

Colour Blind Awareness in Football

Cheshire County Football Association

Wednesday 1st December 2021



ENGLAND FOOTBALL
LEARNING

Questions to answer this morning;

PART 1: What is Colour Blindness?

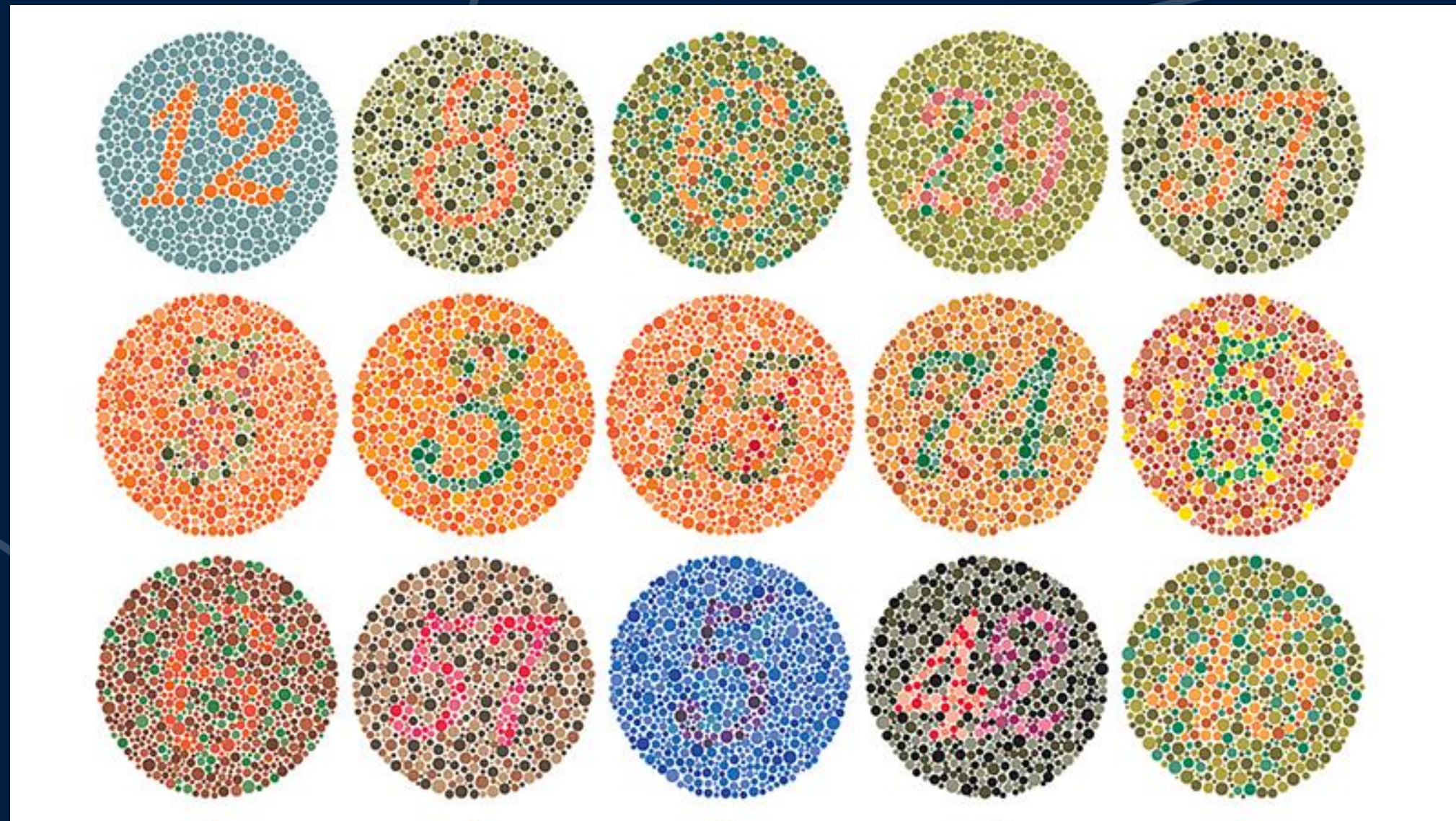
PART 2: Why is the issue important in football and sport environments?

PART 3: How can we implement simple strategies to make a positive difference to those with colour blindness?



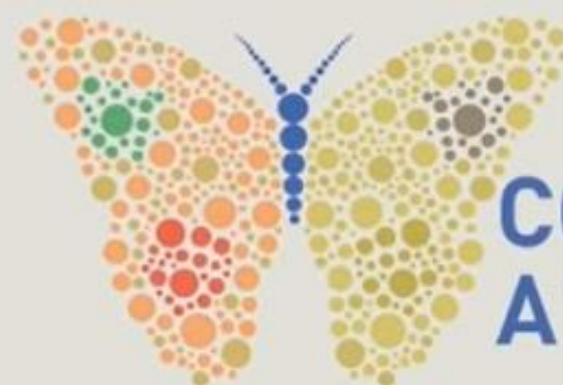
ENGLAND FOOTBALL
LEARNING

What do you currently know about colour blindness (Colour Vision Deficiency)?





