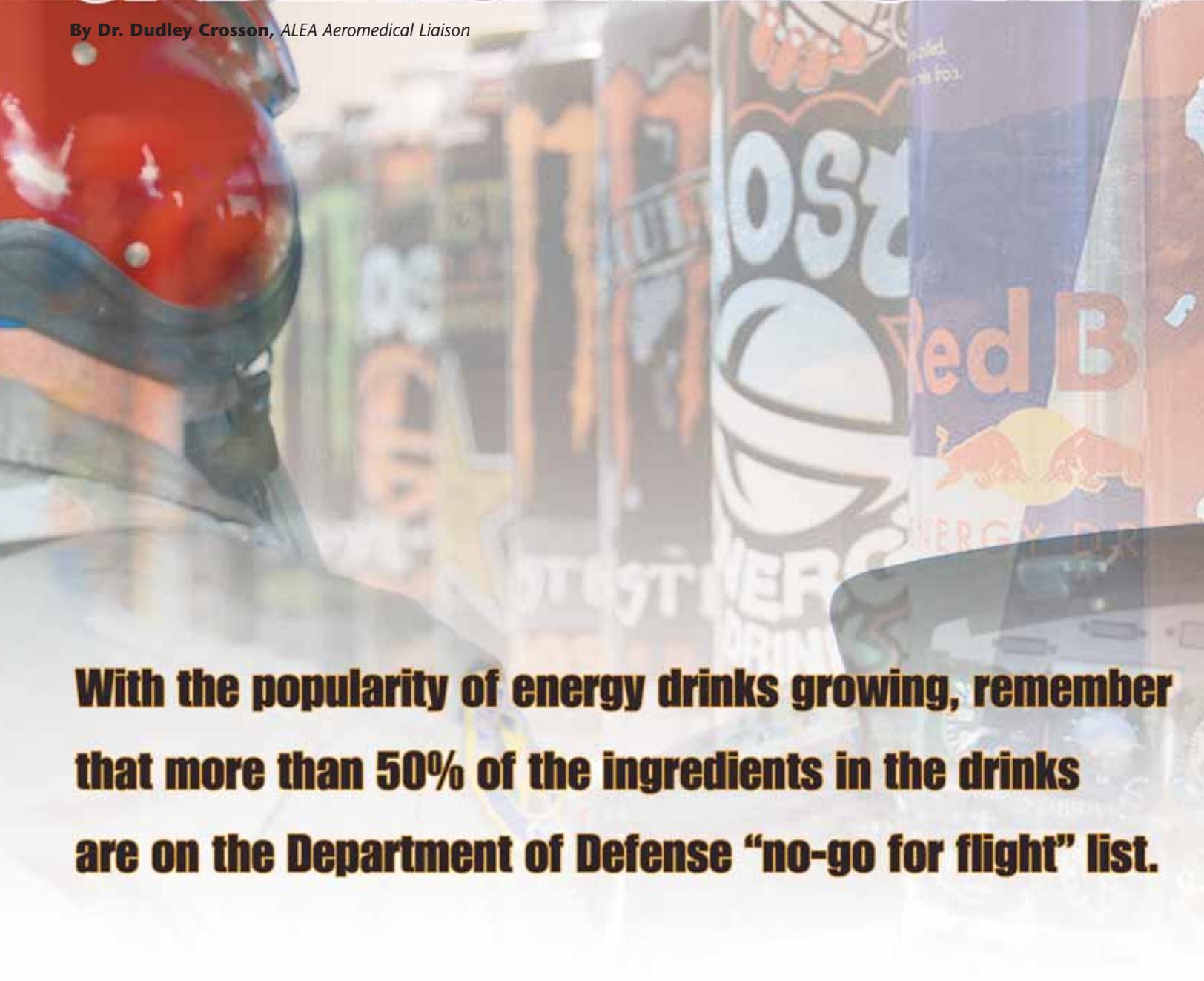


Think Before You Drink: **ENERGY DRINKS & BEING FIT TO FLY**

By Dr. Dudley Crosson, ALEA Aeromedical Liaison



With the popularity of energy drinks growing, remember that more than 50% of the ingredients in the drinks are on the Department of Defense “no-go for flight” list.

