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## [The Cool Way to Reduce Chronic Pain](#)

*Chemicals, such as mint oil, inducing coolness sensations in the body activate the TRMP8 protein and alleviate chronic pain*

Scientists discovered that a "cool" way to alleviate chronic pain may actually and literally consist in a cool way. Namely, using cool substances, from ice to cool mint oil and many others, may just put an end to the long-term, devastating pain felt by sufferers of many severe diseases. The idea of using cool substances to reduce pain lies in ancient historical documents. For example, Hippocrates wrote in his Aphorisms book: "Swellings and pains in the joints, ulceration, those of a gouty nature, and sprains, are generally improved by a copious affusion of cold water, which reduces the swelling, and removes the pain; for a moderate degree of numbness removes pain." Scientists from the University of Edinburgh published their findings in the *Current Biology* journal. They highlighted the fact that using chemicals which prompt coolness feelings in the body makes the substances act like very potent painkillers by activating the TRMP8 protein in our organism. "We are crying out for new treatments. Chronic pain can have an awful effect on a person's life quality," the team said. Scientists carried out trials on rats which suffered from chronic pain in one of their feet. In the study, researchers used icilin, a menthol related chemical. Results showed that when icilin was either injected or rubbed in the persistent pain area of the foot, the chemical activated the TRMP8 protein and reduced or alleviated painful sensations in the specific region. The particular, newly discovered protein, is expressed in nerve cells in the skin and responds to cool temperatures or cooling substances, such as mint or related substances. "This discovery of the pain-relieving properties of mint oil and related compounds has great potential for alleviating the suffering of millions of chronic pain patients, including those with arthritis or those who have had nerve damage or spinal injury following major accidents. Conventional painkillers such as morphine are often ineffective in cases of chronic pain, and simply lowering the temperature of the skin is too inexact. Our discovery means that patients can be given low doses of a powerful pain killer, delivered through the skin, without side effects. We hope clinical trials on the compounds will begin within the year," stated lead researcher Susan Fleetwood-Walker, Professor of Pain Biology at the Centre for Neuroscience Research, Edinburgh University.