

# Warming up before flu vaccine could boost effectiveness

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You might have heard of warming up for a football match, but researchers from the University of Sydney are hoping that warming up for a flu vaccine could improve its effectiveness and reduce illness and death in the elderly.

Ninety percent of influenza-associated deaths occur in people over 65, but the effectiveness of vaccinations decrease as people age. To combat this, University of Sydney researchers, in conjunction with the Centre for STRONG Medicine at Balmain Hospital, are recruiting participants in a world-first study to see if a short bout of exercise prior to receiving the [vaccine](#) could improve its effectiveness.

"The traditional way of improving vaccines has been to add adjuvants: pharmacological or immunological agents that modify the effects of other agents," says Dr Kate Edwards, lead researcher on the project from the University's Faculty of Health Sciences.

"Changing the physiological host to enhance the response is a new approach to improving vaccines. The method has already been proven in young, healthy people, for whom the improved effectiveness of the vaccine only means extra protection. In [elderly patients](#) who really need the protection of the [flu vaccine](#), the outcomes could be transformative."

In younger adults, vaccination prevents [influenza](#) illness in approximately 70 to 90 percent of cases. In [older adults](#), the effect of age-related immune decline is seen, with protection rates reduced to 30

to 40 percent.

"Exercising before a vaccination is very adaptable, it doesn't cost anything and we can design exercises that everyone can do," says Dr Edwards.

"Developing adjuvants is a very lengthy and very difficult process. Unfortunately because of reasons such as side effects, clinical trials, costs and safety concerns, very few adjuvants actually come onto the market."

"If people can activate their own immune systems themselves through exercise, this makes the process of adapting vaccines very simple, very safe, and cost free," she says.

If successful, this new approach could also have enormous implications for the use of vaccinations in developing countries - if the method improves immune response, the dosage of vaccines could be reduced, making them more available in areas where prohibitive costs now prevent their routine use.

Provided by University of Sydney

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