

Dr Carolyn Greig MSc PhD

Senior Lecturer in Nutrition and Ageing

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About

Dr Greig is a translational scientist with research interests in the influence of use, disuse, age and disease on human skeletal muscle mass and function. She is particularly research active in nutritional, physical activity and pharmacological interventions to maintain muscle mass in older healthy men and women and in frail patient groups.

Qualifications

BSc (Hons) University of Newcastle 1981

MSc University of London King's College 1982

PhD Council for National Academic Awards 1988 (funded by the Sports Council of Great Britain)

Biography

Dr Greig graduated from Newcastle University (BSc Hons Physiology in 1981) and obtained an MSc in Human and Applied Physiology at King's College London (1982) and a Sports Council funded PhD from the Polytechnic of North London (1988). Following 2 years as a Lecturer in Exercise Physiology at St Mary's College of Higher Education, Strawberry Hill, she joined Prof Archie Young at the Royal Free Hospital School of Medicine as a Lecturer in Human and Applied Physiology in the Department of Geriatric Medicine. She created a Human Performance Laboratory and embarked on a programme of work based on development of methods of measurement and strategies to improve physical performance and functional ability in older people. During this time she trained the field workers who made the functional ability measurements included in the English National Fitness Survey, supervised MSc and PhD students and was the first non-clinical recipient of the Dhole Bursary of the British Geriatrics Society.

From 1992-2000 she took a career break and moved to Edinburgh where she worked as a part-time visiting lecturer at Queen Margaret University before resuming her research career at Edinburgh University (2000-2012) as a Research Fellow before taking up her present position within the prestigious **MRC-ARUK Centre for Musculoskeletal Ageing Research** (<http://www.birmingham.ac.uk/research/activity/mds/centres/mrc-musculoskeletal-ageing/index.aspx>) at the University of Birmingham. Since 2000 Dr Greig has been a grantholder on >£2M of research funding and has authored over 50 peer-reviewed manuscripts, book chapters and review articles.

Research

Dr Greig's research is focussed on the maintenance of muscle mass and function in older healthy men and women and in frail patient groups (including upper GI cancer, stroke). She is particularly interested in the following areas: responsiveness to physical activity/ nutritional/ pharmacological interventions; molecular, biochemical and functional (imaging) biomarker discovery and evaluation; the influence of glucocorticoids on regulation of muscle mass; measurement of muscle protein synthesis; direct monitoring of physical activity.

Current research projects

1. Responsiveness of older muscle to resistance exercise training and protein/ essential amino acid supplementation (MRC-ARUK Centre PhD studentship Danielle Thomas, collaborators Dr Phil Atherton/ Dr Ken Smith, University of Nottingham).
2. Impact of lifestyle modifications on function and health related quality of life in older individuals with sarcopenic obesity (PhD studentship Christos Theodorakopoulos collaborator and principal supervisor Dr Elaine Bannerman, Queen Margaret University, Edinburgh).
3. Molecular and functional biomarkers for skeletal muscle frailty (main collaborators Prof KCH Fearon, Prof JA Ross, Prof A MacLulich University of Edinburgh; Dr I Gallagher University of Stirling; Dr H Wackerhage University of Aberdeen).
4. Direct objective physical activity monitoring as an outcome for studies of healthy ageing/ cancer cachexia (collaborators Dr E Ferriolli University of Sao Paolo; Dr S Chastin Glasgow Caledonian University).
5. Magnetic Resonance Elastography/ 3T MR protocol development (Edinburgh University small project grant and Moray Endowment fund, collaborators Dr Calum Gray, Prof Neil Roberts Dr S Semple, P Kennedy).
6. Comparison of MR and DXA derived estimates of muscle mass (collaborators Dr Peter Tothill and Dr Calum Gray, University of Edinburgh).
7. Using pedometers to promote physical activity in patients after stroke (Stroke Association PhD Fellowship to Sarah Nicholson, collaborator and principal supervisor Prof GE Mead, University of Edinburgh).
8. Clinical trials in sarcopenia: Advisor Phase III trial nutritional supplementation in elderly community dwelling men and women (Danone Nutricia).

Other activities

Dr Greig is the current lead of the Physiological Society's Human and Exercise themed group and a co-opted member of the Meetings Committee. She is also a member of the Society for Sarcopenia, Cachexia and Wasting Disorders. She reviews for a number of journals and is a member of the Editorial Board of the Journal of Aging and Physical Activity.

Publications

The Human Urinary Proteome Fingerprint Database UPdb. (<http://www.ncbi.nlm.nih.gov/pubmed/24222850>) Husi H, Barr JB, Skipworth RJ, Stephens NA, Greig CA, Wackerhage H, Barron R, Fearon KC, Ross JA. Int J Proteomics. 2013;2013:760208. doi: 10.1155/2013/760208. Epub 2013 Oct 9. PMID: 24222850

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