

Weight training can be easy and still build strength. Here's how.

Any type and amount of weight training works to build strength and mass, whether people lifted heavy weights or much lighter ones

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If you've ever felt apprehensive about weight training, worried it's too complicated or physically demanding, new research about lifting practically bulges with encouraging news for you.

In one new study, middle-aged men and women who started lifting light weights gained about the same amount of strength and mass as others who used much heavier weights, despite widespread beliefs in the training world that only hefty weights can be effective.

That finding dovetails with the results of another new study, the largest meta-analytical review to date involving resistance training. It found that the best way to lift weights is any way at all. Every version of resistance training the researchers considered, whether it involved heavy weights or light ones, frequent weekly sessions and sets or few, resulted in improvements in muscular strength and mass, whatever someone's age or gender.

The findings could be a useful nudge to anyone who rarely, if ever, lifts, which, according to a study published this year, is about 70 percent of American adults.

"Anything at all was better than doing nothing," said Bradley Currier, a graduate student of kinesiology at McMaster University in Canada, and co-lead author of the new review. The studies did find, though, that certain tweaks and technique tips can help ensure we get the most out of our weight training.

Weight training can be easy

"A lot of people find the idea of strength training intimidating," said Anoop Balachandran, an assistant professor of exercise science at the City University of New York in Flushing, and lead author of the new study of light and heavy lifting.

He sympathizes, he continued, since weight training often is structured around complicated formulas involving percentages of someone's one-rep max (1RM), or the maximum weight someone can lift once. In standard training, people lift weights representing 80 to 90 percent of their 1RM, meaning so heavy they can heft them only a few times before their muscles give out. But this practice is built more on tradition than science, Balachandran and his colleagues realized, with relatively few head-to-head studies of beefy weights vs. lighter ones, especially among lifters who aren't young and male, the population most often recruited for past experiments.

So, for their new study, published in *Experimental Gerontology*, the scientists turned to middle-aged and older men and women, all new to weight training.

After assessing everyone's muscular strength, mass and endurance (a measure of how long muscles can stay active), the researchers started half of these volunteers on a program using traditional heavy weights that they could lift at most 8 to 12 times. The rest used much lighter weights, which they could hoist 20 to 24 times.

Lifting light weights works

Both groups lifted to "volitional fatigue," meaning until they felt they couldn't raise or lower the weight again. Once they could lift for more than either 12 or 24 repetitions, the weights were increased. (Their full-body workout consisted of eight exercises: the leg press, leg extension, leg curl, chest press, shoulder press, seated row, arm curl and triceps pushdown, all basic weight-training moves.)

After 10 weeks of twice-a-week workouts, the researchers rechecked everyone's muscles. Uniformly, they were stronger, larger and more durable now.

"There weren't meaningful differences" between the two groups Balachandran said. The heavy lifters' legs were slightly stronger, while the light lifters showed a bit more full-body, muscular endurance.

"This was a small, pilot study," Balachandran said. "But what it shows is that there are different, feasible options" for anyone who's considering lifting. "Use the traditional approach, if you want," and lift heavy weights, he said, or go lighter and longer, if that's more appealing. "Maybe you have joint problems," he said, "or just worry about heavy loads."

You could also use light dumbbells or resistance bands at home, he said. Some of the weights lifted by the study's participants were that low. "The point is, you can pick the approach you prefer."

The best way to lift weights

The new large-scale review of past research, published in the *British Journal of Sports Medicine*, reached the same conclusion. Its authors analyzed 192 past studies comparing different versions of weight training to no resistance exercise, hoping to tease out the single, most-effective combination of weights, sets and sessions to produce the greatest gains in strength and muscle size.

But there wasn't one. Any type and amount of training worked to build strength and mass, they found, and to about the same extent. Whether people lifted heavy weights or much lighter ones, several times a week or only once, repeating their sets of exercise once or twice or thrice,

and whether they were men or women, 18 or 80, they generally gained substantial strength and muscle mass.

As in Balachandran's study, there were trivial variations. Generally, people grew marginally stronger using heavier weights and added a little extra muscle mass if they completed more than one set of each exercise, but the additional gains were small.

"The takeaway is that you can choose whatever appeals to you," in terms of how much and how often you lift, said Jonathan Mcleod, also a graduate student at McMaster University and co-lead author of the review.

How to start lifting weights

Ready to start or rejigger your current resistance training now?

- "Start slow," Carrier said. Try a few basic resistance exercises once a week to build strength and assurance. Most gyms have trainers available who can show you a simple, full-body program, such as this one, using the equipment at that facility. You can also join group classes, in person or online.
- None of the studies in the new review included bodyweight exercises, "but bodyweight training is just fine," for adding strength and mass, Carrier said.
- Once you can easily complete an exercise more than about 25 times, increase the weight, Balachandran said.
- Try to reach "volitional failure" with each exercise, he continued, so the work feels like about a 7 or 8 on a scale of 1 to 10. This effort strains your muscles enough to prompt them to adapt and strengthen.
- Don't worry about growing swole. Few of us, due to our genetics, will look like Dwayne "The Rock" Johnson. But almost all of us, at any age, can add some muscle with resistance training and, just as important, stave off muscle loss with aging — a process that otherwise begins "in your late 20s," Carrier said.