

# Can the Alexander Technique improve pain processing and reduce joint loading in patient with knee osteoarthritis?

<b>Submission date</b> 22/12/2015	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 04/01/2016	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 14/02/2018	<b>Condition category</b> Musculoskeletal Diseases	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

Osteoarthritis (OA) is the most common type of arthritis, which most often affects the knee. It occurs when the protective cartilage on the end of bones wears away. The bones then rub against one another, which can cause stiffness, pain and a reduction in a person's range of movement. A number of recent studies have shown that there is no link between perceived pain and the degree of joint wear, when measured with an x-ray. It has been suggested that this may happen because some OA patients are "over-reactive" to pain, because their brains amplify the pain signals coming from the affected joints. This over-reactivity to pain may trigger high levels of inappropriate muscle tension, which in-turn will increase joint loading (the force put on a weight-bearing joint during activity). The Alexander Technique (AT) teaches people how to avoid movements that cause unnecessary tension in their daily lives by increasing self-awareness and "unlearning" bad habits (such as patterns of muscle tension). It is taught by a qualified teacher who uses gentle hand contact and verbal instruction to guide movement, helping patients to become aware of, and to avoid, harmful muscle movements which can be applied to daily actions such as sitting or standing. The aim of this study is to find out whether the AT could help to lower pain and improve joint function in people suffering from knee OA.

### Who can participate?

Adults over 40 years of age with knee osteoarthritis, and healthy adults of the same age.

### What does the study involve?

All participants take part in 20 sessions over 14 weeks. During each 40 minute session, participants are taught the Alexander Technique by an experienced AT practitioner on a one-to-one basis. During the sessions, patients are encouraged to develop an awareness of patterns of muscle tension which can be triggered when they move which can interfere with practical tasks, such as standing up out of a chair. At the start of the study and at 15 weeks (after the 14 week AT course), participants are assessed in order to measure their pain and joint stiffness and function.

What are the possible benefits and risks of participating?

Participants could benefit from taking part as the AT is considered to be a beneficial form of health education which can affect other areas of health, such as improving breathing technique and reducing back pain. There are no risks for participants taking part in the study.

Where is the study run from?

Centre for Health Sciences Research, University of Salford (UK)

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

March 2011 to December 2015

Who is funding the study?

The BUPA Foundation (UK)

Who is the main contact?

Dr Stephen Preece

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## Contact information

### Type(s)

Scientific

### Contact name

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## Additional identifiers

### Protocol serial number

Protocol v5

## Study information

### Scientific Title

Can neuromuscular re-education with the Alexander Technique improve pain processing and reduce joint loading in patient with knee osteoarthritis?

## **Acronym**

KOAT (Knee Osteoarthritis and and Alexander Technique)

## **Study objectives**

The primary hypotheses of the study are:

1. The Alexander Technique (AT) would improve clinical measures of pain and function in patients with knee osteoarthritis.
2. The AT would reduce muscle co-contraction in patients with knee osteoarthritis
3. The AT would improve pain processing in patients with knee osteoarthritis
4. Improvements in pain would be related to improvements in muscle co-contraction and improvements in pain processing

## **Ethics approval required**

Old ethics approval format

## **Ethics approval(s)**

1. Ethics Committee of the University of Salford, 10/06/2011, ref: REP11/024
2. NHS North West 10 Research Ethics Committee - Greater Manchester North, 28/03/2011, ref: 11/NW/0057

## **Study design**

Non randomised study

## **Primary study design**

Interventional

## **Study type(s)**

Treatment

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

Knee osteoarthritis

## **Interventions**

All participants receive the intervention which consists of 20 sessions over a period of 14 weeks. Each session lasts for 40 minutes and is delivered on a one-to-one basis by an experienced Alexander Technique (AT) practitioner. During the lessons patients were encouraged to develop an awareness of patterns of muscle tension which can be triggered as movement is initiated and also which can interfere with functional tasks, such as standing up out of a chair.

Patients are followed up immediately after the end of the intervention (14 weeks post baseline) and then again at 12 months after the end of the intervention (15 months post baseline).

## **Intervention Type**

Other

## **Primary outcome(s)**

1. Pain is measured using the Western Ontario and McMaster Universities Arthritis Index (WOMAC) pain component at baseline, immediately after the intervention and 15 months

2. Pain, joint stiffness & function are measured using the full Western Ontario and McMaster Universities Arthritis Index (WOMAC) at baseline, immediately after the intervention and 15 months

### **Key secondary outcome(s)**

Joint movement and activity is determined by measuring muscle co-contraction between the medial quadriceps and medial hamstrings during the stance phase of walking and also during a sit-to-stand activity at baseline and after the intervention.

### **Completion date**

01/12/2015

## **Eligibility**

### **Key inclusion criteria**

Knee osteoarthritis (OA) patients:

1. Over the age of 40
2. Identified on GP record as having knee OA
3. Knee pain on walking
4. Able to speak and write fluent English
5. Able to attend at the University of Salford on two occasions for an assessment
6. Willing to attend for 20 AT lessons with a local practitioner
7. Willing to attend for a knee x-ray

Healthy participants

1. Over the age of 40
2. No musculoskeletal pain
3. Able to speak and write fluent English
4. Able to attend at the University of Salford on two occasions for an assessment

### **Participant type(s)**

Mixed

### **Healthy volunteers allowed**

No

### **Age group**

Adult

### **Sex**

All

### **Key exclusion criteria**

1. Systemic disorders, such as rheumatoid arthritis.
2. Balance or mobility disorders limiting their ability to perform the assessment.
3. Neurological or psychiatric disorder.
4. Malignancy
5. Diabetes
6. BMI greater than 33

**Date of first enrolment**

01/10/2011

**Date of final enrolment**

01/10/2014

## **Locations**

**Countries of recruitment**

United Kingdom

England

**Study participating centre****University of Salford**

Centre for Health Sciences Research

Blatchford Building

Stratham Street

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## **Sponsor information**

**Organisation**

University of Salford

**ROR**

<https://ror.org/01tmqtf75>

## **Funder(s)**

**Funder type**

Charity

**Funder Name**

The BUPA Foundation

## **Results and Publications**

## Individual participant data (IPD) sharing plan

### IPD sharing plan summary

Not provided at time of registration

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	27/08/2016		Yes	No
<a href="#">Participant information sheet</a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes