

# Does viewing text through yellow or blue filters help dyslexic children to learn to read?

<b>Submission date</b> 02/02/2018	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 02/03/2018	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 24/02/2022	<b>Condition category</b> Signs and Symptoms	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Up to half of all children with reading problems find it difficult to see text clearly; letters appear to blur, glare, go double or move around, and these problems can give them headaches. These visual symptoms probably result from reduced precision of timing visual events. There are good physiological reasons for supposing that viewing text through either simple blue or yellow coloured filters may improve the brain's timing functions. We have found that we can predict which children are likely to benefit from blue or yellow or no filters. Using the appropriate filter for reading is often followed by rapid reading and spelling progress. However, there is no agreement about whether coloured filters can really help more than as a placebo. Clearly this question needs to be settled because if simple and cheap blue or yellow filters can really help reading difficulties, this low cost technique should be used wherever appropriate, in order to help a substantial proportion of the 10% of primary school children who have great difficulties learning to read. This study aims to assess the effects of blue and yellow coloured filters to see if it helps children with dyslexia learn to read.

### Who can participate?

Children age 7 to 11 years with visual reading problems

### What does the study involve?

Based on their visual symptoms, participants are allocated to a blue filter group or yellow filter group. Then, selected at random, the 'blues' are asked to wear either blue or placebo grey filters for 3 months, then all switch to blue. Likewise the 'yellows' are randomised to yellow or placebo grey, then all switch to yellow after 3 months. Participants use their filter when reading, and are followed up with reading history, psychometric (pen and paper tests) of their reading, spelling and general abilities together with the routine eye assessments at 3, 6 and 9 months.

### What are the possible benefits and risks of participating?

The participants may benefit from improved reading from using the appropriate colour filter more than by the placebo grey filter. None of the colours are likely to harm the children in any way.

Where is the study run from?  
Dyslexia Research Trust Clinic (UK)

When is the study starting and how long is it expected to run for?  
September 2014 to October 2024

Who is funding the study?  
Dyslexia Research Trust (UK)

Who is the main contact?  
Prof John Stein (Public)  
John.stein@dpag.ox.ac.uk

## Contact information

**Type(s)**  
Public

**Contact name**  
Prof John Stein

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## Additional identifiers

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**  
CUREC - YB2015, Date and Version No: 06.08.15 version 1:2

## Study information

**Scientific Title**  
The Effect of Yellow and Blue lenses on Reading and Spelling Skills

## **Study objectives**

Current study hypothesis as of 24/02/2022:

Can children with visual reading problems will be helped to learn to read by viewing text through blue or yellow filters?

Previous study hypothesis:

Children with visual reading problems will be helped to learn to read by viewing text through blue or yellow filters.

## **Ethics approval required**

Old ethics approval format

## **Ethics approval(s)**

Oxford University Medical Sciences Div. Research Ethics Board, 01/09/2014, ref: MSD-IDREC-C-2014-024

## **Study design**

Randomised controlled trial

## **Primary study design**

Interventional

## **Secondary study design**

Randomised controlled trial

## **Study setting(s)**

School

## **Study type(s)**

Treatment

## **Participant information sheet**

Not available in web format yet, please use the contact details below to request a patient information sheet

## **Health condition(s) or problem(s) studied**

Children's visual reading problems (dyslexia)

## **Interventions**

Based on their visual symptoms, participants are allocated to a blue filter group or yellow filter group. Then, selected at random, the 'blues' are asked to wear either blue or placebo grey filters for 3 months, then all switch to blue. Likewise the 'yellows' are randomised to yellow or placebo grey, then all switch to yellow after 3 months.

Participants use their filter when reading, and are followed up with psychometric and visual assessments at 3, 6 and 9 months.

## **Intervention Type**

Device

## **Primary outcome measure**

Single word reading progress is measured using BAS reading and spelling at baseline, 3, 6 and 9 months

Visual reading symptoms are measured using visual symptoms questionnaire at baseline, 3, 6 and 9 months

### **Secondary outcome measures**

Optometric status is measured using standard optometric tests at baseline, 3 months, 6 months and 9 months

### **Overall study start date**

01/09/2014

### **Completion date**

28/10/2024

## **Eligibility**

### **Key inclusion criteria**

1. Children with visual reading problems
2. Age 7-11
3. Male and female

### **Participant type(s)**

Patient

### **Age group**

Child

### **Lower age limit**

7 Years

### **Upper age limit**

11 Years

### **Sex**

Both

### **Target number of participants**

200

### **Key exclusion criteria**

1. English not first language
2. Any medical or neurological diagnosis

### **Date of first enrolment**

01/09/2016

### **Date of final enrolment**

28/10/2024

# Locations

## Countries of recruitment

England

United Kingdom

## Study participating centre

### Dyslexia Research Trust Clinic

179a Oxford Road

Reading

United Kingdom

RG1 7UZ

# Sponsor information

## Organisation

Dyslexia Research Trust

## Sponsor details

Magdalen College

Oxford

United Kingdom

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## Sponsor type

Charity

## Website

[www.dyslexic.org.uk](http://www.dyslexic.org.uk)

# Funder(s)

## Funder type

Charity

## Funder Name

Dyslexia Research Trust

# Results and Publications

## Publication and dissemination plan

Dyslexia Research Trust newsletter [www.dyslexic.org.uk](http://www.dyslexic.org.uk)

Planned publication in educational and medical peer-reviewed journals.

Study protocol and additional documentation also available from Prof J Stein.

## Intention to publish date

28/10/2025

## Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are/will be available upon request from Prof J Stein, Sherrington Building, Parks Road, OX1 3PT.

## IPD sharing plan summary

Stored in non-publicly available repository, Available on request