

Let's Learn About



Visual Impairment



Vision impairment and Blindness have many causes. Birth defects, eye disorders or injuries, and age-related diseases such as glaucoma and cataracts can lead to loss of vision.

Lost vision cannot be restored. Blindness or low vision are permanent conditions. Some people may have full blindness and some may have such low vision that they are considered legally blind. This means they haven't completely lost their vision, but must be 20 feet from an object that a person with good vision could easily see from 200 feet.

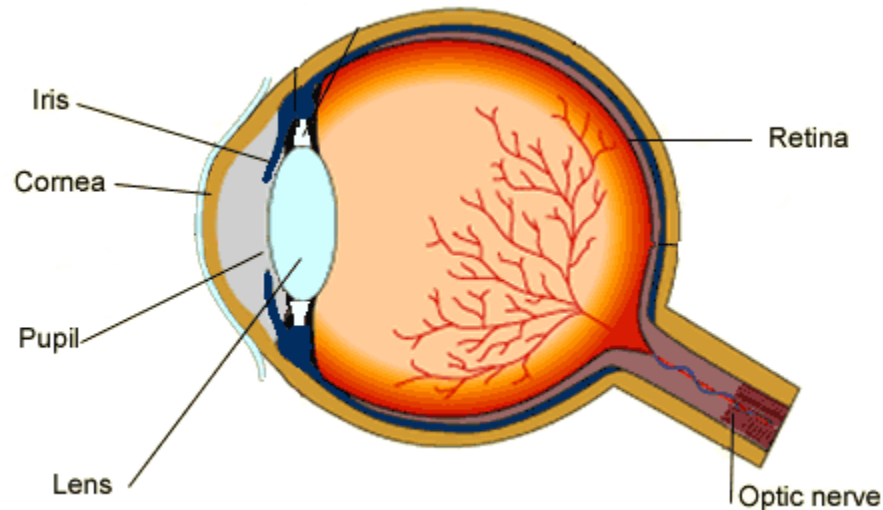


Image provide by BBC.CO.UK

The Science of Visual Impairment

The human eye is like a camera that collects, focuses, and transmits light through a lens to create an image of its surroundings. The image is created on the retina, a thin layer of light-sensitive tissue at the back of the eye.

Like a camera shutter, an eye controls the amount of light that enters it with the iris (the colored part of your eye). The iris closes up the pupil in bright light and opens it wider in dim light. The cornea is the transparent, protective surface of the eye. It helps focus light, as does the lens, which sits just behind the iris.

When light enters the eye, the retina changes the light into nerve signals. The retina then sends the signals along the optic nerve--a cable of more than 1,000,000 nerve fibers--to the brain. Without a retina or optic nerve, the eye can't communicate with the brain, which makes vision impossible.

When one or more parts of the eye or brain that are needed to process images become diseased or damaged, severe or total loss of vision can occur. In these cases, vision can't be fully restored with medical treatment, surgery, or corrective lenses like glasses or contacts.



Causes of Visual Impairment

Congenital Blindness is the term for babies who are born visually impaired. This can be inherited from the child's parents or caused by diseases transmitted through the mother during pregnancy.

Accidents can also cause visual impairment. Getting hit in the head by a baseball, automobile accidents, or trauma to the eye can cause low vision or blindness at any stage of life.

Childhood diseases that can cause loss of vision include Amblyopia (pronounced: am-blee-OH-pee-uh) and Strabismus (misaligned or crossed eyes). Amblyopia, also known as lazy eye, occurs when the brain receives different messages from each eye, such as when one eye focuses better than the other. The brain may turn off messages from the weaker eye which causes vision to stop developing. Strabismus can cause amblyopia because the brain will start to ignore the signals from one of the misaligned eyes.

