



InSight

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Association for Vision Rehabilitation and Employment, Inc.

GLAUCOMA -- THE "SNEAK THIEF OF SIGHT"

Glaucoma is one of the four leading causes of blindness. It is the "sneakiest" one of all because it develops gradually, giving no warning signs. Many people aren't aware they have it until their vision is extensively damaged.

What is glaucoma?

Glaucoma is not just one disease but a group of them, with open-angle glaucoma being the most common form. The common feature of all types of glaucoma is damage to the optic nerve – the nerve that carries images from the retina to the brain. Often, there is a high level of pressure within the eye. Once that nerve is damaged, it can never be repaired. Fortunately, medical advances have made it easier to diagnose and treat glaucoma. If it is detected and treated early, glaucoma need not cause even moderate vision loss.

How does glaucoma damage the optic nerve?

In the front of the eye is a space called the anterior chamber. A clear fluid flows continuously in and out of the chamber and nourishes nearby tissues. The fluid leaves the chamber at the open angle where the cornea and iris meet. When the fluid reaches the angle, it flows through a spongy meshwork and leaves the eye. Sometimes, when the fluid reaches the angle, it passes too slowly through the meshwork. As the fluid builds up, the pressure inside the eye rises. This higher than normal pressure can damage the optic nerve.

However, having increased eye pressure does not necessarily mean you have glaucoma, and not every person with increased eye pressure will develop glaucoma. Some people can tolerate higher eye pressure better than others. Whether you develop glaucoma depends on the level of pressure your optic nerve can tolerate without being damaged. Although it is not as common, glaucoma can also develop without increased eye pressure.

(Continued on page 2.)



The photo on the left shows what a person with normal vision would see, and the photo on the right simulates what a person with glaucoma might see.

Our Mission: "To assist people who have a vision disability enhance life quality through attaining or maintaining personal and economic independence, and help remove obstacles imposed by vision disabilities."

What are the symptoms of glaucoma?

Glaucoma can develop in one or both eyes. At first, there are no symptoms. Vision stays normal and there is no pain. As the disease progresses, a person may notice that side vision (peripheral) is decreasing. Objects in front may still be seen clearly, but objects to the side may be missed. Without treatment, peripheral vision will continue to decrease, creating what is often called "tunnel vision." Over time, central vision may also decrease until no vision remains.

Who is at risk?

If your eye pressure is higher than the norm, the risk is greater. Other risk factors include:

1. Age – everyone over the age of 60 is at increased risk.
2. Race – African-Americans are significantly more likely to develop glaucoma than are Caucasians, and are much more likely to have permanent blindness as a result. Mexican-Americans also face a higher risk.
3. Family history – glaucoma may have a genetic link.
4. Medical conditions – diabetes, high blood pressure, heart disease and hypothyroidism can increase risk.

Other risks include physical injuries, nearsightedness, eye abnormalities, and prolonged corticosteroid use.

How is glaucoma detected?

Glaucoma is detected through a comprehensive eye exam that should include:

1. Visual acuity test: an eye chart test that measures how well you see at various distances.
2. Visual field test: this measures your peripheral vision.
3. Tonometry test: this instrument gently puffs a tiny bit of air onto your eye to measure the pressure inside your eye.
4. Dilated eye exam: drops are placed into your eye to dilate, or widen, the pupils. This enables the eye doctor to more thoroughly examine the retina and optic nerve for signs of damage.
5. Pachymetry: numbing drops are placed in your eyes, and the eye doctor uses an ultrasonic wave instrument to measure the thickness of your cornea.

How is glaucoma treated?

Glaucoma treatments include medications, laser trabeculoplasty, conventional surgery, or a combination of any of these. While these treatments may save remaining vision, they do not improve sight already lost from glaucoma.

