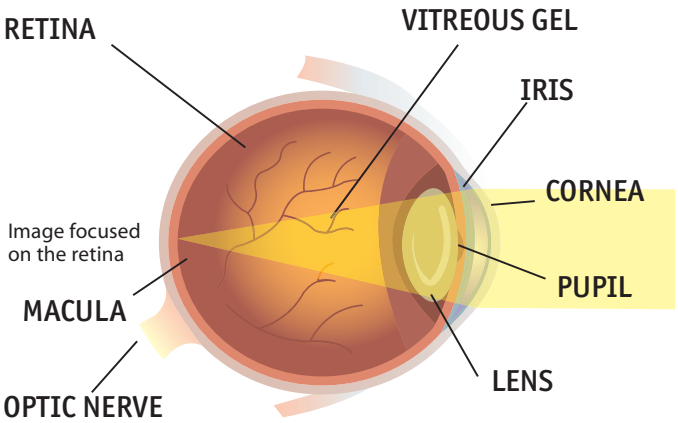
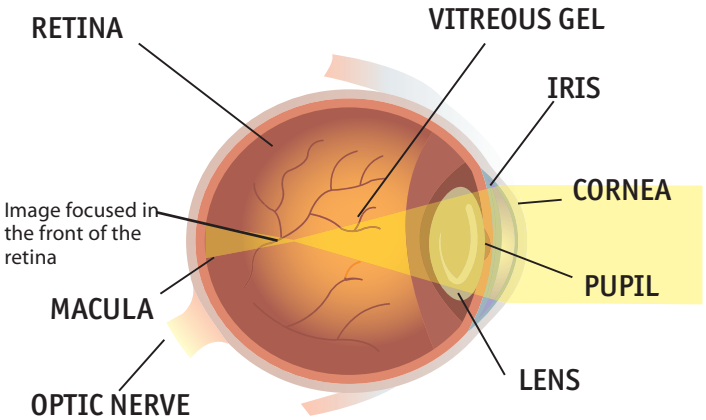
Nearsightedness

What is nearsightedness?

Nearsightedness, also known as myopia, is a common type of refractive error where close objects appear clearly, but distant objects appear blurry.



Normal



Myopia
(nearsightedness)

The cornea and lens bend (refract) incoming light rays so they focus precisely on the retina at the back of the eye.

What is refraction?

Refraction is the bending of light as it passes through one object to another.

Vision occurs when light rays are bent (refracted) as they pass through the cornea and the lens. The light is then focused on the retina. The retina converts the light rays into messages that are sent through the optic nerve to the brain. The brain interprets these messages into the images we see.

What are refractive errors?

In refractive errors, the shape of the eye prevents light from focusing on the retina. The length of the eyeball (longer or shorter), changes in the shape of the cornea, or aging of the lens can cause refractive errors.

How does nearsightedness develop?

Nearsightedness develops in eyes that focus images in front of the retina instead of on the retina, which results in blurred vision. This occurs when the eyeball becomes too long and prevents incoming light from focusing directly on the retina. It may also be caused by an abnormal shape of the cornea or lens.

Who is at risk for nearsightedness?

Nearsightedness can affect both children and adults. The condition affects about 25 percent of Americans. Nearsightedness is often diagnosed in

National Eye Institute
NATIONAL INSTITUTES OF HEALTH

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
National Institutes of Health
National Eye Institute

children between 8 and 12 years of age and may worsen during the teen years. Little change may occur between ages 20 to 40, but sometimes nearsightedness may worsen with age. People whose parents are nearsighted may be more likely to get the condition.

What are the signs and symptoms of nearsightedness?

Some of the signs and symptoms of nearsightedness include the following:

- Headaches
- Eyestrain
- Squinting
- Difficulty seeing distant objects, such as highway signs

How is nearsightedness diagnosed?

An eye care professional can diagnose nearsightedness and other refractive errors during a comprehensive dilated eye examination. People with this condition often visit their eye care professional with complaints of visual discomfort or blurred vision.

How is nearsightedness corrected?

Nearsightedness can be corrected with eyeglasses, contact lenses, or refractive surgery.

Eyeglasses are the simplest and safest way to correct nearsightedness. Your eye care professional can prescribe lenses that will correct the problem and help you to see your best.

Contact Lenses work by becoming the first refractive surface for light rays entering the eye, causing a more precise refraction or focus. In many cases, contact lenses may provide clearer vision, wider field of vision, and greater comfort. They are a safe and effective option if fitted and used properly. However, contact lenses may not be the best option for everyone.

If you have certain eye conditions, you may not be able to wear contact lenses. Discuss this matter with your eye care professional.

Refractive Surgery aims to permanently change the shape of the cornea, which will improve refractive vision. Surgery can decrease or eliminate dependency on wearing eyeglasses and contact lenses. There are many types of refractive surgeries and surgical options should be discussed with an eye care professional.

For more information about refractive errors and eye health, visit **http://www.nei.nih.gov/healthyeyes.**