

INSIGHTS

Eyes: The Windows to Your Health

George, age 35, experienced mild back pain for many years, but didn't pay much attention to it. More obvious was his recurring iritis, a painful inflammation of the eye that, if left untreated, can cause blindness. After a second bout, his optometrist asked him if he had any back pain. When George said he did, the eye doctor recommended that he see a rheumatologist. Genetic testing revealed that George had ankylosing spondylitis (AS). AS is a relatively common but incurable form of arthritis that strikes young adults, causing chronic pain and sometimes more serious damage to the heart and other organs. Early treatment is key.

There are many diseases that can be spotted by your optometrist during an eye exam. Researchers in the United States and in Scotland are studying how simple eye tests can diagnose illnesses like heart disease. By looking closely at the blood vessels in the eye, pre-diabetes, diabetes and advanced high blood pressure can also be caught.

Specific types of lesions on the retina can be a sign of Gardner syndrome, a rare genetic disorder characterized by multiple growths or polyps in the colon, extra teeth and bony tumors of the skull. An optometrist might suspect this in their younger patients



whose families have had a history of colon problems.

And it's not just the inside of the eye that can reveal disease. Optometrists may observe yellow, raised areas on the eyelids. These fatty deposits are usually normal, unless they only appear on one eyelid. That may indicate that a blood vessel is blocked, in which case your eye doctor would recommend visiting a specialist to identify the cause.

Jaundice can be seen as a yellowish color in the whites of the eyes. While not always serious, occasionally yellowish corneas can tip off a doctor to liver disease.

Inside and out, the eyes are not only the windows to the soul, but also to your general health. So remember to schedule an annual eye exam today.

EYE CANDY

The Mystic Third Eye



Have you got a Third Eye? It sounds like science fiction, but according to Theosophical, Taoist, Hindu and Buddhist philosophies, we all do.

The Third Eye is an invisible symbolic eye, located in the center of the forehead, which if "opened," may act as a gate to higher consciousness. Some Christians believe the Third Eye is referenced symbolically and functionally several times in the "Book of Revelation." The Freemasons refer to this symbol as the "All-Seeing Eye" and may have suggested its use on U.S. paper money at the top of a pyramid.

Some philosophies believe the Third Eye is connected with the pineal gland, which is located behind the forehead. One medical researcher in California has hypothesized that the pineal gland, which is light sensitive, is responsible for the production and release of DMT, a naturally occurring chemical in the body that may be excreted in large quantities at the moments of birth and death. The presence of DMT has often been associated with religious visions.

EYE-Q

Q: What percentage of Americans wears glasses or contact lenses?

(See answer on back.)



Letting Your Eyes Age Gracefully



As people grow older, the aging process can bring eye conditions and diseases. Early detection is the key to avoiding impaired eyesight.

Presbyopia

The most familiar eye condition associated with aging is presbyopia—difficulty in reading close up. The most noted symptom is when someone holds an object farther away to see it clearly. Presbyopia occurs between the ages of 40 to 50. It is usually correctable with a pair of eyeglasses or contact lenses.

Macular Degeneration

It's estimated that 1.8 million Americans aged 40 and older are affected by age-related macular degeneration (AMD). AMD affects the macula, the central part the retina that allows the eye to see fine details, and is the leading cause of permanent impairment in reading and close-up vision among people aged 65 years and older.

Cataracts

Cataracts are a clouding of the eyes' lenses. They are the leading cause of blindness worldwide, and the leading cause of vision loss in the United States. An estimated 20.5 million Americans aged 40 years and older have a cataract in one or both

eyes. Surgical treatment for the removal of cataracts is widely available.

Diabetic Retinopathy

An estimated 899,000 Americans are affected by diabetic retinopathy (DR), a common complication of diabetes. The leading cause of blindness in American adults, it results from progressive damage to the blood vessels of the retina, the light-sensitive tissue at the back of the eye that is necessary for good vision. Risks are reduced through early disease management including good control of blood sugar, blood pressure and lipid abnormalities.

Glaucoma

Glaucoma is a group of diseases that can damage the eye's optic nerve and result in blindness. It occurs when the normal fluid pressure inside the eyes slowly rises, although it can also occur with normal eye pressure. Symptoms vary. Sometimes glaucoma progresses slowly over a long period of time, without noticeable vision loss until the disease is very advanced. Sometimes it can appear suddenly and is often painful with visual loss occurring quickly.

An annual exam is crucial to catching these conditions and diseases to ensure the best vision for years to come.

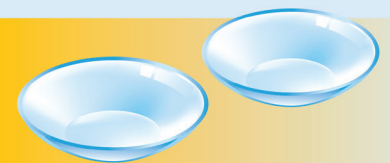
Why Are Daily Contacts So Popular?

