What Risks Do Energy Drinks Pose?

Information sourced from *Journal Watch:*

**Risk and Adverse Effects of Energy Drink Consumption**

*Risks are particularly elevated when heavily caffeinated drinks are mixed with alcohol.*

Consumption of energy drinks containing caffeine has increased dramatically in the U.S., from 2.3 billion drinks in 2005 to 6 billion drinks in 2010. One third to one half of teens and young adults report regular consumption; nearly half of U.S. military personnel deployed overseas report daily use. In two essays, authors review risks associated with these drinks.

The usual caffeine content of these drinks is 80 to 140 mg, but some have double that level. Because they are marketed as dietary supplements, they are exempt from most regulations. A single cup of coffee, which contains about 100 mg of caffeine, results in a blood level of 1 to 2 µg/mL. Swedish researchers identified 20 deaths related to caffeine intoxication (blood level, >80 µg/mL). A potentially lethal dose of 3 g of caffeine (equal to an 80 µg/mL blood level) can be reached by consumption of about 12 highly caffeinated drinks within a few hours.

A particular concern with these drinks is their combination with alcohol, in premixed commercial drinks (i.e., Four Loko), cocktails using energy drinks (i.e., Red Bull and vodka), and self-mixed drinks. The combination is believed to lessen the effects of intoxication but actually might simply lessen the perception of impairment and encourage greater alcohol consumption. In a survey of college students, 56% reported consumption of such drinks in the prior month.

Consuming energy drinks combined with alcohol is associated with excess risk for committing or experiencing sexual assault, riding with or being an intoxicated driver, and having an alcohol-related motor vehicle accident. What is unclear is whether these differences are due to the effects of the mixed drinks themselves or to the personalities and risk-taking behaviors of people who consume them. Many states have banned the sale of commercial premixed drinks.

**Comment:** Clinicians should ask patients, particularly young men, about their use of energy drinks, with or without alcohol. A maximum daily caffeine dose of 500 mg is a reasonable goal. Mixing with alcohol should be particularly discouraged.

***—*** ***Thomas L. Schwenk, MD***

*Published in* Journal Watch General Medicine *January 3, 2013*

**CITATION(S):**

Sepkowitz KA. Energy drinks and caffeine-related adverse effects. *JAMA* 2012 Dec 19; [e-pub ahead of print].

Howland J and Rohsenow DJ. Risks of energy drinks mixed with alcohol. *JAMA* 2012 Dec 19; [e-pub ahead of print].

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Raynaud Phenomenon: Does Topical Nitroglycerin Gel Improve Symptoms?Information sourced from *BMJ:*

*Ann Rheum Dis* doi:10.1136/annrheumdis-2012-201536

[[Ann Rheum Dis PDF](http://www.epocrates.com/dacc/1301/MQX503RaynaudPhenomenonBMJ1301.pdf) | [PubMed® abstract](http://www.ncbi.nlm.nih.gov/pubmed/23268365)]

**Clinical and epidemiological research**

**Extended report**

**A multi-centre, blinded, randomised, placebo-controlled, laboratory-based study of MQX-503, a novel topical gel formulation of nitroglycerine, in patients with Raynaud phenomenon**

Laura K Hummers, Carin E Dugowson, Frederick J Dechow, et al

Correspondence to Dr Laura Kathleen Hummers, Division of Rheumatology, Johns Hopkins University, 5501 Hopkins Bayview Circle, Baltimore, MD 21224, USA; [lhummers@jhmi.edu](mailto:lhummers@jhmi.edu)

**Abstract**

**Objective** MQX-503 is a novel nitroglycerine preparation designed to absorb quickly and allow local vasodilatation in the skin. We examined the efficacy and tolerability of this medication in Raynaud phenomenon (RP) in a laboratory-based study.

**Methods** In this multi-centre, double-blind, randomised, placebo-controlled, cross-over study, subjects were treated with 0.5% or 1.25% nitroglycerine or placebo gel. Subjects received each dose twice in a randomised order. Each study session consisted of baseline laser Doppler measurements, study gel application and 5 min of cold chamber exposure (−20°C). Blood flow (BF) was measured at the end of exposure and for the next 120 min at set intervals. Other outcome measures included achievement of baseline BF; the time to achieve 50% and 70% baseline skin temperature (ST); and pain, tingling and numbness scores.

**Results** 37 subjects completed 214 treatment periods. Time to achieve baseline BF was significantly shorter in the two treated groups (HR=1.77 and 2.02 for 0.5% and 1.25% vs placebo, respectively). The proportion of subjects achieving baseline BF was 45.8% for placebo, 66.2% for 0.5% and 69% for 1.25% (p=0.01 and p=0.002 for 0.5% and 1.25% vs placebo, respectively). No meaningful differences were seen in ST or pain/numbness/tingling scores. Treatment was well tolerated with no serious adverse events.

**Conclusions** Treatment with MQX-503 caused a significant improvement in skin BF compared with placebo. Data from this proof of concept study suggest benefit of MQX-503 in subjects with RP.

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