

Swelling turned on its head: Why putting ice on an injury may prevent healing

By [Daily Mail Reporter](#)

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Putting ice on an injury may prevent healing according to scientists, paving the way for new methods of treating sports injuries.

For years people have been told to put a bag of frozen peas on a torn or sprained muscle to reduce the swelling.

But now for the first time, researchers have found a hormone produced by inflamed tissue that could help heal damaged muscle.

This discovery turns the conventional wisdom that swelling must be controlled to encourage healing, on its head.

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And these findings could lead to new therapies for acute muscle injuries caused by trauma, chemicals, infections, freeze damage, and exposure to medications which cause muscle damage as a side effect.

Researcher Lan Zhou, from the Neuroinflammation Research Centre at the Cleveland Clinic in Ohio, said:

'We hope that our findings stimulate further research to dissect different roles played by tissue inflammation in clinical settings, so we can utilize the positive effects and control the negative effects of tissue inflammation.'

The study, published in the Federation of American Societies for Experimental Biology journal, suggests muscle inflammation after acute injury is essential to repair.

Professor Zhou and his colleagues discovered inflamed cells produce a high level of a hormone called insulin-like growth factor-1 (IGF-1) which significantly increases the rate of muscle regeneration.

This discovery could also change how much patient monitoring is required when potent anti-inflammatory drugs are prescribed over a long period.

During the study, scientists studied two groups of mice. The first group was genetically altered so they could not form an inflammatory response to injury.

The second group was normal. All mice were then injected with barium chloride to cause muscle injury. The first group of mice did not heal, but the bodies of the second group repaired the injury.

When they studied the muscle tissue they saw the healthy mice produced a high level of IGF-1 in their inflamed tissue.

Gerald Weissmann, editor of the Federation of American Societies for Experimental Biology journal, said: "For wounds to heal we need controlled inflammation, not too much, and not too little.

'It's been known for a long time that excess anti-inflammatory medication, such as cortisone, slows wound healing.

'This study goes a long way to telling us why - insulin-like growth factor and other materials released by inflammatory cells helps wound to heal

Read more: <http://www.dailymail.co.uk/health/article-1324096/Ice-injury-prevent-healing->

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