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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

Registration date
08/01/2021

Overall study status
Completed

Last Edited
18/03/2025

Condition category
Ear, Nose and Throat

[X] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] 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?
Prof Fiona Rowe (scientific)
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Study website
http://www.searchtrial.co.uk/

Contact information

Type(s)
Scientific

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Type(s)
Public

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Additional identifiers

EudraCT/CTIS number
Nil known

IRAS number
293576

ClinicalTrials.gov number
Nil known

Secondary identifying numbers
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

Secondary study design
Randomised controlled trial

Study setting(s)
Hospital

Study type(s)
Treatment

Participant information sheet
Not available in web format, please use contact details to request a participant information sheet

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

Secondary outcome measures
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

Overall study start date
01/12/2020

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

Age group
Adult

Lower age limit
18 Years

Sex
Both

Target number of participants
157

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
England

Scotland

United Kingdom

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
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SE5 9RS

Study participating centre
Bolton NHS Foundation Trust
The Royal Bolton Hospital, Minerva Road, Farnworth, Bolton, Lancashire
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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
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United Kingdom
OX3 9DU

Study participating centre
Countess of Chester Hospital NHS Foundation Trust
Leighton
Crewe
United Kingdom
CW1 4QJ

Study participating centre
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Whitechapel Road
Whitechapel

London
United Kingdom
E1 1FR

Study participating centre
Leighton Hospital
Leighton
Crewe
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CW1 4QJ

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Whipps Cross University Hospital
Whipps Cross Road
Leytonstone
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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
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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
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G75 8RG

Study participating centre
University Hospitals Plymouth NHS Trust
Derriford Hospital
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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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Sponsor information

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University of Liverpool

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Sponsor type
University/education

Website
http://www.liv.ac.uk/

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)

Funding Body Type
Private sector organisation

Funding Body Subtype
Associations and societies (private and public)

Location
United Kingdom

Results and Publications

Publication and dissemination plan
The results from different participating sites will be analysed together and published as soon as possible in a high-impact peer-reviewed journal, maintaining participant confidentiality at all times.

Intention to publish date
31/05/2025

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?
HRA research summary			28/06/2023	No	No
Results article		13/03/2025	18/03/2025	Yes	No