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# Color blindness

Color blindness is the inability to see some colors in the usual way.

## Causes

Color blindness occurs when there is a problem with the pigments in certain nerve cells of the eye that sense color. These cells are called cones. They are found in the light-sensitive layer of tissue at the back of the eye, called the retina.

If just one pigment is missing, you may have trouble telling the difference between red and green. This is the most common type of color blindness. If a different pigment is missing, you may have trouble seeing blue-yellow colors. People with blue-yellow color blindness often have problems seeing reds and greens, too.

The most severe form of color blindness is achromatopsia. This is a rare condition in which a person cannot see any color, only shades of gray.

Most color blindness is due to a genetic problem. About 1 in 10 men have some form of color blindness. Very few women are color blind.

The drug hydroxychloroquine (Plaquenil) can also cause color blindness. It is used to treat rheumatoid arthritis and other conditions.

## Symptoms

Symptoms vary from person to person, but may include:

- Trouble seeing colors and the brightness of colors in the usual way
- Inability to tell the difference between shades of the same or similar colors

Often, symptoms are so mild that people may not know they are color blind. A parent may notice signs of color blindness when a young child is first learning colors.

Rapid, side-to-side eye movements (nystagmus) and other symptoms may occur in severe cases.

## Exams and Tests

Your health care provider or eye specialist can check your color vision in several ways. Testing for color blindness is usually part of a complete eye exam.

## Treatment

There is no known treatment. Special contact lenses and glasses may help people with color blindness tell the difference between similar colors.

## Outlook (Prognosis)

Color blindness is a lifelong condition. Most people are able to adjust to it.

## Possible Complications

People who are colorblind may not be able to get a job that requires the ability to see colors accurately. For example, electricians, painters, and fashion designers need to be able to see colors accurately.

## When to Contact a Medical Professional

Call your provider or eye specialist if you think you (or your child) may have color blindness.

## Alternative Names

Color deficiency; Blindness - color

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