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MOLECULES & HEALTH

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Supplementing Safely



Nutritional supplements are frequently on the receiving end of negative publicity following the release of studies questioning their safety such as a 2015 study showing that around 23,000 emergency room visits every year are related to the use (or misuse) of nutritional supplements, especially energy and weight-loss supplements.¹ The problem with stories like this is that they can paint a negative picture for all supple-

ments, including those that are high quality and play an important role in healthy living.

This specific news story reminded me of a personal experience from several years ago that highlights a major contributing factor to the issue. A friend of mine was considering using a popular Detox/Cleanse supplement. Knowing that I was a pharmacist who specializes in nutritional supplements and herbal products, she decided it would be good to ask my thoughts before using them. I was happy she felt the need to ask my opinion because so many people will blindly take a supplement without even reading the label or asking a licensed professional for their opinion. I gladly reviewed the product label and gave her the following feedback:

"This product contains a lot of refined sugars that I do not believe would be helpful in cleansing or detoxing the body, and there are several ingredients included in here that I would never take or recommend because of documented cases of liver toxicity and several other adverse effects. In my professional opinion, I would not personally take it and I don't recommend that you use the product."

After hearing my opinion, the

friend told me, "Well, I've already bought it so I'll probably go ahead and use it anyways." I was obviously frustrated – but what happened next I found to be absolutely terrifying. She proceeded to tell me that she was an independent distributor of this product and actually sells it to people as a way to make some extra income. She had absolutely no medical or scientific background and had admitted that she had no idea what was even in the product, yet was comfortable not only taking it against professional medical advice but also selling it to other people while trying to recruit them to sell it as well. To me, this paints a clear picture of why there are people showing up in the emergency room because of supplements.

Asking the right questions:

There are some key questions you can ask before deciding to



use a supplement that can help improve your safety and ultimately help you achieve your desired outcomes. Ask these questions about any product you decide to use, and always be sure to discuss the decision with a trusted healthcare provider.

- **Where was it made?** Products manufactured overseas tend to have less regulation during the manufacturing process and are more likely to contain contaminants and adulterants.²⁻⁵ While these problems can still occur with American manufacturers, there are several reputable companies that hold themselves to higher standards, following regulatory guidelines similar to those required for pharmaceutical agents.⁵⁻⁸

All Small Molecule Technologies products are manufactured in the United States following current good manufacturing and laboratory procedures (cGMP, cGLP) with third-party testing to confirm purity and potency of all raw materials and finished products. (Link to newsletter about quality supplement)

- **What does it contain?** Always read the labels before putting something into your body. If you don't know what an ingredient is, ask a trusted and licensed healthcare provider. If they don't know what it is, then consider that to be a red flag. For example, if you see ingredients like *Gymnema sylvestre*, blue vervain, gamma-aminobutyric acid, citicholine,

Garcinia cambogia, schisandra, or *Cynanchum stautoni* - do you or your healthcare provider know what they are? Are they safe to use in somebody with high blood pressure? Are they safe in a person that becomes dehydrated and overexerted



during a workout?

In comparison, most healthcare providers will recognize and be comfortable with ingredients from well-known sources like olives, green tea, broccoli, grapes, and turmeric because they have a long established history of safe use in all populations plus more scientific evidence supporting their use.

- **How was the product developed?** Some supplement manufacturers take the “shotgun approach” to creating their supplements. Think of it as somebody searching for “natural sleep remedies” on the internet and then taking every sin-

gle ingredient that pops up on the search and putting it into a capsule. The product was made with limited research into safety and efficacy, little thought into the biochemical plausibility of the purported effect of each ingredient, and no research into how the ingredients all interact when combined together.

In comparison, each ingredient found in Small Molecule Technologies supplements was heavily researched and the products were developed based on scientific evidence with the support of biochemists, physicians, pharmacists, dietitians, and more. The products are based on patented scientific formulas, not the results of a quick internet search.

- **Who recommended I use the product?** Always consider the educational and professional background of the person recommending you use a supplement and whether or not they are a licensed professional that carries liability for their recommendation. Licensed professionals including doctors and pharmacists spent years studying the complex



chemistry of the body to understand how nutrients are absorbed, metabolized, utilized, and excreted from the body. They have intimate understandings of how certain medical conditions or medications might alter your body's chemistry and how that could affect the safety of a supplement. The best way to improve your safety when using supplements is to rely on input from licensed medical professionals that have a working knowledge in the subject. They can also help you determine if information is accurate, reliable, and/or relevant to your situation.