1. Medications in the form of eye drops or pills are the most common early treatment. Some medicines cause the eye to make less fluid; others lower pressure by helping fluid drain from the eye.
2. Laser trabeculoplasty helps fluid drain out of the eye. This procedure is performed in the doctor's

office. The laser light stretches the drainage holes in the meshwork, allowing the fluid to drain better. Studies show that this method is very good at reducing the pressure in some patients.

3. Conventional surgery is generally done after medications and laser surgery have failed to control the pressure. This technique makes a new opening for the fluid to leave the eye, but it is only about 60 to 80 percent effective. In some instances, vision may not be as good as it was before surgery.

How can I prevent glaucoma?

Glaucoma can't be prevented and it can't be cured once the damage is done. But it can be controlled with treatment. Having glaucoma means you will need to continue treatment for the rest of your life. Because the disease can begin, progress and change without you even knowing you have it, it is extremely important to have a yearly comprehensive eye exam by an eye care professional. Early detection could save your vision!

Information taken from the National Eye Institute publications and www.mayoclinic.com.



HOW YOU CAN HELP US

Have we helped you or someone you know in any way? Did you or that person find our assistance valuable and helpful? If so, you can show your appreciation by helping us to continue providing our programs and services. Here are some ways you can help:

Honors -- A Living Tribute

Show your love and appreciation for someone special in your life by giving A.V.R.E. a gift in their honor. Whether the occasion may be a birthday, an anniversary, Valentine's Day, Christmas or Hanukkah, a gift of cash can be made in their name. A notice of your gift will be sent to the person honored, and a card of appreciation and thanks will be sent to you.

Memorials -- A Loving Remembrance

What greater way to remember a late friend or loved one than by assisting the living to learn and grow with a memorial gift to A.V.R.E.? The family of the remembered person will be notified, and you will receive a card of thanks.

Bequests -- A Lasting Legacy

By including A.V.R.E. in your estate planning, you will help to ensure that we can continue to provide our valuable services for many years to come. Trusts, appreciated securities, real estate, and other properties are other ways you can invest in our future.

Voluntary charitable cash donations to A.V.R.E. are tax-deductible by NYS law.

For more information about giving to A.V.R.E., call Development Director Jenn Cubic at 607-724-2428.

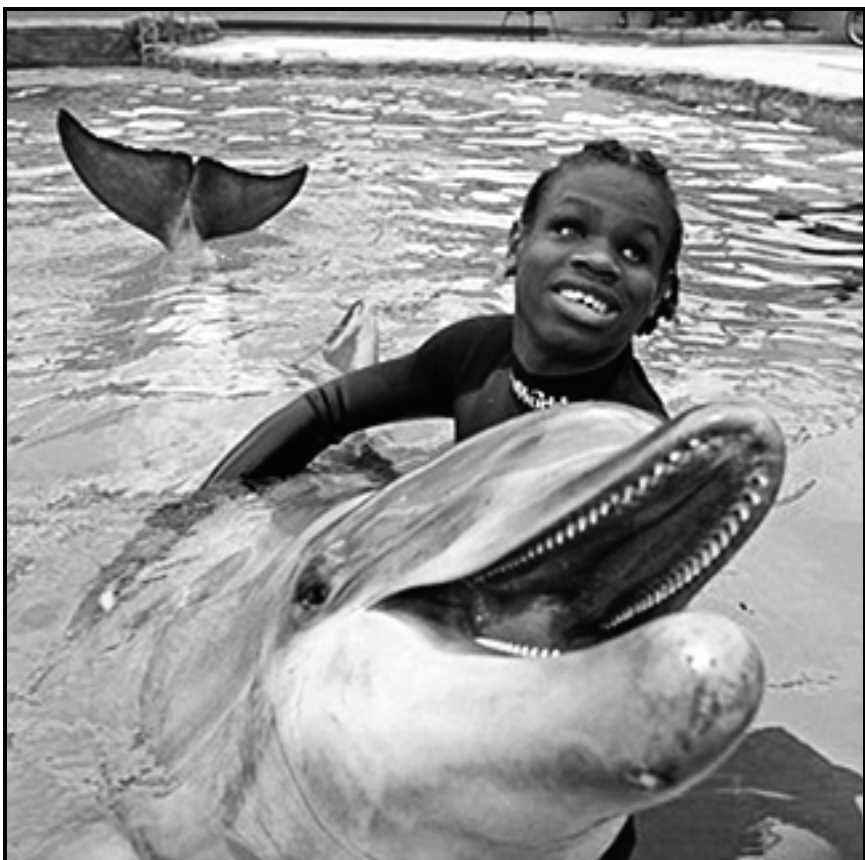
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WITH A CLICK OF THE TONGUE...