FOR ALL

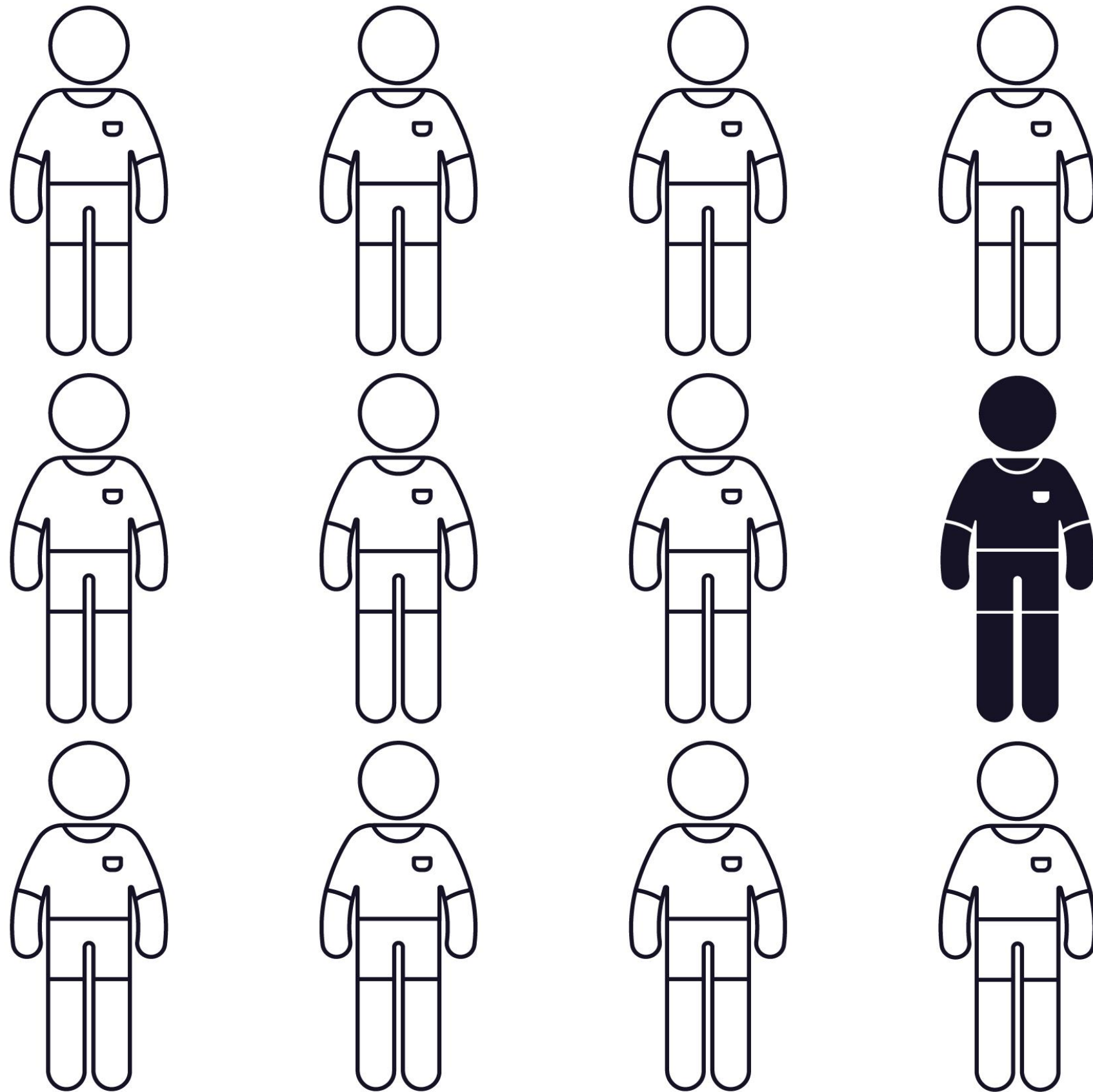


COLOUR BLIND
AWARENESS

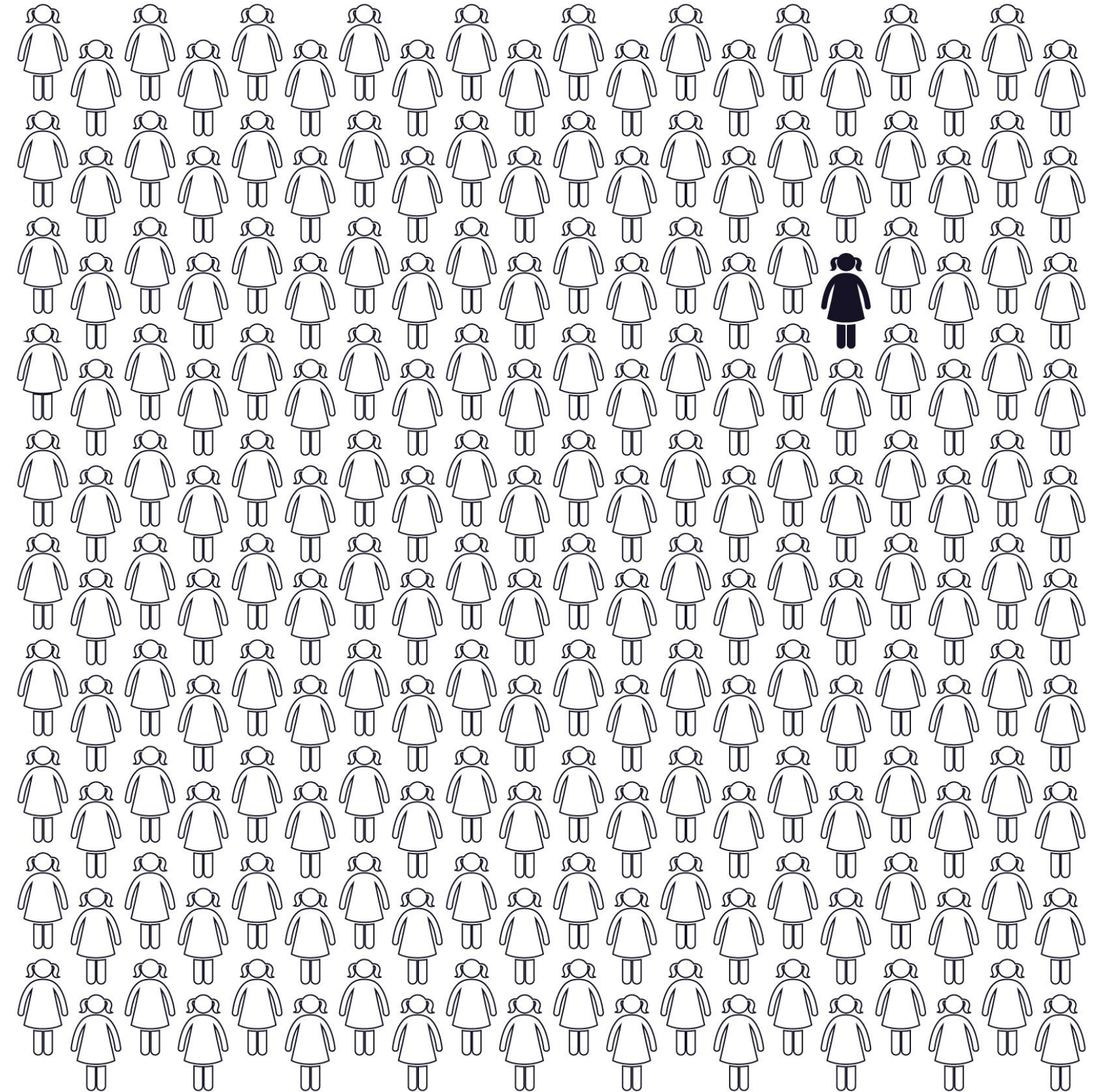


RESPECT

1 in 12 boys



1 in 200 girls



Types of colour vision deficiency



Normal colour vision



Severe green deficiency - deuteranopia



Severe red deficiency - protanopia



Severe blue deficiency - tritanopia

PART 2: Why is the issue so important in football and sport environments?

What are the challenges faced by those with Colour Vision Deficiency?





