

Idaho Falls Pediatrics

Color Blindness

What is color blindness?

Color blindness is a vision problem that makes it hard to tell the difference between certain colors. If you are color blind, it usually does not mean you see everything in black and white or shades of gray. Full color blindness is very rare. Most color-blind people have trouble with just 1 or 2 colors. Usually the colors they have the most trouble telling the difference between are red and green. Shades of red and green might look brownish to a color-blind person.

How does it occur?

You see in color because the retina at the back of the eye has special cells called cones. There are 3 types of cones: cones for red light, cones for green light, and cones for blue light. These 3 types of cones mix the colors together to create all of the colors people see. In a color-blind person, the red and green cones are very similar to each other so that it is difficult to tell the difference between red and green colors. This causes an abnormal mix of color and color confusion.

Color blindness is usually an inherited and lifelong condition. It is most commonly passed from mother to son. A woman can be a "carrier" of the gene but will usually not be color blind herself. Men cannot be just carriers of the gene. If a man has the color blindness gene then he is color blind. For that reason, men are more commonly color blind than women.

Rarely an eye disease can cause you to become color blind later in life. Usually color blindness is not caused by a disease, but some retinal diseases (such as age-related macular degeneration) may cause problems with color vision.

How is it diagnosed?

Your eye doctor can do a very simple test for color blindness. You look at a special test book that has a pattern of small colored circles. Some of the circles on the page are a different color and form a number. A color blind person will not be able to see the number because it will appear as the same color as the other circles on the page. The test book has about a dozen of these patterns in it to make sure of the diagnosis and to judge the severity

of the color blindness. This test is usually easy enough that it is possible to get good results even with young children.

In some cases your eye doctor may refer you to another specialist to do more detailed testing to figure out exactly what type of color blindness you have.

How is it treated?

Usually there is no need to treat color blindness. People with color blindness learn to tell the differences between colors. For example, green might look brighter than red. If a person is severely color blind, occasionally a red tinted contact lens is prescribed for just one eye. This may help the person see colors a little better.

How can I take care of myself?

Usually nothing needs to be done. You may find that some tasks are frustrating such as:

- judging traffic lights
- coloring with markers or crayons
- matching clothes
- reading color-coded maps or weather charts
- knowing if fruits are ripe or if meat is rare or well-done.

In some cases, a color blind person may need to avoid careers that require excellent color vision. However, there are many color blind electricians who can easily work with multi-colored wires. Most of the time you can learn to adjust by using other cues such as looking for the position of the light on a traffic signal rather than the color or looking for subtle color differences (red may appear darker than green). Parents may need to give their color blind child more assistance picking out clothes until the child can learn how to match colors.

Reviewed and approved by the Wilmer Eye Institute of Johns Hopkins Medicine, Baltimore, MD. Web site: <http://www.hopkinsmedicine.org/wilmer/>
Written by George Mamalis, OD.

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*NOTE: This information is provided as a public educational service. The information does not replace any of the instructions your physician gives you. If you have a medical emergency please call 911 or the Hospital at (208) 529-6111. If you have questions about your child's care, please call Idaho Falls Pediatrics at (208) 522-4600.