Diseases related to aging that can cause visual impairment include cataracts, glaucoma, diabetic retinopathy (pronounced: reh-ton-AH-pa-thee), macular degeneration, and Trachoma. Cataracts are cloudy areas in part or all of the eye's lens. These cloudy areas prevent light from easily passing through the lens, causing loss of vision. Cataracts form slowly, usually affecting people in their 60s and 70s. Symptoms of cataracts include double vision, blurry vision, difficulty seeing in poorly lit places, and colors that seem faded.

Glaucoma is caused by an increase in pressure inside the eye. The pressure damages the optic nerve, thereby impairing vision. Though mostly seen in older adults, babies may be born with the condition and it can occur in children and teens as well.

Diabetic retinopathy occurs when the blood vessels in the retina are damaged due to diabetes. People of all ages who suffer from diabetes should get regular eye exams and keep their blood pressure and sugar levels under control to prevent retinopathy.

Macular degeneration is the gradual deterioration of the macula, which is the most sensitive region of the retina. It leads to the loss of central vision (the ability to see fine details directly in front). It occurs especially in people older than 60, but can sometimes occur in younger people, too. Excessive exposure to sunlight and/or smoking increases the risk for macular degeneration. It can cause difficulty reading or watching TV and distorted vision in which straight lines appear wavy.

Trachoma is caused by a contagious microorganism enters the eye and produces inflammation. Mostly found in poor, rural countries with overcrowded living conditions and poor sanitation, it has been virtually eliminated in first world countries.

Living with Visual Impairment

Most people with visual impairment are able to live normal lives. Guide dogs can help them get from place to place independently. Special microscopic or telescopic glasses can help those with low vision, and voice-recognition software can make work, school, and entertainment easier. Braille, a special kind of raised writing, allows visually impaired people to read and write.

