



The Bitter Facts about Ephedra-Free **Weight Loss** Supplements

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As many know, the herbal supplement, ephedra, is banned from weight loss supplements in the US in light of mounting evidence that in some individuals, it could be harmful. For millions of fans of ephedra-supplements, this was the worse thing that could have happened because a substantial amount of evidence also showed that ephedra might help some shed unwanted pounds. In light of the bad press ephedra was getting, many supplement companies voluntarily withdrew it from their shelves. At the same time, researchers began a quest for something that might be a safer alternative to ephedra. If you have used any of these "ephedra-free" supplements that now seem to permeate the market, the odds are good that you have used one of their main ingredients but did not know its name. That's what I want to discuss here.

What's in Ephedra-Free Weight Loss Supplements?

The main ingredient in many ephedra-free weight loss supplements is a compound called "bitter orange". It's essentially an extract from an orange peel. On supplement labels bitter orange may also be listed as Citrus aurantium, naringin, octopamine or simply, orange peel extract. Another name that refers to bitter orange is synephrine. If, when you saw that word you thought of ephedrine, one of the active ingredients in ephedra, give yourself a pat on the back because synephrine looks like ephedrine. The thought behind using bitter orange in place of ephedra is linked to their similar chemical structures. In other words, if it looked like a duck and quacked like a duck, it must be a duck! The problem with this line of thinking however is that things are usually more complicated. Let's now discuss the evidence behind bitter orange and see if it really works or not.

What's the Science Say?

The synephrine content of bitter orange seems to be mostly localized to the peel and the orange fruit itself. The concentration

probably varies depending on where what part of the fruit it was extracted from as well as the laboratory techniques used to extract the synephrine. Alongside of ephedrine is another compound called octopamine, which appears to be similar to the brain chemical (neurotransmitter) norepinephrine. In fact some research hints that both synephrine and octopamine may act in the brain like neurotransmitters. Some energy drinks may contain an amino acid called tyramine. Tyramine might boost alertness because during metabolism, it forms octopamine and synephrine.

With respect to weight loss, some research hints that the combination of bitter orange, caffeine and other herbals may help however more study needs to be done to confirm this. Other research finds that while bitter orange boosts fat burning in lab animals, its effect in humans is reduced. When I researched this topic, I could find no good proof showing that bitter orange promoted more weight loss than exercise and reducing calories. In fact, overall I found very little in the way of how bitter orange impacted weight loss in humans.

Will The Real Synephrine Please Stand Up

As mentioned before, bitter orange contains synephrine. One of the major problems with bitter orange is that there is more than one type of synephrine out there. Specifically, researchers have uncovered six different types. Each type probably has different effects in the body. Some supplements may label these types as "m-synephrine" and "p-synephrine". The \$64,000 question then becomes, which type works best for weight loss? At this point nobody is in a position to answer this question.

Does Bitter Orange Have Any Side Effects?

Most of the research conducted appears to show that bitter orange can elevate blood pressure (both systolic and diastolic blood pressure) as well as heart rate. As such, this compound is not appropriate for anyone who has heart disease, blood pressure problems or kidney disorders. When I investigate supplements I sometimes run into websites that make the opposite claim - that bitter orange doesn't raise heart rate or blood pressure. These apparent contradictions may be traced to a study, sponsored in part by a supplement manufacturer that did not find alterations in blood pressure or heart rate following bitter orange use. Regardless, keep in mind that websites making this claim are contradicting the bulk of clinical evidence. In other words, one study doesn't matter in the grand scheme of things and don't believe everything you read on the web.

Since the late 1990s bitter orange alone or in combination with other herbal supplements has been linked to stroke, heart attacks, angina and rapid heart rate in some individuals. Many of these reports occurred in persons with heart disease however some have also been reported in those who appeared healthy with no signs of heart disease.

Based on what is known at this time, bitter orange may interact with a number of other supplements, which could in theory, exacerbate negative reactions. Compounds that might interact with bitter orange include, ginseng, and stimulants like caffeine, guarana and cola nut. Bitter orange also appears to alter the way the body metabolizes various medications including those used to treat depression and heart disease as well as other conditions. This could result in the medication building up to dangerous levels or conversely, breaking down faster than it should. Either case is not good. Bitter orange might also exacerbate migraine headaches as well.

Final Comments

Given the fact that ephedra-free supplements are so heavily marketed, surprisingly little clinical evidence exists showing that they effectively help people lose weight. Given the serious side effects, which have been reported both in sick people and healthy individuals, I think the risks of using bitter orange-containing products outweigh any alleged benefits at this time. Despite what commercials hint when they advertise these products, there is still no substitute for eating fewer calories, exercising a little more and giving it time.



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