



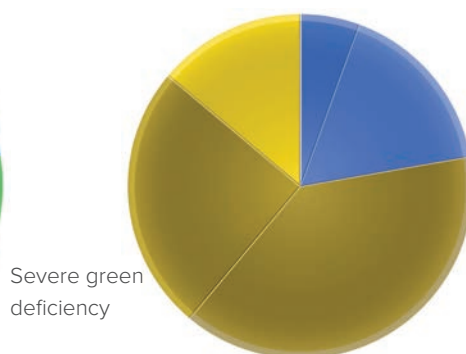
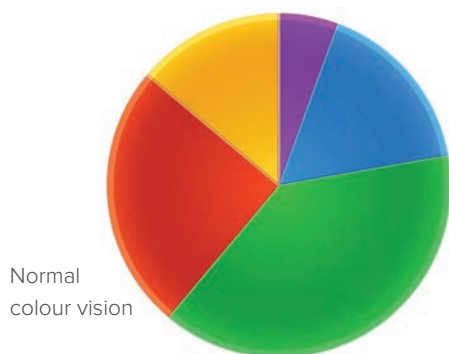
Colour blindness is one of the world's most common inherited conditions affecting:

- ▶ 3 million people in the UK (300+ million people worldwide)
- ▶ 1 in 12 males and 1 in 200 females
- ▶ At least 1 student in every class of 30

Most cases of colour blindness are hereditary, passed down the mother's side of the family. So, if any uncles, great uncles, grandfathers or cousins have colour vision deficiency (CVD), contact them – they can be a great support for both you and your child, sharing their experience of CVD and passing on advice.

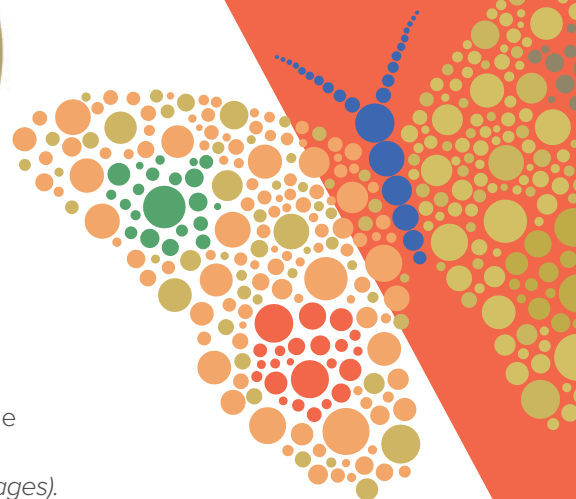
All images: left, normal colour vision, right, severe green deficiency

Advice sheet for Parents of Teens



What is colour blindness?

We see colour through three specific types of cone cells in our eyes, one type absorbs red light, the second green and the third blue. With inherited CVD, one cone type doesn't function normally. Most cases of CVD arise from a defect in the red or green cone types, this is commonly known as "red/green colour blindness" (see images). However, colour blindness can affect many other colour combinations.



How it affects a teenager's everyday life

Although teenagers with CVD lead perfectly normal lives (which is why the condition often goes undiagnosed), colour blindness can put them at a distinct disadvantage in situations where colour is used as a way of communicating information, especially in the education environment. For example, a young person with CVD may have difficulties participating in sports that require colour recognition (i.e. identifying coloured shirts), or find it hard to follow colour-coded information presented in graphs and diagrams.

With proper support they can learn coping techniques, but it's important for parents to realise that colour blind teenagers tend to try and hide their problems. Equally, due to their colour blindness, they may not always know whether they can or can't see something.

Therefore, as parents, you need to maintain a discourse about CVD with your teenage child, even though he or she may appear to be coping well with the condition. They will have learnt to identify colours based on what they've been *told* those colours are or represent. This is not the same, however, as being able to see the same colour as everyone else, which means they will continue to come up against problems in different environments.

If in doubt, take action

You can help your child to hone their coping techniques by spotting signs that they may need extra help. Teachers and lecturers can also play a key role in supporting your child, so make sure the school or college is aware of the diagnosis and refer them to the *Teachers section* on our website (see below).

A young person with CVD is likely to need more time processing information that uses colour as they will be searching for other (non-colour) clues. There are other key signs to watch out for that indicate your child may need extra support, for example, if he or she:

- Finds it difficult to interpret information on interactive whiteboards or projected onto screens
- Has difficulty interpreting maps, colour pie-charts and science experiment results
- Is confused about who is in their team when coloured bibs or tops are used in PE lessons or training

- Is unaware of colour demarcation lines, for example to indicate the perimeters of inside courts for 5-a-side, badminton etc
- Gets unexpected poor results for studies using worksheets or web-based homework programmes
- Has trouble seeing all the images and instructions on computer games
- Can't easily tell when their tablet is fully charged because the different coloured LEDs all appear the same

Ways to help

Communication is key and helping your child to feel confident about recognising and speaking about their colour blindness is a major step towards minimising any disadvantages it causes.

Encourage your child to:

- Tell their teachers or trainers if they are experiencing difficulties related to their colour blindness
- Feel happy to explain about CVD and ask their friends for help when needed
- Sit in good natural light whenever possible when working (but avoid bright sunlight)
- Research and use accessible Apps/software for CVD students e.g. Chrome extension/iOS accessibility settings

Encourage teachers and sports coaches to:

- Use secondary indicators, in addition to colour, for graphs and charts e.g. patterns or shading
- Audit worksheets, textbooks, websites and other resources/equipment for potential problems
- Ensure students with CVD receive the correct support for external exams (see the Detailed Advice Sheet in the Teachers section of our website for more information)
- Avoid relying on colour alone to assess understanding
- Regularly ask diagnosed CVD students if they are experiencing difficulties that may be related to their condition – encourage them to voice any concerns e.g. if they aren't able to tell sports kits apart.



Further information and resources

For more information and resources visit www.colourblindawareness.org, which includes a Parents/Families advice section, Press articles, downloadable information and links to videos, as well as our online shop www.colourblindawareness.org/about-us/online-shop/. Schools and sports coaches can reference the Teachers and Sports sections.

