

Exercise could help predict susceptibility to chronic pain

October 20 2014, by Carrie Stetler



Your post work-out level of pain sensitivity could provide important clues on your chances of developing chronic pain, say researchers at the Rutgers School of Dental Medicine.

(Medical Xpress)—Scientists know that exercise helps the body tolerate pain. But some feel more benefits than others.

That same variable factor —your post work-out level of pain sensitivity— could provide important clues on your chances of developing [chronic pain](#), say researchers at the Rutgers School of Dental Medicine.

In a study published earlier this month in the *Journal of Pain*, researchers found that rats displaying the least sensitivity, after running

on a treadmill were also less likely to develop pain after a nerve injury.

The results suggest that exercise could be a valuable component in helping doctors predict susceptibility to pain, particularly following injury or surgery, said Junad Khan, an assistant professor of diagnostic sciences, who led the study with former faculty member Eli Eliav, now dean for oral health at University of Rochester School of Medicine and Dentistry.

"We could use it as a form of patient profiling," said Khan. "We hope that the finding from this study could support the development of individual pain management plans."

The phenomenon of pain reduction after exercise is known as "exercise-induced hypoanalgesia" or (EIH). Khan and his team believe that an individual's capacity for EIH, or their EIH profile, can indicate how efficiently their body modulates pain, meaning how it manages both the sensation and suppression of pain.

Chronic pain conditions such as fibromyalgia, migraine, chronic [low back pain](#) and temporomandibular disorder have been shown to be associated with faulty pain modulation.

In their study, the research team determined each rats' EIH profile based on their response to painful stimuli, before and after a treadmill run. Those same rats were then given a procedure that caused nerve injury. The researchers found that rats with a high EIH profile —meaning they felt less pain after exercise—developed less pain from the injury than [rats](#) with a low EIH profile.

Khan, who specializes in orofacial pain, is hoping that the work of his team will provide greater insight into how pain is transmitted and perceived, in addition to the best ways to relieve it.

Research on the cause and treatment of pain is a component of the dental school's Center for Temporomandibular and Orofacial Pain, which provides clinical treatment to patients who suffer from chronic [pain](#) in the head and face.

Provided by Rutgers University

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