruction and guidance in ADL/homemanagement, communication and education, leisure and indoor orientation skills to children and adults with vision loss
- Orientation and Mobility Therapist (COMS) –
- Low Vision Therapist (CLVT) -
- Teacher of the Visually Impaired (TVI) -