

COLOUR VISION

Q Why is colour vision important?

A Colour is used constantly as a means of communicating information.

Children in their early grades at school are taught through the use of colour and their learning can be hampered by not being able to see colours properly. It is important that your child's colour vision is checked before he or she enters school. Once you know that your child is colour vision deficient, you will be able to minimise learning difficulties which your child may have.

People in many occupations—such as pilots, clothes designers and painters—must be able to discriminate accurately between colours. Students who know they are colour vision deficient can avoid choosing and studying for careers which require fine colour discrimination.

Traffic lights and other warning signals may not be seen by people who have a colour vision deficiency.

Q What is colour vision deficiency?

A Colour vision deficiency is a two-fold complaint. A person suffering from a colour vision complaint

- will confuse some colours
- will not see some colours as brightly as people with normal colour vision.

It is very rare for a person to be unable to distinguish between any colours and therefore the term colour-blind is misleading.

Q How common are colour vision deficiencies?

A Males are far more likely to have colour vision deficiencies than females. One man in 12 has a colour vision problem, while only one woman in 200 is affected.

Being unable to distinguish between shades of red and green is the most common colour vision deficiency.

Q What causes colour vision deficiencies?

A Nearly all colour vision deficiencies are inherited. In some unusual cases people develop colour vision deficiencies through the ageing process, disease or injury.

Every colour corresponds to a unique wavelength of light in much the same way as every radio station has its own wavelength on which it broadcasts radio signals.

There are receptor cells in the retina at the back of the eye. These cells contain a light-sensitive pigment called a photopigment. A 'red' photopigment responds most strongly to orange and red colours; a 'blue' photopigment responds best to violets and blues; and a 'green' photopigment responds best to greens and yellows.

In people with colour vision deficiency, some of the receptor cells in the retina respond to the wrong wavelengths.

Q Can colour vision deficiencies be cured?

A No. Colour vision deficiencies cannot be cured or prevented. However, people with colour vision deficiencies learn to compensate for their problem in various ways. Often people will be unaware that they do not see colours properly because they have found ways of overcoming the difficulties.

Q How can I tell if I am colour vision deficient?

A Your optometrist has simple tests which will uncover any colour vision problem you may have.

Ask your optometrist for these related brochures

- School achievement and vision
- Driving and vision

This brochure is produced by the Australian Optometrical Association
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