

## *Energy Drinks*

An "*energy drink*" is a beverage that contains large amounts of caffeine, sugar, and varying combinations of amino acids, B vitamins, and herbal supplements. These drinks are marketed towards adolescents to provide an energy boost, enhance concentration and mental alertness, decrease fatigue, and improve athletic prowess. These drinks are really "stimulant" drinks, rather than energy drinks. Energy drinks are now a 3.5 billion dollar a year industry, with over 30% of teenagers reporting using energy drinks in 2006. The Food and Drug Administration (FDA) currently regulates the caffeine content contained in soda to 65 mg per 12 oz. Energy drinks are not currently regulated. The average American child consumes 1 mg/kg per day of caffeine, with the average adult consumption at 3 mg/kg/day. When energy drinks are consumed in large volumes quickly the recommended caffeine intake may be exceeded. Individuals with an underlying cardiac abnormality or seizure disorder may be at increased risk of toxicity.

Some common adverse effects of caffeine consumption at low doses include:

- Palpitations
- Nausea
- Difficultly sleeping (insomnia)

Undesirable adverse effects occur at higher doses and include;

- Headache
- Vomiting
- Dehydration
- Cardiac Arrhythmia (irregular heart beat)
- Irritability
- Tremors
- Muscle breakdown
- Electrolyte abnormalities
- Coma/hallucinations
- Death

Healthy alternatives to increase athletic performance without performance enhancing substances or energy drinks include:

- A healthy diet
- Regular exercise
- Adequate sleep
- Adequate fluid consumption with water, milk, or sports drinks if exercise duration exceeds 90 minutes per day.
- Varied diet with multiple small meals throughout the day
  - Examples: vegetables, fresh and dried fruit, whole-grain breads and bagels, and low-fat yogurts

In addition to the caffeine in energy drinks, below are some of the other common ingredients:

- **Caffeine** – is a drug that stimulates the central nervous system. It is found in cola, tea, coffee, and chocolate. Caffeine taking in on a regular basis may cause a mild physical dependence. Caffeine can be harmful in doses greater than 500-600 mg in adults. The harmful dose in children is less well defined.
- **Guarana** is a stimulant similar to caffeine. It is a climbing plant, native to Brazil, that contains caffeine.
- **Taurine** is a non-essential amino acid. It is found in large concentrations in the white blood cells, skeletal muscles, central nervous system as well as the heart. Taurine is naturally found in meat and fish.
- **Yerba Mate** is one out of six most commonly used stimulants. It comes from the dried leaves of a shrub tree that is part of the holly family. It is grown in Argentina, Paraguay and Southern Brazil and consumed widely in these regions, as well as Uruguay.
- **Sugar** (glucose) is the major carbohydrate used as fuel in our body. Glucose is the preferred fuel of brain cells, and also muscle cells in early exercise. Excessive consumption of carbohydrate containing beverages may contribute to the development of obesity and tooth decay.

### Examples of Energy Drinks and their caffeine content

<b>Other Caffeinated Drinks</b>	<b>Caffeine per serving</b>
Coca-Cola Classic	23 mg (8 fl oz)
Diet Cola	39-50 mg (12 fl oz)
Coffee	56-128 mg (8 fl oz)
Tea	40-50 mg (8 fl oz)
<b>Energy Drinks</b>	<b>Caffeine per serving</b>
Full Throttle	72 mg (8 fl oz)
Rock Star	80 mg (8 fl oz)
Red Bull	80 mg (8.45 fl oz)
Jolt Cola	140 mg (23.5 fl oz)
Monster	160 mg (16 fl oz)
Cocaine	280 mg (8.45 fl oz)
Spike Shooter	300 mg (8.45 fl oz)

Below are some resource sites:

<http://www.msnbc.msn.com/id/15403552/wid/11915773?GT1=7817>

<http://abcnews.go.com/Health/story?id=1160174&page=1>

[http://seattletimes.nwsourc.com/html/health/2004322357\\_zhea02energy.html](http://seattletimes.nwsourc.com/html/health/2004322357_zhea02energy.html)

[http://voices.washingtonpost.com/checkup/2008/10/energy\\_drinks\\_spark\\_alarm\\_-\\_f.html](http://voices.washingtonpost.com/checkup/2008/10/energy_drinks_spark_alarm_-_f.html)

<http://www.kktv.com/home/headlines/5964256.html>

<http://www.ktuu.com/Global/story.asp?S=9744671&clienttype=mobile>

<http://www.kpho.com/featuredstories/11135158/detail.html>