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**Scientific Presentation - Bone, Muscle, Rheumatology**

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**Mobility and strength training with and without protein supplements for pre-frail/frail older people with low protein intake**E. Williamson<sup>1,2</sup>, K. Biggin<sup>1</sup>, A. Morris<sup>1</sup>, I. Marian<sup>1</sup>, C. Mwena<sup>1</sup>, A. Carver<sup>3</sup>, S. Lamb<sup>2</sup><sup>1</sup>University of Oxford<sup>2</sup>University of Exeter<sup>3</sup>Patient Adviser

**Introduction:** Regular exercise to improve muscle strength and balance is recommended for older people. Providing extra protein to older people may enhance the benefits of exercise especially in people who have insufficient dietary protein. Our study evaluated the feasibility of conducting a definitive trial to evaluate the effectiveness of mobility and strength training +/- protein supplements for pre-frail/frail older people with low protein intake.

**Method:** A multi-centre feasibility randomised controlled trial in 4 NHS community trusts.

**Recruitment:** via physiotherapy caseloads, an existing cohort study and community advertising. Participants:  $\geq 60$  years, pre-frail/frail, reported walking difficulties and low protein intake ( $< 1$  g protein/kilogram body weight (kgBW)/day). The recruitment target was 50.

**Interventions:** everyone undertook exercise 2x/week supported by a physiotherapist for 24 weeks. Half were randomised (1:1) to receive 24 weeks of daily protein supplements increasing protein intake up to 1.6 g/kgBW/day.

**Feasibility outcomes:** recruitment, intervention fidelity, adherence, tolerance and study retention.

**Clinical outcomes:** Short Physical Performance Battery, 6-Minute Walk Test and participant reported outcomes (baseline and 5–8-month follow-up).

**Results:** Initially recruitment focused on existing caseloads, but patients were more unwell and disabled than anticipated and ineligible. No participants were recruited from the cohort. A community recruitment strategy was implemented, and we randomised 20 participants, but we ran out of time to fully implement this strategy. We achieved good intervention fidelity. The median number of exercise sessions completed was 10.5/16 (IQR 7, 13). Six participants received supplements which they tolerated well and took regularly. Fourteen participants (70%) completed follow-up with no difference in retention between arms. All clinical outcomes showed a trend towards larger improvements in the exercise+protein arm but were not statistically significant.

**Conclusion:** A definitive trial would not be feasible as originally proposed. Recruitment was the biggest challenge with community advertising proving most successful and the recommended method for a future trial.



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