Bats do it. Dolphins do it. Submarines do it. Even humans can do it, but most humans don't need to do it. The "it" is, of course, echolocation. Science has known since the early part of the 20th century that bats see with sound, and that dolphins use sonar to supplement their vision. Most people don't know that echolocation has been studied as a navigational aid for blind people for nearly as long as science has known about it, but rather half-heartedly and without much success until just recently.

Human echolocation has actually been around for probably as long as humans have. It just didn't have a name. The first documented case of a human who may have used echolocation was in the 18th century. In 1749, the French philosopher Dennis Diderot wrote about a blind friend who was so sensitive to his surroundings that he could distinguish an open street from a cul-de-sac. In the early part of the 19th century, James Holman, who was called "The Blind Traveler," traveled all over the world alone. He was reported to be able to sense his surroundings by tapping his stick or listening to horses' hoof beats. Holman was arrested in Siberia as a spy because no one believed he was really blind.

Several years ago, an amazing teen-ager named Ben Underwood was featured on a TV news program. After losing his eyes due to cancer as a toddler, Ben instinctively taught himself how to navigate by using his tongue to make clicking noises, then listening to the way the clicks bounced off of objects. Ben, who sadly passed away at the age of 17 in 2009 from the cancer that took his eyes, is considered to have been the most accomplished "echolocator" in the world. Not only could he walk through any environment unaided (he didn't even use a white cane), he could skateboard and ride a bicycle in the street without running into any objects. Ben learned to identify shapes by listening to the echoed sounds and forming images in his brain. His ability was remarkable.



The late Ben Underwood had the opportunity to swim with dolphins and listen to their clicking.

Another amazing blind echolocator, who also taught himself at a very young age, is Daniel Kish. Dan, who is now in his early 40s, can't remember when or how he first started using the technique, but he recalls climbing over a neighbor's fence when he was 2-1/2 years old and clicking his tongue to find out what was around him.

Dan uses a white cane along with echolocation, and he uses a combination of different types of tongue clicks. By scanning the area with his head and varying the tone, volume, and speed of his clicks, he forms a mental 3D image of his surroundings.

Dan identifies two types of echolocation. Passive Sonar relies on incidental noises that happen around us, such as footsteps, and it produces vague results. Many blind people use passive sonar in some situations to help them identify their surroundings, for example, listening for cars before crossing streets, or hearing the footsteps of a person approaching in a hallway. Active Sonar relies on a noise, such as tongue clicking or hand clapping, that is specifically produced to generate echoes, and it is much more precise.

Dan has coined the name Flash Sonar for the active sonar system he uses, because each click is similar to the brief glimpse of the surroundings sighted people get when a camera flash goes off in the dark. He says, "Because an active signal can be produced very consistently, the brain can tune in to this specific signal. The characteristics of an active signal can also be changed to fit the situation. For instance, I click more rapidly when moving fast and more quietly in quieter environments so as not to get more information than needed."

Dan has turned his self-taught skill into a non-profit organization, the first of its kind. He has the distinction of being the world's only blind Certified Orientation & Mobility Teacher. He and several colleagues teach others how to develop their own echolocation skills, and they also teach other O&M teachers how to teach it to their students. Although the younger the person is the easier it is to develop it, Dan believes that nearly everyone has the ability to learn echolocation.

