

## INSIGHTS

### When Eyesight Requires Longer Arms

When Sharon was 41, her eye doctor told her she would soon need reading glasses. She scoffed at the thought. She saw just fine. But by her next annual eye exam, she was beginning to squint when reading books and magazines. She realized that she had, indeed, developed the aged-related eye condition that her doctor had described called presbyopia.

#### What is presbyopia?

Presbyopia usually occurs at around age 40. At that time, people experience blurred vision while looking at anything near them. It happens if you're currently wearing corrective eyewear or even if you previously have not had any eye problems at all. But if you develop presbyopia, there's no reason to feel alone. More than a billion people worldwide are presbyopic, according to the World Health Organization.

#### What are the symptoms?

You may be developing presbyopia if:

- You find yourself holding magazines, books, newspapers, menus, tablets and other reading materials at arm's length in order to focus properly

- You develop headaches, eye strain or feel fatigued when doing near work, such as embroidery, woodworking or handwriting

#### What causes presbyopia?

The cause of presbyopia has to do with normal aging. The eye's lens begins to stiffen, so it is less able to focus when you view something up close. This differs from astigmatism, nearsightedness and farsightedness, which are related to the shape of the eyeball and are caused by genetic and environmental factors.

#### How is presbyopia treated?

Eyeglasses with bifocal lenses or progressive lenses (similar to bifocals but without the visible lines) are the most common correction for presbyopia. Bifocal means two points of focus: the main part of the spectacle lens contains a prescription for distance vision, while the lower portion of the lens holds the stronger near prescription for close work. More recently, contact lenses have been developed that act much like progressive eyeglass lenses and can offer the same corrective benefits. Ask your eye doctor which approach makes the most sense for you.

## EYE CANDY

### What Do Babies See?

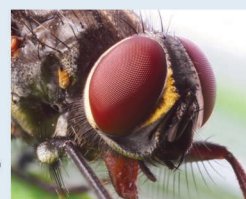


**Babies are constantly developing. Their eyes are no exception:**

- For the first three months of life, babies' eyes only focus on objects no more than eight to ten inches away from them. Conveniently, this is the distance to a parent's face
- For the first two months of life, babies' eyes do not work well together and may appear to wander or be crossed. This is usually normal. However, if this persists as they get older, an eye examination should be scheduled
- At around three months of age, babies begin to follow moving objects with their eyes and reach for things, reinforcing the need to childproof the house if it is not already done
- From five to eight months, depth perception—the ability to judge if objects are nearer or farther away than other objects and see them in three dimensions—develops
- By five months, babies have good color vision, although it may not yet be as sensitive as that of an adult

## EYE-Q

**Q: How many eyes does a fly have?**



(See answer on back.)



## What's New in Eyeglasses?



If you're a tech junkie, you'll be glad to know that Luxottica is making a new version of Google's Glass—the \$1,500 eyeglasses that function just like smart-phones and work on spoken commands. If, on the other hand, you're satisfied to wear eyeglasses for the time-honored purpose of simply correcting your vision, here are some new developments in eyeglasses and lenses available from your local optometrist:

### Frame construction

- *Allergic to plastic frames?* Materials such as titanium or stainless steel are now available to help avoid a skin condition known as contact dermatitis
- *Like to mix and match different colored sides of frames as a fashion statement?* Some eyeglass frames now have components that can be snapped into place, rather than attached by screws
- *Need to reduce your child's eyeglass breakage?* Ask for new highly flexible frames and spring hinges
- *Looking for comfort?* New silicone nose pads prevent "slippage," and are so lightweight and soft that they are hardly noticeable

### Frame styles

- *Want an understated look?* Rimless styles provide eyeglasses without obvious frames

- *Want an environmentally friendly material?* Ask about new wood or bamboo frames

