

## Meth in a Can

Irritability. Heart arrhythmia. Osteoporosis. Withdrawal pains. The huge quantities of stimulants in energy drinks can make them as risky as “real” drugs.

Keith M. Graves



It's hard for longtime CrossFitters to forget the article [“Getting off the Crack,”](#) which ran in the October 2005 edition of the Journal. Part of the reason is the striking photo of author Nicole Carroll’s beautiful abs, but mostly it’s her revelation that food can be much like the very addictive drug, crack. She relates how certain foods are bad for our health and performance, why we crave them, and why we need to stop eating them now.

It got me thinking about a related and insidious problem: the influx of energy drinks on the U.S. market. Many people have come to accept and use Red Bull and its clones on a daily basis. I want you to walk away from reading this by remembering one thing: energy drinks are simply meth in a can. Yes, meth—methamphetamine, a highly addictive central nervous system stimulant. The more meth you take, the more you crave it and the more you need it. The same thing applies to energy drinks.

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## What's Inside a Can

### Caffeine

Caffeine is a central nervous system stimulant discovered by a German chemist in 1819. It can be found in beans, leaves and the fruit of some plants, where it acts as a pesticide by killing certain insects feeding on the plants. It takes less than one hour for the stimulant effects to take hold in the human body and can last up to four hours.

### Taurine

Taurine is an organic acid found in the lower intestine and in small amounts in the tissue of animals and humans. The average intake of taurine in a person's daily diet is approximately 100 mg. Energy drinks provide anywhere between 250 mg and 4000 mg of taurine. Not a stimulant itself per se, taurine is a vital, naturally occurring compound in the body that in energy drinks is often paired with stimulants (like caffeine) because it helps to keep a stimulated body under control. It reduces muscular fatigue, aids thermoregulation (stabilize body temperature in physical activity), improves concentration, and relaxes the brain.

### Guarana

Guarana is a plant found in the Amazon Basin that produces flowers and fruit in clusters. One seed from the fruit of this plant contains as much as five times the amount of caffeine as a coffee bean.

### Ginseng

Ginseng is a slow-growing perennial found in Asia. It is often used as a stimulant, much like caffeine.

### L-carnitine

An amino acid produced by your liver and kidneys, L-carnitine assists with increasing your metabolism and energy levels. Supplements of this substance are not allowed to be imported into Canada.

Some people might think that this is just hyperbole. Some think there is no way that you can compare energy drinks and supplements to meth. But the fact is that some of the more common ingredients in energy drinks are serious stimulants, including caffeine, taurine, guarana, ginseng, and L-carnitine. (The sidebar to the left details the effect each ingredient has on the body.) On top of that, one can by itself often contains these stimulants in amazing quantities—as much as three to four times the amount of caffeine in one cup of coffee. And caffeine is typically just one of several stimulants present.

Most energy drink supplement companies often use the extreme amount of these stimulants as a marketing tool. Names tell the story. One company sells their energy drink by the name "Cocaine." Other brand names include "Amp" and "Wired." But the charge they give you is fleeting and the negative after-effects linger far too long.

### Energy-Drink DUI?

As these drinks began crowding the market, I began to wonder if someone could appear to be "under the influence" of these stimulants, much like being under the influence of meth. Sure enough, I was teaching a class of police officers recently about how to identify people who are high on drugs. During the class the students, all current police officers, were practicing their new skills by administering sobriety tests on one another. As they were practicing, one of the students was joking that his partner was high on meth.

Everyone in the class was a police officer, so you would hope they weren't actually using meth. But, I did notice that the young, laughing student was actually drinking a nice, tall can of Rockstar, a popular energy drink, just before the exercise. I noticed that he did show some signs of drug influence, so I asked this young officer what energy drinks he'd taken that day. The answer was alarming. That morning he had already downed a 16-oz. can of "Rock Star Energy Shot," a packet of "Zip Fizz," and two other "energy supplements" to help him stay awake and provide energy for his morning workouts.

I decided to do a drug influence evaluation on the officer, since the consumption of the energy products had been fairly recent. I wanted to see what effect the energy drinks and supplements would have and to see how it compared to someone under the influence of meth.

I found that the student had the signs and symptoms of drug influence. His pupils were dilated and his pulse elevated, and I saw muscle tremors. These are signs of methamphetamine influence. The only thing missing was the massive euphoria that meth users feel when they ingest their drug.

When I sit in briefings, I notice that a number of officers are drinking energy drinks. When I go to the gym, I notice that a lot of people are drinking energy drinks during their workout. The final straw: watching a Little League coach give his 12-year-olds Red Bull just before the game. That's just what you want, isn't it? A bunch of 7th graders hopped up on caffeine, and not able to function after it wears off one hour later!

The general population does not understand the growing dangers that these drinks and supplements pose. And I do mean growing. With energy drink sales up 55% a year and annual sales exceeding \$5.4 billion dollars (yes, billion) in 2006 (source: USA Today, 2008), the energy drink makers can afford a hefty annual marketing budget.

So why are energy drinks so bad for you? Let's compare: A normal cup of coffee has 80 mg of caffeine, a can of Coca Cola has 34 mg, and a Pepsi 37.5 mg. That's nothing compared to energy drinks. 8.3 ounces of Red Bull has 80 mg; comparable 16-oz. cans of Rockstar, Monster, and Full Throttle have 160mg. Starbucks Grande coffee has 330 mg; Wired 344 mg. And this is without counting the other stimulants in the drinks.