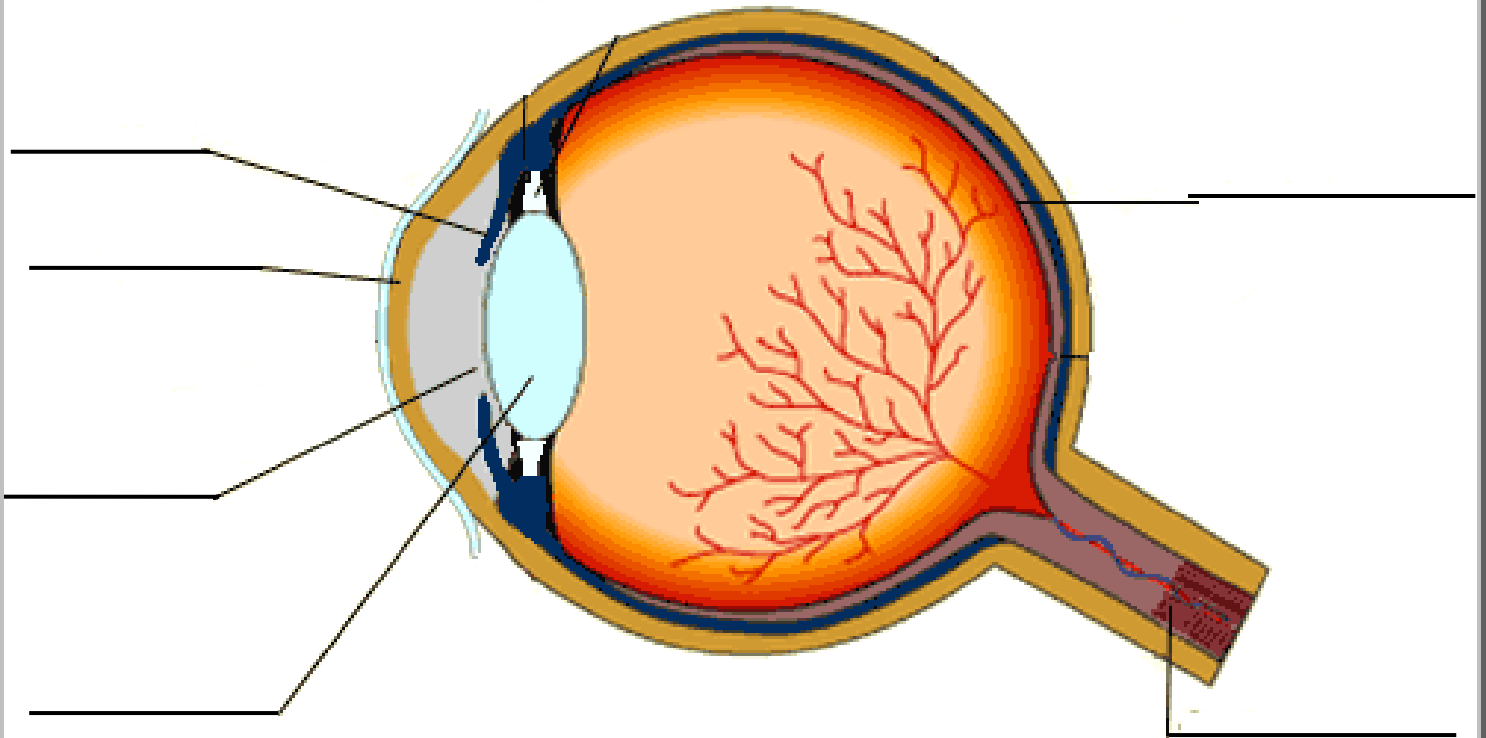


Some visually impaired people wear a button that announces their impairment to others so that the people around them can be considerate of their condition. They use their other senses to understand the world around them. For example, they can use their hearing to tell where other people are or the sense of smell to know what is happening around them. Feeling textures such as wood or carpet and air movement can help them visualize their environment.

Visual impairment does not mean a person can't live alone, take care of themselves, and even run their own errands. Living with visual impairment can be difficult, but many of the obstacles can be overcome with time, training, and a little help.



Label the Eye



Fill in the Blanks

1. _____ means a person hasn't completely lost vision, but must be 20 feet from an object that a person with good vision could easily see from 200 feet.
2. An eye controls the amount of light that enters it with the _____.
3. _____ can cause visual impairment not caused by birth defects or disease.
4. _____ can help visually impaired people get from place to place.
5. The _____ is the most sensitive region of the retina.

Visual Impairment Word Search

I T U D M I H L O E R E A A B
S T R I L K Q G A E D M S I R
L S W A I R I S T I O H R P A
V E E W C G Y I U C X E V O I
Y A N N J H N G U F T C K Y L
C Z L S D O O A N I L N I L L
X M E U P N L M N H J E W B E
B T H A C G I A A F J B R M I
H N T S B A B L T T Z I Z A C
D H S V Y P M I B A E N R O C
Y D W S W C A T A R A C T D C
D D U V X P R X I E H D M O I
Y D B S U M S I B A R T S I T
N A P K O M X Y W A A H U U P
Q C N C K Y V T V W Y F G I O