Recent research has indicated energy drinks are the most popular supplement besides multivitamins in the American adolescent and young adult population. More than 30% of all American male and female adolescents use these supplements on a regular basis.

Energy drinks are also reported to be the most popular supplement among young elite British athletes to control body fat or enhance performance. In public safety aviation, many crewmembers use them to mitigate fatigue due to heavy workloads and schedules.

Performance enhancing drinks are nothing new. Originally, sports drinks were intended for electrolyte replacement. Electrolytes are elements that dissolve into ions essential for muscle, nerve and brain function. Most important are sodium, chloride, potassium, calcium and magnesium. Then came the energy drinks, which include a load of caffeine, sugar and other ingredients to enhance performance.

Unfortunately, even the early sports drinks included significant amounts of sugar to make them palatable for the general population. Recently, the two products have come into competition and are adding ingredients to gain larger market share.

Whatever it is you are consuming, it is important to look at the ingredients to see how much of each is present.

Problems With Energy Drinks

The medical community is currently petitioning to have warning labels put on all energy drinks due to the problems associated with them.

According to a John Hopkins University study, the caffeine content of energy drinks varies between 50 mg and more than 500 mg. (Doctors recommend you not go over 450 mg/day.) Among the college students studied in the Johns Hopkins research, 22 percent reported having headaches related to energy drinks, 19 percent had heart palpitations and 29 percent reported experiencing weekly jolt and crash episodes.

Other studies have shown similar results. The University of Texas Health Science Center (San Antonio) has reported an increasing number of calls to the South Texas Poison Center in association with energy drinks. The University of Brisbane found that one popular energy drink "affects the blood system, causing it to become sticky, which is a risk factor for cardiovascular problems such as heart

COMMON ENERGY DRINK INGREDIENT CLAIMS

Table 1

INGREDIENT	DRINK	FUNCTIONAL CLAIM
Carnitine	Monster, Rockstar, Full Throttle	Improves endurance, increases fat metabolism, protects against cardiovascular disease
Glucuronolactone	Go Girl Sugar Free, Red Bull, Monster	Promotes excretion of toxins and protects against cancer
Guarana	Monster, Rockstar, Full Throttle	Increases energy, enhances physical performance, promotes weight loss
Inositol	Go Girl Sugar Free, Red Bull, Monster, Rockstar, Wired B12 Rush	Decreases triglyceride and cholesterol levels, lowers risk of cardiovascular disease
Panax Ginseng	Monster, Rockstar	Speeds illness recovery, improves mental/physical/sexual performance, controls blood glucose, lowers blood pressure
Super Citramax	Go Girl Sugar Free	Suppresses appetite/ weight loss
Taurine	Go Girl Sugar Free, Red Bull, Monster, Rockstar, Full Throttle	Lowers risk of diabetes/epilepsy/ high blood pressure
Yohimbine HCl	VPX Redline	Improves sexual performance, promotes weight loss

Refer to Table 2 for scientific evidence of functional claims.

attack and stroke." And the Baylor Regional Medical Center has reported major episodes of dehydration/reactions in athletes using energy drinks for hydration and energy.

