



youth service bureau

Side Effects of Energy Drinks

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*Are there really side effects from the ingredients in energy drinks?
The information below has been adapted from "Energy Drink Side Effects" from
<http://www.caffeineinformer.com/energy-drink-side-effects#2>.*

Energy drinks are popular among youth, who are consuming more and more. Youth typically consume these drinks for a burst of energy, whether it's to help them stay up late to study, or to help them stay awake the next day. However, recent research suggests that there are risks associated with the over-consumption of energy drinks.

Energy drinks may contain supplements and vitamins and are required to list warnings on the label about consuming more than the recommended serving. In moderation, most people will have no adverse, short-term side effects from drinking energy drinks. However, the long-term side effects from consuming energy drinks aren't fully understood as of yet.

Let's take a look at the most common energy drink ingredients and list the potential side effects that could result from ingesting too much of them.

Caffeine

This is the most common energy drink ingredient and one of the most widely consumed substances in the world. Energy drinks have varying levels of caffeine; here are some of the popular brands and their caffeine content:

10-Hour Energy	422 mg
5-Hour Energy	200 mg
Monster	160 mg
Mountain Dew Kickstart	92 mg
Red Bull	80 mg
Rockstar	160 mg
Vamp Energy	240 mg

(To find the caffeine content of your favorite drink, check out www.caffeineinformer.com)

Caffeine tolerance varies between individuals, but for most people a dose of over 200-300mg may produce some initial symptoms, such as restlessness, increased heartbeat, and insomnia.

Considering that many youth may consume more than one energy drink in a short period of time, or may combine energy drinks with other caffeinated beverages like coffee or soda, this dosage level may be reached more quickly than we realize!

Consuming between 500mg to 1000mg of caffeine in a 24-hour period will probably lead to some of the more severe side effects, such as:

- Increased blood pressure
- Heart palpitations
- Gastrointestinal disturbance (diarrhea)
- Increase urination
- Dizziness, irritability, nausea, nervousness, jitters.
- Allergic reactions, which can include: rash, hives, itching, difficulty breathing, tightness in the chest, swelling of the (mouth, face, lips, or tongue), diarrhea, shakiness, trouble sleeping, vomiting
- Headache and severe fatigue from withdrawal
- Breast shrinkage in females
- Painful withdrawal symptoms if not consumed

Caffeine can be found in other ingredients such as guarana, green tea extract, and coffee extract, as well as many other names, so be aware of this when reading energy drink labels.

Some people can become tired after consumption of caffeine. This is a symptom of adrenal fatigue where the body's adrenalin system has become overtaxed by constant high caffeine intake. The answer is not to increase caffeine even more – but to reduce, detox, and get the adrenal glands back to a healthy state.

Sugar

Most energy drinks are high in sugar in the form of high fructose corn syrup and/or cane sugar. Some use creative names to make their version of sugar seem healthier, like “natural cane juice” or they’ll call it “glucose.” No matter what it is called, high sugar drinks can lead to:

- Obesity
- Tooth decay
- Increased risk of Type 2 Diabetes
- A spike in blood sugar and insulin, which later results in a “crash-like” feeling

If you drink sugar-free energy drinks you may be consuming any number of artificial sweeteners. There is always debate around the health effects of these (particularly aspartame), although all major health institutions regard them as safe.

Taurine

Taurine is an amino acid that is naturally produced by the body, but the version found in energy drinks is manufactured. Usually the body makes enough so there is no need to supplement it.

No side effects from taurine in energy drinks have been documented. Some countries (France, Denmark, and Norway) originally banned energy drinks because of their taurine content, but have since accepted that taurine consumption is safe based on the evidence to date.

The amounts placed in energy drinks are well below what would cause any potential side-effects.

B Vitamins

B Vitamins are essential for healthy growth and development, but too much can be harmful.

- More than 35mg of Niacin (B3) can cause flushing of the skin. Intake of 3000mg or more can result in liver toxicity.
- More than 100mg of B6 can cause sensory nerve problems (burning sensation) or skin lesions

Inositol

No known side effects have been reported, but ingesting large quantities has been linked to diarrhea. Large doses have been used to treat certain psychiatric disorders.

Ginseng

Ginseng is commonly known as a healthy supplement, but there are some possible side effects. Some studies have linked it to sleeplessness, while others refute this. Other possible symptoms include low blood pressure, palpitations, vertigo, headache, insomnia, and fever.

Glucuronolactone

While no side effects have been reported, there is still debate on its safety. However, many countries including Canada, England, Germany, and France have concluded that it is not a safety concern.

Ginkgo Biloba

Ginkgo is a herb, and can cause some minor side effects in some people:

- Nausea, diarrhea, headaches, dizziness, heart palpitations, and restlessness
- Can interact with other medication such as blood thinners and anti-depressants

L-Carnitine / L-Theanine

L-Carnitine is an amino acid, and consuming too much can cause vomiting, nausea, headache, diarrhea, stuffy nose, restlessness, and difficulty sleeping.

L-Theanine is an amino acid derived from green tea. Many energy drinks have been adding “green tea extract” to their products, possibly as an attempt to make them sound more healthy or natural. However, there is little evidence to suggest that it causes adverse side effects. Some have reported feeling light-headed when consuming more than 300mg of L-Theanine.

So What Are the Real Dangers?

We know that youth find energy drinks appealing for a number of reasons. We also know, based on the information above, that energy drinks contain a mixture of ingredients, some more potentially harmful than others. The real dangers come in when youth consume more energy drinks than the recommended serving, and in a short period of time (like when cramming for a test in one night).

A 2012 study featured in the Medical Journal of Australia highlighted the risks of consuming too much. Data was gathered from 7 years of calls to the Australian Poisons Center. The top ten reported symptoms are listed below (most common to least common):

1. Palpitations
2. Tremor / shaking
3. Agitation / restlessness
4. Gastrointestinal upset
5. Chest pain
6. Dizziness
7. Tingling or numbing of the skin
8. Insomnia
9. Respiratory distress
10. Headache

Based on this data, researchers concluded that reports of caffeine toxicity are actually increasing, particularly among adolescents, and that educating youth about the hazards of consuming energy drinks is very important.

What Kids and Parents Can Do

Despite the reports of overdose or toxicity, for most people, energy drink consumption is fine in *moderation*. Here are some things to keep in mind:

- **Energy drinks should not always be your go-to source of caffeine.** If you need caffeine, coffee is a healthier source.
- **Be careful of pre-existing conditions.** You should not be consuming energy drinks if you have any pre-existing heart or health conditions.
- **If you must consume, stick with smaller cans that contain less caffeine.**
- **Be aware of any interactions with prescriptions or medication.** If you are taking any sort of medicine, the ingredients in energy drinks may interact with it and cause adverse reactions.
- **Do not use energy drinks as a replacement for water.** Stay hydrated when consuming.

If you consume energy drinks responsibly, you will most likely avoid the side effects. Be smart and stay safe!

Resources

Energy Drink Side Effects

<http://www.caffeineinformer.com/energy-drink-side-effects#2>

Energy Drink Ingredients and What They Do

<http://www.caffeineinformer.com/energy-drink-ingredients>

Caffeine Overdose Symptoms: Signs, Cases, Prevention

<http://www.caffeineinformer.com/caffeine-overdose-facts-and-fiction>

Energy Drinks: health risks and toxicity (The Medical Journal of Australia)

<https://www.mja.com.au/journal/2012/196/1/energy-drinks-health-risks-and-toxicity>

Caffeine Safe Limits: Determine Your Safe Daily Dose

<http://www.caffeineinformer.com/caffeine-safe-limits>