- **Why do I need it?** It's very important to establish why you are making the decision to use a nutritional supplement in the first place. It could be a generalized reason such as improving the nutrient content of your diet with a multivitamin, or something more specific such as using melatonin to help you sleep at night. Regardless of your reason, it is best to establish why you are considering using a supplement. This can help you determine if you have rea-



sonable goals and expectations from the product and also to determine if you are experiencing the outcomes you desired.

For example, consider a weight loss supplement: do you absolutely need it to lose weight? Is it going to do anything that a proper diet and exercise wouldn't do? Do you expect to achieve dramatic weight loss because of this pill? Is it worth the risk considering that diet pills are one of the top offenders for supplement-related tox-



icity and emergency room visits?^{1,9,10}

You can still supplement safely

Nutritional supplements do play an important role in promoting optimum health, but the decision to use them needs to be taken seriously and discussed with a licensed healthcare provider.¹¹ Almost all major safety concerns regarding supplements can be eliminated by simply asking and considering the above questions and seeking out information from reliable sources. Remember that not all supplements are the same, and you can easily find and safely use quality supplements like Small Molecule Technologies that are trusted and recommended by licensed healthcare providers.

References

1. Geller AJ, Shehab N, Weidle NJ, et al. Emergency Department Visits for Adverse Events Related to Dietary Supplements. *N Engl J Med.* 2015;373:1531-40.
2. Cassileth BR, Heitzer M, Wesa K. The Public Health Impact of Herbs and Nutritional Supplements. *Pharm Biol.* 2009;47(8):761-767.
3. Ventola CL. Current Issues Regarding Complementary and Alternative Medicine (CAM) in the United States Part 2: Regulatory and Safety Concerns and Proposed Governmental Policy Changes with Respect to Dietary Supplements. *P&T.* 2010;35(9):514-522.
4. Dunnick JK, Nyska A. The toxicity and pathology of selected dietary herbal medicines. *Toxicol Pathol.* 2013;41(2):374-86.
5. Rotblatt MD. Herbal medicine: a practical guide to safety and quality assurance. *WJM.*

1999;171:172-175.

6. Van Breeman RB, Fong HHS, Farnsworth NR. The Role of Quality Assurance and Standardization in the Safety of Botanical Dietary Supplements. *Chem Res Toxicol.* 2008;20(4):577-582.
7. Newmaster SG, Grguric M, Shanmughanandhan D, Ramalingam S, Ragupathy S. DNA barcoding detects contamination and substitution in North American herbal products. *BMC Med.* 2013;11(1):222.
8. Cohen P a. American roulette--contaminated dietary supplements. *N Engl J Med.* 2009;361(16):1523-5.
9. Yen M, Ewald MB. Toxicity of weight loss agents. *J Med Toxicol.* 2012;8:145-52.
10. Egras AM, Hamilton WR, Lenz TL, Monaghan MS. An evidence-based review of fat modifying supplemental weight loss products. *J Obes.* 2011;2011(Article ID 297315):1-7.
11. Elder C, Mossbrucker P, Davino-Ramaya CM, et al. Integrating herbs and supplements in managed care: a pharmacy perspective. *Perm J.* 2008;12(3):52-8.

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About the author: Kyle Hilsabeck, PharmD., is the Vice President of Pharmaceutical Affairs at McCord Holdings and licensed by the Iowa Board of Pharmacy. He completed bachelors degrees in biology and biochemistry at Wartburg College before earning his Doctorate of Pharmacy from the University of Iowa College of Pharmacy. Upon graduation, he completed a community pharmacy practice residency through the University of Iowa where he focused primarily on nutritional aspects of care including the use of vitamin, mineral, and herbal supplements. He has taught courses for the University of Iowa College of Pharmacy on vitamins, minerals, herbs, and nutritional supplements and given many presentations on the subject as well. He has a passion for improving patient care specifically with regards to the safety and quality of the nutritional supplements and health information people use.

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