Public education beyond the blind community is important as work in this area progresses. Research studies are beginning in England and America. It's an exciting time and Dan calls it "new light, no limits, a new way to see." Just imagine the amazing possibilities human echolocation offers, all done with a click of the tongue.

For more information about Dan and his echolocation techniques and to see videos of Dan, Ben and others using echolocation, you may visit his website: www.worldaccessfortheblind.org.



THE KID'S KORNER

TV, Video Games, Internet

They're educational and entertaining and they are also very addicting. TV has been with us for over 60 years, and video games and the internet have become just as popular with both kids and adults over recent decades. They can all be great tools for teaching, but too much screen time can have unhealthy side affects.

First, let's dispel a common myth: Sitting too close to the TV is bad for the eyes. Parents have been telling their kids this ever since TVs first came into our living rooms. But the fact is that there is no evidence that sitting right in front of the TV set damages eyes or vision.

The American Academy of Ophthalmology states that kids can actually focus up close without eyestrain better than adults, so they often develop the habit of sitting right in front of the TV.

However, if a child always sits very close to the TV, or holds books close to his eyes when reading, this might indicate a vision problem that should be checked out by an eye care professional.

Kids in the U.S. engage in an average of 4 hours of screen time per day. According to the American Academy of Pediatrics, that is too much. The AAP recommends that kids under the age of 2 have no screen time, and that kids older than 2 should watch no more than 1 to 2 hours per day of quality programming.

Limiting the amount of time kids spend watching TV, playing video games, and using the computer can be difficult. All of their friends get to do it, right? Peer pressure is powerful. Sometimes it is difficult for parents to be firm on this issue. It seems to be easier to just give in and let these items be a babysitter.

Here are some tips for healthy screen-time habits.

- ◆ Make certain kids have a wide variety of other activities to keep them occupied, such as reading, playing with friends, sports, etc. Stock the room that has the TV or computer with games, toys, puzzles, etc.
- ◆ Keep TVs and computers out of kids' bedrooms.
- ◆ Turn off the TV during meals.
- ◆ Don't allow kids to watch TV while doing home work.
- ◆ Reward them by allowing them to play a video game or watch a TV show when homework and chores are done. It's a great incentive.
- ◆ Set a good example by limiting your own screen time.



- ◆ Preview TV programs and video games, and be aware of what they are watching and playing. Simply looking at the ratings may not be enough.
- ◆ Watch TV with your kids. Talk to them about what they see, and share your own beliefs and values with them.
- ◆ Be computer literate and learn how to block objectionable material.
- ◆ Keep the computer in a common area where you can monitor where kids are surfing.
- ◆ Share an email account with young children and monitor who is sending them messages, and closely monitor their use of chat rooms and social networking sites.

With common sense and a good set of firm rules, parents can ensure that their kids' use of TV, computers and video games is healthy, fun and educational.



**While we try to teach our children
all about life, our children teach
us what life is all about.**

Angela Schwindt

ACCESSIBLE CREDIT REPORTS

Federal law requires each of the three major credit reporting agencies in the U.S. to provide consumers with one free credit report each year. As a result of an agreement signed in 2008 by the American Council of the Blind and other agencies, people who are blind or visually impaired can now obtain their free annual credit reports in accessible formats.

People who are blind or visually impaired may order Braille, large print, or audio credit reports from any or all of the three credit reporting agencies by calling this toll free number: 877-322-8228. You will be required to provide some personal information and certify that you are blind or visually impaired within the meaning of the Americans With Disabilities Act. Then you can select your preferred alternative format.

Reports can also be accessed online at www.annualcreditreport.com. Online reports available through this site are now designed to meet standards set forth in Priorities 1 and 2 of the Web Content Accessibility Guidelines (WCAG). For security purposes, the ordering process includes a box with distorted characters – called a Captcha -- that must be retyped. For blind consumers who cannot see the Captcha, an audio version is available by calling a telephone number on the screen. Once you are logged in, you can request reports from Experian, Equifax, and TransUnion.



