

Running actually lowers inflammation in knee joints

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Credit: Brigham Young University

We all know that running causes a bit of inflammation and soreness, and that's just the price you pay for cardiovascular health. You know; no pain, no gain.

Well, maybe not. New research from BYU exercise science professors finds that pro-inflammatory molecules actually go down in the knee joint after running.

In other words, it appears running can reduce [joint inflammation](#).

"It flies in the face of intuition," said study coauthor Matt Seeley, associate professor of exercise science at BYU. "This idea that long-distance running is bad for your knees might be a myth."

In a study recently published in the *European Journal of Applied Physiology*, Seeley and a group of BYU colleagues, as well as Dr. Eric Robinson from Intermountain Healthcare, measured inflammation markers in the knee joint fluid of several healthy men and women aged 18–35, both before and after running.

The researchers found that the specific markers they were looking for in the extracted synovial fluid—two cytokines named GM-CSF and IL-15—decreased in concentration in the subjects after 30 minutes of running. When the same fluids were extracted before and after a non-running condition, the [inflammation markers](#) stayed at similar levels.

"What we now know is that for young, healthy individuals, exercise creates an anti-inflammatory environment that may be beneficial in terms of long-term joint health," said study lead author Robert Hyldahl, BYU assistant professor of exercise science.

Hyldahl said the study results indicate [running](#) is chondroprotective, which means exercise may help delay the onset of joint degenerative diseases such as osteoarthritis.

This is potentially great news, since osteoarthritis—the painful disease where cartilage at the end of bones wears down and gradually worsens over time—affects about 27 million people in the United States.

"This study does not indicate that distance runners are any more likely to get osteoarthritis than any other person," Seeley said. "Instead, this study suggests exercise can be a type of medicine."

Researchers, which included then undergraduate (and now grad student) Alyssa Evans and PhD student Sunku Kwon, now plan to turn their attention to study subjects with previous knee injuries. Specifically, they're looking to do similar tests on people who have suffered ACL injuries.

More information: Robert D. Hyldahl et al. Running decreases knee intra-articular cytokine and cartilage oligomeric matrix concentrations: a pilot study, *European Journal of Applied Physiology* (2016). [DOI: 10.1007/s00421-016-3474-z](https://doi.org/10.1007/s00421-016-3474-z)

Provided by Brigham Young University

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