

# Laughter Works Better Than Pharmaceuticals and Affects the Body Like Exercise

Mae Chan | [Preventdisease](#)

It's no secret that laughter is good for you and, even when indulged in liberally, is gloriously free of side effects. Laughter is a simple stress reducer, a kind of natural Valium, but is also allows us to connect to other people in such unique ways, that it cannot be duplicated through any other method. A body of evidence shows that laughing not only works better than medication, but stimulates hormonal levels in ways similar to exercise.



One pioneer in laughter research, William Fry, claimed it took ten minutes on a rowing machine for his heart rate to reach the level it would after just one minute of hearty laughter. He wasn't kidding. There is no doubt that [laughter improves health](#).

[Norman Cousins](#) first suggested the idea that humor and the associated laughter can benefit a person's health in the 1970s. His ground-breaking work, as a layperson diagnosed with an autoimmune disease, documented his use of laughter in treating himself – with medical approval and oversight – into remission. He published his personal research results in the New England Journal of Medicine and is considered one of the original architects of mind-body medicine.

Dr. Lee S. Berk, a preventive care specialist and psychoneuroimmunology researcher at Loma Linda University's Schools of Allied Health (SAHP) and Medicine, and director of the molecular research lab at SAHP, Loma Linda, CA, and Dr.

Stanley Tan have picked up where Cousins left off. Since the 1980s, they have been studying the human body's response to mirthful laughter and have found that laughter helps optimize many of the functions of various body systems. Berk and his colleagues were the first to establish that laughter helps optimize the hormones in the endocrine system, including decreasing the levels of cortisol and epinephrine, which lead to stress reduction. They have also shown that laughter has a positive effect on modulating components of the immune system, including increased production of antibodies and activation of the body's protective cells, including T-cells and especially Natural Killer cells' killing activity of tumor cells.

Their studies have shown that repetitious "mirthful laughter," causes the body to respond in a way similar to moderate physical exercise. Laughter enhances your mood, decreases stress hormones, enhances immune activity, lowers bad cholesterol and systolic blood pressure, and raises good cholesterol (HDL).

As Berk explains, "We are finally starting to realize that our everyday behaviors and emotions are modulating our bodies in many ways." His latest research expands the role of laughter even further.

### Better Than Pharmaceuticals

The physiological study of laughter has a name –gelotology, and that there are actually researchers who study humor and laughter and how they have an impact on the brain.

Consider a recent study at Loma Linda University, which involved diabetic patients who had high cholesterol and high blood pressure. One group of participants received standard pharmaceutical treatment for these conditions...a second group was instructed to "view self-selected humor" (for instance, watch sitcoms or videos that they considered funny) for 30 minutes daily. After one year: In the laughter group, HDL

(good) cholesterol increased by 26% and blood levels of C-reactive protein (a marker of inflammation) decreased by 66%, on average...in the other group, HDL increased by just 3% and C-reactive protein declined by just 26%, on average. "We are finding to a certain extent that laughter exceeds many of the physiological benefits of several medications," said Dr. Ramond Jeffrey.

In another study, 14 healthy volunteers were recruited to a three-week study to examine the effects that laughter and distress have on modulating the key hormones that control appetite. During the study, each subject was required to watch one 20-minute video at random that was either upsetting (distress) or humorous (eustress) in nature.

When the researchers compared the hormone levels pre- and post-viewing, they found that the volunteers who watched the distressing video showed no statistically significant change in their appetite hormone levels during the 20-minutes they spent watching the video.

In contrast, the subjects who watched the humorous video had changes in blood pressure and also changes in the leptin and ghrelin levels.

Specifically, the level of leptin decreased as the level of ghrelin increased, much like the acute effect of moderate physical exercise that is often associated with increased appetite.

Michael Miller of the University of Maryland School of Medicine in Baltimore studied the effects of laughter on the blood vessels ability to expand – known as vasodilation. Poor vasodilation can increase the risk of heart attacks and strokes by making the passageways prone to being blocked, cutting off vital blood flow.

The researchers asked 20 healthy men and women to watch clips of two movies – either the violent opening battle scene in the

1998 film "Saving Private Ryan" or a humorous scene from a comedy, such as the 1996 "Kingpin."

The researchers tested the subjects' vasodilation, before and after the movie, by constricting and releasing an artery in their arms with a blood pressure cuff and then using ultrasound to measure how the blood vessels were functioning.

Overall, blood flow decreased by about 35 percent after experiencing stress but increased 22 percent after laughter – an improvement equivalent to that produced by a 15- to 30-minute workout.

"These kinds of results are impossible to replicate with drug therapy," said Professor Tracy Stevenson. "We haven't seen any pharmaceutical drug capable of reproducing the incredible health promoting effects seen from subjects who simply laugh daily," she stated.

### Brain Rewards Us for Laughing

Humor is no laughing matter, according to Dr. Allan L. Reiss of Stanford University in California.

"Humor has significant ramifications for our psychological and physical health," he stated. Our sense of humor, he said, "often dictates if, how and with whom we establish friendships and even long-lasting romantic relationships." Humor is also a "universal coping mechanism" for dealing with stress, Reiss added.

The Stanford researcher noted that most people are drawn to humor and that it makes people feel good. "We seem to feel rewarded" by humor, he said.

Researchers found that when a cartoon made a person laugh, a brain network that is known to be involved in reward was activated. In fact, the areas activated by humor have been shown previously to be activated by amphetamines and cocaine,

according to a report in the the journal Neuron.

“We believe that utilizing studies such as this may be one way to more specifically identify individuals at risk for depressive disorders,” Reiss said. The research may also be useful in measuring a person’s response to treatment for depression, according to Reiss. The humor reward system in the brain may come “on line” even before symptoms of depression change, he said.

The research may also help explain “humorless” people, who, Reiss noted, may have serious problems in relationships.

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