

COLOUR BLINDNESS

GUIDANCE FOR REFEREES

WHAT IS COLOUR BLINDNESS?

We see colour through three types of cone cells in our eyes. These absorb red, green or blue light respectively. In colour blindness, one of the cone cells doesn't operate normally – usually the red or green cones. This makes many colour combinations confusing to people with these defective cones. Colour blindness is also known as colour-vision deficiency or CVD. Most people believe that colour-blind people only confuse red and green. Not true. Many different colour combinations cause confusion as the pics in this leaflet show.

Colour blindness (colour vision deficiency, CVD) is one of the world's most common inherited conditions and affects:

1 in 12  **1 in 200** 

Statistically, one player in every male squad is colour blind
300+ million people worldwide are colour blind

The above facts mean that for every game you officiate some of the spectators will be colour blind. In addition, for a men's/boys' game, statistically at least one player in each squad will be, as well as potentially people in their management/coaching team. Also, of the 26,000+ registered male referees in England, at least 2,000 will be colour blind. This may not be you, but it could apply to members of the match officials team working with you on the day. Of the 2,000+ registered female referees, that number reduces dramatically to eight to 10.

IMPACT OF CVD ON REFEREES/MATCH OFFICIALS

Understandably, the greatest problem for referees/match officials arising during matches is ensuring that everyone, including the players themselves, can distinguish between the kit colours of:

- The outfield players;
- Outfield players and goalkeeper(s);
- Outfield players and fellow match officials

In addition, for colour-blind referees/match officials, players, coaches/management and spectators these additional problems can also arise:

- Players' kit 'disappearing' against the colour of the pitch;
- Following the ball against the pitch/spectators;
- Being able to distinguish between kit/the ball/the pitch/spectators in different types of lighting, e.g. moving from shade to sunlight, or against floodlighting.

In addition to kit colours which appear to blend together, particular problems can arise for colour-blind players if they cannot tell between the referee's kit and that of their own team or the opposition, as reflected in the pics below.



Normal colour vision



Colour-blind simulation

Players with a red vision deficiency commonly report struggling when their team plays in an all-red kit and the match officials are in all-black. It becomes particularly difficult when trying to understand the kit colours of players in their periphery as they are about to receive/pass the ball. This can put teams at a disadvantage because the colour-blind players often say they are forced to pass back to avoid passing to the referee by mistake.

It is also worth noting that many players aren't even aware that they are colour blind because most have never been screened. Even if they are diagnosed, they are unlikely to reveal this information to their club for fear of being dropped. Several International players and coaches have discussed the challenges they face during a game due to their colour blindness.



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"When I first started refereeing, I allowed myself to be persuaded that colour clashes wouldn't be an issue. I soon learned that this was impossible because there were arguments as soon as I gave throw-ins etc. the wrong way. Sometimes you have to get creative. I have had matches where one of the teams turned their shirts inside out and even had one team send a player down to the local sports shop to buy some plain white T-shirts, rather than have the game cancelled. Ultimately, if you as the official cannot distinguish between the teams then you cannot do the job properly."

Ian T, grassroots referee

TOP TIPS

Dealing with potential kit clashes

When you're checking the team kits in advance, please take the guidance below into account. If you foresee a colour-blind issue and a team has an alternative kit, you should suggest they change.

In men's and boys' football, statistically there will be colour-blind player(s) among the starting 22 who may need the kit change. Coaches and other players can be encouraged to understand. Although less prevalent in the women's and girls' game, you should still request a change if there is an obvious colour-blind clash.

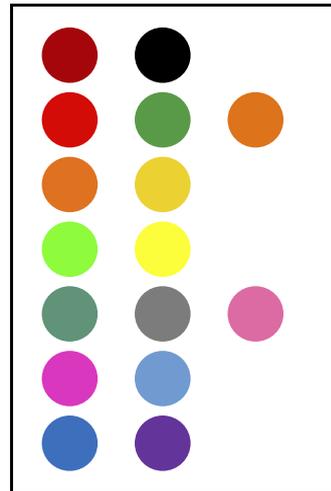
Although not exhaustive, the lists below are a guide to kit combinations that work for colour-blind people and those which are likely to cause problems.



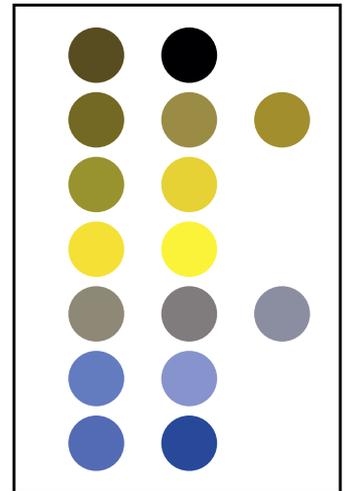
White v Black
Red v Yellow
Black v Yellow
Blue v Yellow
Blue v White



Red v Black
Red v Green v Orange
Yellow v Orange
Bright green v Yellow
Mid-green v Grey/Silver/
Pink
Bright pink v Blue
Blue v Purple/Maroon



Normal colour vision



Colour-blind simulation

See in the pictures below how use of pastel colours creates difficulties if you're colour blind.



