

This Weeks Question:

What does Exercise, Marijuana and Chocolates have in common?

1. Increase in Farmones
2. Decreases in blood glucose
3. Anandamides
4. Increase in Serintonin

Vigorous exercise yields the same lift as chocolate: **Feel-good vibes.**

If you're feeling energetic, euphoric or happy after exercise, there might be a perfectly logical physiological answer. The buzz from exercise may be coming from chemical compounds called anandamides, said Daniele Piomelli, professor of pharmacology at the University of California, Irvine. Piomelli and his colleagues found that people who exercise vigorously for about an hour had high levels of these anandamides.

Back in 1996, Piomelli found these anandamides in chocolate, which may explain why some of us feel good after munching on a bar of Godiva dark chocolate, calories notwithstanding.

"During exercise, the body makes its own marijuana-like compounds," Piomelli said. Chemically, these compounds do not look like marijuana, but they cause a similar effect as marijuana on the brain, he said.

Researchers draw similarities between anandamides and tetrahydrocannabinol, or THC, the active ingredient in marijuana, because both attach to specific areas in the brain.

Piomelli partnered with colleagues at Georgia Institute of Technology for a study published last year in the journal *Neuroreport*. They recruited 24 male college students who regularly exercised and were divided into three groups: Eight ran on a treadmill, eight rode a stationary bicycle, and eight sat. Those in the exercise groups worked out at 70 percent of their maximum capacity.

After one hour of exercise, including warm-up and cool-down, researchers took blood samples. Students who exercised had levels of anandamide 80 percent higher than those who sat.

Anandamides have been found to reduce pain in animals, so it probably has the same effect on people, Piomelli said. It's possible that the body produces more anandamide in response to the stress of exercise.

Anandamide also may play a part in regulating mood, which may explain the post-exercise buzz. This effect is temporary.