



COLOUR BLINDNESS

WHAT IS COLOUR BLINDNESS?

Colour blindness is the common term for colour vision deficiency (CVD) which is usually an inherited condition affecting a person's ability to distinguish colours.

We see colour through three types of cone cells in our eyes which absorb red, blue and green light respectively. In colour blindness one cone type doesn't function normally meaning many colour combinations can be confusing. Colour blindness can also be acquired from certain diseases, such as diabetes and from some drugs and medications.

Most types of colour blindness involve defects in red or green cones, so any colours which have elements of red or green can be confused. For example, blue and purple are often confused because to people with CVD both colours can appear to be dark blue—to them the 'red' element of purple is invisible.

GENERAL INFORMATION

Coaching people with colour blindness can provide varying levels of challenge as different people can have different types and severities of CVD. Some people will have few issues, whilst for others distinguishing some equipment can be very difficult. To further complicate matters, many people are unaware they have CVD, especially children. This is because screening from CVD no longer takes place at school entry and colour vision tests are not a mandatory part of an NHS eye examination. Consequently colour blind people (and their parents) may not be aware they have the condition.

In view of the significant numbers of people who are colour blind it is reasonable to assume that there might be one person with CVD in every coaching session and to adapt your coaching techniques accordingly. The good news is that by making some simple adaptations you won't need to know anything about the different types and severities of CVD or to identify which individuals are colour blind.

DID YOU KNOW:

1 IN 12 MALES AND 1 IN 200 FEMALES

Inherited CVD is very common and affects 8% of males but only 0.5% of females. This is because it is carried on the X chromosome.

THERE ARE DIFFERENT TYPES AND SEVERITIES of colour blindness

meaning colour blind people don't all see the same way as each other but it's not necessary to know about the different types because the key to accessibility for all types is strong contrast.

MANY COLOUR COMBINATIONS CAN BE CONFUSING because so many different colours can appear the same



The greatest problems for people with colour blindness are:

- Following the ball against opponents' clothing / the court surface / walls / windbreaks and foliage
- Confusion created by different types of lighting e.g. moving between sunlight and shade, floodlighting
- Distinguishing line markings or other court markings such as spot targets
- Distinguishing equipment from the court or from other equipment e.g. different coloured cones / balls
- Distinguishing between different coloured line markings on multisports courts
- Understanding explanations or instructions given in colour only

COACHES' CORNER

CVD is a hidden impairment at every level of the game, affecting coaches, spectators and employees as well as players. People with CVD don't need any special equipment, but they do need greater understanding and awareness of their needs.

Fortunately, it is easy to address colour blindness simply by applying some basic principles to the way information and equipment is present-ed.

When coaching it's best to assume that there will be a player with CVD within your group and to consider how you can adapt your equipment and coaching strategies to ensure they are not excluded from full and equal participation. There is no need to ask players if they are colour blind or to know the type and severity of someone's CVD if you adopt some simple steps.

Ensuring maximum contrast between colours is key to accessibility for people with CVD. Colour combinations which appear to have strong contrast for people with normal colour vision often have very little contrast to people with CVD. One way to check contrast is to view your equipment through your smartphone camera, set to monochrome. If there is very little contrast, say between the ball and the opponent's clothing or background surface, you will need to select alternative equipment.

TOP TIPS

- Don't use colour only when giving explanations or instructions, use other descriptions in addition to colour.
- Don't use equipment which is difficult for people with CVD to distinguish e.g. orange or red cones and line markings against green court surfaces.
- Check balls have strong contrast with opponents' clothing, the colour of the court and other background surfaces e.g. wind-breaks and foliage
- Ensure any written or digital information and diagrams don't rely on colour only to convey information.
- If a player is happy to disclose that they have CVD, encourage them to let you know if they experience any difficulties with instructions or equipment.
- Most people with CVD are easily able to see blue and yellow, so wherever possible select blue, yellow and white equipment and avoid reds, greens and oranges.
- When writing tasks on a white board just use one or two colours (blue and black as first choice). Avoid red as a contrast to green or black but if it is essential to use red try to find another way to distinguish it such as underlining or using different shapes to represent different colours.

CONTACT US FOR MORE INFO

For further information on hearing impaired tennis please contact the LTA Disability Development team:

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