

Energy Drinks

by Kevin Allen, MS, ATC, CSCS

Over the last decade, energy drinks have become very popular among young adults and teenagers. Examples of energy drinks are Amp™, Monster™, Rock Star™, and Jolt™ just to name a few. Energy drinks should not be confused with sports drinks like Gatorade™ and Powerade™ which are safe and beneficial for athletes to consume. Energy drinks have been marketed heavily in recent years. I, like most certified athletic trainers, have personally witnessed many high school athletes using these drinks pre-competition to gain an energy edge. This poses the question, should teenagers be using energy drinks?

Little to no long term research

Energy drinks are not regulated by the Food and Drug Administration (FDA). In some instances the amounts of the substances in them are not listed. With the exception of caffeine, ginseng, and B complex vitamins, there is little to no long term research on the health implications of the substances in them. Also, there is no long term research on using energy drinks themselves.



We do know that the stimulating effect of energy drinks work mainly because they contain high amounts of caffeine or guarana, the herbal form of caffeine. Some energy drinks contain both caffeine and guarana but may not list the amounts. If you are totaling up the amount of caffeine in a drink, be sure and add the amount of caffeine and the amount of guarana. There are no guidelines for the amount considered safe in the under 18 population, but the generally accepted maximum of caffeine is 100 mg per day for teenagers. In most cases, one energy drink will exceed 100 mg of caffeine.

High levels of stress

Energy drinks affect the cardiovascular system. The caffeine and guarana content can cause an increase in heart rate and blood pressure. The greater the amount of caffeine and guarana consumed, the higher this effect will become. Add exercise, which naturally increases heart rate and blood pressure, and the cardiovascular system can undergo high levels of stress. This can be very concerning especially if there is a history of cardiac problems, unknown heart problem, or the athlete is on a stimulant medication.

Some substances in energy drinks should not be combined with certain medications. Caffeine should not be combined with monoamine oxidase inhibitors which are types of antidepressant medications. Taurine, which is an amino acid that is in many energy drinks, interacts with anticonvulsants. Consuming energy drinks with stimulant medications used to treat Attention Deficit Hyperactivity Disorder (ADHD) is a major concern. There



are many substances in different energy drinks so it is hard to determine how the energy drink will interact with a particular medication. The prescribing physician should be consulted before consuming an energy drink.

Should not be used for hydration

The National Federation of State High School Associations (NFHS) has a position statement that energy drinks should not be used for hydration. The National Collegiate Athletic Association (NCAA) has banned the use of amino acids (i.e. taurine) and moderate levels of caffeine. If urine concentration exceeds 15 micrograms/ml of caffeine it will constitute a failed drug test.

Viewing the facts, I certainly do not recommend the use of energy drinks in teenagers. There are many risks with using them and in many cases they are being used to replace a healthy well balanced diet.

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Q: Is chocolate milk a good recovery drink?

A: Yes, chocolate milk has been found to be an effective recovery drink, but mostly for the endurance athlete. Chocolate milk contains water, protein, calcium, carbohydrates, and a little salt and sugar; all necessary for the body to recover from an intense workout. Water replaces the fluids lost when you sweat while the salt helps

the body retain it. Protein, calcium and carbohydrates are extremely important in replacing glycogen stores and in muscle repair. These ingredients are not necessarily found in common sports drinks like Gatorade or Powerade. Two recent studies presented at the American College of Sports Medicine showed that chocolate

milk, in comparison to a carbohydrate drink, was more effective in muscle protein repair and glycogen stores. In a study involving cyclists, chocolate milk was compared to Gatorade and Endurox R4® only to find that those who drank chocolate milk were able to bike 50% longer than those who drank Endurox and about as long as those who had Gatorade.