New study looks at immune-boosting effects of exercise in older adults

A new study being undertaken at the Centre for STRONG Medicine at Balmain Hospital, in conjunction with the University of Sydney, is aiming to determine whether the effectiveness of influenza vaccinations in older adults can be boosted by a short burst of exercise.

Centre Director, Associate Professor Nalin Singh, said influenza was a major cause of illness and death in the elderly, with 90 per cent of influenza-associated deaths occurring in those aged more than 65 years.

Professor Singh said vaccination worked at the population level and prevented influenza illness in approximately 70-90 per cent of young adults.

However, in the elderly, the effects of age-related immune decline were evident; with protection rates dropping to 30-40 per cent.

"Adjuvants are added to vaccines to improve the immune response and, traditionally, substances are added to the vaccine formulation," Professor Singh said.

"However, the response of the immune system to a short bout of exercise is remarkably similar to the responses to adjuvant substances. A single, acute bout of exercise immediately prior to vaccination, therefore, could hold the potential for immune enhancement."

Professor Singh said researchers had found that performing exercise before receiving a vaccine could strengthen the response in young adults.

"In this study, we'll be testing this idea in older adults who are most at risk from flu, and need help in boosting their response to the vaccine," he said.

"If we find that our exercising participants get better protection, this could be a way for everybody to be better protected, and so reduce the suffering caused every year by flu.

"Exercising before a vaccination is very adaptable, it doesn’t cost anything and we can design exercises that everyone can do, so this could be the start of a new way to get your vaccines."

Participants are needed for the study. Recruitment and testing will take place in the Centre for STRONG medicine at Balmain Hospital.

To be eligible participants must be over 65 years of age, and willing to take part in a moderate exercise task prior to receiving the influenza vaccination.
Exclusion criteria includes history of vaccine related allergies or side-effects; allergy to any constituent of the vaccine (including eggs and chicken); current immune disorder (including rheumatoid arthritis and asthma) or acute infection; current steroid or anticoagulant medication. In addition, any joint injury or pain which restricts completion of the exercise task, or recent history (six months prior) of strength training will result in exclusion.

Interested people should call Liz Mathieson on 9395 2269 or email Kate Edwards on kate.edwards@sydney.edu.au.