

Body builders aren't necessarily the strongest athletes

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An increase in muscle size with exercise may not be directly related to an increase in muscle strength, according to a recent analysis of the literature.

Investigators who examined available evidence have concluded that size and muscle strength may actually be separate phenomena, which challenges many assumptions upon which [exercise programs](#) have been based. The researchers noted that there is a weak correlation between change in muscle size and change in muscle strength following training. Also, there is a loss of [muscle mass](#) with detraining, yet often a maintenance of [muscle strength](#). Furthermore, similar muscle growth can occur with low load or high load resistance training, yet there are divergent results in strength.

"As the story goes with exercise-induced changes in strength, neural adaptations are contributing first with muscle growth playing a more prominent role in the latter portion of a training program: however, there is little direct evidence that this is actually true in an adult partaking in a resistance training program," said Dr. Jeremy Loenneke, senior author of the *Muscle & Nerve* article. "Our paper highlights many potential issues with how we think about changes in strength following exercise."

More information: Samuel L. Buckner et al, The problem Of muscle hypertrophy: Revisited, *Muscle & Nerve* (2016). [DOI: 10.1002/mus.25420](#)

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