### Revvng You Up and Wearing You Out

It is important to understand what so much stimulant does to your body. Intake of more than 400 mg of these stimulants can lead to a number of nasty side-effects: nervousness, irritability, problems concentrating, sleeplessness, muscle tremors, increased urination, abnormal heart rhythms (arrhythmia), decreased bone density, and an upset stomach. These stimulants may also slow the body's ability to absorb water, leading to dehydration.

There is no requirement from the FDA to list the amount of caffeine in these drinks, so you may or may not know how much you are getting. As a rule of thumb, no one should drink more than one energy drink per day. However, I recently saw an energy drink with 2 grams of stimulant blend—that's 2,000 milligrams (mg)! Compared that to 80 mg in a cup of coffee!

Do you need to worry that it will affect your athletic performance or your health? Absolutely! In France, the legislature outlawed energy drinks after the death of 18-year-old Irish basketball player Ross Cooney just after he finished a game. He had consumed four Red Bull drinks prior to starting time.

There has been an increase in emergency room visits due to intoxication from energy drinks. And more importantly, a California man was recently arrested for DUI. What was his intoxicant of choice? Five energy drinks in an hour and a half.

Looking at the side-effects of some of these drinks, I am still shocked at the number of athletes and warriors (my fellow police) who will tell me that they use the energy drinks to help them stay awake and alert. Ironically, it does not actually accomplish this. It really has the opposite affect—and could be detrimental to them when danger comes their way.

The stimulant that you take is not getting you the 'boost' that you are seeking and it hurts you in the long run. When you take caffeine or another stimulant into your body, it activates your adrenal glands and releases hormones in your body like adrenalin, norepinephrine, and cortisol. If you take these stimulants, they are addictive and you will build a tolerance to them. Soon, you will need to take more and more of the stimulant to achieve the desired effect, such as getting your 'boost.'

As you take these stimulants on a daily basis, you will cause adrenal fatigue or, simply put, exhaustion. Therefore, the energy drink you are taking now is basically making matters worse for you. Over time, it will burn you out and make matters still worse. On top of that, there has been an increase of metabolic syndrome, insulin resistance and diabetes. This increase can be attributed, at least in part, to adrenal over-stimulation.

Normally, your body doesn't get stimulated until you're put into a stressful situation, at which time it will release adrenalin from your adrenal glands. This gives you the 'boost' you need at that particular moment. Examples would be running from a car about to hit you, reacting to gunfire or defending yourself from an attack. If you're not a cop, think of the moment that a police officer pulled in behind you when you were speeding.

Even a single cup of coffee can cause the release of these hormones. Continuing this release puts stress on the

adrenal gland. Your adrenal gland just is not meant to release so much of the hormones over time.

### **No Compromises: Get Off the Meth**

Many of you who use these products may already have a basic understanding that these drinks and supplements are bad for you. You may have experienced some of the unpleasant side-effects I listed earlier. But now that you are more informed, it is time to get off the meth. It is not going to be easy. Just like meth, these substances are addictive and habit-forming.

What can you expect when stopping the use of these drugs? Answer: Caffeine Withdrawal Syndrome (CWS).

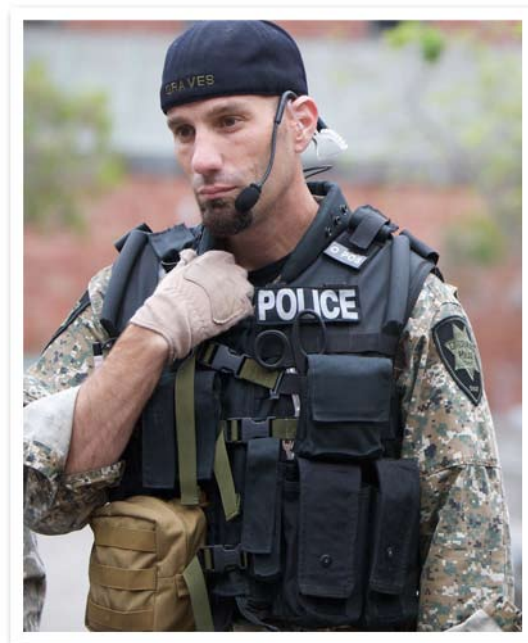
According to a recent Johns Hopkins study, CWS may be listed in the next edition of the DSM (the Diagnostic and Statistical Manual of Mental Disorders), which is considered the bible of mental disorders. According to the same study, as little as one cup of coffee a day is enough to cause CWS. You may experience fatigue, problems with concentrating, and irritability and headaches.

Just like other stimulant drugs, cessation of use will cause withdrawal symptoms and a craving for more of the stimulant. Withdrawal symptoms should subside within two weeks.

Energy drinks have become a part of our culture and have become widely accepted. CrossFitters live a healthy lifestyle and pride themselves on their level of fitness. They don't want to be told that they have been duped and have been hurting their bodies. However, this stuff is poison and can lead to a whole slew of health problems.

I have seen too much to condone halfway measures on this issue. People using energy drinks are killing their health and should stop immediately. I know I sound militant, but this stuff is harmful and is doing us no favors.

**Bottom line: These drinks are meth in a can.** If you see someone using these products, help them get off the meth. If you use them yourself, get off the meth. After all, if you're sipping the Kool-Aid of CrossFit, you don't need more stimulation.



### **About The Author**

*Keith Graves is a certified Level 1 CrossFit Trainer at MMCrossFit in Livermore, CA. A police officer assigned to both the Narcotics Unit and the SWAT Team, Graves is a certified Drug Recognition Expert Instructor (#3292), a court-certified expert in stimulant influence, and a teacher of drug influence courses for the California Narcotics Officers Association since 2000. He often contributes under the pseudonym "12bravo" on the CrossFit blog.*