



## SAFE USE OF ENERGY DRINKS

### The Issue

Excessive drinking of “energy drinks” or mixing them with alcohol can have serious health effects.

### Background

There are many “energy drink” products currently sold in Canada. They are available in corner stores, gas stations and bars, usually displayed alongside soft drinks, juices and sports drinks. Some of the brand names include:

- Red Bull Energy Drink
- Impulse Energy Drink
- Dark Dog
- Shark Energy Drink
- Hype Energy Drink
- SoBe Adrenaline Rush
- EAS Piranha Energy Drink
- AMO Energy Drink
- Red Rain
- Red Dragon Energy Drink
- Diablo Energy Drink
- YJ Stinger

Other brands may be available.

“Energy drinks” are meant to supply mental and physical stimulation for a short period of time. They usually contain caffeine, taurine (an amino acid, one of the building blocks of protein) and glucuronolactone, a carbohydrate.

“Energy drinks” should not be confused with sports drinks such as Gatorade or Powerade, which re-hydrate the body. These sports drinks also provide sugars, which the body burns to create energy and replenish electrolytes. Electrolytes maintain salt and potassium balances in the body.

The problems with “energy drinks” arise when too many are consumed or when they are mixed with alcohol. For example, they have become popular at all-night dance parties, bars and clubs.

People drink them to keep up their energy during periods of intense physical activity or drink them after exercise to quench their thirst. But rather than re-hydrating their bodies, these drinks may actually lead to dehydration.

Because of the effects they have, some “energy drinks” may have to be regulated as natural health products under the Natural Health Product (NHP) Regulations, depending on their ingredients (such as caffeine and vitamins), and the claims they make. Under the regulations, natural health products have to undergo a review process for their quality and safety. They also have to display recommended conditions for use, as well as cautions.

Currently, only Red Bull Energy Drink is authorized for sale as a natural health product and bears a natural health product number (NPN). The safety of other “energy drinks” (including those listed above) have not yet been evaluated under the NHP Regulations.

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## Power Drinks: Should Your Child Drink Them?

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When it comes to hydrating kids, particularly those who play sports, there's a dizzying array of sodas, juices, tea and coffee drinks, and bottled waters to choose from. And there's another category of beverages that's causing a buzz: power drinks.

Power drinks can include anything from sports beverages to vitamin waters to "high-energy" supplement drinks. What they all have in common is added ingredients that say they "do" something extra, whether it's increase energy and alertness, boost nutrition, or even enhance athletic performance. But are they right for your child?

### Evaluating the Choices

Everyone needs to stay hydrated to stay healthy, and you can't go wrong giving your child plain water. But what about when your child plays sports? Does he or she need something extra to avoid dehydration?

Not necessarily. The average child athlete can and should get all the necessary nutrients and hydration by eating healthy foods and drinking plenty of water before, during, and after exercise. During games and competitive events, drinks should be available at all times and regular water breaks should be scheduled about every 15 or 20 minutes. The amount of water an athlete needs can vary depending on the child's age, weight, intensity of the activity, and weather conditions.

Soda is not recommended for hydration during sports and should be avoided because it contains excess sugar, which can lead to weight gain. What's more, the carbonation can

**★** If your child isn't a fan of plain old water, try adding a splash of lemon or orange juice. You'll get the taste of a

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upset your child's stomach.

Soda also often contains caffeine, which acts as a diuretic (something that causes frequent urination) and may promote instead of prevent dehydration.

As for the other choices on the market today, here's a closer look at the ingredients they contain and how they measure up:

**Sports drinks.** Sports drinks may be beneficial if your child participates in endurance sports that last longer than an hour (such as long-distance running and biking, or high-intensity exercise such as soccer, basketball, or hockey). These drinks contain carbohydrates (sugar), which can provide an immediate source of energy at a time when the body's stores are becoming depleted. Sports drinks also contain electrolytes like sodium and potassium, which the body loses through sweat, that are necessary to keep the body's fluid levels in balance and for muscles to work properly.

Sports drinks are sweet, which may aid hydration in kids who otherwise wouldn't drink during periods of intense activity. Of course, these drinks contain calories, too, and can increase the risk of excess weight gain — if your child is active and drinks these in moderation, this shouldn't be a problem. However, sports drinks **are not** necessary for the casual athlete. If your sedentary child is a fan of sports beverages, consider sidelining these drinks in favor of plain water.

**Vitamin waters.** These drinks, which are also known as fitness waters or enhanced waters, come in many flavors and contain various combinations of supplemental vitamins and minerals. They also often contain extra calories, artificial sweeteners, caffeine, or herbal ingredients whose effects have not been studied in children (such as ginseng or St. John's wort).

