VISION SERVICES

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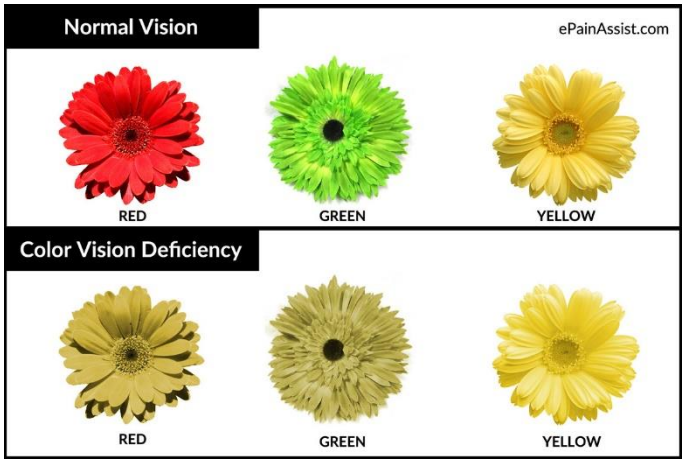
Color Blindness



What is color blindness?

Color blindness means that you have trouble seeing red, green, or blue or a mix of these colors. It's rare that a person sees no color at all.

Color blindness is also called a color vision problem.

A color vision problem can change your life. It may make it harder to learn and read, and you may not be able to have certain careers. But children and adults with color vision problems can learn to make up for their problems seeing color.

What causes color blindness?

Most color vision problems are inherited (genetic) and are present at birth.

People usually have three types of cone cells in the eye. Each type senses either red, green, or blue light. You see color when your cone cells sense different amounts of these three basic colors. The highest concentration of cone cells is found in the macula, which is the central part of the retina.

Inherited color blindness happens when you don't have one of these types of cone cells or they don't work right. You may not see one of these three basic colors, or you may

see a different shade of that color or a different color. This type of color vision problem doesn't change over time.

A color vision problem isn't always inherited. In some cases, a person can have an acquired color vision problem. This can be caused by:

- Aging.
- Eye problems, such as glaucoma, macular degeneration, cataracts, or diabetic retinopathy.
- Injury to the eye.
- Side effects of some medicines.

What are the symptoms?

The symptoms of color vision problems vary:

- You may be able to see some colors but not others. For instance, you may not be able to tell the difference between some reds and greens but can see blue and yellow easily.
- You may see many colors, so you may not know that you see color differently from others.
- You may only be able to see a few shades of color, while most people can see thousands of colors.
- In rare cases, some people see only black, white, and gray.

How is color blindness diagnosed?

Tests measure how well you recognize different colors.

- In one type of test, you look at sets of colored dots and try to find a pattern in them, such as a letter or number. The patterns you see help your doctor know which colors you have trouble with.
- In another type of test, you arrange colored chips in order according to how similar the colors are. People with color vision problems cannot arrange the colored chips correctly.

Because a color vision problem can have a big impact on a person's life, it is important to detect the problem as early as possible. In children, color vision problems can affect learning abilities and reading development. And color vision problems may limit career choices that require you to tell colors apart. Most experts recommend eye exams for children between ages 3 and 5. Vision screening is recommended for all children at least once before entering school, preferably between the ages of 3 and 4.

How is it treated?

Inherited color vision problems cannot be treated or corrected.

For the most common type of color blindness-red-green color deficiency-no treatment is needed, because you function normally. You may not be aware that you do not see colors the way they are seen by others.

Some acquired color vision problems can be treated, depending on the cause. For example, if a cataract is causing a problem with color vision, surgery to remove the cataract may restore normal color vision.

You can find ways to help make up for a color vision problem, such as:

- Wearing colored contact lenses. These may help you see differences between colors. But these lenses don't provide normal color vision and can distort objects.
- Wearing glasses that block glare. People with severe color vision problems can see differences between colors better when there is less glare and brightness.
- Learning to look for cues like brightness or location, rather than colors. For example, you can learn the order of the three colored lights on a traffic signal.

How can you help a child who has color blindness?

Color vision problems may make it harder for children to learn and read, which can lead to poor schoolwork and low self-esteem.

You can help your child these ways.

- Make sure your child is tested for color vision problems during routine eye tests. The sooner you know there is a problem, the sooner you can help your child. Eye exams should be done at all well-child visits.[1]
- Tell your child's teachers and other school staff about the problem. This may be helpful. Suggest seating your child where there is no glare and using a color of chalk that your child can see.