### Eyeglass lens advances

- *Need to reduce distortion?* Aspheric lenses, which are not perfectly rounded on the surface, correct for small distortions in vision associated with more traditional lenses
- *Want thinner, lighter lenses?* There are special "high-index" plastics that require less lens material than regular glass or plastic lenses
- *Want impact resistance?* Today's polycarbonate lenses are thinner, lighter and up to ten times more impact-resistant than regular plastic lenses—the perfect choice for safety eyeglasses, sports eyewear and eyeglasses for children
- *Looking for versatility?* Photochromic lenses quickly darken in bright conditions, and quickly return to normal in ordinary indoor lighting
- *Need to reduce glare?* Ask for polarized lenses. They can also help reduce eye fatigue
- *Need to control lighting?* Anti-reflective coating reduces glare and allows more light into your eyes for better night vision. Other options include scratch-resistant, anti-fog, UV-blocking and blue light-blocking lens coatings

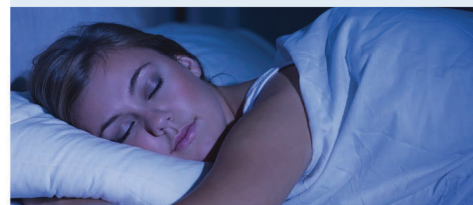
## Sleeping Beauty... Redefined

What if you could wear something during your sleep that could help eliminate the need for you to wear eyeglasses during the day? Well, if you have mild-to-moderate nearsightedness (myopia)—with or without astigmatism—this now may be possible.

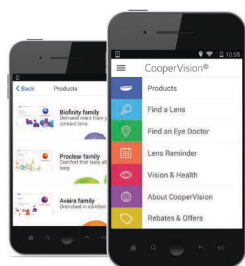
Corneal Refractive Therapy (CRT) uses special overnight contact lenses to reshape the cornea while you sleep. You remove the lenses in the morning and are able to go throughout the day without any other correction.

Most patients have had rapid improvement in the first few days of treatment and achieve nearly optimal vision within 10 to 14 days. Vision correction is temporary. If you stop wearing the lenses regularly while you sleep, your vision will return to its original state in as little as 72 hours.

There have been no serious adverse events reported with this FDA-approved therapy and it carries no greater risk than wearing regular contact lenses.



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



## APP That's a Snap!

For the busy contact lens wearer, CooperVision has the app that makes finding and wearing contacts fast, smart and simple. It's all at your fingertips!

- 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>



CooperVision®



# A Feast for the Eyes!

Dr. Laurie Capogna and Dr. Barbara Pelletier, two optometrists from Ontario, Canada, developed a cookbook called *Eyefoods, A Food Plan for Healthy Eyes*, with recipes that prevent eye disease. Their recipes feature foods that contain the nutrients lutein, zeaxanthin and omega-3 fatty acids, all of which contribute to good eye health.

## Stuffed Orange Peppers

(Makes 8-10 Peppers)

### Ingredients:

- 8-10 orange peppers
- 2 tbsp olive oil
- 1 package of ground turkey or extra lean ground beef
- 2 carrots, chopped
- 2 celery stalks, chopped
- 1/2 onion, chopped
- 1 cup frozen chopped spinach
- 2-3 cloves garlic
- 2 tsp Italian seasoning
- 2 tsp sage
- 2 cups cooked barley (just over 1/2 cup of raw barley)
- 2 omega-3 eggs
- 34 ounces tomato sauce
- 1-1/2 cups chicken stock
- Salt and pepper

*Preheat oven to 375 degrees.*

### Barley (stuffing preparation):

1. Bring 1 cup water to a boil in a medium saucepan. Add barley.
2. Bring water back to a boil, partially cover and simmer on low for 30-40 minutes or until water is absorbed. Remove from heat.

### Stuffing:

1. Brown ground turkey or beef in a large saucepan in 2 tbsps olive oil. Drain off excess fat.
2. Add onion, garlic, carrots and celery. Cook for another 5 minutes or until vegetables are tender.
3. Add frozen spinach and seasonings. Cook until spinach has softened.
4. Stir in cooked barley and remove from heat. Let cool.
5. Add 2 eggs and mix well.



### Assembly:

1. Remove tops and seeds from peppers.
2. Mix tomato sauce and chicken stock in the bottom of a casserole dish.
3. Fill each pepper with stuffing and add to the casserole dish.
4. Cover with foil and bake in a 375-degree oven for approximately 1 hour.