GOOD TASK LIGHTING

Having good quality lighting can make a huge difference for someone with low vision, whether it is general overhead or directed task lighting.

Our featured adaptive aid this time is the Can-Do Sunlight Desk Lamp.



This lamp uses an FML 27-watt bulb that gives a natural, full-spectrum, daylight (sunlight stimulating) light. This type of lighting reduces glare that causes eye-strain and fatigue and provides bright, "clean" task lighting that displays colors vividly and outlines objects clearly. The desk lamp measures 26 inches tall and has a flexible arm to help direct the light where it is needed. The cost of this lamp is \$39.95.

The Can-Do Sunlight Lamp is also available in a floor-standing model. It stands 5 feet tall, and uses the same size and type of bulb. It costs \$59.95.

Both of these lamps are available to order through our ViewPoint Retail Store. Store hours are Monday – Friday, from 8 AM until 5 PM.



Be sure to clip the 10%-off coupon on the back page of this newsletter.

Remember --

**Mother's and Father's Days
are coming!**

**In ViewPoint, you can find the
gifts that will help make their days
special.**

TECHNOLOGY NEWS

The "iBill Talking Money Identifier"

Talking money identifiers have been around for quite a while. But they have always been too large and cumbersome to be convenient, and they have cost around \$300. With the introduction of the new iBill Banknote Identifier, that has all changed.

At only 3 inches long by 1-1/2 inches wide by 3/4 inch thick, the iBill is compact and lightweight enough to carry in a pocket or purse. It easily fits in the palm of the hand, making it convenient to use in a store, and it can be attached to a key chain or lanyard.

The iBill is easy to use by inserting the end of a bill into the side, and it gives a response in less than a second. The manufacturer boasts 99.9% accuracy. There are three options for announcement: 1. audio spoken in low, medium or loud volumes, 2. a tone mode with various sequences and pitches, 3. a vibration mode with various pulse sequences. The latter option makes this a valuable device for people who have both vision and hearing impairments. If a bill is too damaged, torn, or faded to be identified, the iBill issues an error message, but does not incorrectly identify it.



The iBill is powered by a single AAA battery that will last over a year with typical use. The case is durable, and its sealed design makes it resistant to dust and liquids. A one-year warranty covers manufacturing defects. At a cost of \$99, the iBill is a much more affordable and effective tool that will easily enhance independent living.

We do not yet carry the iBill in our ViewPoint retail store, but it can be ordered directly from the manufacturer, Orbit Research. Because it is so new and is in high demand, there is a lead time for delivery. Call 1-888-606-7248, or email them at information@orbitresearch.com. There is also an online form that can be submitted from their website, www.orbitresearch.com.



BUSINESS PARTNER AWARD

A.V.R.E. was recently selected by Visions Federal Credit Union to receive their Distinguished Business Partner Award, in honor of the "excellent and loyal service" provided by A.V.R.E. to Visions FCU.

President and CEO Bob Hanye accepted the award in person on behalf of the agency. In addition to the recognition, a donation of \$250 was made in A.V.R.E.'s name to the VisionServe Alliance, a partner in the vision rehabilitation services field.



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A.V.R.E. serves visually impaired individuals of all ages who live in the New York counties of Broome, Chemung, Chenango, Cortland, Delaware, Otsego, Tioga, Tompkins and Schuyler, as well as the Pennsylvania counties of Bradford, Susquehanna and Tioga.

A.V.R.E. is an Affirmative Action and Equal Opportunity Employer.

If you would like more information about **A.V.R.E.** or its services, please feel free to contact us.

Our vision is to be the first in choice and quality with respect to vision rehabilitation and employment services in the Twin Tiers, and to be a model for the broader community in understanding vision disability.

"Seeing Things Differently!"