



## A clinical study on the use of twice daily UVA as a treatment for mild hypertension - **SUNLIGHT Study**

The **SUNLIGHT** Study is funded by a £ 252,384 grant from the British Heart Foundation. The study is based at the Western General Hospital in Edinburgh, and the Primary Investigator is Dr Richard Weller of the University of Edinburgh

### **Background**

Untreated high blood pressure (known as hypertension) puts you at increased risk of having a stroke or developing heart disease. For this reason, it is important to have it treated, which is usually done with lifestyle changes and medications.

Previous research has shown that people's blood pressure is lower in summer than winter. One possible explanation for this is that people are exposed to more sunlight during the summer than winter. Dr Weller<sup>1</sup> has shown that shining a 'sun lamp' at healthy volunteers for around 10 minutes lowered their blood pressure for one hour. This current study aims to find out whether a similar treatment with an ultraviolet A (UVA) 'sun lamp' used twice daily for two weeks will produce a continued reduction in blood pressure.

### **Study Design**

This study is a single centre, blinded, sham controlled, crossover study. We plan to recruit 80 participants with either pre-hypertension or untreated mild hypertension. Each participant will then receive 2 weeks of UVA exposure with a 'sun lamp' and 2 weeks of non-UVA light in a random order, with blood pressure being checked at the beginning and end of each 2-week period.

The study will recruit participants from hospital, through hypertension clinics at the Royal Infirmary and Western General Hospital, the ambulatory blood pressure service and general practices within NHS Lothian, with help from the Scottish Primary Care Research Network (SPCRN).

## Major Inclusion/Exclusion Criteria

### Inclusion Criteria

- ≥18 years old men or women
- Systolic blood pressure between 120-150 mmHg
- Diastolic blood pressure between 70-100 mmHg

### Exclusion Criteria

- Concurrent administration of anti-hypertensive medication
- Photosensitising medication (classified as causing 'photosensitivity in side effect listing of BNF).
- Systemic immunosuppression
- History of skin cancer
- Fitzpatrick type 1 skin (always burns, never tans)
- Red hair
- Family history of melanoma
- Atypical naevus syndrome
- Planned holiday or foreign travel for longer than 48 hours to a sunny climate during and for 4 weeks before the period of the study.
- People taking vitamin D supplements
- Sunbed use for the 4 weeks before or during the study.
- Women who are currently pregnant
- Concurrent participation in any other trials

### Potential benefits of the study

UVA therapy may offer a non-pharmacological treatment for early hypertension

### Study reference number(s)

ClinicalTrials.gov Identifier (NCT number): NCT02621866

Research Ethics Committee Number: 16/SS/0120

Research Ethics Committee approval date: 30<sup>th</sup> August 2016

For further information or if you are interested in taking part, please contact Ms Vanessa Melville, Clinical Research Centre, Western General Hospital, Edinburgh. Tel. 0131 537 2008. Email [v.melville@ed.ac.uk](mailto:v.melville@ed.ac.uk).

### References

1. Liu D et al. UVA irradiation of human skin vasodilates arterial vasculature and lowers blood pressure independently of nitric oxide synthase. *J Invest Dermatol.* 2014;134:1839-1846