



Color Vision Deficit (color blindness)

WHAT IS COLOR VISION DEFICIT?

Color vision deficiency (CVD also called color blindness) is when someone is not able to see certain colors. There are color-sensing parts of the back of the eye that pick up red, blue, or green light. People with CVD are missing some or all of these color sensing parts (called pigments). If just one pigment is missing, it may be hard to see the difference between red and green or between blue and yellow. The worst form of CVD is [achromatopsia](#). A person with this rare eye problem cannot see any color, so everything is in shades of gray. The vision in people with achromatopsia is also blurry.

WHAT IS THE MOST COMMON TYPE OF COLOR VISION DEFICIENCY?

The most common type of CVD is red-green color deficit. It is often due to a genetic problem (it runs in families) that is more common in men/boys (X-linked recessive inheritance). About 1 in 12 boys have some form of color vision deficit, while color deficits are rare in girls.

WHAT ARE THE SYMPTOMS OF COLOR DEFICIENCY?

Symptoms can be different and depend on the amount of pigment that is missing. Often it is hard to tell the difference between shades of the same or similar colors. Colors can look washed out and are easily confused with other colors. A child may color things “wrong” in pictures by making the sky purple, the grass orange, or trees yellow. Since most people with color deficits can see some colors, they often don’t know they see color differently than others.

HOW IS COLOR VISION DEFICIENCY DIAGNOSED?

Your eye doctor can test color vision during an eye exam. The most common test uses a book with pictures of colored dots. People with color deficiency will not see certain shapes in the pictures of dots. If you are worried about CVD in



yourself or your child, please share this with the care team at the start of the visit.

IS THERE ANY TREATMENT?

Inherited CVD - is something you are born with and is a lifelong condition. It doesn't usually get better but it doesn't usually get worse. Recently, CVD - correcting glasses have been developed to help some people with red-green color deficits to be able to tell the difference between colors. -. Gene therapy trials are ongoing for patients with achromatopsia, the most severe form of color blindness (mentioned above). This type of treatment may help improve the vision but has not made it easier to see color.

IS THERE ANYTHING I CAN DO TO HELP?

Early diagnosis can help children with CVD with low self-esteem in school. If your child has a color vision deficiency, be sure to tell their teachers so they can design lesson plans with this in mind. It is helpful to label crayons, markers, or colored pencils. Make sure reading papers are printed with black ink on white paper, as colored paper and ink can cause problems. Students with CVD can learn the colors of common items so they will have a frame of reference when people are discussing colors.

CAN COLOR VISION DEFICIT AFFECT MY CHILD'S FUTURE?

It is usually not a big problem as they learn to adapt by looking for other cues, such as brightness or location. Color vision deficit can make certain jobs more difficult, such as electricians, phone line technicians, some types of engineering, fashion designers, computer graphic designers, painters, cooks, florists, and may prevent careers such as fire fighters, train drivers, or pilots.

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