

# Soy isoflavones on markers of bone turnover in females in the early menopause

<b>Submission date</b> 21/08/2012	<b>Recruitment status</b> No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 05/09/2012	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 17/12/2018	<b>Condition category</b> Nutritional, Metabolic, Endocrine	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

Background and study aims:

Soy (a vegetable foodstuff) contains chemicals called phyto-oestrogens (isoflavones) that have been shown to be of potential benefit to people during menopause as soy can alleviate menopausal hot flushes. It has also been shown that bones lose their density more rapidly during the immediate years following menopause. It is not really known if soy can have an effect on chemicals in the blood that reflects bone loss and growth. Therefore it is important to compare the effect of soy proteins, with and without phyto-oestrogens, on the bone health of women during this time.

This study aims to look at the effects of eating snack bars containing soy protein, with or without phyto-oestrogens, during the first two years of menopause. This will be done in such a way that neither the individual taking part, nor the investigator will know which type of bars the person has been eating.

Who can participate?

Women who have experienced menopause within the last 2 years

What does the study involve?

Participants will be asked to visit the research department a total of four times over a period of 6 months. They will also be contacted by telephone twice within this 6 month period. The first visit, that will last about 30 minutes, will involve discussing the study and signing a consent form. The subsequent visits will last around an hour.

1. At the second, third and final visit the participants will be asked to attend the clinic first thing in the morning, having fasted overnight. The blood samples will be tested for hormone levels and bone turn over makers.
2. At the second, third and final visit the participants will have an ultrasound scan examination of the lining of your womb.
3. At the second visit the participants will be given enough soy snack bars to eat twice a day (mid morning and mid afternoon) for 3 months.

What are the possible benefits and risks of participating?

Although there may be some direct benefits to some people taking part in the study, these will not be known until the study has finished. It is hoped that this study will help to provide the

information needed to inform the Food Standards Agency and UK governments regarding the safety and potential benefits of eating soy and phytoestrogens to women during menopause.

Where is the study run from?

The University of Hull at Brocklehurst Building of Hull Royal Infirmary.

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

The study started in July 2010 and will end in December 2012

Who is funding the study?

Food Standard Agency, UK

Who is the main contact?

Prof Stephen Atkin

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## Contact information

### Type(s)

Scientific

### Contact name

Prof Stephen Atkin

### Contact details

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## Additional identifiers

### Protocol serial number

Protocol Version 2 date: 24/02/2012

## Study information

### Scientific Title

A double blind placebo controlled parallel trial of soy isoflavones on markers of bone turnover in females in the early menopause

### Study objectives

Null hypothesis:

Neither soy protein alone (15g without isoflavones) or soy protein (15g) with isoflavones (66mg)

will have an effect on either bone resorption or bone formation (i.e. bone turnover) in post menopausal women at the time of their greatest bone loss.

### **Ethics approval required**

Old ethics approval format

### **Ethics approval(s)**

Yorkshire & The Humber - Humber Bridge Research Ethics Committee, 18/06/2010, ref: 10/H1304/5

### **Study design**

Parallel double-blind placebo-controlled trial

### **Primary study design**

Interventional

### **Study type(s)**

Treatment

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

Effect of soy phyto-estrogens to people during menopause as soy have been shown to improve menopausal flushing symptoms.

### **Interventions**

A bar containing 7.5g isolated soy protein powder (Solcon F) with 33mg of isoflavones (given twice daily) or 7.5g of the isolated soy (extracted, isoflavone free) protein alone (given twice daily) as control will be administered.

### **Intervention Type**

Other

### **Phase**

Not Applicable

### **Primary outcome(s)**

Change in bone turnover markers

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

1. Insulin resistance
2. Blood pressure
3. Lipid profile
4. Endothelial function
5. Changes in endometrial thickness

### **Completion date**

12/12/2013

## **Eligibility**

### **Key inclusion criteria**

1. Women with a follicle-stimulating hormone (FSH) and luteinizing hormone (LH) greater than 20 mU/L and amenorrhoea for 1 year with or without vasomotor instability of hot flushing will be eligible to participate
2. Caucasian women

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Adult

**Sex**

Female

**Key exclusion criteria**

1. Patients with liver dysfunction (ALT of greater than 135 u/L) or taking drugs that may interfere with liver function
2. Patients with impaired renal function (creatinine greater than 150, glomerular filtration rate less than 30)
3. Patients who have had antibiotic treatment within the last 6 months will also be ineligible for the study as antibiotics are known to change gut microflora and thus will interfere with phytoestrogen metabolism. This will also mean that patients who start taking antibiotics during the study will have to be withdrawn
4. Patients not wishing to allow disclosure to their GPs
5. Patients on any medication within 3 months of the study including steroid inhalers or HRT
6. Patients already self-supplementing with isoflavones
7. Vegetarian or vegans

**Date of first enrolment**

29/09/2012

**Date of final enrolment**

12/12/2013

**Locations****Countries of recruitment**

United Kingdom

England

**Study participating centre**

Hull York Medical School

Hull

United Kingdom

HU3 2RW

# Sponsor information

## Organisation

Hull and East Yorkshire Hospitals NHS Trust (UK)

## ROR

<https://ror.org/01b11x021>

# Funder(s)

## Funder type

Government

## Funder Name

Food Standard Agency (UK), ref: T10060

# 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	01/07/2018		Yes	No
<a href="#">Results article</a>	results relating to thyroid hormone effects	22/11/2018		Yes	No
<a href="#">Participant information sheet</a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes