

# A novel targeted treatment for reducing anxiety in joint hypermobility

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		<input checked="" type="checkbox"/> Protocol
<b>Registration date</b> 20/02/2019	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
<b>Last Edited</b> 06/10/2021	<b>Condition category</b> Mental and Behavioural Disorders	<input type="checkbox"/> Individual participant data
		<input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Our body state influences the way we feel and react: strong emotion such as anxiety is made more intense by the feeling of our heart racing. The way in which people differ physically can affect how much their body reacts and how likely they are to experience anxiety symptoms. Some of these differences can be related to flexible 'hypermobile' joints. Hypermobility can affect up to a quarter of the population. More people who are hypermobile experience problems with anxiety or panic than you would expect by chance. Although the link between anxiety and hypermobility has been known for some time, to date no specific targeted treatments exist. The study team's previous work shows that some hypermobile people have heightened fight or flight nervous systems responses and seem particularly sensitive to changes in bodily sensations. The difference between symptoms and signs of these bodily changes predicts anxiety level and also explains how brain activity in a key emotion processing area is linked to anxiety. The aims of the study are as follows. Having refined a new non-drug therapy which aims to alter unpleasant feelings caused by the way we respond to changes in body such as fast heart beats we will test whether the therapy works in practice by comparing it to another non-drug therapy and then use information from brain scans before and after treatment to predict why people respond to the treatment, in order to help doctors and patients to pick treatments based on good evidence in the future.

### Who can participate?

Adults with lived experience of anxiety and joint hypermobility

### What does the study involve?

The study involves a telephone pre-screening interview to check inclusion and exclusion criteria for the study and then a face-to-face baseline assessment to confirm these criteria. If the participant is eligible to continue in the study after appropriate consent they receive 10 weekly sessions of therapy (random chance of either therapy) and complete research assessment questionnaires and tasks. A sub-group are randomly allocated to a brain scan before and after treatment.

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

All participants are compensated for their time spent undertaking research assessments and

tasks. This research is designed to help with symptoms of anxiety and it may be beneficial in treating anxiety that you experience. The results of this study will inform the evidence base for treatment of anxiety and hypermobility for patients in the future. There are no specific disadvantages to taking part in the study and if participants decide not to take part their usual NHS treatment will not be affected in any way. However, undergoing any psychological therapy poses a potential burden of time and also may involve discussing personal issues in an in-depth way, which some people may find emotionally triggering. If this is the case the participant will have the opportunity to discuss this with your therapist. The research tests are not for diagnostic purposes and the examination should not be considered an alternative to a proper medical consultation. However, sometimes the joint examination, related assessments (heart rate and blood pressure), questionnaires or brain scans may suggest a clinically significant issue. If this is the case or the participant needs further tests, their GP will be contacted in the first instance. The GP will then contact the participant if further tests are required.

Where is the study run from?

The study is run from Department of Neuroscience at Brighton and Sussex Medical School in Brighton, East Sussex, UK and is supported by Sussex Partnership NHS Foundation Trust (UK)

When is the study starting and how long is it expected to run for?

January 2019 to December 2021

Who is funding the study?

The study is funded by an MQ Versus Arthritis Fellowship to Dr Jessica Eccles

Who is the main contact?

Dr Jessica Eccles

[j.eccles@bsms.ac.uk](mailto:j.eccles@bsms.ac.uk)

## Contact information

### Type(s)

Scientific

### Contact name

Dr Jessica Eccles

### ORCID ID

<https://orcid.org/0000-0002-0062-1216>

### Contact details

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# Additional identifiers

## Protocol serial number

40233

# Study information

## Scientific Title

A novel targeted treatment for reducing anxiety in joint hypermobility: a proof of concept study

## Acronym

ADAPT

## Study objectives

Hypothesis 1a: Reduced autonomic trait prediction error in active treatment group will predict anxiety reduction (T1).

Hypothesis 1b: Neuroimaging will reveal changes in fronto-insula-limbic connectivity (intervention compared to comparator), which will relate to reduced autonomic trait prediction error.

## Ethics approval required

Old ethics approval format

## Ethics approval(s)

London – Bloomsbury REC, Health Research Authority, 3rd Floor Barlow House, 4 Minshull Street, Manchester, M1 3DZ, Tel: +44 (0)207 104 8345 / 0207 104 8127, Email: nrescommittee.london-bloomsbury@nhs.net, 04/01/2019, ref: 18/LO/1920

## Study design

Randomised; Interventional; Design type: Treatment, Psychological & Behavioural

## Primary study design

Interventional

## Study type(s)

Treatment

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

Anxiety in patients with joint hypermobility

## Interventions

Randomisation will be performed with minimisation (gender, age) by sealedenvelope.com.

The two treatment arms are ADAPT, a novel hypothesis driven non-drug therapy to reduce anxiety in hypermobility, and the comparator therapy is Emotion-Centred Supportive Therapy.

Each therapy will consist of the same quantity of face-to-face contact and will include 10 (weekly) sessions. There is no extended follow up.