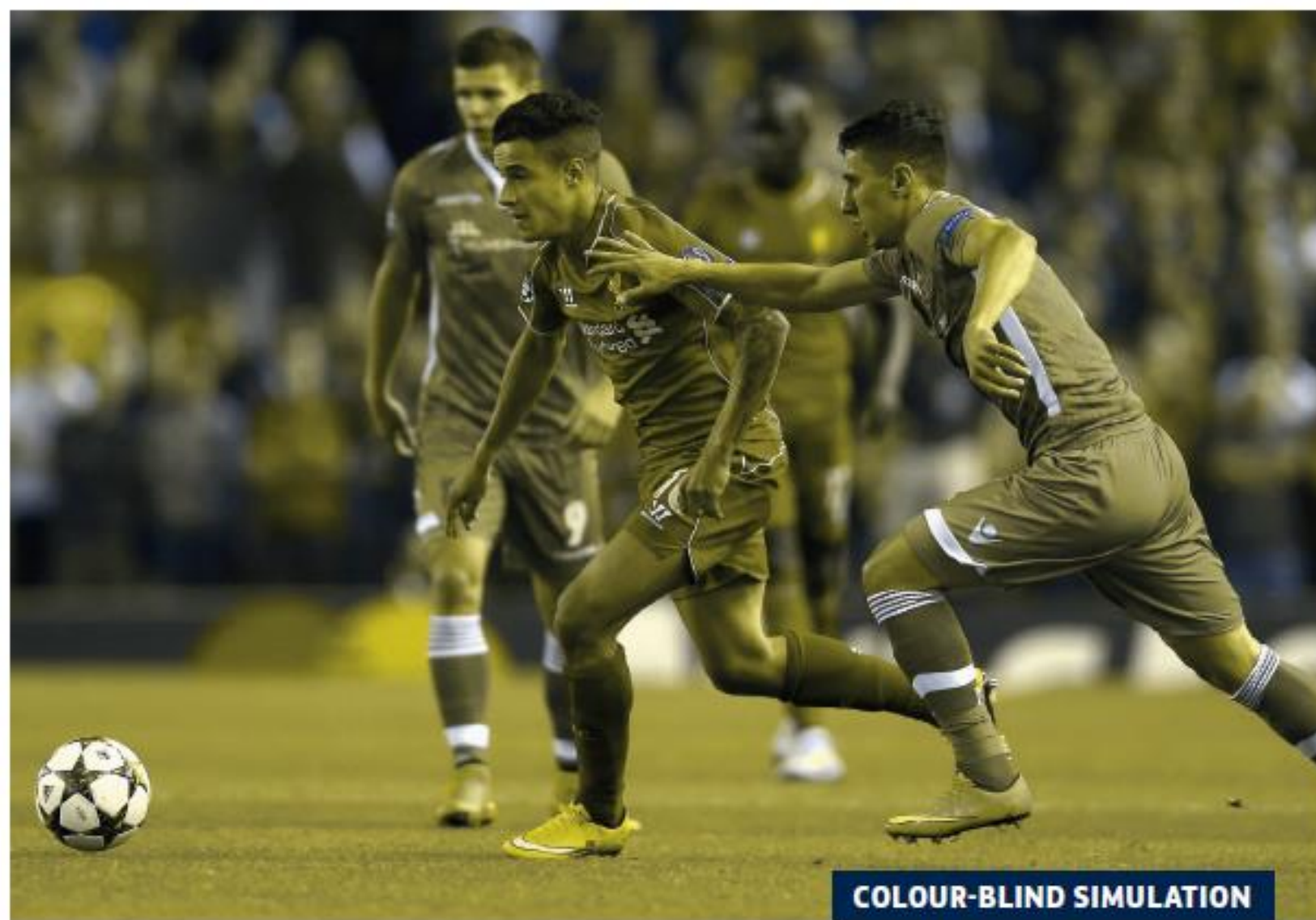
My personal experiences













Thomas Delaney (Sevilla & Denmark)



Katy Moran, 27, who is colour-blind and plays for Aston Villa Ladies, told the BBC she sometimes has to stare at the players' socks to work out who's who - including when she's on the pitch herself.

"We played Millwall last season. Villa wear a claret colour and Millwall had... it must have been dark blue. They walked onto the pitch, I looked and thought - good job I'm not playing! And both teams had white shorts on as well."

Inevitably, it damages her game. "You're concentrating on trying to work out who's who. If I was playing [Millwall] my reactions would be so much slower, because I can't work out quick enough if it's my player who's about to get the ball, or if I should step in."

"There have been times when we've played with red cones and I've moved out of the area because I couldn't see where they were. I was running off and they're like, 'Where are you going?!'"



ENGLAND FOOTBALL
LEARNING

**Katy Moran (Former Aston Villa
player, now Championship Coach)**





[Sport](#) > [Football](#) > [Premier League](#)

Liverpool vs Manchester United: Colour blind fans 'angry' at choice of kits

Kits looked almost identical in colour to fans with both red-black and red-green strands of colour blindness



We will be wearing our white change strip for the @EmiratesFACup second round tie against @officiallydale.

The change is part of both clubs' commitment to making football more inclusive for colour blind supporters.

#pafc



Doug O'Kane
@dougokane88

For those asking why Barnsley are wearing black shorts today, I'm told one of their players is colourblind and wouldn't have been able to pick out Birmingham players in their green 3rd kit. So the Blues were asked to wear their home kit and agreed - then Barnsley changed shorts.

3:53 PM · Mar 6, 2021 · Twitter Web App



Colour Blind Awareness Day: how EURO 2020 provided a clear view for fans

This summer's EURO 2020 tournament was one of the most viewed sporting television events of all time, but did you know that UEFA went to extra lengths to ensure more people could enjoy the action?

That's because European football's governing body worked harder than ever before to avoid the types of kit clashes that might not be noticeable to every fan, but for more than 300 million people around the world, represent an everyday problem.

On Colour Blind Awareness Day 2021, we highlight some of the changes made by UEFA to help tackle a condition which affects one in 12 men and one in 200 women across the globe.

How does UEFA try to limit the impact of kit clashes for colour blind fans?

The aim when preparing playing kits is always to provide a clear contrast between each team for the benefit of the players, officials and spectators. In UEFA competitions we try whenever possible, in consultation with the teams concerned, to avoid colour combinations that could negatively impact colour blind people.



Spain's Jordi Alba in white rather than their traditional red against Italy's Federico Chiesa in blue during the EURO 2020 semi-final

PART 3: How we can implement simple strategies to make a positive difference to those with colour blindness?



ENGLAND FOOTBALL
LEARNING

COLOUR BLINDNESS

GUIDANCE FOR COACHES



Normal colour vision



Colour-blind simulation

WHAT IS COLOUR BLINDNESS?