Vitamin waters may look like a quick way to fill any nutrition gaps in your child's diet, but these nutrients can come from a healthy meal or snack, too. Also, they can provide too much of a good thing, particularly if your child already takes a daily multivitamin. Getting more than the recommended daily allowance of some vitamins and minerals can be harmful to a child's health. Keep in mind that the daily allowances listed on the label are recommendations for adults, not kids.

The best place for your child to get daily nutrients is from balanced meals. If you're concerned that your child isn't getting enough, talk to your child's doctor, who may recommend a daily multivitamin formulated for kids.

**Energy drinks.** These are becoming increasingly popular with middle- and high-school students who are looking for a competitive edge. And while some energy drinks are clearly

labeled as unsuitable for children, others are specifically marketed to kids as young as 4, promising boosts in energy and nutrition as well as enhanced athletic performance.

Most energy drinks deliver a stiff dose of sugar and caffeine — sometimes as much caffeine as in 1 to 3 cups of coffee. Too much sugar can put your child in the fast lane to the dentist's office and also contribute to weight gain. Excessive caffeine comes with its own set of problems — especially in younger kids, it can negatively affect attention and concentration.

Few studies have examined the effect of caffeine on children, but consider how you feel when you've had too much. Caffeine is indeed a stimulant — though a widely used and accepted one — and because children are smaller than adults and haven't yet developed a tolerance to it, its effects on them may be more pronounced. As in adults, too much caffeine can cause:

- jitteriness and nervousness
- upset stomach
- headaches
- difficulty concentrating
- difficulty sleeping
- frequent urination

Many of these drinks also contain additional ingredients whose safety or effectiveness has never been tested in children — including herbal supplements, guarana (a source of caffeine), and taurine (an amino acid thought to enhance performance).

The bottom line is this: Energy drinks offer no real health or performance benefit for kids. Children who participate in sports should learn that they can improve their game through hard work and practice — values that will serve them well both on and off the field. Encouraging kids to believe that they need something "extra" to perform at their best is a slippery slope that may lead to the use of other performance-enhancing substances.

Remember that if it sounds too good to be true, it probably is. Be critical when reading labels, and talk to your child's doctor if you have any questions or concerns. And teach your child not to be so quick to believe the hype when it comes to power drinks. For athletes and non-athletes alike, nothing beats a well-balanced diet. Most kids who eat well, stay hydrated, and get enough physical activity and rest will have plenty of energy — naturally.

Reviewed by: Mary L. Gavin, MD  
Date reviewed: April 2008



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Four reports of adverse reactions involving “energy drinks” similar to Red Bull Energy Drink, have been reported to Health Canada.

## Health Risks of Energy Drinks

In the four reports of adverse reactions involving “energy drinks,” symptoms included:

- Electrolyte disturbances
- Nausea and vomiting
- Heart irregularities.

These four incidents involved improper use of “energy drinks,” such as drinking them with alcohol or in greater quantities than recommended.

Because of the nature of the adverse reaction reports, it is not possible to tell if the symptoms reported were due to the effect of combining the “energy drink” with alcohol, or due to alcohol itself.

## Minimizing Your Risk

If you drink “energy drinks,” be aware of the following.

- Red Bull Energy Drink is considered a health product in Canada and should be used according to the label instructions.
- Do not drink excessive amounts of Red Bull Energy Drink. The limit on Red Bull Energy Drink is 500 mL or two cans a day, as indicated on the product label.
- Do not mix Red Bull Energy Drink with alcohol.

- If you engage in intense physical activity or exercise, drink enough water to help re-hydrate your system.
- The safety profiles of other similar “energy drinks” have not been evaluated by Health Canada. It is not wise to drink excessive amounts of any “energy drink” or to mix them with alcohol.
- If you have an adverse reaction to an “energy drink”, report it as outlined in the Need More Info? section.

## Health Canada's Role

Due to the reported adverse reactions, as well as the media attention surrounding the safety of Red Bull Energy Drink and similar products, Health Canada is monitoring their use and will take appropriate measures to ensure the health and safety of Canadians. This may include regulating other “energy drinks” under the Natural Health Products regulations.

## Need More Info?

To report an adverse reaction, please contact the Canadian Adverse Drug Reaction Monitoring Program (CADRMP) of Health Canada:

CADRMP  
Marketed Health Products  
Directorate  
Health Protection Building,  
Tunney's Pasture, AL 0701C  
Ottawa, Ontario, K1A 0K9  
Email: [cadrmpp@hc-sc.gc.ca](mailto:cadrmpp@hc-sc.gc.ca)  
Tel: 866 234-2345  
Fax: 866 678-6789

Your call will be directed to the appropriate Regional Centre.

Or visit our Web site at:  
[http://www.hc-sc.gc.ca/hpfb-dgpsa/tpd-dpt/index\\_adverse\\_e.html](http://www.hc-sc.gc.ca/hpfb-dgpsa/tpd-dpt/index_adverse_e.html)

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