

Laughter really is the best medicine

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A rattling good laugh with friends will help you deal with pain thanks to opiate-like chemicals that flood the brain, according to a British study released on Wednesday.

Researchers carried out lab experiments in which volunteers watched either comedy clips from "Mr Bean" or "Friends," or non-humorous items such as golf or wildlife programmes, while their resistance to mild [pain](#) was monitored.

Another test was conducted at the Edinburgh Fringe Festival, where the volunteers watched either a stand-up comedy show or a theatrical drama.

In lab conditions, the pain came from a deep-frozen wine-cooler sleeve

which was slipped onto the arm or from a blood-pressure cuff that was pumped to the threshold of tolerance.

For the Fringe Festival, the volunteers were asked to do a tough exercise -- leaning against the wall with their legs at right angles, as if sitting on a straight-backed chair -- before and immediately after the performance, to see if [laughter](#) had helped with the pain.

Just 15 minutes of laughter increased the level of [pain tolerance](#) by around 10 percent, the study found.

In the lab experiments, the neutral, non-funny programming had no pain-alleviating effect at all. Nor did watching drama at the Fringe Festival.

However, the study notes two important distinctions.

The only laughter that worked was relaxed, unforced laughter that creases the eyes, as opposed to a polite titter.

And this kind of belly laugh is far likelier to happen when you are with others, rather than being alone.

"Very little research has been done into why we laugh and what role it plays in society," said Robin Dunbar, head of the Institute of Social and Cultural Anthropology at the University of Oxford.

"Using microphones, we were able to record each of the participants and found that in a comedy show, they laughed for about a third of the time, and their pain tolerance rose as a consequence."

The protection apparently comes from endorphins, a complex chemical that helps to transmit messages between neurons but also dulls signals of physical pain and psychological stress.

Endorphins are the famous product of physical exercise -- they help create the "buzz" that comes from running, swimming, rowing, yoga and so on.

In laughter, the release comes from an involuntary, repeated muscular exertion that comes from exhaling without drawing a breath, the scientists believe. The exertion leaves us exhausted and thereby triggers the endorphins.

Great apes are also believed to be able to laugh but, unlike humans, they breathe in as well as out when they do so.

The investigators believe the experiments help to understand the physiological and social mechanism of how laughter is generated.

The group seems vital in unleashing the right kind of endorphin-making laughter, they contend.

Previous studies have focussed more on why humans laugh, as opposed to how they do it.

One theory is that laughter helps transmit mating signals or cements bonding between individuals.

Another idea is that, in a group setting, laughter promotes social cooperation and collective identity. It is thus an evolutionary tool to help survival.

The paper appears in Proceedings of the Royal Society B, a journal published by Britain's de-facto academy of sciences.

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