



EYE CARE HAWAII  
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# EYE CARE OVERVIEW

PUBLISHED BY EYE CARE HAWAII – GIVING YOU A CLEARER, BRIGHTER OUTLOOK ON LIFE.

ISSUE 3  
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## E KOMO MAI!

*Olapa Tree*

**WELCOME TO EYE CARE HAWAII – WHERE OUR PRIMARY GOAL IS GIVING YOU A CLEARER, BRIGHTER OUTLOOK ON LIFE.**

As dedicated as we are to your eye care and good vision, we also understand that your eyes are only one part of the whole you. With that in mind, I thought I would devote some space to letting you know a little more about myself and what I do to keep focus in my life.

I am trying to do my part in perpetuating Hawaii's unique ecology by planting native forest species in my Waiakea Uka yard. The overstory is composed of koa and native palm trees (Pritchardia), several colors of ohia, manele, and kukui. Papala kepau, hapu'u, native hibiscus, and hoawa make up the understory. Palapalai, kupukupu, and uala serve as ground covers... and there are a bunch more. My favorite is a sole remaining olapa that is slowly responding to some TLC.

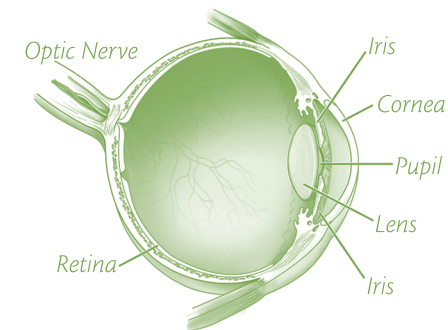
I love having plants around me that have evolved and changed with this young island we live on, and hope that we can preserve as much of our natural heritage as possible. Seeing the beautiful native growth helps bring clarity to my spirit.

If you have any gardening tips on native plants, please pass them on!

## HOW THE EYE WORKS

**WE ALL LEARNED HOW THE HUMAN EYE WORKS IN SCHOOL, BUT HOW MANY OF US STILL REMEMBER ALL THAT INFORMATION? RODS, CONES....**

They sound familiar, but what is it they do, again? It's actually quite a complicated process that most of us take for granted. We'll try to simplify it as much as possible. (The diagram below will help!) It's pretty amazing, really.



*Image courtesy of the National Eye Institute, National Institutes of Health.*

Light is essential to our vision. It bounces (reflects) off all the objects that we look at. This reflected light then passes through the cornea and enters the eye via the pupil. The size of the pupil is adjusted by the iris. The tiny muscles that make up the iris, known as the circular and radial muscles, relax and contract to maintain a fairly constant level of light entering the eye.

In bright light, the circular muscles contract while the radial muscles relax. This causes the pupil to contract and less light enters the eye, like a camera shutter preventing an overexposed or too-bright photo. In low light, the opposite occurs. The circular muscles relax and the radial muscles contract, causing the pupil to dilate and allowing more light to pass through the pupil, where it is then sent through the lens to the back of the eye (the retina), where it forms a clear image. But the image formed on the retina is actually upside-down! What now??

Well, as luck would have it, the retina is made up of millions of specialized light-detecting cells (rods and cones) that detect the upside-down image. The rods and cones then transform the image into electrical impulses, which are transmitted to the brain by the optic nerve. Once these impulses reach the brain, they are manipulated and adjusted, which makes the image appear the correct way up and enable us to see our surroundings as they actually are.

In our next issue, we'll find out how our eyes focus!

**?** For more information on how the eye works visit [www.sightsavers.org](http://www.sightsavers.org)

## Do your eyeglasses ever get in the way?



## Wear them for a day, then throw them away!

**Great for camping – sporting events – vacations – swimming – the beach—any day!**  
**Ask about how you can receive a FREE TRIAL PAIR!\*\***

\*\*Eye Exam may be required. Ask your eye care professional for complete wear, care and safety information.  
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## WHAT IS GLAUCOMA?

GLAUCOMA IS THE SECOND LEADING CAUSE OF BLINDNESS IN THE UNITED STATES, COMING IN JUST BEHIND DIABETES.

Glaucoma is actually the name given to a group of diseases that reduce your ability to see by damaging the optic nerve. Abnormally high pressure inside your eye (intraocular pressure) sometimes, but not always, causes this damage. Another possible cause of glaucoma is poor blood flow to the optic nerve. Risk factors for glaucoma include diabetes, high blood pressure, high cholesterol, and other diseases which affect blood circulation. Other factors include family history of the disease (mother, father, sister, brother), nearsightedness, and race.

Sometimes called the silent or “sneak” thief of sight, glaucoma can damage your vision so gradually you don’t notice any loss of vision, eye irritation, or pain—until the disease is at an advanced stage. The most common type of glaucoma, primary open-angle glaucoma, has no noticeable signs or symptoms except very gradual vision loss. Typically, patients will lose parts of their peripheral (side) vision, which is not noticeable until extensive loss has occurred. Once this vision loss occurs, it is permanent and treatment will not restore vision. Untreated, side vision loss increases until no remaining vision exists.

