

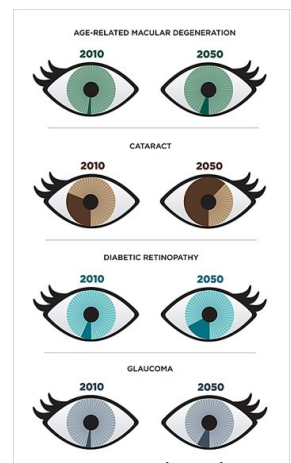
# CalAgrAbility *Spotlight*

Ability Solutions for Agricultural Communities



## Vision Impairment and Assistive Technology Devices

Vision impairment, or visual impairment, affects everyday activities such as working, driving, cooking, watching television, and more. The most common vision impairment illnesses are age-related macular degeneration (AMD), cataracts, glaucoma, and diabetic retinopathy. According to the National Eye Institute (NEI), the number of people affected by the most common eye diseases will double between 2010 to 2050. For example in 2010, 2.7 million people suffered from glaucoma with 6.3 million estimated to have this condition by 2050. Agricultural workers have a heightened risk of developing vision disorders since they are under the sun for long periods of time, are exposed to dust, do not generally have eye check-ups, and suffer from high blood pressure or diabetes. They also think that vision loss is aging related, may have experienced trauma on their eyes, or did not use personal protective equipment. However, with proper care and knowledge of vision disorders, many of these visual impairments can be prevented or delayed. January is Glaucoma Awareness month, everyone is encouraged to have a vision exam.



Top 4 eye disorders that will double the number of people affected in millions.

## Age-Related Macular Degeneration

Age-Related Macular Degeneration (AMD) is the leading cause of visual impairment in Americans 50 and older (NEI). It affects the macula, a small area near the retina which helps us see objects clearly straight ahead. With AMD, patients will see a blurred area near the center vision, and over time, the area could grow larger leading to a blank spot in this region. AMD does not lead to complete blindness, however, it does interfere with everyday tasks such as reading, writing, driving, or cooking. People who smoke are twice more likely to develop AMD. Caucasians are also more likely to develop this illness compared to other ethnic groups. Families with a history of AMD have a higher risk to this illness as well. However, a healthy lifestyle of regular exercise, avoiding smoking, maintaining blood pressure and cholesterol levels, and eating a healthy diet of vegetables and fish will help reduce the chance of developing AMD.

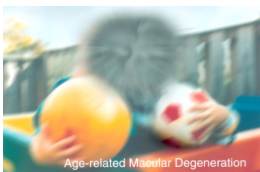


Photo courtesy of NEI.

## Glaucoma

Glaucoma is the second leading cause of vision impairment in America and the world (allaboutvision.com). It is a group of eye illnesses that damages the eye's optic nerve which transfers information from the eye to the brain (NEI). The damage is usually through ocular hypertension or pressure inside the eye. It affects the peripheral vision and can eventually lead to blindness. Glaucoma has a higher chance of affecting African-Americans, Hispanics, and Latinos depending on the type of glaucoma. Surgery, laser, or medication is used to treat glaucoma depending on the severity. An active lifestyle with regular exercise, a healthy diet, and not smoking can also help reduce the risk for developing this illness.



Glaucoma affects periphery vision.

Photo Courtesy of NEI.

## Diabetic Retinopathy

Diabetic Retinopathy is the leading cause of visual impairment and blindness among working-age adults (NEI). Diabetic Retinopathy is linked to type 1 or 2 diabetes. If diabetes is not managed, high sugar levels in the blood can block vessels in the retina and cut off blood supply (Mayo Clinic). This causes dark, empty floating spots, blurred vision, fluctuating vision, or impaired color vision. People that have had diabetes for a longer time develop a greater risk. Also, African-Americans, Native Americans, and Hispanics patients have a higher risk. Diabetic Retinopathy can be prevented through managing diabetes, blood sugar levels, blood pressure, and cholesterol, not smoking, and paying attention to visual changes.



Diabetic Retinopathy causes dark, empty floating spots.

Photo Courtesy of NEI.

## Cataracts

Cataracts is common in the older population with more than half of all Americans suffering from this illness by the age of 80 (NEI). Cataracts causes a cloudy lens creating blurred vision. It makes driving, reading, writing, or seeing a friend's facial expression hard to see (WebMD). The beginning stages of cataracts can usually be corrected with lenses, however, as it progresses, surgery may be required. People who have diabetes, excessive exposure to sunlight, high blood pressure, are obese, smoke, or drink excessive amounts of alcohol have a higher risk of cataracts. Cataracts can be prevented or delayed if patients quit smoking, manage their health, and eat a healthy diet of fruits and vegetables.



Cataracts cause blurred-cloudy vision.

Photo Courtesy of NEI.

There are many more visual impairment disorders, however, these are the top four recognized by the National Eye Institute. California AgrAbility can help individuals suffering from visual impairments by introducing them to assistive devices that can help their vision.

# Assistive Devices for the Visually Impaired

## Task Vision TV Magnifier Glasses

Lightweight, portable pair of magnification glasses which can focus on objects up to 10 feet away. Will enlarge objects up to 2 times. May be worn alone or over most prescription glasses. Helpful for watching TV, sporting events, lectures, hobbies and other events and activities.



## Recording Alarm Clock

This alarm clock allows you to record your own voice and use it as a personal alarm or reminder. This talking alarm clock recorder will remind you of important appointments, medications and more. Using the built-in microphone, you can record up to 6 personal alarm messages.



## Be My Eyes

Be My Eyes is a free mobile app that establishes live video connection between the visually impaired users and the sighted volunteers. The sighted volunteer can explain things that you point your camera to. Users can use this to find lost items, read labels on household products, and much more.



## NuEyes Pro

NuEyes Pro is a lightweight, wireless, head worn, voice activated device for the visually impaired. A video camera on the front of the glasses magnifies up to 12 times what you are looking at and displays it on the inside of the glasses. You can control them with the remote control or by voice command.



Photo  
Courtesy of  
NuEyes.

There are many assistive tools or devices to aid those living with a visual impairment. Check out Ability Tools' AT Exchange-Device Lending Library to discover more of these assistive tools. Individuals can try out these tools for free for 30 days through this lending program. To access this page, go to [calagrability.ucdavis.edu](http://calagrability.ucdavis.edu) and locate the "Tools" tab or go to [abilitytools.org/](http://abilitytools.org/) and find the library under "Services" and "AT Exchange".

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## Ability Tools

Ability Tools corrects  
Californians with disabilities  
to assistive technology  
devices, tools and services to  
make life easier.

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