

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

Submission date 07/01/2021	Recruitment status No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 08/01/2021	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 18/03/2025	Condition category Ear, Nose and Throat	<input type="checkbox"/> Individual participant data

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. Paper-based 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?

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Contact information

Type(s)

Scientific

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Public

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Additional identifiers**Integrated Research Application System (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

31/03/2024

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

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CW1 4QJ

Study participating centre

Mid Cheshire Hospitals NHS Foundation Trust

Whitechapel Road

Whitechapel

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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
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PL6 8DH

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

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Blackshaw Road
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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
Study website	Study website	11/11/2025	11/11/2025	No	Yes