Would you like to wear contacts, but don't want the hassle of cleaning and storing them every day? Maybe daily contact lenses are for you.

Daily disposable contact lenses are designed to be worn for a single day, and then thrown away. That offers the wearer the convenience of avoiding extensive contact lens cleaning procedures. It also reduces the chances of eye infections and allergies.

Because each day they are clean and new, daily disposable contacts don't harbor the residues of protein, calcium, lipids and other substances found in eye-tear film, which can build up on reusable lenses. For this reason, many optometrists recommend daily disposable contacts as problem-solving lenses for patients experiencing allergy-related eye irritation with their current contacts.

Overall, daily disposables offer a comfortable and healthy option for contact lens wearers.



**Watch an Exciting New Video on Eye Health:
See Your Optometrist Once a Year**
<https://vimeo.com/96959505>



APPLE of Your Eyes

Download the app that makes finding and wearing contacts fast, smart and simple—the CooperVision app.

- Find contacts suitable for you and your lifestyle
- Search for an eye doctor near you
- Discover useful tips and info about eye health and vision care
- **Access valuable rebates and discounts**

<https://itunes.apple.com/us/app/coopervision/id687757892?mt=8>



The Eyes Have It

(See answers on back cover.)

A N N U A L E X A M F A R S I G H T E D
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WORD SEARCH (HORIZONTAL, VERTICAL, DIAGONAL AND BACKWARDS)

ANNUAL EXAM
BIFOCAL
BLINK
BLUE LIGHT
BLURRY
BLOODSHOT
CAROTENOIDS
CATARACT
CLEARLY
CONTACTS
CORNEA
CROSSEYED
DEPTH
DILATED
DRY EYE
EYEBALL
EYELASHES

FARSIGHTED
FLOATER
FOCUS
GAZE
GLANCE
GLARE
GLAUCOMA
IRIS
LENS
LIDS
LOOK
MACULAR DEGENERATION
MAGNIFY
NEARSIGHTED
NIGHT VISION
OPTICS

OPTOMETRIST
PERCEPTION
PUPIL
RETINA
SEE
SIGHT
SQUINT
STARE
SUNGLASSES
TELESCOPE
ULTRAVIOLET
VIEW
VISION
WATCHES
WINK



What Is Vitamin D₃?

When most people think of nutrients and eye health, they immediately think of vitamin A.

But, new evidence suggests that vitamin D may be more crucial. Research from the Institute of Ophthalmology at University College London suggests vitamin D₃ may help prevent age-related macular degeneration, which is the most common cause of blindness in the elderly.

Vitamin D from sun exposure is the best way to optimize your vitamin D levels. Exposing a large amount of your skin until it turns the lightest shade of pink, as near to solar noon as possible, is typically necessary to achieve adequate vitamin D production. Foods that provide vitamin D include fatty fish (tuna, mackerel, salmon), cheese and egg yolks. Your doctor can assess your body's level of D₃ with a simple blood test. If you test low, you can take a vitamin D₃ supplement.



Protecting the Movie Screen of the Eye

What is macular degeneration?

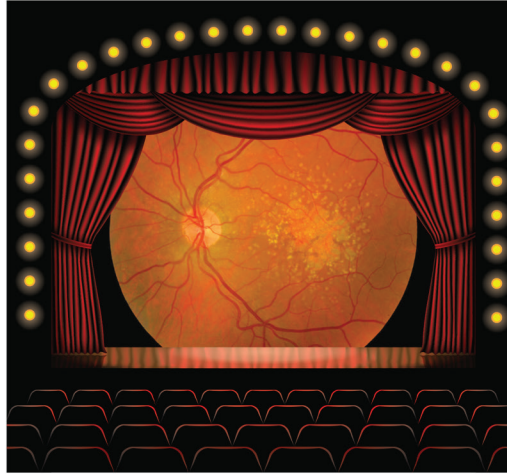
In the back of the eye is a small plate-shaped area called the retina, which is like a small movie screen. When light enters the eyes, images are projected onto the retinas, which in turn send those pictures to the brain, and that's how we see.

In the center of the retina is a light-sensitive area called the macula. The macula is connected to the brain through a bundle of fibers called the optic nerve.

The central macula area of the retina controls our ability to read, drive a car, recognize faces or colors, and see objects in fine detail. Damage to the macula, referred to as macular degeneration, can lead to blindness. Macular degeneration is often called age-related macular degeneration (AMD), because it is an eye disorder associated with aging. Approximately 11 million people in the United States currently have AMD, and that figure is expected to double by 2050.

