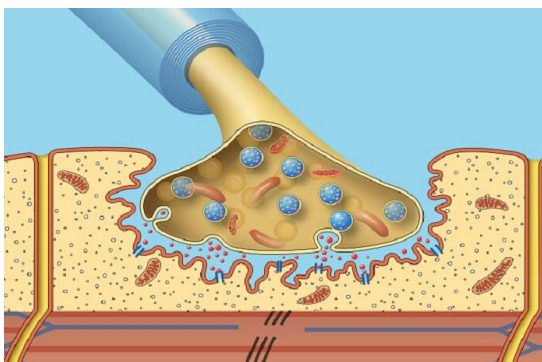


Post-activation Potentiation & Aging

Sohum Kulkarni

The Muscular Twitch

Neuromuscular research involves the use of electrically evoked “twitches” to assess neuromuscular function.



Post-activation Potentiation (PAP)

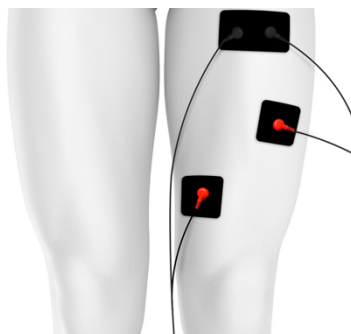
Post-activation potentiation (PAP) refers to the enhancement of contractile properties following a short-duration (<10 s) high-intensity contraction. In a potentiated state, less neural input is required to produce the same amount of force, thereby increasing neuromuscular efficiency. (Zero & Rice 2021)

Hypothesis

It was hypothesized that the effect of potentiation will decay more rapidly in older adults.

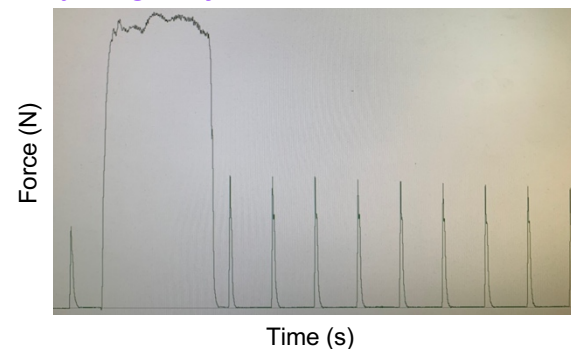
Methods

8 young (20-30 y) and 7 old (>65 y) subjects were seated in a dynamometer and electrodes were placed on the quadriceps. Knee extension was measured.



Results

More data is currently being collected to increase statistical power. A trend that was noticed was that PAP in the aged subjects decayed more rapidly than in young subjects.



Future Directions

An ability to perform activities of daily living and maintain independence with advanced age is reliant on the health of the neuromuscular system. Hence, it is critical to elucidate the age-related adaptations that occur within the system. (McNeil & Rice 2018)