Normal colour vision



Colour-blind simulation

As a further guide, please see the confusion these colour combinations can cause, demonstrated in the colour charts above right. Note: the colour combinations are shown in the same order as in the text in the 'red cross' box above.



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HOW TO CHECK KITS AND EQUIPMENT

Check your own kit

The traditional all-black referees' kit may cause problems for colour-blind players (e.g. against all-red kits). In such instances, consider changing your shirt if you have one and if the competition allows.

Consider the ball colour

The normally-white football in the grassroots game won't cause any colour-blind issues, but other ball colours might. An example, see the pics below.

Keep this in mind if you have the option to use a white ball instead of another ball colour.



Normal colour vision



Colour-blind simulation

Check line markings and corner flag/pole colours

Be aware that line markings may pose a challenge if they are in colours that colour-blind people will find difficult to distinguish from the playing surface. This is particularly true when playing indoors, where red and green lines are often used. The same applies to corner flags/pole colours – for example, on a grass pitch, having a red corner flag or pole will cause problems for colour-blind players, and you if you're colour blind. You should ask if there are any alternative options.



Normal colour vision

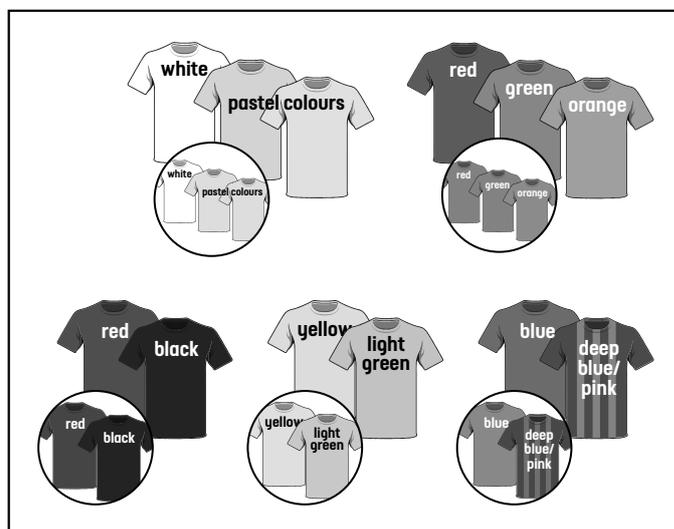
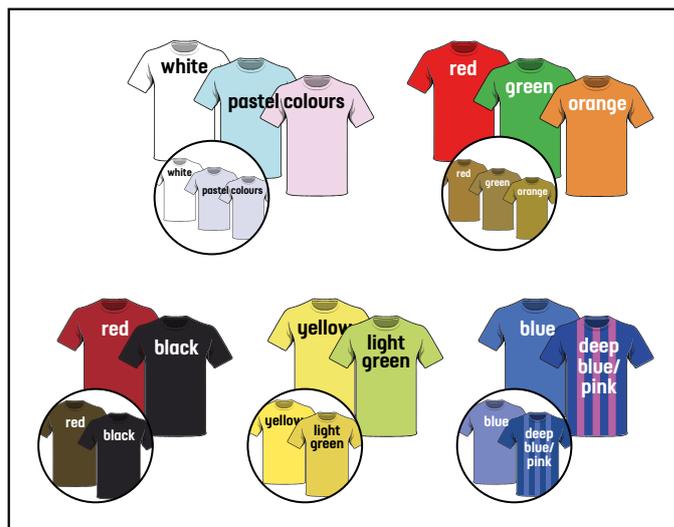


Colour-blind simulation

POTENTIALLY-CONFUSING KIT COLOURS

The circles in the graphic below are indicative but demonstrate what a colour-blind player may see for various shirt colours. The confusion will appear worse in real life when the players are moving quickly.

One way for referees to quickly check for colour-blind kit clashes is to use the greyscale function on mobile phone cameras – the circles in the graphic below give a good idea of the problem for colour-blind players. Always check for potential clashes on the field, not in the changing room, as lighting can affect how colours are perceived.



FOR MORE INFORMATION:

- See the FA/UEFA Guidance Notes: Colour Blindness in Football [here](#)
- Watch the FA's mini-documentary [The Colourful Game](#)
- Visit the [Colour Blind Awareness website](#)
- See [Advice When Selecting Kit Colours](#)

If you need further guidance, in the first instance contact the Referee Development Officer of your County FA. Contact details for all County FAs are here. If required, the query could be referred to The FA's Equality, Diversity & Inclusion team who also work with a specialist external adviser on colour blindness should more detailed guidance be required.



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