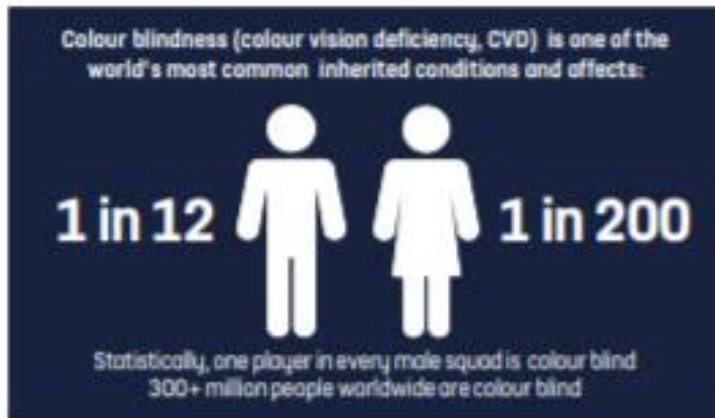
We see colour through three types of cone cells in our eyes. These absorb red, green or blue light respectively. In colour blindness, one of the cone cells doesn't operate normally – usually the red or green cones. This makes many colour combinations confusing to people with these defective cones. Colour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

IMPACT OF CVD ON PLAYERS

The greatest problems for colour blind players are in:

Training

- Distinguishing between bib colours.
- Distinguishing equipment from the pitch/other equipment, e.g.
 - balls;
 - cones;
 - line markings;
 - corner flags.
- Tactical training – distinguishing between team colours on magnetic boards.
- Classroom training
 - distinguishing between pen colours on whiteboards e.g. between red and green or red and black;
 - distinguishing information in graphics e.g. following a specific player in TV footage replays.



Normal colour vision



Colour-blind simulation



Normal colour vision



Colour-blind simulation

Matches

- Distinguishing between kit colours of:
 - the outfield players;
 - outfield players and goalkeeper(s);
 - outfield players and match officials;
 - players' kit 'disappearing' against the colour of the pitch.
- Following the ball against the pitch/stands.
- Different types of lighting e.g. moving from shade into sunlight, floodlighting.

ISSUES FOR COACHES

- Identifying colour-blind players because most hide their condition and many are unaware of it.
- Selecting appropriate equipment for colour-blind players.

INSTANCES WHICH MAY INDICATE A PLAYER HAS CVD

- Players/parents may tell you (although many may be unaware).
- Certain activities may cause a change in behaviour. Signs to look out for may include:
 - certain bib colour combinations causing uncharacteristic confusion to the player;
 - players stopping the ball before passing/ demonstrating undue hesitation on the ball;
 - players may inadvertently pass to the opposition, particularly in training where team compositions are constantly changing;
 - players may take the ball beyond the playing area without realising when, for example, red lines/cones are used on grass.

EFFECTIVE STRATEGIES WHEN COACHING PLAYERS WITH CVD

- Ensure kit colours for matches are not 'colour blind' kit clashes*.
- In training use blue v. yellow or white bibs as first choice.
- Ensure line markings are white or yellow as first choice, avoid red.
- Avoid using red and orange cones on grass.
- In tactical training use blue v. white or yellow magnets for outfield players.
- If using coloured pens on flip charts/whiteboards, use different shapes to distinguish between opposing teams as well as colour e.g. red triangles, blue circles.

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](#)



Normal colour vision



Colour-blind simulation

“ Being able to distinguish between the two teams, see the ball clearly and recognise where the pitch boundaries lie is fundamental to the experience enjoyed by everyone involved in our wonderful game. ”

Ryan Davies

ENGLAND FOOTBALL LEARNING PHYSICAL EDUCATION OFFICER

Ryan is colour blind - you can read about his experience of coaching football [here](#).