There are two forms of AMD—wet and dry. Wet AMD occurs when abnormal blood vessels behind the retina begin to grow under the macula, ultimately leading to blood and fluid leakage. Bleeding, leaking and scarring from these blood vessels cause damage and lead to rapid central vision loss. An early symptom of wet AMD is that straight lines look wavy.

Dry AMD occurs when the macula thins over time as part of the aging process, gradually blurring central vision. The dry form is more common and accounts for up to 90 percent of cases of AMD. It progresses more slowly than the wet form, making it difficult to detect without regular annual eye exams. Dry AMD generally affects both



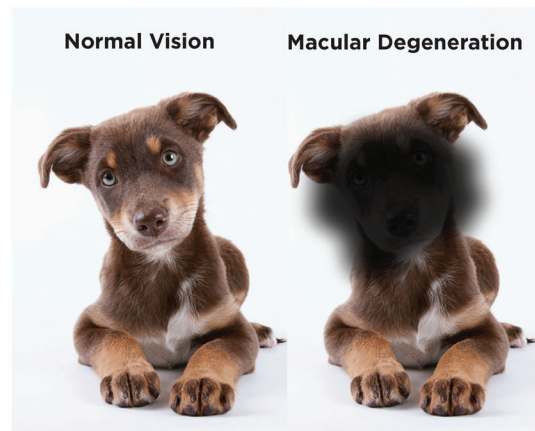
Now Showing: Macular Degeneration

In age-related macular degeneration, the center of the retina, called the macula (above), starts to wear away.

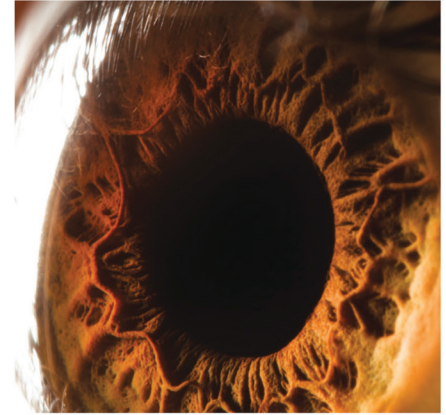
eyes. One of the most common early signs of dry AMD is drusen.

Drusen are tiny yellow or white deposits under the retina. They are commonly found in people aged 60 years and older. The presence of small drusen is normal and does not cause vision loss. However, the presence of large and numerous drusen increases the risk of developing advanced dry or wet AMD.

AMD can lead to central vision loss making it difficult to read a newspaper or drive a car.



What Is the Iris?



The colored part of the eye is called the iris. It controls the amount of light that enters the eye, similar to the aperture on a camera. The round opening in the center of the iris is called the pupil. The iris has tiny muscles that dilate (widen) and constrict (narrow) the pupil size.

There are three colors in the iris that determine the particular color your eyes appear to have: blue, brown and yellow. Microscopic pigment cells in the iris called melanin differ in shade from yellow-brown to black. An iris with no pigment is a pale blue, as can be seen in an albino person's eyes. Darker blue eyes have a low amount of pigment.

Brown is the most common eye color and green is the least common. There are also unusual genetic mutations that can create shades of red or violet. The shades of light brown, hazel, green and gray are created by different degrees of melanin, of different shades, in varying distributions within the iris.

The color, texture, and patterns of each person's irises are as unique as a human fingerprint.

Eye Infections Have You Seeing **Pink**?



Children are back in school and Pink Eye is not far behind. The good news is that this common eye problem is easily treated and, with simple precautions, can be avoided.

Also called conjunctivitis, Pink Eye is an irritation of the thin, clear covering of the white of the eye and the inside of the eyelid (conjunctiva). Although the conjunctiva is clear, it contains blood vessels. Anything that triggers inflammation will cause these blood vessels to enlarge. The result is those infamous pink, bloodshot eyes.

What causes **Pink Eye**?

The primary types of conjunctivitis are:

Viral: Very contagious, but usually will clear up on its own within several days without medical treatment.

Bacterial: Can cause serious damage to the eye if left untreated. Your eye doctor typically will prescribe antibiotic eye drops or ointments.

Allergic: Caused by pollen, dust and animal dander. Allergy medications often can help prevent or shorten bouts of allergic conjunctivitis.

Bacterial conjunctivitis sometimes can lead to serious eye problems such as a corneal ulcer, potentially causing permanent vision loss. Consequently,

anytime you develop pink, irritated eyes, you should call your optometrist or ophthalmologist immediately and schedule an eye exam.

