



# Study of Prisms and Therapy in Attention Loss after stroke (SPATIAL)

## Easy read summary report

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Written with the help of stroke survivors

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## What is this report?

This is a short final report on a 2.5 year project called “**Study of Prisms and Therapy in Attention Loss after Stroke**”, or “**SPATIAL**” for short.

It **summarises** key points about **what we did** and **what we found**.

## Why have I received it?

You, or your family, **kindly took part** or **expressed an interest** in the SPATIAL study and agreed that we could send you this report.

The study included **stroke survivors** who may have **had their stroke some time ago**.

We express our sympathies to anyone since bereaved.

If you have **any questions** about this report or need **support to understand it**, please **contact us** using the **details on the front cover**.

The report is available **online** and **with audio** on our website:

<https://sites.manchester.ac.uk/spatial/>

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## Glossary of terms used in this report

<b>Carer:</b>	A friend or family member who <b>provides support</b> to a stroke survivor.
<b>Cognition:</b>	The <b>thought processes</b> involved in <b>learning, organising and understanding</b> things.
<b>Feasibility study:</b>	A piece of research done <b>before a main study</b> to answer the question “ <b>Can this study be done?</b> ”
<b>Inattention:</b>	A cognitive issue which causes a stroke survivor to <b>miss one side of space or objects</b> . The <b>eyes work</b> but the person <b>does not see everything</b> .
<b>Prism Adaptation Training:</b>	A <b>therapy for inattention</b> which we want to evaluate.
<b>Process Evaluation:</b>	A method which looks at <b>how</b> the research <b>has been carried out</b> .
<b>Proof of Concept:</b>	Part of the study aimed at <b>testing out</b> how the <b>therapy might work</b> .
<b>Randomised controlled trial:</b>	A study where patients are allocated <b>at random</b> to receive <b>one of several treatments</b> . For SPATIAL we <b>compared Prism Adaptation Training, as part of occupational therapy, with occupational therapy on its own</b> .
<b>SPATIAL:</b>	<b>Study of Prisms and Therapy in Attention Loss after Stroke</b> .
<b>Spatial neglect:</b>	A cognitive issue which causes a stroke survivor to <b>miss one side of space or objects</b> . The <b>eyes work</b> but the person <b>does not see everything</b> . Also known as “ <b>inattention</b> ”.

## What is the SPATIAL study?

Each year in the UK, **over 100,000 people have a stroke**. Approximately **one third show “spatial neglect”**. This is also known as **“inattention”**. Inattention affects **awareness of one side** causing the person to **miss that side**. The eyes work but the person does not see everything as the brain does not send the messages.

Patients with inattention caused by stroke:

- stay **in hospital much longer** and
- **need more support** when they leave hospital than those without inattention.



**Prism adaptation training** is a therapy that **showed promise** in **improving inattention** in some small studies. However therapies **require robust testing** in large, randomised controlled trials to find out whether they truly help.

**SPATIAL** is a **feasibility study** developed **in partnership with stroke survivors**. It started in June 2018 and used **several methods** to understand more about providing **Prism Adaptation Training** as part of **in-patient occupational therapy** for people with inattention after stroke.



## Who was involved?

The study was run by researchers at:

- The **University of Manchester**
- **Salford Royal NHS Foundation Trust** and
- The **University of the West of England, Bristol**.



The other **important partner** was:

### The SPATIAL Patient Advisory Group

The group members all have **first-hand experience of stroke**. They helped with **every aspect** of planning, delivering and understanding the study and **helped write this report**.



## What was the purpose of the study?

We wanted to find out if it was **feasible**:

- for **NHS Occupational Therapists** to provide **Prism Adaptation Training** as part of **in-patient therapy** for people with inattention after stroke.
- to go on to **run a large trial**.

## What were the research questions?

We wanted to find out:

- **How many** patients would agree to **take part**?
- **How many** patients would **stay involved for 12 weeks**?
- **Where** was the **best place** to do the research?
- **Would carers want to take part**; and **was it necessary** to ask them to do so?
- **Which staff** would be best able to **complete the patient assessments**?
- If **one session of Prism Adaptation Training** would **increase patients' ability to take part** in occupational therapy?
- Were the **research and therapy acceptable** to:
  - patients?
  - carers?
  - occupational therapists?



## How were these questions answered?

SPATIAL had **3 parts**



### 1. We carried out a **feasibility randomised controlled trial**

- We **invited patients to take part** in the trial.
- **Three out of four** patients who took part had **prism adaptation training** as part of occupational therapy, **for 3 weeks**.
- **The other patients** who took part **continued with their regular occupational therapy**.
- We visited patients **3 weeks and 12 weeks** after the start of therapy to complete assessments.

### 2. We included a **proof of concept** study

- We asked patients who took part in the study if we could **video record, or observe**, their first therapy session.
- We looked at whether Prism Adaptation Training **helped people to take a more active part** in their **occupational therapy**.

### 3. We completed a **process evaluation**

- We invited some **patients** to take part in **an interview**.
- We also interviewed some **carers** and **occupational therapy staff**.



