

Lifestyle

Skeletal muscle

Exercise

Nutrition/Supplementation

Endocrinology

Optimisation of Exercise and Diet in People over 60 years old: Muscle and Quality of Life Responses

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The Investigation

Background & Objectives

- Physical activity in old age may delay muscle wasting.
- Physical activity is of paramount importance for maintaining the functional abilities needed to carry out daily tasks.
- Poor diet influences both metabolic and protein synthetic pathways culminating in lethargy and muscle wasting.

Our objectives are therefore:

1. To study the influences of lifestyle factors (exercise and nutrition) on functional ability
2. To obtain a better understanding of the key physiological and hormonal responses to either or the two combined.



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= ↑QoL?

Potential Benefits

For older people

- Nutritional advice should improve the hormonal profiles of the participants (e.g. more energy and better mood as a consequence of improved diet) and may hence improve their quality of life.
- These responses should be enhanced with exercise.

For society

- Our study has the potential of clarifying how to co-ordinate physical daily activities and nutrition.
- Interventions may maximise the beneficial effects on the muscular and hormonal systems.
- Findings have major implications and will be widely disseminated.

Plan

Participants: A group of volunteers aged 60-90 years ($n=48$), will be randomly assigned to one of four groups:

- a) nutritional advice,
- b) nutritional advice + supplements,
- c) nutritional advice + exercise, or
- d) nutritional advice + exercise + supplements.

Testing: At the pre- and post-intervention phases of the study we will incorporate measures of

- a) blood and urine hormones,
- b) functional and structural assessments of muscle and
- c) assessments of quality of life.

Resources

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Mentors, Collaborators and Partners:

- Prof CN Maganaris (Manchester Metropolitan University)
- Dr KD Tipton (University of Birmingham)
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