

## What are Energy Drinks?

Energy drinks are canned or bottled beverages sold in convenience stores, grocery stores, and bars and nightclubs (in mixed drinks). Most energy drinks are carbonated drinks that contain large amounts of caffeine and sugar with additional ingredients, such as B vitamins, amino acids (e.g. taurine), and herbal stimulants such as guarana.

Energy drinks are marketed primarily to people between the ages of 18 and 30 as a stimulant, which is why energy drinks have names that convey strength, power, and speed, and sexuality, such as:

- Red Bull Energy Drink
- Monster Energy Drink
- Full Throttle Energy Drink
- Amp Energy Drink
- Spark Energy Drink
- Rock Star Energy Drink
- Redline Energy Drink
- XS Energy Drink

### **History of Energy Drinks**

Although sales of energy drinks in the United States were \$3.5 billion in 2005, according to Beverage Digest, the category was only recently created with the launch of the Red Bull Energy Drink.

Red Bull was created by Dietrich Mateschitz, an Austrian who adapted the energy drink from a Thai beverage called *Krating Daeng*, a popular drink with rickshaw drivers in Thailand.

The key ingredient in the Thai energy drink was taurine, an amino acid that was first discovered in bulls (this association is responsible for the Red Bull urban legend that the drink's active ingredient is bull urine or semen). Red Bull was introduced to Europe in 1987 and to the United States in 1997.

### **Energy Drinks Contain Caffeine**

Red Bull, one of the most popular energy drinks, contains nearly 80 mg of caffeine per can, about the same amount of caffeine as a cup of brewed coffee and twice the caffeine as a cup of tea. Other energy drinks contain several times this amount. The amount of caffeine in an energy drink isn't always indicated on the label, so it is difficult to gauge how much one is consuming.

Another problem with energy drinks is that unlike hot coffee or tea, which is sipped slowly, it's common for typical energy drink consumers to drink large amounts quickly.

Some people are sensitive to caffeine and experience anxiety, palpitations, irritability, difficulty sleeping, and indigestion with relatively small amounts. People with heart conditions should avoid large amounts of caffeine, because it is a stimulant.

### **The Combination of Ingredients in Energy Drinks Has Not Been Studied**

One of the biggest concerns is that we just don't know enough about the effect of the combination of ingredients in energy drinks. Many ingredients are believed to work synergistically with caffeine to boost its stimulant power.

For instance, one can of Red Bull contains 1000 mg of taurine. A German double-blind study compared a taurine and caffeine drink, a caffeine-only drink, and a placebo drink. Stroke volume--the volume of blood ejected with each beat of the heart--was increased only in the group taking the taurine-and-caffeine drink. Taurine appears to play an important role in muscle contraction (especially in the heart) and the nervous system.

Red Bull also contains 600 mg of glucuronolactone, a substance that is naturally found in the body. There is a lack of published information on the health effects of glucuronolactone supplementation in humans or on the safety of this combination. Energy drinks contain sugar (although sugar-free energy drinks are now available), because it is a quick source of energy.

B vitamins are sometimes added to energy drinks in small amounts. It makes energy drinks appear healthy, although they probably contribute little. B vitamins are needed to convert food into energy. Some energy drinks contain guarana, a South American herb that is an additional source of caffeine.

### **Energy Drinks Should Not Be Mixed With Alcohol**

Red Bull and vodka has become a popular mixed drink at bars because it has a reputation for reducing the depressant effects of alcohol (e.g. fatigue) while enhancing the "feel good" buzz. But while people may not feel impaired, their blood alcohol concentration is still high. People may consume larger amounts of alcohol as a result.

A study compared the effects of alcohol alone to an alcohol plus energy drink combination. Researchers found that the alcohol plus energy drink significantly reduced subjective alcohol-related symptoms such as headache, weakness, dry mouth, and impairment of motor coordination, even though breath alcohol concentration and objective tests of motor coordination and reaction time didn't reflect this.

The caffeine in energy drinks is also dehydrating, which may slow the body's ability to metabolize alcohol.

## **Energy Drinks Should Not Be Consumed During Exercise**

Energy drinks should **not** be confused with sports drinks such as Gatorade, which are consumed to help people stay hydrated during exercise. Sports drinks also provide carbohydrates in the form of sugar and electrolytes that may be lost through perspiration. **The caffeine in energy drinks acts as a diuretic and promotes dehydration.**

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## **Which Drink is Better?**

What drink is best for getting and staying hydrated during exercise? Should you choose water? Are sports drinks best? What about juice or carbonated soft drinks?

### **Water**

The natural choice for hydration is water. It hydrates better than any other liquid, both before and during exercise. Water tends to be less expensive and more available than any other drink. You need to drink 4-6 ounces of water for every 15-20 minutes of exercise. That can add up to a lot of water! While some people prefer the taste of water over other drinks, most people find it relatively bland and will stop drinking water before becoming fully hydrated. Water is the best, but it only helps you if you drink it.

### **Sports Drinks**

Sports drinks don't hydrate better than water, but you are more likely to drink larger volumes, which leads to better hydration.

The typical sweet-tart taste combination doesn't quench thirst, so you will keep drinking a sports drink long after water has lost its appeal. An attractive array of colors and flavors are available. You can get a carbohydrate boost from sports drinks, in addition to electrolytes which may be lost from perspiration, but these drinks tend to offer lower calories than juice or soft drinks.

### **Juice**

Juice may be nutritious, but it isn't the best choice for hydration. The fructose, or fruit sugar, reduces the rate of water absorption so cells don't get hydrated very quickly. Juice is a food in its own right and it's uncommon for a person to drink sufficient quantities to keep hydrated. Juice has carbohydrates, vitamins, minerals, and electrolytes, but it isn't a great thirst quencher.

### **Carbonated Soft Drinks**

When you get right down to it, the colas and uncolas of the world aren't good for the body. The acids used to carbonate and flavor these beverages will damage your teeth and may even weaken your bones. Soft drinks are devoid of any real nutritional content. Even so, they taste great! You are more likely to drink what you like, so if you love soft drinks then they might be a good way to hydrate. The carbohydrates will slow your absorption of water, but they will also provide a quick energy boost. In the long run, they aren't good for you, but if hydration is your goal, soft drinks aren't a bad choice. Avoid drinks with lots of sugar or caffeine, which will lessen the speed or degree of hydration.