**Note:** This recipe will produce peppers with a firm texture. Alternatively, pre-cook peppers before stuffing.

**Tip:** Make extra stuffing and freeze. This will make for a quick, tasty supper.



Recipes come from: <http://www.eyefoods.com>, *Eyefoods, A Food Plan for Healthy Eyes* by Dr. Laurie Capogna and Dr. Barbara Pelletier.



## Why Is Vitamin A Important?

Vitamin A helps maintain your eyesight. It also helps keep skin healthy, supports the immune system and helps produce red-blood cells.

When we look at an object, light is reflected from it and enters the pupil, striking tissue at the back of the eye called the retina. There, a type of vitamin A called retinol is converted to another form called retinal, which is then shuttled to rods—the cells that help you to see in the dark. In rod cells, retinal binds to a protein, which causes nerve impulses to be generated to the brain regarding the objects in your visual field, creating the visual image you've just seen. A hallmark of vitamin A deficiency is night blindness.

Sources of vitamin A include:

- Cod liver oil
- Eggs
- Butternut squash
- Sweet potatoes
- Pumpkin
- Carrots
- Whole milk
- Spinach
- Kale





## The Protective Edge in Sports

Does your child play sports? Would you like to cut a few strokes off your golf score? Vision, just like speed and strength, is an important component in how well you play sports. That's why amateur and professional athletes of all ages are increasingly wearing sports eyewear.

"It's important to keep in mind that prescription eyeglasses, sunglasses and even on-the-job industrial safety glasses typically do not provide adequate protection for sports use," says John Minnick, Marketing Director at Liberty Sport. Sports glasses are eyeglasses specially designed to:

- 1) fit securely and comfortably during physical activity,
- 2) keep eyes safe and
- 3) enhance your vision for an extra performance edge.

Even with 20/20 vision, the right sports eyewear can reduce glare and enhance contrast to help you see better and react faster.

Sports eyewear lenses usually are made of a very hard, impact-resistant plastic called polycarbonate. Polycarbonate protects eyes from fast-moving objects. It also has built-in ultraviolet protection for outdoor sports, and a scratch-resistant coating for added durability.

Most sport frames can accommodate both prescription and nonprescription lenses and, like lenses, are constructed of high-impact materials. Frames usually come with rubber padding to cushion where they come in contact with the head or the nose.

Protective sports eyewear is designed specifically for different sports needs and must meet or exceed ASTM F803 standards: the strictest impact resistance standards for protective eyewear. They

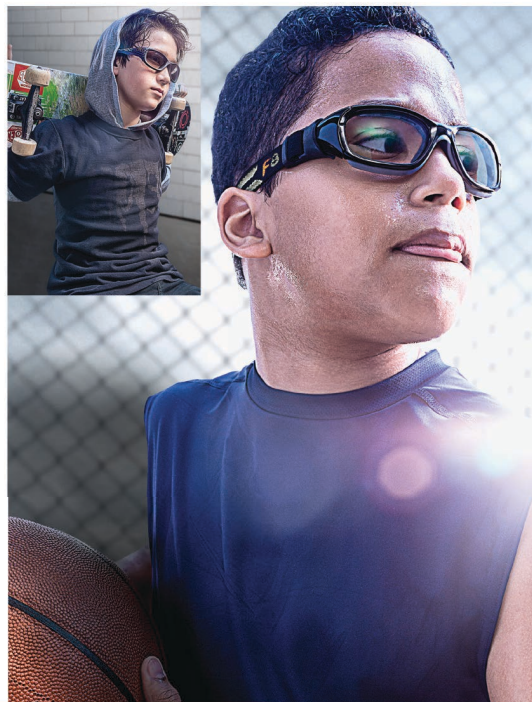
can be designed to wear with or without helmets, depending on the sport. In addition, there are contoured sports styles that wrap slightly around the face for biking, hang-gliding and sailing. They are also ideal for contact lens wearers because they help keep out wind and dust.

"As the leading manufacturer and distributor of sports protective eyewear, Liberty Sport's main mission is to help reduce the number of sports-related eye injuries," says Minnick. "We encourage you to ask your optometrist if they have training as a sports vision specialist and offer sports protective eyewear to their patients."