At Eye Care Hawaii, we have the latest technology to assist in the assessment and treatment of glaucoma. We discussed the HRT ophthalmic scanning laser in our previous issue of Eye Care Overview. In this issue we will discuss the Humphrey Visual Field



The “sneak thief” of sight: person afflicted by Glaucoma (above). Normal sight (right).

Analyzer. Future issues will discuss other technology used in our office to evaluate and assist in our treatment decisions.

Early diagnosis and treatment can minimize or prevent optic nerve damage and limit glaucoma-related vision loss. Some ethnic and age groups are at greater risk than others. For example, Asians are much more susceptible to low tension glaucoma (which is optic nerve damage even with low eye pressure). The eye pressure test is not a test

for glaucoma. Eye pressure is only one of many risk factors for the disease.

The only way to catch glaucoma early is to have your eyes examined regularly. We can find out if you have glaucoma before you ever experience loss of vision, and make sure you are able to see well for years to come.

**?** Contact Eye Care Hawaii for more information on getting checked for glaucoma.

As part of Ke Anuenue’s ongoing community health education series, Dr. Miyashiro will give a presentation October 30th at 5:30 p.m. entitled “The Aging Eye”. Attendance is free and open to the public. For more information, or to see Ke Anuenue’s calendar, visit <http://www.keanuenue.org/calendar.html>.

Eye Care Hawaii is proud to support Ke Anuenue’s 3rd Annual Ke Ola I Ka Leo—Voices Empowering Health Fundraising Concert—featuring the Makaha Sons. The concert will be held at UH-Hilo’s Performing Arts Center on Oct 26th, 2008. For more information visit <http://www.keanuenue.org/concert.html>.

### LECTURE: The Aging Eye

## THE HUMPHREY FIELD ANALYZER (HFA)

NOW THAT WE’VE LEARNED A LITTLE BIT ABOUT GLAUCOMA, IT’S TIME TO MEET THE HUMPHREY FIELD ANALYZER (HFA), ONE OF THE TOOLS EYE CARE HAWAII USES TO DETECT GLAUCOMA.

The HFA is performed on patients suspected of having glaucoma. It was designed to detect changes in your peripheral (side) vision. Here’s what happens: You will sit in a chair and look into a screen. When lights appear at the edge of your line of vision, you respond by pressing a button. (This is sort of like the hearing test we’re all familiar with, where you hear a “beep”, and indicate in which ear you heard it.) Sounds pretty simple, but it actually requires a lot of “translation” by software, which tells us how your vision compares to other “normal” (glaucoma-negative) patients of the same age.

If you have already been diagnosed with glaucoma, the HFA helps determine whether or how much your vision has changed since your last visit. We are most concerned about change or worsening over time. This helps us to adjust treatment based upon the HFA results, eye pressure, optic nerve appearance, etc. The HFA is an important test, but only one of many used in the assessment and treatment of glaucoma.

As we now know, glaucoma is not a death sentence for vision. Most glaucoma can be treated with topical medication (eye drops)

or surgery—if the signs are caught early enough.

At Eye Care Hawaii, we will always strive to provide the latest assessment and treatment options for our patients. If surgery is required, we will make the appropriate glaucoma specialty referral.

**?** Contact Eye Care Hawaii for more information on getting checked for glaucoma.

## 4PatientCare - AUTOMATED CALLING SYSTEM

To help you remember your appointments, Eye Care Hawaii has recently implemented an automated calling system called 4PatientCare.

When you schedule an appointment with Dr. Miyashiro, you will receive a call 2 weeks before your appointment, and another call 2 days before your appointment.



### HOW IT WORKS:

You will receive a call from 4PatientCare in the evening. It is an automated calling service, so you will not be speaking to a live person. The recording will inform you of the date and time of the appointment. You will be asked if you will be keeping the appointment, and will answer either yes or no. If you reply with a yes, you will be told specific information about appointments in our office.

If you are unable to answer the call, 4PatientCare will leave a message with pertinent information.

A report is then emailed to our office. Our staff will personally contact (by phone, email or letter) any patients that 4PatientCare was unable to reach.

The following are guidelines for all your ap-

pointments at Eye Care Hawaii, and will be stated in all 4PatientCare confirmation calls:

You should bring your current prescription (if you are a new patient) for glasses, contact lenses, and current medications. You should also bring your contact lens solutions to the appointment, or know their brand names for our staff to record in your file. It is always best to arrive 15 minutes prior to your scheduled appointment time to complete paperwork. Any patient under the age of 18 must be accompanied by an adult during their visit. You will incur a fee if you do not show up for your appointment. This fee does not apply if you cancel or reschedule their appointment at least 24 hours in advance.

If you have any questions or comments about 4PatientCare, or about appointments in general, please let us know. We hope 4PatientCare helps us serve you better!