

# Regular cycling helps patients with 'accelerated aging' disease

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A study led by McMaster University researchers has found that regular cycling can greatly improve mobility in patients with myotonic dystrophy (MD), a genetic disease that causes muscle degeneration.

Senior author Mark Tarnopolsky said that cycling for 35 minutes three times a week for 12 weeks led to a 32 percent increase in overall fitness in people with MD.

Patients who took part in the study also saw a 1.6-kilogram increase in their [muscle mass](#) and a two percent reduction of body fat. They were also able to walk an extra 47 meters in six minutes, when tested by researchers at the end of the 12-week trial.

Tarnopolsky's team recruited 11 patients with MD to examine how effective cycling was in restoring and maintaining their physical health. Researchers also studied the underlying [molecular mechanisms](#) through which exercise strengthens the skeletal muscles, which can be severely weakened by MD.

"Exercise really is medicine—we just need to get the message out," said Tarnopolsky, a professor of the departments of pediatrics and medicine at McMaster.

"Myotonic dystrophy is a progressive condition that will impair your mobility and can put you in a wheelchair. There is no cure for it and only regular exercise helps you achieve better function."

Tarnopolsky said that some [patients](#) with MD are even advised by their doctors not to exercise, for fear of making their condition worse, but that is now proven false.

The study authors say previous research on mouse models showed a range of similar physiological benefits from [regular exercise](#).

Tarnopolsky said that MD is the most commonly diagnosed type of muscular dystrophy in adults, and the second most prevalent of all muscular dystrophies.

MD's main symptoms include severe skeletal muscle atrophy, general muscle weakness, reduced lung capacity and impaired heart function. Other symptoms may include cataracts, endocrine disorders including diabetes and gastro-intestinal disorders. Roughly 19,000 Canadians live with either MD or another type of muscular dystrophy, Tarnopolsky said.

"MD itself is really a form of accelerated aging," said Tarnopolsky.

The study was published recently in *The Journal of Clinical Investigation*.

**More information:** Andrew I. Mikhail et al, Aerobic exercise elicits clinical adaptations in myotonic dystrophy type 1 patients independent of pathophysiological changes, *Journal of Clinical Investigation* (2022). [DOI: 10.1172/JCI156125](https://doi.org/10.1172/JCI156125)

Provided by McMaster University

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