

ENERGY DRINKS: WHAT YOU NEED TO KNOW

USA Swimming's Sports Medicine Task Force recently conducted research into the topic of energy drinks. For the next few weeks, the task force will present a series of articles designed to educate swimmers, coaches and parents on the findings of its research.

Last week, USA Swimming published an article on the [basic nutritional facts](#) behind energy drinks. This week we bring you an article published by the U.S. Anti-Doping Agency on the risks of consuming such drinks.

Do you know the difference between a sports/electrolyte drink (one that contains carbohydrates and electrolytes) and an "Energy" drink? All of these names for drinks can be confusing— but don't be fooled. Look closely at the ingredients. If you are drinking something that advertises itself as an Energy Drink- you are probably helping yourself to a hefty dose of stimulants. The proper name for this class of drinks could be "Stimulant Drinks".

Before we go any further, let's define energy. The body's source of energy is glucose. Carbohydrates (sugars) are a direct source of glucose, but the body can also make glucose by burning amino acids and fats. Glucose is like the coal in a power plant. When your body needs more energy, it burns more glucose, just like when energy needs in a city increase more coal is burned (or nuclear fuel, or gas, you get the picture).

In contrast, stimulants bind to neurons and activate them. But stimulants cannot substitute for glucose. Using the analogy above, when you take stimulants, it's as if a ton of coal is dumped into the power plant all at once. Yes, you get a big increase in the amount of energy being released but only because you are burning it up all at once. When the coal is gone, it's gone. The same thing goes for your own energy- glucose. Stimulants make people feel like they have more energy but it's mostly because they are using it all up at once.

When was the last time you carefully examined an ingredient label for a stimulant drink? Take a look at this example. If you bought this drink, would you actually know what you were drinking?

The FDA considers liquid supplements should be 8 oz or less, but many companies ignore this guidance.

Would you know to only drink a quarter of the can at one time?

Yohimbe is also a strong stimulant used in drugs in some countries.

With blends, you don't know how much of each ingredient you are getting!

Tyrosine and phenylalanine can interact with medications.

Also known as oxilofrine, a prohibited stimulant.

Source of synephrine, not prohibited in 2011 but has stimulant properties.

This is a plant source of ephedra, a prohibited stimulant.

This might be methylhexanamine, a prohibited stimulant.

both are sources of caffeine.

Supplement Facts		
Serving Size 12 Oz		
Servings per container 4		
Amount Per Serving	% Daily Value	
Total Carbohydrate	14g	5%
Sugar	14g	
Proprietary Energy Blend	5g	
Tyrosine, phenylalanine, yohimbe, geranium, guarana, vinpocetine, Fo-Ti, schizandra berries, kola nut (extract), methylsynephrine, citrus aurantium, ma huang (extract).		

Looking at the label above, did you know that tyrosine and phenylalanine, ingredients commonly added to energy products, can interact with a lot of medications? One of the ingredients, methylsynephrine, is a stimulant that is on the Prohibited List. If a friend asked you to describe what the different ingredients are for, you would be able to tell them? Do you know where the ingredients come from? Did you know that Kola Nut and Guarana are both sources of caffeine? Can you tell how much caffeine is in one serving of this product? Did you know that citrus aurantium (also called bitter orange) contains synephrine which also has stimulant properties? Synephrine is not prohibited but added together with all of the other ingredients, all of these stimulants could pose health dangers. Did you know Yohimbe interacts with anti-depressants? Did you know that Ma Huang is the plant source for ephedra?

Ephedra is an extremely strong stimulant that was taken off the market years ago by the FDA because it caused many adverse health effects and even some deaths. None the less, ephedra is finding its way into dietary supplements. For most people the answer to all of these questions is “NO I didn’t know.” So ask yourself Is this really a healthy drink?

Stimulants can cause positive anti-doping tests. There are several stimulants that are on the WADA Prohibited List that pop up in dietary supplements and sometimes in stimulant drinks. Take a look at the examples below. Are you guzzling down any of these prohibited ingredients?

On the Prohibited List as:	But sometimes also called:
Methylhexaneamine	Geranium (extract, stems, or oil), geranamine, “geranium surge” and other made up names. 1,3-Dimethylamylamine, dimethylpentylamine.
Octopamine	β ,4-Dihydroxyphenethylamine; p-Hydroxymandelamine; ND-50; Noroxedrine; p-Norsynephrine
Oxilofrine	Methylsynephrine
Phenpromethylamine	Fenprometamina; Phenpromethamine; Phenpromethaminum; Phenylpropylmethylamine; “Benzedrine”. Benzedrine itself is an amphetamine like stimulant, but it seems the name may also be used as code for phenpromethylamine. <i>Acacia rigidula</i> (the ingredient label may list this plant but the product might have phenpreomethylamine and other substances in it).

Keep in mind that stimulants are prohibited as a category in- competition (except for caffeine and synephrine, both of which are in the WADA Monitoring program). The example product and label discussed in this article could cause a positive anti-doping test. Stimulant drinks are not limited to what you find in bottles or cans in shelves- they can also come in powder form that you mix up yourself. They are also found in the grocery check-out line decorated with bracelets and other gimmicks to attract young consumers.

Physicians speak out on dangers of energy drinks. The American Academy of Pediatrics has discouraged the use of energy drinks in children and adolescents. Even caffeine can cause neurological and cardiovascular problems, and should be avoided. Their report can be read on www.aap.org/advocacy/releases/may3011studies.htm. And for a chilling real-life example of the dangers of such drinks read Dakota Sailor’s story on ESPN (easily found by searching for his name on ESPN.go.com). This high school football star nearly died after drinking two cans of NOS!

Don’t trade your health and money for false promises or hopes for amazing results from stimulant drinks. Get real energy from healthy whole foods and beverages with nutritious ingredients!