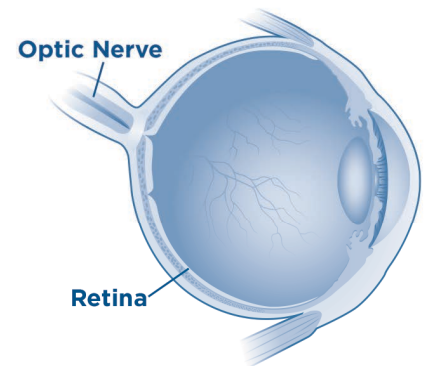
**For more information on sports glasses visit Liberty Sport: [www.libertysport.com](http://www.libertysport.com).**

### Sporting protective eyewear

Today's sports glasses are designed to fit securely and comfortably, keep eyes safe and enhance vision for a competitive edge.



## What Is the Optic Nerve?



Have you ever wondered how the brain receives messages to translate everything around you into colorful images? Just how do those sights that give your life meaning—loved ones, gooey chocolate cake or a beautiful pink-and-purple sunset—get transported to our minds?

They get there via a messenger called the optic nerve. In early Greek and Roman medicine, this optic channel was thought to carry a "visual spirit" to and from the brain. Today, this unseen, unsung hero is known to be the nerve conduit go-between that connects the eye to the brain and enables you to see.

When light from an object you're viewing reflects into the back of your eye, it comes into contact with the retina. As it hits the retina—light-sensitive tissue covering the back two thirds of the inside of the eye—it is converted into nerve impulses. These nerve messages are faithfully carried along the length of the optic nerve, which runs from behind the eyes into the brain. There, the nerve impulses are transformed into the images you see everyday.



## Do You See Color Better Than a Butterfly?

Have you ever wondered what colors your dog or cat can see? What about the butterflies gliding about in your garden? Every living creature sees the world primarily based on two things—light receptors in their eyes, called cones, and how the brain interprets the messages the cones send.

When researchers make educated guesses about an animal's vision, that's what they observe. While cones are easy to see, the brain's effect must be measured by tests such as watching if mice can pick out a red light (offering a food reward) from a blue or green light.

In humans, there are three types of cone cells responsible for color vision. Each specializes in absorbing a specific wavelength of light—blue, green or red.

Most mammals only have two cone types (blue and green). As a result, dogs, cats, mice, rats and rabbits have very poor color vision. They see more than black and white, but mostly grays, and some blues and yellows.

### The birds and the bees

Monkeys, ground squirrels, birds, insects

and many fish see a fairly good range of color. It may not be as good as what humans see, but it's much better than the vision of cats and dogs.

Bees and butterflies have three cones. They can see blue and green as well as ultraviolet (UV) light, because they have UV-sensitive receptors. The UV-receptor allows insects to see patterns in petals that guide them deep into the flower to find nectar. While they may see spectrums of light humans can't, their eyesight is likely not as sharp and detailed.

Surprisingly, most birds, fish, and some insects and reptiles have four or more types of cones. The fourth photoreceptor usually allows the animal to perceive UV light.

### Seeing without eyes



Many snakes have thermal (heat) vision. Because they can see in the infrared wavelength, they can literally see heat. Rather than depending on their eyes, snakes sense heat through pit organs on their head.

What Do Animals See?		
Animal	Colors They See	Versus Humans
Bees and butterflies	Ultraviolet, blue, yellow	Different
Birds	Five to seven colors	More
Cats and dogs	Two colors but weakly	Less
Crustaceans (crayfish)	Blue and red	Less
Fish	Most see just two colors	Less
Frogs	Most see some color	Less
African Monkeys and Apes	Same as humans	Same
South American Monkeys	Cannot see red well	Less
Octopi and squids	Blue only	Less
Rabbits	Blue and green	Less
Rats	Ultraviolet, blue, green	Different
Snakes*	Some color and infrared	Different
Spiders	Ultraviolet and green	Different
Squirrels	Blues and yellows	Less



\* Pit vipers, some boas and some pythons.

## What Is the Ophthalmoscope?

An ophthalmoscope is a device that allows health professionals to see inside the eye to examine the retina, optic disc and other important structures. This test can be done as part of a regular eye examination and is crucial in determining the health of the retina (back two thirds of the inside of the eye) and the vitreous humor (the clear gel that fills the space between the lens and the retina).

