

Those who exercise when young have stronger bones when they grow old

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The positive effects of exercise while growing up seem to last longer than previously believed. New findings suggest that physical activity when young increases bone density and size, which may mean a reduced risk of osteoporosis later in life, reveals a thesis from the Sahlgrenska Academy at the University of Gothenburg, Sweden.

For the thesis, around 3,200 men had their bones examined and their exercise habits mapped. Of these, just over 2,300 18-year-olds were selected at random to have their heel bone examined by the researchers. The heel bone is particularly useful to study as it is directly impacted by exercise, being loaded with the full weight of the body.

"In this group, we found that those who actively did sports, and also those who used to do sports, had greater bone density than those who had never done sports," explains Martin Nilsson, physiotherapist and doctoral student at the Institute of Medicine.

The researchers also looked at bone density and structure in the lower leg in around 360 19-year-old men who had previously done sports but had now stopped training. They found that men who had stopped training more than six years ago still had larger and thicker bones in the lower leg than those who had never done sports.

"This result is particularly important, because we know that a bone with a large circumference is more durable and resistant to [fractures](#) than a narrower bone," says Nilsson.

The researchers also studied bone density throughout the body in around 500 randomly selected 75-year-old men. Those who had done competitive sports three or more times a week at some point between the ages of 10 and 30 had higher bone density in several parts of the body than those who had not.

The researchers have therefore established that there is a positive link between exercise while young and [bone density](#) and size. The connection is even stronger if account is taken of the type of sports done.

"The bones respond best when you're young, and if you train and load them with your own bodyweight during these years, it has a stimulating effect on their development," says Nilsson. "This may be important for [bone](#) strength much later in life too, so reducing the risk of brittle bones."

Provided by University of Gothenburg

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