Normal colour vision



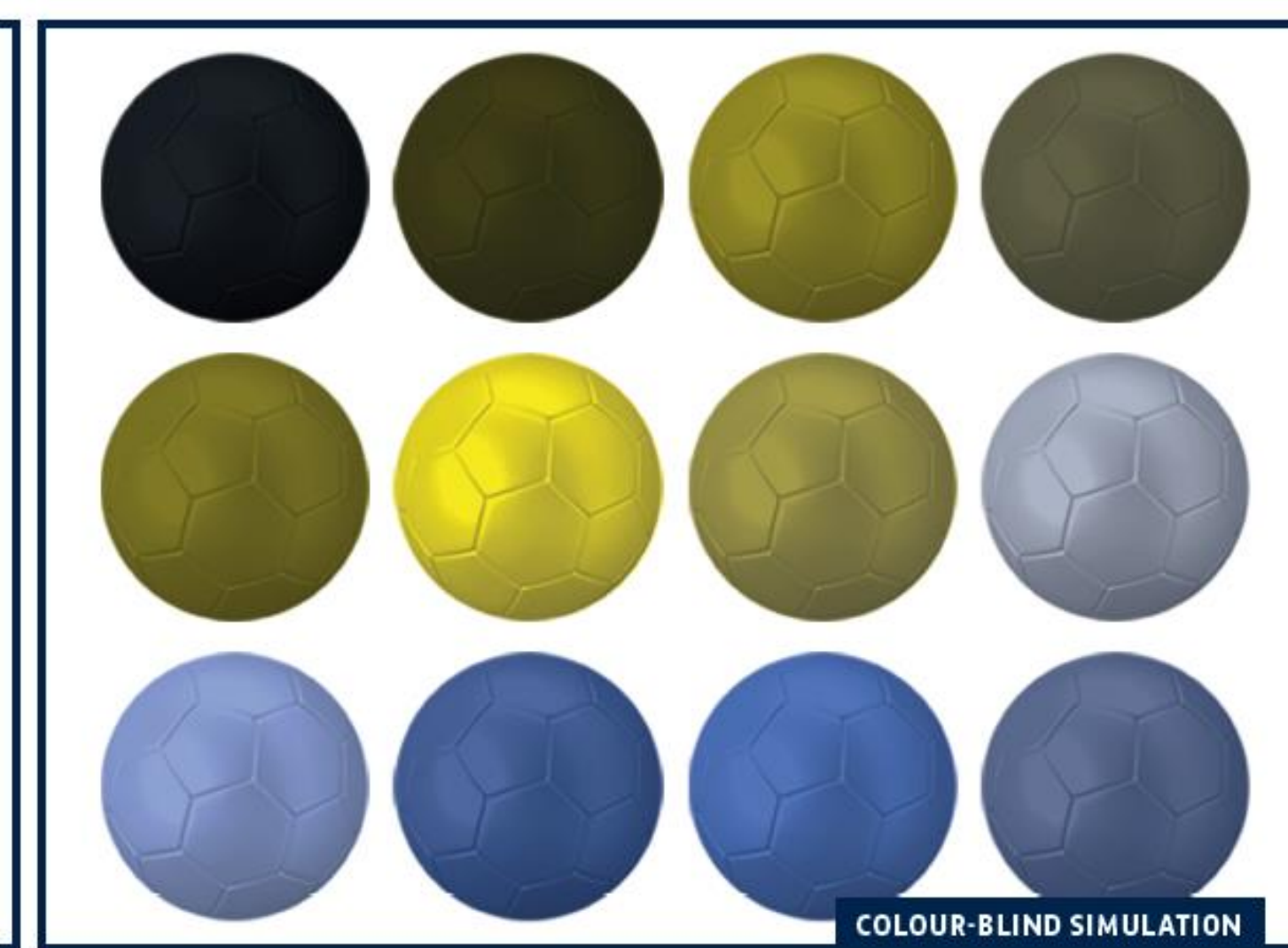
Colour-blind simulation

Try to avoid common colour blind kit-clashes in matches and training such as Red v Green, Blue v Purple or Yellow v Orange.



Blue v Yellow/White is the most colour blind friendly option.

Red or orange footballs may be extremely difficult to pick out against the green grass, especially from a distance.



A traditional white ball will be much easier for colour blind players to see.



NORMAL VISION



COLOUR-BLIND SIMULATION



NORMAL VISION



COLOUR-BLIND SIMULATION

Try not to use red or orange cones on a green surface.

Yellow and white cones will provide the biggest contrast to a grass pitch.



Players with CVD may struggle to follow instructions involving colours during team-talks and training sessions.

When using coloured pens on tactics boards, aim to distinguish between teams using different shapes e.g. triangles v circles



