# Visual scanning training for loss of vision in half the visual field (hemianopia) - SEARCH trial

Submission date	<b>Recruitment status</b> No longer recruiting	[X] Prospectively registered		
07/01/2021		☐ Protocol		
Registration date	Overall study status Completed	Statistical analysis plan		
08/01/2021		[X] Results		
Last Edited	Condition category	Individual participant data		
18/03/2025	Ear, Nose and Throat			

## Plain English summary of protocol

Background and study aims

Sight is considered by many as our most important sense. After stroke a common problem is 'hemianopia'; loss of one half of the visual field leaving people with a 'blind' side to their right or left side. Hemianopia occurs suddenly in 30% of stroke survivors with devastating impact on quality of life - individuals cannot drive, bump into people/objects, and can lead to loss of independence, falls and depression. Treatment to help stroke patients compensate for visual field loss is variable and not standardised in the NHS because of uncertainty about what works best and when is the best time to offer treatment. This causes an unacceptable difference in the care individuals receive. Visual scanning training involves repeated practice by the patient at locating different targets on both seeing and blind sides of their visual field. Training can be provided by many methods – some needing paper cards and others needing computers. Paperbased visual scanning training is available to ALL patients; computer training is not. A review of treatment options for hemianopia concluded that visual scanning training is potentially useful. We recently completed a pilot trial (VISION) to test a training card for visual scanning (involving repeated practice by the patient at locating different targets on both seeing and blind sides of their visual field). Our training shows promise and will be carefully investigated in this full trial. We aim to find out how effective paper-based visual scanning training is for hemianopia after stroke.

### Who can participate?

Patients aged 18 or over who have recently had a stroke and are having problems with their vision known as homonymous hemianopia.

#### What does the study involve?

In a randomised clinical trial 71 people will undertake eye scanning training and 71 people will undertake sham training; both for 30 minutes daily, 7 days/week over 6 weeks. Everyone will be followed for 6 months. No additional visits are required. We will test peoples' visual reactions and independence in daily activities and compare groups to see if there is more benefit from scanning treatment. For both groups, the researcher will record all vision information taken from the participants' normal eye examination such as level of sight on the vision letter chart and amount of visual field absent with hemianopia. At routine eye clinic visits, they will be asked some additional questions by the researcher about their stroke and their vision, e.g. measures of

reading ability and mobility. We will also ask them to complete three questionnaires at each visit. This will give us information about how their loss of vision impacts on day-to-day activities.

What are the possible benefits and risks of participating?

There is potential for visual scanning training to benefit stroke survivors by improving their adaptation to hemianopia. There is potential for cost-savings in NHS/social care through maximising stroke survivor's use of their remaining vision, so lessening the impact on daily life activities. This trial is important: it addresses an area of treatment for which there is limited evidence and no standard care in the NHS. This treatment is a top priority highlighted by two national surveys involving large numbers of patients and carers. It can take some time for participants to get used to the change in their vision and the treatments to help them adapt, but we do not foresee any additional risks of being involved in this study. We cannot promise that this study will help participants. We expect that the information we get from this study will improve how we deliver treatment in the future.

Where is the study run from? University of Liverpool (UK)

When is the study starting and how long is it expected to run for? December 2020 to March 2024

Who is funding the study?
The study is funded by Fight for Sight and the Stroke Association

Who is the main contact?
Prof Fiona Rowe (scientific)
rowef@liverpool.ac.uk
Dr Laura Wright (public)
searcht@liverpool.ac.uk

# **Contact information**

# Type(s)

Scientific

#### Contact name

Prof Fiona Rowe

#### ORCID ID

https://orcid.org/0000-0001-9210-9131

#### Contact details

Institute for Population Health University of Liverpool Waterhouse Building Block B 1-3 Brownlow Street Liverpool United Kingdom L69 3GL +44 (0)1517944956 rowef@liverpool.ac.uk

## Type(s)

**Public** 

#### Contact name

Dr Laura Wright

#### Contact details

Institute for Population Health University of Liverpool Waterhouse Building Block B 1-3 Brownlow Street Liverpool United Kingdom L69 3GL +44 (0)1517944956 searcht@liverpool.ac.uk

# Additional identifiers

### Clinical Trials Information System (CTIS)

Nil known

#### Integrated Research Application System (IRAS)

293576

## ClinicalTrials.gov (NCT)

Nil known

#### Protocol serial number

IRAS 293576

# Study information

### Scientific Title

A randomised controlled trial of Scanning Eye trAining as a Rehabilitation Choice for Hemianopia after stroke (SEARCH)

#### Acronym

**SEARCH** 

#### **Study objectives**

The primary objective is to determine the clinical effectiveness of visual scanning training to treat homonymous hemianopia in stroke survivors.

