

Limited skin areas and vitamin D

Submission date 04/02/2015	Recruitment status No longer recruiting	☐ Prospectively registered
Registration date 04/02/2015	Overall study status Completed	☐ Protocol
Last Edited 08/02/2015	Condition category Skin and Connective Tissue Diseases	☐ Statistical analysis plan
		☐ Results
		☐ Individual participant data
		☐ Record updated in last year

Plain English summary of protocol

Background and study aims

Vitamin D is essential for healthy bones. Calcium and phosphorus are essential for bone growth and also to strengthen bones and we need vitamin D to absorb these minerals. People get most of their vitamin D through exposure to sunlight. National guidance on requirements for vitamin D assume that casual exposure of limited areas of skin to summer sunlight is sufficient to avoid vitamin D deficiency. Previous studies have shown that a six week course of exposures to simulated summer sunlight while casually dressed (shorts and T-shirt) can produce adequate vitamin D levels in the majority of the UK white Caucasian population. The aim of this study is to determine if exposure of more limited areas of skin can produce a sufficient rise in vitamin D levels to avoid deficiency.

Who can participate?

Healthy white Caucasian adults, aged between 20-60.

What does the study involve?

Volunteers undergo a six week course of simulated sunlight (ultraviolet light) exposures, wearing clothes that expose small areas of skin (hands and face).

What are the possible benefits and risks of participating?

Participants will not benefit directly from taking part in this study. However, if they are found to have vitamin D deficiency their GP will be informed in order to offer advice and/or treatment. We do not expect there to be any disadvantage from taking part. Participants may experience some redness of the skin for a short while after their sunburn threshold has been tested. There may be slight discomfort and bruising following the blood sample.

Where is the study run from?

Salford Royal NHS Foundation Trust (UK)

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

November 2014 to October 2017

Who is funding the study?

European Seventh Framework Programme (Belgium)

Who is the main contact?
Mrs Joanne Osman

Contact information

Type(s)
Scientific

Contact name
Mrs Joanne Osman

Contact details
Salford Royal NHS Foundation Trust
Photobiology Unit
Salford Royal Foundation Hospital
Stott Lane
Salford
Greater Manchester
United Kingdom
M6 8HD

Additional identifiers

Protocol serial number
17553

Study information

Scientific Title
An experimental photodermatology study to examine the ability of limited skin areas to produce vitamin D

Study objectives
The aim of this study is to determine if exposure of more limited areas of skin to simulated sunlight can produce a sufficient rise in vitamin D levels to avoid deficiency.

Ethics approval required
Old ethics approval format

Ethics approval(s)
University of Manchester Research Ethics Committee, 14/10/2014, ref: 14335.

Primary study design
Interventional

Study design
Non-randomised; Interventional; Design type: Not specified

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Topic: Dermatology; Subtopic: Skin (all Subtopics); Disease: Dermatology

Interventions

The intervention is solar-simulated ultraviolet radiation. A dose of 1.3 SED (standard erythema dose) is given three times a week for 6 weeks. There is no control arm. Blood samples are taken at the start of each week, before the first exposure, and one 3 days after the final exposure. Follow-up will then continue with blood samples after a further 2, 4 and 6 weeks. Total duration for treatment and follow-up = 12 weeks.

Intervention Type

Other

Primary outcome(s)

The primary outcome measure is serum 25-hydroxyvitamin D (25(OH)D) concentration which is measured at baseline, then weekly up to 6 weeks. Further samples to be taken at weeks 8, 10 and 12. Serum 25(OH)D is measured by liquid chromatography tandem mass spectrophotometry (LC-MS/MS).

Key secondary outcome(s)

N/A

Completion date

31/10/2017

Eligibility

Key inclusion criteria

1. Healthy, ambulant, male and female adults aged 20-60 years
2. White Caucasian (sun-reactive skin type I-IV)
3. Willing and capable of participating to the extent and degree required by the protocol

Participant type(s)

Healthy volunteer

Healthy volunteers allowed

No

Age group

Adult

Sex

All

Key exclusion criteria

1. Sunbathing or sunbed use in the last 3 months
2. Taking photoactive medication
3. Taking vitamin D, fish oil or calcium supplements

4. History of skin cancer or photosensitivity disorder
5. Pregnancy/lactation

Date of first enrolment

01/11/2014

Date of final enrolment

31/10/2017

Locations

Countries of recruitment

United Kingdom

England

Study participating centre

Salford Royal NHS Foundation Trust

Photobiology Unit

Salford Royal Foundation Hospital

Stott Lane

Salford

Greater Manchester

United Kingdom

M6 8HD

Sponsor information

Organisation

University of Manchester

ROR

<https://ror.org/027m9bs27>

Funder(s)

Funder type

Government

Funder Name

Seventh Framework Programme

Alternative Name(s)

EC Seventh Framework Programme, European Commission Seventh Framework Programme, EU Seventh Framework Programme, European Union Seventh Framework Programme, FP7

Funding Body Type

Government organisation

Funding Body Subtype

National government

Location**Results and Publications****Individual participant data (IPD) sharing plan****IPD sharing plan summary**

Not provided at time of registration