## What is Prism Adaptation Training?

- Patients put on **prism glasses**.
- These glasses **shift vision** to one side.
- Patients are then asked to **point at a target** shown by the therapist.
- They continue pointing at targets for **up to 5 minutes**.
- The **prism glasses are removed**. They are **not regular glasses** and are **only worn for pointing**.



The aim is that patients **adapt to the shifted vision** which could **help with inattention**.

**After** Prism Adaptation Training patients **continue with** their **usual occupational therapy**.

## Who took part?

**70%** of **patients who were** eligible took part in the study.

**53 patients** took part. They were:

- an average of **2 weeks after stroke**
- aged from **24 to 89 years**
- **57%** were **men**



**34 carers** took part. They were:

- aged from **24 to 89 years**
- **65%** were **women**

**145 staff were trained.** We trained **more staff than needed** to make sure that **enough** trained staff were **available**.

- **83 staff actively took part in the study**
- **10 staff** were interviewed

## What therapy did patients receive?

Three out of four patients were randomised to receive **Prism Adaptation Training** as part of their **Occupational Therapy**.

**Prism Adaptation Training** typically took place:

- at the patient's hospital **bedside**
- with the patient seated in a **wheelchair**
- **at the start** of the occupational therapy session



**Prism Adaptation Training** took place for an **average** of:

- **5 minutes** per session
- **7 sessions** per patient

**Very few** (4%) of the 297 **Prism Adaptation Training** sessions were **declined**.

**All patients** continued to receive their **regular Occupational Therapy**

**Occupational therapy** typically:

- took place **at the bedside**
- included:
  - **daily living activities** e.g. getting dressed
  - **pen and paper tasks**
  - **mobility** or
  - **arm activities**



## What did the outcome assessments show?

### Outcome assessments

Assessments were completed **3 weeks and 12 weeks** after the **start of therapy**.



- **Drop out was low**

- **89%** of patients completed the **3 week** assessments. Of these:
- **83%** patients completed the **12 week** assessments.

#### **3 week assessments**

- **47** assessments were **completed**
- **11** (23%) patients had been **discharged** from in-patient care

#### **12 week assessments**

- The assessment was **more detailed** than the 3 week assessment
- **39** assessments were **completed**
- **Most patients** (74%) had **left hospital** and were assessed at home

**The main outcome assessment measured activities of daily living.**

This was completed by **all 39 patients** at 12 weeks and there was **excellent data completeness**.



**None** of the assessments showed **any sign** that patients who had Prism Adaptation Training **did better** than those who did not.

## What did the Proof of Concept study show?

This aimed to show if Prism Adaptation Training **improved patients' ability to take part** in **Occupational Therapy**.

- The study showed **no evidence** that **one** Prism Adaptation Training session **improved patients' ability to take part** in Occupational Therapy.

This could be because the method we used (we looked at videos of the first session) **was not a good way of finding this out**

**or**

because one session of Prism Adaptation Training **does not help** people **take part in therapy**.

## What did the process evaluation show?

We interviewed:

- **7 patients**
- **5 carers**
- **10 occupational therapy staff** involved in providing the therapy




Patients were **overwhelmingly positive** about taking part and many said that they would recommend it to others.

But **a few people** found Prism Adaptation Training **boring or tiring**.


**Therapists:**

- were **positive about their involvement** in the study
- **valued research** into treatment for inattention
- would be **keen to take part** in a **follow-up study**

## What does this all mean?

SPATIAL showed that it would be **possible and acceptable**, to **patients, carers and staff**, to conduct a **large research trial** of **therapy** for **stroke survivors with inattention** that begins in **hospital, early after stroke**. 

### However

**None** of the assessments suggested that **Prism Adaptation Training**, as part of occupational therapy **as provided in this study**, is **better than standard occupational therapy**, so we **cannot justify** a large trial of Prism Adaptation Training. 

## What next?

SPATIAL has finished and **we have learnt a lot**.

**Thank you** for **helping us with the study**; you are **among the first** to hear the **study findings**.

We also plan to **share our findings** internationally with **clinicians, researchers and others interested in stroke rehabilitation**.

We still have a lot more work to do and we are:

- reviewing other prism **research to compare our findings**
- **searching for alternative therapies** for inattention
- working with others to **find the best assessments** for inattention
- writing articles to **raise awareness** and **share our findings**.

## How can I find out more?

If you have **any questions** about the study or about getting involved in research, you can **contact us on:**



**(0161) 275 1731**



**[SPATIALstroke@manchester.ac.uk](mailto:SPATIALstroke@manchester.ac.uk)**

There will be **detailed scientific reports** available on our website in late 2021. <https://sites.manchester.ac.uk/spatial/>

Please **let us know** if you would like us to send you a copy.

Thank

You

to **everyone** who played a part in this study.

Special thanks to the **Patient Advisory Group** for their **support throughout the study** and for helping make this booklet **easier to read**.





The Stroke Association: <https://www.stroke.org.uk/>

Helpline: **0303 3033 100** or email: [helpline@stroke.org.uk](mailto:helpline@stroke.org.uk).

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