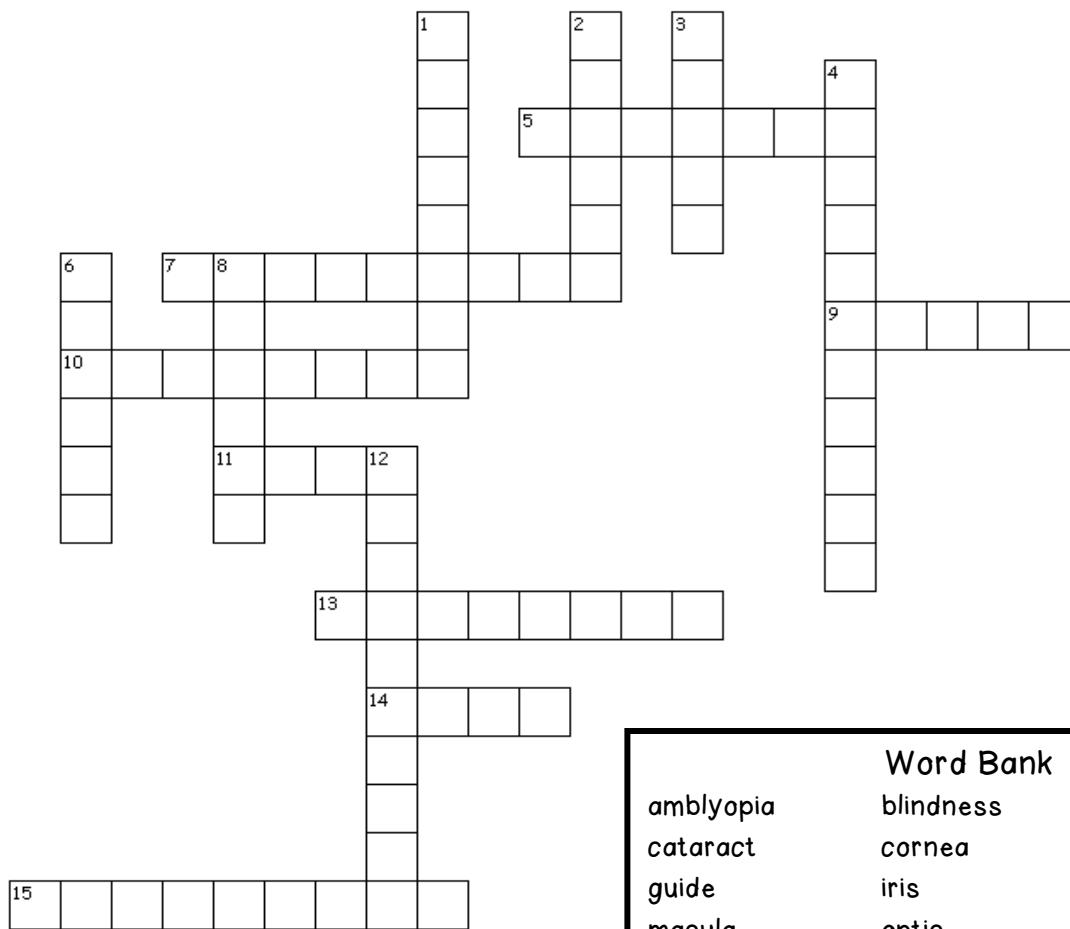
AMBLYOPIA
CATARACT
GUIDE
MACULA
RETINOPATHY

BLINDNESS
CORNEA
IRIS
OPTIC
STRABISMUS

BRILLE
GLAUCOMA
LENS
RETINA
TRACHOMA



Visual Impairment Crossword



Word Bank		
amblyopia	blindness	braille
cataract	cornea	glaucoma
guide	iris	lens
macula	optic	retina
retinopathy	strabismus	trachoma

Across

- 5. a special raised kind of riding that allows the visually impaired to read and write
- 7. known as lazy eye; occurs when brain receives different messages from each eye
- 9. nerve that is a cable of more than 1 million fibers connecting the retina to the brain
- 10. eye disease caused by contagious microorganism found in poor, rural countries
- 11. sits just behind the iris and assists in focusing light
- 13. cloudy area in part or all of the eye's lens
- 14. round, colored part of eye that controls the amount of light that enters it
- 15. Total loss of vision

Down

- 1. an increase in pressure inside the eye that damages the optic nerve
- 2. transparent, protective surface of the eye
- 3. type of dog who helps the visually impaired get from place to place
- 4. blood vessel damage in the eye due to diabetes
- 6. thin layer of light-sensitive tissue at the back of the eye
- 8. the most sensitive region of the retina
- 12. misaligned or crossed eyes



Thank you so much for downloading this Let's Learn About Visual Impairment printable! I truly appreciate your support and encouragement and hope this printable helps your child understand more about blindness and low vision.

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