**ENGLAND FOOTBALL
LEARNING**

**“We are playing to
the red line”**

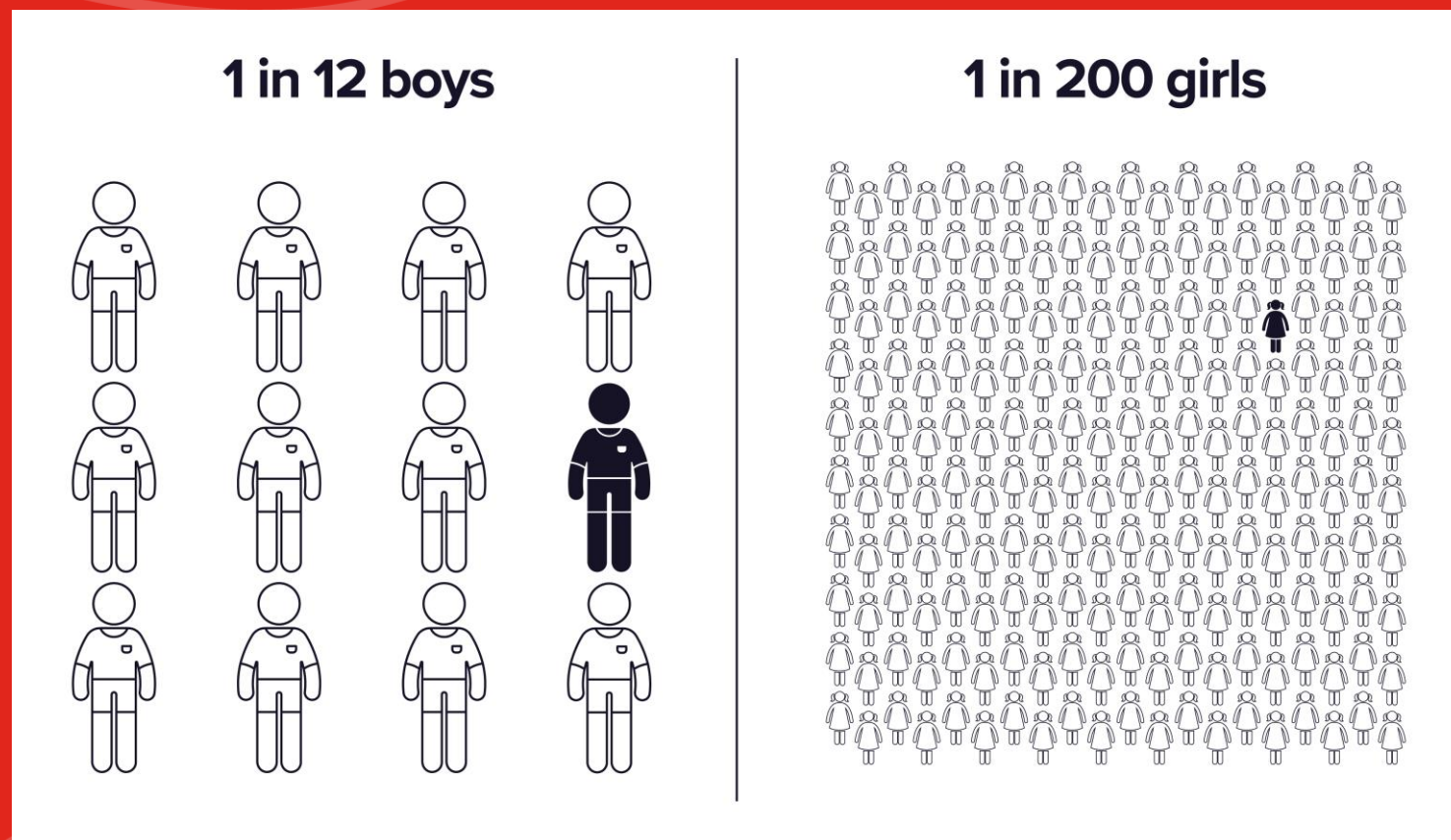
**“Go and stand
behind the green
cone”**

**“Green team v Red
team”**

**“The yellow bibs are
taggers”**

**“How many blue
cones can you
collect”**

**“Write on the board
with the red pen”**



**ENGLAND FOOTBALL
LEARNING**

Further Information

TheFA

NEWS

ENGLAND

COMPETITIONS

GET INVOLVED

BOOTROOM

WOMEN'S & GIRLS'

RULES & REGULA

RULES & REGULATIONS

LAWS OF THE GAME & FA RULES

DISCIPLINE

SAFEGUARDING

INCLUSION AND ANTI-DISCRIMINATION

ANTI-DOPING

POLICIES

Saturday 05 Sep 2020

f

t

Shares

FIND OUT ABOUT COLOUR BLINDNESS IN FOOTBALL AND HOW TO MAKE IT EASIER FOR SUFFERERS

We're proud to support Colour Blind Awareness Day on Sunday 6 September and with one in 12 men and one in 200 women affected by colour blindness, we need to do more to make sure that football is accessible to them. Kit clashes, cone confusion and mixed-up bibs... football can be stressful when you're colour blind. And for Ryan Davies, a coaching in education co-ordinator at the FA, it's a reality...

<https://www.thefa.com/news/2020/sep/05/ryan-davies-coaching-with-colour-blindness-050920>

COLOUR BLIND AWARENESS

Search this website ...

SEARCH

Home

Colour Blindness

Parents

Teachers

Business

Colour Blindness and Sport

About Us

A

A

A

Share 56

Colour Blind Awareness Day





Welcome to the Colour Blind Awareness site

Find us on Twitter

Find us on Facebook

<https://www.colourblindawareness.org/>

1. COLOUR BLINDNESS – THE BASIC QUESTIONS


Back to contents page

WHAT IS COLOUR BLINDNESS?

Colour blindness is the inability to perceive colours normally. It is one of the world's most common genetic conditions. However, colour blindness is under-recognised and poorly understood.

We see colour through specialised nerve cells in our eyes called cones. We have three types of these cone cells which absorb red, blue or green light. These three cone types working together allow us to see the full visible spectrum but in colour blindness, one cone cell type doesn't function properly.


In about 25% of colour-blind people one cone cell type is virtually non-existent. So whilst people with normal colour vision can see the full visible spectrum, people with colour blindness see many colours as the same.



NORMAL VISION

WHAT CAUSES COLOUR BLINDNESS?

The technical term for colour blindness is colour vision deficiency (CVD). It's usually an inherited condition caused by 'faulty' gene sequencing in the DNA of the X chromosome. But it can arise as a side effect of some diseases, e.g. diabetes and multiple sclerosis and from some drugs and medications.



COLOUR-BLIND SIMULATION

Back to contents page

COLOUR BLINDNESS – THE BASIC QUESTIONS cont'd

WHO IS AFFECTED?

Worldwide, about 320 million people have some form of colour blindness. That's equivalent to the population of the USA.



ARE THERE DIFFERENT TYPES OF THE CONDITION?

