

Sports Medicine Update  
Sports Supplements and Energy Drinks  
Michael F Shepard MD  
CIF State Medical Advisory Board  
Team Physician UCI, Chapman U, Santa Ana College, Servite HS, Villa Park HS

Sports supplements and energy drinks are a multibillion dollar industry. Despite their common use and sale, the supplement industry is largely unregulated. A recent study from the Journal of Pediatrics showed that in some areas of America over 50% of High School Athletes have tried sports energy drinks. The article showed that in other countries some energy drinks have been tied to liver damage, kidney failure, seizures, confusion, and heart arrhythmias. In their study, the authors concluded that it unless scientific research establishes safe doses of caffeine for adolescent athletes then regulation of their use is prudent.

This past year in the southern section, several CIF athletes were sent to the Emergency Room because of persistent tachycardia related to energy dinks and supplement use. The primary concern for these athletes is that the caffeine dose could lead to a fatal cardiac rhythm or a potentially fatal event such as acute renal failure or gran mal seizures. An athlete with persistent tachycardia that does not respond to rest should be sent to the Emergency Room for further evaluation.

Risk with caffeine drinks are increased when used in combination with other supplements or other medical conditions. The athlete with an underlying heart condition is more at risk for fatal arrhythmia. Dehydration is another risk factor for the athlete using energy drinks. Caffeine is a diuretic and can dehydrate the athlete itself. Dehydration can be a side effect of athletes who use muscle building supplements such as Creatine. Dehydration is also common in the athlete competing with cold or flu symptoms. Remember the heart is a muscle and an athlete competing with myalgias (muscle achiness) is putting him or herself at an unnecessary risk.

The CIF bylaws prohibit distribution of supplements from school personal (athletic directors, coaches, school officials, booster clubs) other than for those in the following classes :

- 1) Carbohydrate / Electrolyte Drinks
- 2) Energy Bars
- 3) Carbohydrate Boosters
- 4) Vitamins and Minerals

The CIF reminds parents and coaches that supplements and energy drinks are not regulated by the US Food and Drug Administration. These supplements could put their children and athletes in significant danger. This is particularly true when combined with underlying medical conditions (asthma, flu symptoms, abnormal heart rhythm), dehydration, and other supplements.

### Myths Regarding Supplements

- 1) If a substance is natural it must be safe – NOT TRUE
- 2) If a substance is natural it must be beneficial – NOT TRUE
- 3) If a little is good, then more must be better – NOT TRUE
- 4) Most athletes are deficient in important compounds – ALMOST NEVER TRUE