### There are two different types of ophthalmoscopes:

- A direct ophthalmoscope produces an upright, or unreversed, image of approximately 15 times the magnification
- A binocular indirect ophthalmoscope produces an inverted, or reversed, direct image of two to five times the magnification

Originally invented by Dr. William Cumming in 1846 at the Royal London Ophthalmic Hospital in England, it was refined by several other doctors.

### Binocular indirect ophthalmoscope (A) Direct ophthalmoscope (B)







**Dr. Dale M. Stein**  
Guest Optometrist

**Q:** What are the best foods and nutritional supplements I can take for my eyesight?

**A:** When I recommend foods and supplements for maintaining or improving eyesight, I generally have the following goals in mind:

- Provide protection against ultraviolet and high-energy visible blue light
- Prevent eye conditions such as dry eyes, age-related macular degeneration and formation of cataracts

There are many foods and supplements that can help achieve those goals. Here are some of them:

**Green leafy vegetables** such as spinach, kale and collard greens are loaded with lutein and zeaxanthin. These nutrients act like sunscreen for the retina at the back of the eye. They can protect our eyes from damage caused by ultraviolet and high-energy visible blue light emitted from the sun, computer screens and cell phones, and can help prevent macular degeneration. An eye supplement containing significant concentrations of lutein and zeaxanthin may help to prevent macular degeneration, and may reduce sensitivity to glare.

**Sardines, mackerel, cod and other cold-water fish** are excellent sources of the omega-3 fatty acids EPA and DHA. These antioxidants help to prevent dry eyes and macular degeneration. Other excellent sources of omega-3s are nuts (unsalted) and seeds. A high-quality,

triglyceride form of fish-oil supplement with the omega-3s EPA and DHA (making up at least 70 percent of the total amount of fish oil listed on the product) is a highly recommended daily supplement. This is also excellent for the heart and overall health.

**Eggs** are high in lutein and sulfur. Sulfur protects against cataracts, and lutein, as previously noted, prevents macular degeneration. Garlic and onions are other foods that are also high in sulfur.

**Yellow and orange vegetables and fruit** such as orange and yellow peppers, squash, carrots, peaches and bananas contain zeaxanthin and vitamins C and A. They can help to prevent macular degeneration and help improve our daytime vision.

**Blueberries** may help to improve night vision through the substance found in the blue pigment of the blueberry.

In addition, try to stay well hydrated by drinking six to eight glasses of filtered water each day. Maintaining good hydration can help to prevent dry-eye discomfort.

**Other vitamin supplements to consider are:**

- **Vitamin D:** People with early stages of macular degeneration are often found to have low levels in their blood
- **Vitamin C:** May help reduce the risk of macular degeneration and cataracts
- **Vitamin E:** See above regarding vitamin C. Both E and C can lower the risk of damage from UV light exposure

A healthy diet along with taking proper high quality supplements can lead to a lifetime of superior eye health.



## 5 Tips for Spotting Children's Vision Problems

1. Sitting close to the television, holding a book too close or squinting at the classroom chalkboard may be a sign of nearsightedness.
2. Using a finger to guide the eyes when reading (if not a beginning reader) may signal that there is a vision problem.
3. Sensitivity to light can be a symptom of several eye conditions.
4. Closing one eye to read or watch television may indicate the two eyes are not working well together. Ask your optometrist about a condition called convergence insufficiency.
5. Receiving lower grades than usual may mean your child just needs corrective lenses to read the class board.



**Answer to Eye-Q (from page 1)**

**A:** Flies have two compound eyes with 4,000 lenses in each one. They don't see well, but their ability to sense and react to moving things around them is much faster than ours.

## CONTACT

**ALLDocs**  
Heather Kreidler  
3509 Haworth Drive Suite 208  
Raleigh, NC 27609  
hkreidler@foxeyecare.com  
919.763.7522 919.263.2020

**Eyedeaz LLC**  
kzierler@comcast.net  
908.447.1562

Thank you to our newsletter sponsor:



CooperVision™