

# Colour blindness statistically affects every male football team

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Credit: City University London

Every male football team statistically contains at least one colour-blind player, with many more watching from home or at the match.

With [colour](#) blindness affecting 1 in 12 males and 1 in 200 women, a new FA report co-authored by a City, University of London optometry researcher and former footballer, offers guidance around colour

blindness in football.

The report discusses many issues, such as kit clashes, and also highlights the importance of ensuring that the game is as inclusive as possible, and that kit clashes and other aspects are minimised for those with colour blindness or colour vision deficiency.

In one example in the report, Former Republic of Ireland, Ipswich Town and Charlton captain Matt Holland, who is colour blind, said: "In one particular match when we were in red and the opponents were in dark green I couldn't tell the colours apart. I had to really concentrate in that game looking at socks, because they were easier for me to distinguish. There was nothing else I could do."

## **FA report**

Overall, the guidance document aims to raise awareness and understanding of colour blindness amongst everyone working in English football; highlight the real-life experiences of colour blind people watching and playing football; and also suggest positive interventions to ensure colour-blind people can fully participate in and enjoy our national game.

In particular, Dr Marisa Rodriguez-Carmona, an optometry lecturer at City and former footballer for AFC Wimbledon, advised on the scientific aspects of colour blindness for the report.

What colour-blind people see depends upon the type and severity of their condition as colour-blind people don't all see colours in the same way as each other, but the most common problems are distinguishing between reds/greens/browns/yellows and oranges and also between blues/purples/dark pink.

## Colour blindness

Colour blindness, or colour vision deficiency (CVD), is usually an inherited condition caused by 'faulty' gene-sequencing in the DNA of the X-chromosome which results in the inability to perceive colours normally. But it can arise as a side effect of some diseases, e.g. diabetes and multiple sclerosis and from some drugs and medications.

CVD is one of the world's most common genetic conditions but it is under-recognised and poorly understood. Worldwide, about 320 million people have some form of colour blindness and in the UK there are almost three million colour-blind people. Men are more likely to be colour blind than women, as approximately one in 12 men (8%) inherit red/green colour blindness but only 1 in 200 (0.5%) of women do.

As a result colour-blindness leads to issues in football for people who are colour-blind, including kit clashes between players, goalkeepers, match officials, the playing surface; equipment such as match balls; venues, information and also TV coverage of the match itself.

Other colour combinations can cause problems too, as for example, someone with a red vision deficiency will find it difficult to read black text against a red background. This can be a frequent issue with football kits, as even sometimes with the availability of away and 3rd kits, the respective teams can be difficult to distinguish.

Dr Marisa Rodriguez-Carmona said:

"Statistically, every male team contains at least one colour-blind player and in a full Wembley at least 5,500 spectators will be colour-blind. Congenital colour vision deficiency is one of the world's most common genetic conditions. It affects one in 12 males, so every male team will contain at least one colour-blind player. In women this is much less

common, but the issues faced by colour-blind people in football are the same, whether someone is male or female. I fully support the commitment of The FA to provide guidance and support on colour [blindness](#) for everyone involved in [football](#)."

Provided by City University London

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