

New therapy reduces chronic low back pain in large international study

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A new study has found that tanezumab, a monoclonal antibody that inhibits nerve activity, provides relief in patients with chronic low back pain, one of the leading reasons why people seek medical care and the number one cause of disability worldwide.

"This demonstration of efficacy is a major breakthrough in the global search to develop non-opioid treatments for [chronic pain](#)," said John Markman, M.D., director of the Translational Pain Research Program in the University of Rochester Medical Center (URMC) Department of Neurosurgery and lead author of the study which appears in the journal *Pain*. "There were also improvements in function linked to the reduction in pain severity."

This is the first study that shows long-term relief for [chronic low back pain](#) with a single dose of tanezumab delivered under the skin once every two months. The study was conducted in 191 sites across eight countries in North America, Europe, and Asia.

Researchers are increasingly finding that certain proteins circulating in the bloodstream heighten the sensitivity of cells in the nervous system to pain. One of these proteins, called [nerve growth factor](#) (NGF), may explain why some individuals experience more intense and [chronic back pain](#). Tanezumab is an NGF inhibitor.

The patients with chronic low back pain enrolled in this study did not previously have relief with at least three different types of pain medication, including opioids, and were considered "difficult-to-treat." Patients with symptoms, signs, and X-ray evidence of moderate-to-severe osteoarthritis, a disorder commonly found in older patients with chronic low back pain, were excluded from the study.

Tanezumab has not been associated with the often serious adverse side effects seen with opioids or nonsteroidal anti-inflammatory drugs (NSAIDs), which are often used to treat low back pain. However, this class of drugs has been linked to joint problems, which are sometimes serious enough to require joint replacement. Because of this concern, the researchers followed participants for an extended period and determined there was a low rate of serious joint problems requiring joint replacement.

"In the future, clinicians may have to weigh the different risks of lumbar fusion surgery, chronic opioid use, or NSAIDs against the unique risks of a rare but rapidly progressive form of joint problem associated with blocking nerve growth factor," said Markman. "I expect that that the tradeoffs between benefit and risk will be different for osteoarthritis than for chronic low back [pain](#)."

Provided by University of Rochester Medical Center

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