Eleven Tips To Help Maintain Independence Despite Visual Impairment

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What is Low Vision?

- Any chronic uncorrectable visual impairment that limits daily functioning
  - Vision cannot be corrected with medication, surgery, contact lenses or “regular eyeglasses”

- When permanent vision loss occurs, the continuum of care is low vision rehabilitation

- Most general optometrists and ophthalmologists do not provide low vision services.
  - See a doctor specializes in low vision rehabilitation.
  - This is a “functional” eye exam
Independence Despite Visual Impairment

- Once diagnosed with an uncorrectable vision problem, it is hard to get on with your life and continue your daily activities if you do not have the correct **tools** and know the **tricks** involved in dealing with visual impairment.

- You must be willing to be Flexible
  - You do not have the same eyes that you had before, you cannot expect to have the same solutions.
Independence Despite Visual Impairment

- Decreased visual acuity does not have to lead to a loss of independence
- Never assume that you cannot perform a task because of vision loss
- Often simple changes in the home along with the use of special low vision glasses and products and proper organization can allow the person with visual impairment to live as they had been living.
Start Low Vision Rehabilitation When Vision is Still Relatively Good

- It is much easier to use low vision aids and continue to use them if you start using them when you don’t need a lot of magnification.

- You may not want to wait until your eyes are “stable”.
  - Your eyes may stabilize in a month or 5 years.
    - What will you do if you cannot read or take care of your daily tasks during that time?
  - There are many inexpensive solutions to help you perform your daily tasks while you are waiting for your vision to stabilize.
Myth: Losing vision is just part of getting older
- Some normal changes in vision occur as we get older, however, these changes do not lead to low vision
- Low vision or visual impairment results from eye diseases such as macular degeneration, glaucoma and diabetic retinopathy

Myth: You can damage your vision by using your eyes

Myth: You can preserve your vision by not using your eyes.
- You cannot make your vision better or worse by reading or performing other visual tasks.
COMMON MYTHS

- Myth: Reading glasses cannot be made for my eyes
  - If you can read with a magnifier, eyeglasses can be made for reading
  - Most eye doctors do not prescribe these glasses and tell patients that glasses cannot be made. These doctors are talking about “regular eyeglasses”
  - You must see a doctor who specializes in low vision rehabilitation for special low vision glasses
Definition of Legal Blindness

- The term “legally blind individual" means an individual whose
  - (1) central visual acuity cannot see better than 20/200 in the better eye with best correction, or
  - (2) that the widest diameter of the visual field subtends on angle no greater than 20 degrees.

- Don’t let the term legal blindness scare you into thinking you are blind

- Legal definition, not a functional definition
  - Most people who are classified as legally blind have a lot of remaining vision and will benefit from a low vision evaluation.
You do not need 20/20 vision to function

- Menu at McDonald’s requires 20/80 vision
- Microwave controls require approximately 20/100 vision
- Newsprint requires 20/50 vision
- Grooming requires 20/50 – 20/100 vision
- Independence is threatened when vision falls below 20/60
  Most people will need special eye glasses or some form of magnification at this point
TIP NUMBER 1

MAKE WHAT YOU WANT TO SEE LARGER

There Are 3 Ways to Magnify
Magnifying print with eyeglasses or a magnifier makes print more legible.

Mary had a little lamb

Mary had a little lamb

Mary had a little lamb
Relative Distance Magnification:
- Object is brought closer to the eye
- Reading glasses: the object must be brought closer to the eye to be in focus.
- Move closer to the television
  - Myth: Sitting close to the television will damage your eyes. This is an “old wives tale”. Sit as close as you need to see the picture.
Television Viewed at 14 Feet
Television Viewed at 3 Feet
Relative Size Magnification

Relative Size Magnification: Object is made larger.