## Ethics approval required

Old ethics approval format

#### Ethics approval(s)

Approved 12/03/2021, Wales Research Ethics Committee 1 Cardiff (Health and Care Research Wales, Castlebridge 4, 15-19 Cowbridge Road East, Cardiff, CF11 9AB, UK; +44 (0)2920 785738; Wales.REC1@wales.nhs.uk), REC ref: 21/WA/0030

#### Study design

Multi-centre blinded randomized parallel two-arm trial

## Primary study design

Interventional

#### Study type(s)

Treatment

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

Adult stroke survivors with confirmed objective evidence of stable homonymous hemianopia

#### **Interventions**

Participants will be randomised via a secure (24-hour) web-based randomisation system controlled centrally by the University of Liverpool to receive either arm A visual scanning training or arm B sham training (in a ratio of 1:1).

Arm A is a paper-based visual scanning training package; consisting of training sheet and training instructions. It is portable, self-administered, does not need expert set-up, does not require expertise to use it or support its use, and can be used at home or any care facility.

The control (arm B) is sham training comprising a series of slow, tracking eye movements undertaken with both eyes open (versions) and with each eye covered in turn (ductions). These movement patterns do not engage scanning eye movements. A training sheet and instructions will be provided, similar to the intervention arm.

The treatment period for both arms is 6 weeks and the total follow up period is 26 weeks.

#### Intervention Type

Behavioural

### Primary outcome(s)

Visual function measured using the National Eye Institute Visual Function Questionnaire 25 (NEI VFQ-25) score at baseline and 26 weeks

# Key secondary outcome(s))

At baseline and 26 weeks:

- 1. Daily activity measured using the Nottingham Extended Activities of Daily Living (NEADL)
- 2. Quality of life measured using the EQ-5D-5L questionnaire
- 3. Visual impairment impact of stroke measured using the BIVI-IQ questionnaire
- 4. Visual field measurement (Esterman programme)
- 5. Visual scanning performance measured using a table-top scanning task (determining speed of detection and accuracy of detection)
- 6. Adverse events measured using patient records

#### Completion date

# **Eligibility**

### Key inclusion criteria

- 1. Clinically diagnosed stroke
- 2. Aged 18+ years
- 3. Stable hemianopia
- 4. Able to engage in training
- 5. Informed/proxy consent
- 6. Written and informed consent obtained from the participant and agreement of the participant to comply with the requirements of the study

#### Participant type(s)

Patient

# Healthy volunteers allowed

No

#### Age group

Adult

#### Lower age limit

18 years

#### Sex

All

#### Total final enrolment

160

#### Key exclusion criteria

- 1. Inability to undertake treatment (e.g. severe cognition problems)
- 2. Unwilling to participate
- 3. Presence of severe visual inattention
- 4. Other serious concomitant medical condition (e.g. life expectancy <6 months)

#### Date of first enrolment

01/05/2021

#### Date of final enrolment

31/07/2023

# Locations

#### Countries of recruitment

United Kingdom

England

#### Scotland

Wales

# Study participating centre University of Liverpool

Institute for Population Health Waterhouse Building Block B 1-3 Brownlow Street Liverpool United Kingdom L69 3GL

# Study participating centre Salford Royal NHS Foundation Trust

Stott Lane Salford United Kingdom M6 8HD

# Study participating centre Betsi Cadwaladr University LHB Trust

Wrexham Maelor Hospital Croesnewydd Road Wrexham United Kingdom LL13 7TD

# Study participating centre Wirral University Teaching Hospital NHS Foundation Trust

Arrowe Park Hospital Arrowe Park Road Upton Wirral United Kingdom CH49 5PE

# Study participating centre St Helens and Knowsley Teaching Hospitals NHS Foundation Trust Eye Clinic Ipswich Hospital

Heath Road Whiston United Kingdom L35 5DR

# Study participating centre East Suffolk and North Essex NHS Foundation Trust

Royal Oldham Hospital Rochdale Road Ipswich United Kingdom IP4 5PD

# Study participating centre

# Pennine Acute Hospitals NHS Foundation Trust

Royal Oldham Hospital, Rochdale Road Oldham United Kingdom OL1 2JH

# Study participating centre

# Warrington and Halton Teaching Hospitals NHS Foundation Trust

Warrington Hospital, Lovely Lane, Warrington, Cheshire Warrington United Kingdom WA5 1QG

# Study participating centre

# Lancashire Teaching Hospitals NHS Foundation Trust

Royal Preston Hospital, Sharoe Green Lane, Fulwood , Preston, Lancashire Preston United Kingdom PR2 9HT

# Study participating centre

# University Hospitals Dorset NHS Foundation Trust

Eye Unit, Royal Bournemouth Hospital, Castle Lane East Bournemouth United Kingdom BH7 7DW

## Study participating centre

#### United Lincolnshire Hospitals NHS Foundation Trust

Trust Headquarters, Lincoln County Hospital, Greetwell Road, Lincoln, Lincolnshire Lincoln United Kingdom LN2 4AX