Yes. There are three main types of genetic colour vision deficiency (CVD). They can vary in severity.

- Protanopia and protanomaly: relate to a red vision deficiency.
- Protanopia is a severe condition, where no red-sensitive

Red/green-inherited CVD is very common. However, blue deficiency and total colour blindness (or monochromacy, where people can only see in greyscale) are extremely rare.

Acquired colour blindness more commonly affects blue/yellow vision and is more severe than inherited. It can be caused by diseases such as



ENGLAND FOOTBALL
LEARNING

<https://www.thefa.com/news/2017/sep/06/world-colour-blindness-day-the-fa-guidance-matt-holland-060917>

5 ways to be a colour-blind friendly coach

From choosing the right balls and cones to using more inclusive words on the field, **RYAN DAVIES** provides tips on avoiding issues around colour confusion

As a coach, player, parent or fan, matchday is the most exciting day of the week.

Except when it arrives, there is sometimes a big problem - the two teams are wearing the same kit. At least that is what it may look like to some of those on the pitch and in the stands.

Why? Because they, like more than 300 million other people worldwide, may be colour blind. In fact, 1 in 12 males and 1 in 200 females have some degree of colour vision deficiency (CVD). Statistically, that's at least one in every male squad, in every team across the globe.

Being able to distinguish between the two teams, see the ball clearly and recognise where the pitch boundaries lie is, of course, fundamental to the experience enjoyed by everyone involved in our wonderful game.

So, as coaches, what can we do to ensure that those with CVD - whether they are aware they have the condition or not - don't experience challenges which may affect their enjoyment or performance.

Here are my five suggestions...

01 AVOID COLOUR-BLIND KIT CLASHES

The biggest challenge for any player with CVD is distinguishing between their own team and the opposition.

Try to avoid common colour-blind kit and bib clashes in matches and training such as Red v Green, Blue v Purple or Yellow v Orange. Blue v Yellow or White is the most colour-blind friendly option.

02 USE CVD FRIENDLY PITCH AND LINE MARKINGS

Marking out clear playing areas in training are vital to the success of your practice.

However, these zones may be hard to see for players with CVD, so try not to use red or orange cones on a green surface. Yellow and white cones will provide the biggest contrast to a grass pitch.

Be aware that red line markings on a green surface will be invisible to the majority of colour-blind players.



03 THINK ABOUT YOUR CHOICE OF BALLS

There is now a wonderful array of coloured balls to choose from when purchasing your equipment for the new season.

Unfortunately, some of these balls - such as reds or oranges - may be extremely difficult to pick out against the green grass, especially from a distance.

A traditional white ball or bright yellow one will be much easier for colour-blind players to see.

04 CONSIDER DELIVERY OF TEAM TALKS AND TACTICS

Players with CVD may struggle to follow instructions involving colours during team-talks and training sessions.

When using coloured pens and markers on tactics and white boards, aim to distinguish between teams using different shapes - e.g. triangles v circles. Try to avoid using phrases with colour as a sole reference, such as

"stand behind the red cone".

Adding numbers or symbols to cones and markers is useful in giving players another point of reference.

05 CHECK WHAT THE REFEREE IS WEARING

As well as clashes with the opposition, kits can often clash with the referee. For those with some form of colour blindness, a dark red or navy strip will appear extremely similar to that of a referee, if they are wearing black.

Keeping these simple principles in mind on match and training days will have a significantly positive impact on the experience of all those with CVD.

Ultimately, and most importantly, it will ensure that - colour blind or not - every single player can concentrate on trying to score a last-minute winner and not worrying about the colour of their kit.

Next Steps

COLOUR BLINDNESS
GUIDANCE FOR
COACHES

FACT SHEET NO.1



Normal colour vision



Colour-blind simulation

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 think colour-blind people only confuse red and green. Not true. Many different colour combinations cause confusion as the pics in this fact sheet show.

IMPACT OF CVD ON PLAYERS

The greatest problems for colour blind players are in:

Training

- Distinguishing between bib colours.
- Distinguishing equipment from the pitch/other equipment, e.g.
 - balls;
 - cones;
 - line markings;
 - corner flags.
- Tactical training – distinguishing between team colours on magnetic boards.
- Classroom training
 - distinguishing between pen colours on whiteboards e.g. between red and green or red and black;
 - distinguishing information in graphics e.g. following a specific player in TV footage replays.

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.



Normal colour vision



Colour-blind simulation



Normal colour vision



Colour-blind simulation

 **ENGLAND FOOTBALL**

What can you do to have a positive impact on the colour blind players in your county (whether they know they are colour blind or not)?



**ENGLAND FOOTBALL
LEARNING**

Next Steps

ACTION PLAN



**ENGLAND FOOTBALL
LEARNING**

Questions to answer this morning;

PART 1: What is Colour Blindness?

PART 2: Why is the issue important in football and sport environments?

PART 3: How can we implement simple strategies to make a positive difference to those with colour blindness?



ENGLAND FOOTBALL
LEARNING

***What questions do you
have?***



ENGLAND FOOTBALL
LEARNING