

DISUSE OSTEOPENIA STUDY

CoRIPS 034

REC ref: 09/H0202/64

Final report to the Society and College of Radiographers

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By

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Details of study:

| | |
|-------------------------------------|--|
| Full title of study: | A study into post-traumatic and post-surgical disuse osteopenia and its short- and long-term effects |
| Name of main REC: | Devon and Torbay |
| REC reference number: | 09/H0202/64 |
| Date of favourable ethical opinion: | 21st January 2010 |
| Sponsor: | University of Exeter |

Commencement and termination dates:

Start date: February 2010

Estimated completion date: February 2013.

Amendments: None

Recruitment and retention of participants:

| | Recruited | Data collection completed | | | |
|------------------------|-----------|---------------------------|---------|---------|---------|
| | | Visit 1 | Visit 2 | Visit 3 | Visit 4 |
| | n= | n= | n= | n= | n= |
| Controls | 46 | 46 | - | 45 | 43 |
| Total Knee Replacement | 31 | 28 | 25 | 22 | 20 |
| Recent Fracture | 10 | 9 | 9 | 9 | 9 |
| Longstanding fracture | 26 | 25 | n/a | n/a | n/a |
| Total | 113 | 108 | - | - | - |

Safety of participants:

There were no unexpected adverse events or serious breaches of the protocol during the study.

Grant expenditure:

Summary: Appendix 1

Please note that there is an outstanding commitment from the grant to pay for attendance at the Practical Statistics for Medical Research course in April 2014 at the UCH NHS Foundation Trust.

Results:

Results from the study have been disseminated in the following publications and presentations:

Hopkins S, Smith C, Toms A, Brown M, Welsman J, Knapp K. Evaluation of a dual-scales method to measure weight-bearing through the legs, and effects of weight-bearing inequalities on hip bone mineral density and leg lean tissue mass. *Journal of Rehabilitation Medicine*. 2013;45(2):206-10.

Hopkins SJ, Knapp KM, Parker DA, Yusof R. Effect of bone area on bone-mineral-density and trabecular-bone-score measurements at the lumbar spine. *British Orthopaedic Research Society*; 24-25 September; London 2012.

Hopkins SJ, Knapp KM, Parker DA, Yusof R. Short-term precision error in Dual Energy X-Ray Absorptiometry Bone-Mineral-Density and Trabecular-Bone-Score measurements; and effects of obesity. *British Orthopaedic Research Society*; 24-25 September; London 2012.

Hopkins SJ, Smith CW, Toms AD, Brown M, Welsman JR, Knapp KM. A study investigating the long-term effects on function, bone mineral density and lean tissue mass post total knee replacement in a female postmenopausal population. *Osteoporosis International*. 2012 July;23(Supplement 5):S552.

Hopkins SJ, Smith CW, Toms AD, Brown M, Appelboom A, Welsman JR, et al. Relationship between spine Bone Mineral Density and Trabecular Bone Score in postmenopausal populations following total knee replacement or keg fracture. *Osteoporosis International*. 2012 July;23(Supplement 5):S582.

Hopkins SJ, Smith CW, Toms A, Brown M, Welsman JR, Knapp KM. A pilot study investigating the long-term effects on function, bone mineral density and lean tissue mass post fracture in a female postmenopausal population. *Annual Joint UK Radiological Congress*; 25-27 June; Manchester 2012.

Hopkins S, Smith C, Toms A, Brown M, Welsman J, Knapp K. Left-right weight-bearing:short and long-term measurement precision, and effects of weight-bearing imbalance on hip bone mineral density and leg lean tissue mass. *Journal of Bone & Joint Surgery, British Volume*. 2012 August 1, 2012;94-B(Supplement XXXVI):81.

Progress summary:

The project has been completed and the PhD awarded in September 2013. The thesis has been submitted for open access online publication although final publication has been embargoed for one year to enable the write-up of further articles. The summary chapter of the thesis has been attached to this report (Appendix II).

On a personal note, I would like to thank the Society & College of Radiographers, and CORIPS for their support throughout this project and for the opportunity this has given me to achieve my research goals.