

Study shows moderate exercise could be good for your tendons

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Moderate exercise could be good for keeping your tendons healthy according to new research from the University of East Anglia funded by Arthritis Research UK.

The onset of tendon disease has previously been associated with exercise. However new research published today in the journal *Molecular Cell Research* shows that doing [moderate exercise](#) could help guard against and treat the painful and often debilitating condition.

The research team showed that moving around decreases a group of enzymes (metalloproteinases) that degrade tendon tissue and increase tendon protein.

Tendon disease is caused by damage to a tendon at [cellular level](#). Symptoms include chronic pain, inflammation, stiffness and reduced function.

Lead researcher Dr Eleanor Jones, from UEA's school of Biological Sciences, said: "The onset of tendon disease has always been associated with exercise, however this association has not been fully understood. We have shown that moderate exercise has a positive effect on [tendons](#)."

The team used human Achilles tendon cells which were seeded in rat tail collagen gels. These were then subjected to levels of strain experienced by human tendons to simulate moderate exercise.

"In this study we talk about moderately high exercise and we would consider running to be moderately high. But it's important to remember that our research was carried out in the lab so to confirm this we would need to complete further clinical studies."

The new findings also reveal how genes are regulated by the activation of the protein TGF- β (transforming growth factor beta). By investigating this pathway, researchers hope to find out more about how exercise is associated with tendon disease.

More information: 'Cyclical strain modulates metalloprotease and matrix gene expression in human tenocytes via activation of TGF- β ' by Eleanor R. Jones, Gavin C. Jones, Kirsten Legerlotz and Graham P. Riley (all UEA) is published in the journal *Molecular Cell Research* on August 7 2013.

Provided by University of East Anglia

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