

# Building muscle doesn't require lifting heavy weights: study

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Current gym dogma holds that to build muscle size you need to lift heavy weights. However, a new study conducted at McMaster University has shown that a similar degree of muscle building can be achieved by using lighter weights. The secret is to pump iron until you reach muscle fatigue.

"Rather than grunting and straining to lift heavy weights, you can grab something much lighter but you have to lift it until you can't lift it anymore," says Stuart Phillips, associate professor of [kinesiology](#) at McMaster University. "We're convinced that growing muscle means stimulating your muscle to make new muscle proteins, a process in the body that over time accumulates into bigger muscles."

Phillips praised lead author and senior Ph.D. student Nicholas Burd for masterminding the project that showed it's really not the weight that you lift but the fact that you get muscular fatigue that's the critical point in building muscle. The study used light weights that represented a percentage of what the subjects could lift. The heavier weights were set to 90% of a person's best lift and the light weights at a mere 30% of what people could lift. "It's a very light weight," says Phillips noting that the 90-80% range is usually something people can lift from 5-10 times before fatigue sets in. At 30%, Burd reported that subjects could lift that weight at least 24 times before they felt fatigue.

"We're excited to see where this new paradigm will lead," says Phillips, adding that these new data have practical significance for gym

enthusiasts but more importantly for people with compromised skeletal [muscle](#) mass, such as the elderly, patients with cancer, or those who are recovering from trauma, surgery or even stroke.

The findings are published in *PLoS ONE*.

**More information:** [www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0012033](http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0012033)

Provided by McMaster University

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