10 simple ways to reduce the risk of getting **Pink Eye**

1. Never share personal items such as tissues.
2. Cover your nose and mouth when coughing or sneezing.
3. Never share color contact lenses or special-effect contacts with friends.
4. Wash your hands frequently.
5. Use a hand disinfectant.
6. Clean countertops, bathroom vanities, faucet handles and shared phones with an antiseptic cleaner.
7. For seasonal allergies, ask your doctor what can be done to minimize your symptoms before they begin.
8. When swimming, wear swim goggles to protect yourself from microorganisms in the water.
9. If you wear contacts, follow your doctor's instruction for lens care and replacement, or consider switching to daily disposables.
10. Before showering or using a hot tub, remove contact lenses to avoid trapping bacteria between your eyes and the lenses.

What Is the Visual Fields Test?

Over 2500 years ago, Hippocrates described a patient's diminished eyesight in what might have been the first written description of a visual fields test. While the means for determining the quality of peripheral vision has become more sophisticated, with machines to do the measurements, the basic concept remains the same.

During your annual eye exam, your optometrist may perform the visual fields test to check for the presence of blind spots in your peripheral, or "side," vision. These types of blind spots can originate from eye diseases such as glaucoma. Analysis of blind spots also may help identify specific areas of brain damage caused by a stroke or tumor.

Virtually all visual fields testing is performed one eye at a time, with the opposite eye completely covered to avoid errors. In all testing, the patient must look straight ahead at all times in order to avoid testing the central vision rather than the periphery.





Dr. Gretchen Brewer
Guest Optometrist

Q: I just turned 45—why am I having trouble reading and focusing on objects close up?

A: You are experiencing the early stages of presbyopia. Presbyopia is a vision condition in which the crystalline lens of your eye loses its flexibility, which makes it difficult for you to focus on close objects. It's a natural part of the aging process that usually becomes noticeable in your early to mid-40s and continues to worsen until around age 65.

You may notice presbyopia is setting in when you start holding books at arm's length, have to enlarge print or have to use direct light to read. Symptoms of presbyopia are blurred vision at normal reading distances, headaches, eyestrain, squinting and fatigue after doing close-up work.

A comprehensive eye exam with an optometrist can confirm presbyopia. You can correct the condition with prescription reading glasses, bifocal glasses or different types of contact lenses. Surgery also may be an option for presbyopia. Talk to your optometrist about the options that may be best for you.

Q: My husband says he has tiny specks or strings floating in his field of vision. What are these?

A: These are called "floaters." Floaters are small specks or cobwebs that move or float around your field of vision. They may be much more noticeable when looking at a bright background, such as a white wall or a light blue sky and they may appear to come and go. Floaters are actually

tiny clumps or collections of cells that float around inside the eye within the vitreous, the clear jelly-like fluid that fills the inside of your eye. Floaters can have different shapes, such as little specks, rings, strings or cobwebs.

Though these specks look like they are in front of your eye, they are actually floating inside of it and casting a shadow on the retina, the light-sensitive layer lining the inner surface of the back of eye. As part of the natural aging process, the vitreous gel may start to condense or shrink, forming clumps or strands inside the eye. Floaters often form when the vitreous gel shrinks and pulls away from the retina, causing a posterior vitreous detachment. Usually floaters are harmless but in some cases, the retina can tear as the shrinking vitreous gel pulls away from the wall of the eye. A torn retina is always a serious problem, since it can lead to a retinal detachment and even vision loss. The appearance of floaters can be very distracting or even alarming, especially if they develop suddenly.

You should see an optometrist right away if you suddenly develop new floaters.

Floaters are small specks in your field of vision.



It had to happen.

Cadbury's created the most expensive chocolate bar in the world—about \$1,630—covered in edible gold leaf. Victoria's Secret created a \$10 million, 18-karat gold bra made with more than 4,200 precious stones.

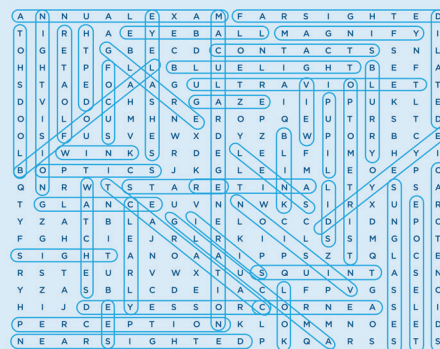
Now, an optometrist in India, Dr. Chandrashekhar Chawan, inspired by the jewels in his wife's teeth, has created a gold-plated, diamond-encrusted contact lens. At \$15,000 a pair, they may be the most extravagant trend in eyewear.

The inventor suggests that perhaps in the future, people will use his high-end lenses instead of diamond rings to propose to their fiancées. Chawan adds that all the profits from the sales of these lenses will go toward treating patients suffering from Stevens Johnson Syndrome, a skin condition that can lead to loss of eyesight.

Answer to Eye-Q (from page 1)

A: The percentage of Americans who wear glasses or contacts is 75 percent.

Answers to Puzzle (from page 3)



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