

## The Health Effects of Caffeine

Caffeine is a natural ingredient found in the leaves, seeds or fruit of a number of plants, including coffee, tea, cocoa, kola, guarana and yerba mate. It is also manufactured and used as a food additive in some carbonated drinks, and as an ingredient in certain drug products, such as cold remedies.

We get our daily caffeine from coffee, tea, cola beverages, chocolate products, and medicines.

For children 12 and under, Health Canada recommends a maximum daily caffeine intake of no more than 2.5 milligrams per kilogram of body weight. Based on average body weights of children this means a daily caffeine intake of no more than:

- 45 mg for children aged 4 – 6;
- 62.5 mg for children aged 7 – 9; and
- 85 mg for children aged 10 – 12.

These recommended maximums are equivalent to about one or two 12 oz. cans of cola a day.

For the rest of the general population of healthy adults, Health Canada advises a daily intake of no more than 400mg.

Many studies over the years have looked at the potential adverse effects of caffeine in the following areas:

- general toxicity (e.g., muscle tremors, nausea, irritability);
- cardiovascular effects (e.g., heart rate cholesterol, blood pressure);
- effects on calcium balance and bone health (e.g., bone density, risk of fractures);
- behavioural effects in both adults and children (e.g., anxiety, mood changes, attentiveness);
- potential links to cancer;
- effects on reproduction (e.g., male and female fertility, birth weight)

Health Canada scientists recently reviewed these studies and found that: children are at increased risk for possible behavioural effects from caffeine.

As a parent would you give your child a couple of cups of coffee before a game? Likely not, but when your child drinks a can of one of the popular “power” or “energy” drinks they could be consuming the same amount of caffeine or more.

“Energy drinks” should not be confused with sports drinks such as Gatorade or Powerade. The sports drinks re-hydrate the body and provide sugars, which the body burns to create energy and replace electrolytes.

“Energy drinks” use the caffeine content to increase energy levels. People drink them to keep their energy up during periods of intense physical activity, or to quench their thirst. But rather than re-hydrating their bodies, these drinks may actually lead to **dehydration**. Their consumption by adolescents has been linked to elevated blood pressure and irregular heart beat. Other adverse effects associated with caffeine overload include anxiety, arrhythmia, and decreased bone density.

The caffeine content of various drinks is reported by law on the products’ labels or information sheets:

- Can of cola (355ml) 35 mg of caffeine
- Starbucks Grande Latte 70mg of caffeine
- Red Bull (500ml) 160mg of caffeine
- Monster (500ml) 160mg of caffeine
- Cocaine Drink (500ml) 560mg of caffeine

A 1oz. portion of a milk chocolate candy bar has about 7mg of caffeine, while a 1oz. portion of a dark chocolate bar would be closer to 19mg.

Some over-the-counter drug products may contain as much as 1000mg of caffeine in a daily dose. It is important to read the label.

As parents we need to be educated about the effects of caffeine on our children and the growing trend amongst our children to utilize “power drinks” to enhance performance. We need to educate our children that the excessive use of caffeine over the maximum recommended level may not improve their performance and may pose health risks.

Health Canada continues to review new research to ensure that recommended daily caffeine intake levels be based on the best scientific evidence available.

For more information: [www.hc-sc.gc.ca](http://www.hc-sc.gc.ca).