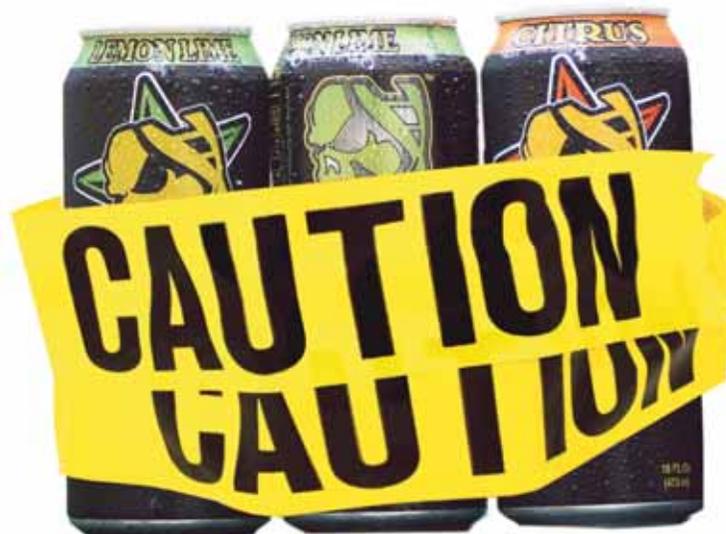
Finally, the American Association of Poison Control Centers adopted codes late last year to start tracking energy drink overdoses and side effects nationwide. They found 677 cases occurred during the second half of 2010, and 331 cases occurred between Jan. 2 and April 15.

Ingredients

In every energy drink on the market today, more than 50% of the ingredients are on the U.S. Department of Defense's (DoD) "no-go for flight" list for supplements. While public safety aviators do not necessarily follow these

rules because the FAA is more lenient than DoD, this could present a legal concern in the event of an accident.

What's more, when dealing with our health, do we want to accept the more lenient standards? After all, DoD has done more research on the topic than the FAA.



SCIENTIFIC EVIDENCE VS. MANUFACTURER CLAIMS

Table 2

INGREDIENT	SCIENTIFIC EVIDENCE
Carnitine	There is no clinical evidence that carnitine use is effective for increased endurance or weight loss, but it may protect against heart disease
Glucuronolactone	No evidence to support any claims
Guarana	Caffeine consumption has been associated with increased energy and enhancement of physical performance and suppressed appetite
Inositol	No evidence to support any claims
Panax Ginseng	No evidence to support any claims
Super Citramax	There is scientific evidence the use of the supplement decreases food consumption
Taurine	No support for the treatment of diabetes or epilepsy, but may lower blood pressure
Yohimbine HCl	Although yohimbine HCl may increase blood flow to sexual organs, there is no evidence to support sexual arousal or weight loss.

TECHNISONIC

TDFM 7300

Multi-Band Airborne FM Communications System

Up to four P25 Digital/Analog bands PLUS VHF Low Band

- Up to four VHF, UHF or 700/800 Modules and VHF Low Band
- Displays five active channels simultaneously
- Single Band or Simultaneous Multi-Band operation
- Cross Band Repeat and Simulcast
- P25 Digital / Analog Operation in Conventional or Trunked modes. (VHF Low Band is analog only)
- SmartNet/SMARTZONE Trunking and P25 Trunking
- AES/DES Encryption with OTAR and P25 OTAR (optional)
- 4 1/2"(high) DZUS Panel Mount install. 6 1/2 Lbs Total
- Front Panel Connector for Programming and Keyloading



Communications

www.til.ca
(905) 890-2113



TECHNISONIC INDUSTRIES LTD.

Sugar

The amount of sugar in energy drinks is excessive. Sugar equates to calories. If you are looking to lose weight and are using these drinks for hydration, you may be in for a surprise.

Even in sports drinks, the sugar levels are high. For example, one common sports drink advertised for electrolyte replacement contains 280 calories in a 32 ounce bottle. An average adult running three miles in thirty minutes would burn around 360 calories.

Other Ingredients

A number of ingredients in energy drinks have been shown to be unhealthy or to have no value at all. One that is prevalent (although banned by the Food and Drug Administration in the late 1980s) is ephedra, often in the form of ephedra alkaloids. Ephedra has been associated with seizures, strokes, hypertension, arrhythmias, myocardial infarctions and death.

What the manufacturers claim (Table 1) and what the scientific evidence says (Table 2) generally differ.

The next time you pick up an energy drink, examine what is in it and compare it with the scientifically-based benefits. You may be surprised at the results of the comparison. 