## Intervention Type

Other

**Primary outcome(s)**

Anxiety levels as measured by Beck Anxiety Inventory (BAI) at T1 (end of therapy)

**Key secondary outcome(s)**

1. Autonomic trait prediction error (measured from z score of objective signs of orthostatic intolerance (heart rate rise on active stand test) – subjective symptoms of orthostatic intolerance (orthostatic intolerance subscale of Autonomic Symptoms and Quality of Life Questionnaire (ASQoLS) at T0 (baseline assessment) to T1 (end of therapy)
2. Interoception measures, including:
  - 2.1. Interoceptive sensibility as described by score on awareness subscale of Porges Body Perception Questionnaire, at T0 and T1
  - 2.2. Interoceptive accuracy as defined by performance on the heart beat tracking and heart beat discrimination tasks, at T0 and T1
  - 2.3. Interoceptive awareness as defined by correlation between accuracy and Visual Analogue Scales of confidence in accuracy, at T0 and T1
3. Functional neural datasets – significant changes in activation between T0 and T1

**Completion date**

01/12/2021

## **Eligibility**

**Key inclusion criteria**

1. Age: All adults aged 18 years or over
2. Capacity: All participants must be able to give informed consent
3. Joint hypermobility: Diagnosis of hypermobile Ehlers Danlos Syndrome/Hypermobility Spectrum Disorder/Joint Hypermobility Syndrome OR Score of 2 or more on Hakim and Grahame 5-point questionnaire to detect Joint Hypermobility
4. Anxiety: Self-reported lived experience of Anxiety disorder AND a score of 16 or more on Beck Anxiety Inventory endorsing moderate anxiety level AND Anxiety should be the primary psychiatric problem
5. Medication use: All participants should be on a stable dose of medication for 3 months OR Medication free AND willing to consider omitting medication that directly affects heart rate (e.g. beta blockers) during the trial
6. Language: All participants must have a good level of both written and spoken English as therapies and assessments will be conducted in English
7. MRI safety: For Phase II (ADAPT TRIAL) only all participants must be MRI safe (i.e no non-removable metal work in body) and be able to lie flat comfortably for one hour

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Adult

**Lower age limit**

18 years

**Sex**

All

**Total final enrolment**

50

**Key exclusion criteria**

1. Age: Participants under the age of 18
2. Capacity: Unable to give informed consent
3. Joint hypermobility: No diagnosis of hEDS/HSD/JHS AND score of 1 or less on Hakim and Grahame 5 point questionnaire to detect Joint Hypermobility
4. Anxiety: No Self-reported lived experience of anxiety disorder OR a score of 15 or less on Beck Anxiety Inventory OR anxiety is not the primary psychiatric problem
5. Other psychiatric disorder: Presence of major psychiatric disorder (other than co-morbid depression) e.g. Bipolar Affective Disorder, Schizophrenia or Psychosis OR Personality Disorder (e.g. Emotionally Unstable Personality Disorder) OR diagnosed Neurodevelopmental disorder such as Attention Deficit Hyperactivity Disorder or Autism Spectrum Condition OR Neurological disorder
6. Medication use: Not on a stable dose of medication (or medication free) for 3 months
7. Language: Poor level of both written and spoken English
8. MRI safety: For Phase II (ADAPT TRIAL) only MRI incompatibility (i.e. non-removable metal work in body) OR be unable to lie flat comfortably for one hour
9. Psychological therapy: Currently receiving another modality of talking therapy

**Date of first enrolment**

27/02/2019

**Date of final enrolment**

01/08/2021

**Locations**

**Countries of recruitment**

United Kingdom

England

**Study participating centre**

**University of Sussex (lead centre)**

Department of Neuroscience  
,Brighton and Sussex Medical School  
Trafford Centre, Falmer  
Brighton  
United Kingdom  
BN1 9RY

**Study participating centre**  
**Mill View Hospital**  
Research and Development  
Sussex Education Centre  
Hove  
United Kingdom  
BN3 7HZ

## Sponsor information

**Organisation**  
University of Sussex

**ROR**  
<https://ror.org/00ayhx656>

## Funder(s)

**Funder type**  
Charity

**Funder Name**  
MQ: Transforming Mental Health; Grant Codes: MQ17-18 Eccles

**Alternative Name(s)**  
Mental Health Research, MQ: Transforming Mental Health, MQ

**Funding Body Type**  
Government organisation

**Funding Body Subtype**  
Trusts, charities, foundations (both public and private)

**Location**  
United Kingdom

## Results and Publications

### Individual participant data (IPD) sharing plan

The data sharing plans for the current study are unknown and will be made available at a later date

## IPD sharing plan summary

Data sharing statement to be made available at a later date

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Protocol article</a>	protocol	21/09/2021	06/10/2021	Yes	No
<a href="#">HRA research summary</a>			28/06/2023	No	No
<a href="#">Study website</a>	Study website	11/11/2025	11/11/2025	No	Yes