- Large print books
- Large print checks
- Larger Television
- Write larger
Relative Size Magnification

- Bold lined paper
- Felt tip pen with black ink is much easier to see
Relative Size Magnification

- Bold print on white label attached to medicine bottle
- Put bold labels on groceries before they are put away
Relative Size Magnification
Relative Size Magnification
Relative Size Magnification
Relative Size Magnification
Relative Size Magnification
Computer Technology

- With the correct technology, all visually impaired people can use a computer
- Use a larger monitor
- Both Windows and Apple operating systems have settings for people with decreased vision
- Kindle’s, Nooks and IPADS
Relative Size Magnification
Angular Magnification

- **Angular Magnification**
- Object is not changed in position or size, but an optical system is placed between the object and the eye making the object appear larger
  - Hand magnifier for near vision
  - Telescope for distance vision
  - Electronic Magnification for distance and near vision
Angular Magnification
Hand Magnifiers

- The stronger the magnifier, the smaller the lens
- Always use an illuminated magnifier
  - LED Illumination
Angular Magnification
Stand Magnifiers
Angular Magnification
Telescopes Provide Magnification at Distance

- Spectacle mounted: permanent mount or clip-on
- Hand held with either neck cord or finger ring
- Used for computer, music, TV - distance or intermediate tasks
Angular Magnification
DFV Telemicroscope

- Telemicroscopes are used for near tasks
- Similar to the telescopes that a surgeon or dentist uses
- They give a greater working distance than the comparable power of reading glasses
Angular Magnification
Pre-Made TV Telescope Glasses

- Pre-made
- Very popular product
- Great for TV viewing
Bioptic telescopes allow many visually impaired individuals to drive. In Arizona, a person may have up to 20/200 vision and be legally drive when using bioptic telescopes.
Angular Magnification
Ocutech 3X Mini Bi optic Telescope
Angular Magnification
Video Magnification (CCTV)

Optelec “C” desktop Video magnifier and OCR reader
Advantages of a Video Magnifier

- Magnification up to 84X
  - Special low vision glasses and magnifiers magnify up to 20X (+80 diopters)
  - Standard bifocals or drug store readers go up to +3 diopters (less than 1X)
- Image polarity can be reversed increasing contrast and decreasing glare
- Easily and instantly converts any material to large print
Angular Magnification
Portable Video Magnifiers

Optelec Portable Video Magnifier
TIP NUMBER 2

INCREASE TASK ILLUMINATION
Lighting

- An elderly person requires nearly three times as much light as a 20 year old.
- A person who is visually impaired will need even more lighting.
- Use gooseneck lamps, flashlights and illuminated magnifiers.
  - Task lamps will provide the needed light without causing glare.
  - Use daylight bulbs.
Bring Lighting within 1 Foot of Print
Task Lighting
Task Lighting
Task Lighting
TIP NUMBER 3

DECREASE GLARE
Decrease Glare

- Glare can further reduce vision and cause eye fatigue
- Decrease glare
  - Lighting
  - Windows
  - Sun
Amber or Yellow Tints Cut Glare & Enhance Contrast
Fitover Style Eyewear with Side Shields
TIP NUMBER 4

ENHANCE CONTRAST BETWEEN WHAT YOU WANT TO SEE AND ITS SURROUNDINGS
Most people with visual impairment see better if objects are black and white.
A white coffee cup offers more contrast to the coffee than the darker cup.

- This will make seeing the liquid level easier.
Enhance Contrast
Enhance Contrast
Label Appliances
Enhance Contrast
Enhance Contrast & Cut Glare
Enhance Contrast

- Do not use heavily decorated plates as food becomes difficult to identify
- Do not use clear glasses or dishes as they become invisible
TIP NUMBER 5

MAKE SURE YOU ARE USING THE CORRECT MAGNIFICATION PRODUCT AND PRODUCT POWER FOR THE TASK
Use the Correct Product

- Not all magnifiers are the same
  - Using the wrong power magnifier will result in failure
    - Similar to wearing a friend's eye glasses – you cannot see with eyeglasses in the wrong prescription or a magnifier in the wrong prescription
  - Do not buy your magnifiers or reading glasses at the drug store or Wal-Mart
  - Have your eye doctor prescribe the correct magnifier, eyeglasses or telescope for reading or for a specific task
TIP NUMBER 6