# Study participating centre Imperial College Healthcare NHS Foundation Trust

St. Marys Hospital, Praed Street, London London United Kingdom W2 1NY

# Study participating centre

#### Bradford Teaching Hospitals NHS Foundation Trust

Bradford Royal Infirmary, Duckworth Lane, Bradford, West Yorkshire Bradford United Kingdom BD9 6RJ

# Study participating centre

# King's College Hospital NHS Foundation Trust

King's College Hospital, Denmark Hill, London London United Kingdom SE5 9RS

# Study participating centre

#### **Bolton NHS Foundation Trust**

The Royal Bolton Hospital, Minerva Road, Farnworth, Bolton, Lancashire Bolton United Kingdom BL4 0JR

# Study participating centre

# Sheffield Teaching Hospitals NHS Foundation Trust

Royal Hammashire Hospital, Glossop Road, Sheffield, South Yorkshire Sheffield

United Kingdom S10 2JF

# Study participating centre

University Hospitals Birmingham NHS Foundation Trust

Orthoptic Department, Heartlands Hospital, Bordesley Green East Birmingham United Kingdom B9 5SS

# Study participating centre

Oxford University Hospitals NHS Foundation Trust

John Radcliffe Hospital, Headley Way, Headington Oxford United Kingdom OX3 9DU

# Study participating centre

Countess of Chester Hospital NHS Foundation Trust

Leighton Crewe United Kingdom CW1 4QJ

# Study participating centre Mid Cheshire Hospitals NHS Foundation Trust

Whitechapel Road Whitechapel London United Kingdom E1 1FR

Study participating centre Leighton Hospital

Leighton Crewe United Kingdom CW1 4QJ

# Study participating centre Whipps Cross University Hospital

Whipps Cross Road Leytonstone London United Kingdom E11 1NR

# Study participating centre The Royal London Hospital

Whitechapel Road Whitechapel London United Kingdom E1 1FR

# Study participating centre Moorfields Eye Centre at Croydon University Hospital

530 London Road Thornton Heath United Kingdom CR7 7YE

# Study participating centre Cheltenham General Hospital

Sandford Road Cheltenham United Kingdom GL53 7AN

# Study participating centre Cambridgeshire Community Services NHS Trust

Therapy Hub
Bedfordshire Hospital NHS Foundation Trust and Dunstable University Hospital, Lewsey Road
Luton
United Kingdom
LU4 0DZ

Study participating centre
Milton Keynes University Hospital
Standing Way

Eaglestone Milton Keynes United Kingdom MK6 5LD

# Study participating centre Calderdale Royal Hospital

Salterhebble Hill Halifax United Kingdom HX3 OPW

# Study participating centre Stoke Mandeville Hospital

Mandeville Road Aylesbury United Kingdom HP21 8AL

# Study participating centre Torbay District General Hospital

Newton Road Torquay United Kingdom TQ2 7AA

# Study participating centre Yeovil District Hospital NHS Foundation Trust

Yeovil District Hospital Higher Kingston Yeovil United Kingdom BA21 4AT

# Study participating centre Queen Margaret Hospital

Whitefield Road Dunfermline United Kingdom KY12 0SU

# Study participating centre Raigmore Hospital

Old Perth Rd Inverness United Kingdom IV2 3UJ

# Study participating centre NHS Lanarkshire

University Hospital Hairmyres 218 Eaglesham Rd East Kilbride Glasgow United Kingdom G75 8RG

# Study participating centre University Hospitals Plymouth NHS Trust

Derriford Hospital
Derriford Road
Derriford
Plymouth
United Kingdom
PL6 8DH

# Study participating centre Moorfields Eye Centre at St George's Hospital

St. Georges Hospital Blackshaw Road London United Kingdom SW17 0QT

# Sponsor information

# Organisation

University of Liverpool

#### **ROR**

https://ror.org/04xs57h96

# Funder(s)

# Funder type

Charity

#### **Funder Name**

Fight for Sight

#### Alternative Name(s)

Fight for Sight, Inc., National Council to Combat Blindness, Fight for Sight (U.S.), FFS

#### **Funding Body Type**

Government organisation

#### **Funding Body Subtype**

Trusts, charities, foundations (both public and private)

#### Location

United States of America

#### **Funder Name**

Stroke Association

#### Alternative Name(s)

TheStrokeAssociation, TheStrokeAssoc

#### **Funding Body Type**

Private sector organisation

#### **Funding Body Subtype**

Associations and societies (private and public)

#### Location

United Kingdom

# **Results and Publications**

# Individual participant data (IPD) sharing plan

At the end of the trial, after the primary results have been published, the anonymised individual participant data (IPD) and associated documentation (e.g. protocol, statistical analysis plan, annotated blank CRF) will be prepared in order to be shared with external researchers. All requests for access to the IPD will be reviewed by the CI.

# **IPD sharing plan summary** Available on request

# Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		13/03/2025	18/03/2025	Yes	No
HRA research summary			28/06/2023	No	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes
Study website	Study website	11/11/2025	11/11/2025	No	Yes