LEARN TO USE YOUR MAGNIFICATION PRODUCTS CORRECTLY
Practice and Patience

- Patients who have not read in a long time require practice to return to a functional level of reading.
- For every week a person has not read, it will take 1 day of practice to learn to read with reasonable speed and accuracy.
You Will Have A Larger Reading Field if You Bring the Magnifier Close to Your Eye
TIP NUMBER 7

LOW VISION GLASSES OR PRODUCTS ARE OFTEN TASK SPECIFIC
You may need more than one low vision aid to accomplish all tasks

- Low vision products can become very task specific
  - Normally sighted individuals may need one or two pairs of glasses to accomplish all tasks – sunglasses, bifocals or reading glasses
  - A carpenter needs more than one tool to build a house (hammer, saw, screwdriver).
    - A person with a visual impairment will also need more than one tool
You may need more than one low vision aid to accomplish all tasks

- Reading glasses may help for reading as long as you use a good light. They may not work well in a dark restaurant. They may not work for reading at a greater distance, such as seeing the stove dials.
- A magnifier with light will help for reading in a dark restaurant and for seeing stove dials, but will not help for distance viewing.
- A goose neck lamp is usually needed for reading.
- A telescope will help for distance viewing but not for near.
- Sunglasses with side shields will be needed to cut glare outdoors.
- A lighter tinted pair of glasses may be needed to cut glare indoors and outdoors on a cloudy day.
TIP NUMBER 8

LEARN TO USE YOUR EYES MORE EFFICIENTLY
Eccentric Viewing
Maximizing Existing Vision

- A person with a normal healthy retina uses the macula, the very center of the retina, to view an object or print
  - A healthy macula has the highest density of cone cells allowing clear vision and color perception
  - The macula is the only place in the retina that has the potential to see 20/20

- A person with an unhealthy macula can learn to use a more peripheral part of the retina in order to see more clearly
  - This is called to the Preferred Retinal Locus
The Preferred Retinal Locus (PRL) is the site of best vision when the fovea is damaged.

Eccentric Viewing is the fixation of the fovea in one location in order to see using another part of the retina.
Finding Your Preferred Retinal Locus

- Cover poorer seeing eye with your hand
- Look at an object, face or the dot on your Amlser Grid and pretend it is the center of a clock
  - Now, look above the object at “12:00 o’clock, then 1:00 o’clock, 2:00 o’clock…….11:00 o’clock etc. You will find an eye position that allows you to see the object or dot more clearly
    - Do not move your body or your head, just your eyes.
- Once you find your PRL, practice using it when looking at all objects, people and TV
- The PRL for reading may be a different PRL for distance tasks.
TIP NUMBER 9

SUBSTITUTE EARS FOR EYES
SUBSTITUTE EARS FOR EYES

- Get books and magazines on tape free from the talking book library
- Also use talking watches, clocks, calculators, scales, glucometers and computer software
- Optical Character Recognition Technology (OCR)
  - These are devices that will convert text to speech and will read your mail, books, package directions etc.
  - They can be small enough to fit on your glasses

Orcam OCR Reader
TIP NUMBER 10

BE YOUR OWN ADVOCATE
Be You Own Advocate

- Tell friends you are visually impaired and ask that they introduce themselves
- Ask for large print menus in restaurants or your residence dining room
- Ask for large print activity guides
- Get large print checks from your bank
- Ask your church to provide large print church bulletin
  - Black text on a white background
  - Use clean font such as Arial or Verdana
Become Familiar with Community Resources
You are not alone

- Support Groups
- Counseling
- Transportation services
- Aging services
- Community resources
  - Talking book program
  - Large print books
  - Various agencies that service the blind and visually impaired
  - DES Independent Living Services and Vocational Rehabilitation
  - Free telephone directory services
  - Descriptive video services
Tip Number 11

DO NOT BECOME DEPENDENT ON OTHERS
Staying Independent

- Your family can be very helpful in helping you to adjust to your vision loss
  - Don’t fall into this trap of becoming dependent on family members
  - Becoming dependent on others can be more disabling than the disease itself
  - You need to learn to use low vision aids and learn to do things differently in order to become independent
  - Your family needs to support your independence
Thank You

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