

Should Vitamins be Treated as Drugs?

Vitamins are a group of chemicals that are absolutely necessary for normal growth, development, and function of our bodies, but we cannot make vitamins on our own. Instead, we must get our vitamins through foods we eat or supplements that we take. According to a recent study, more than 33% of people living in North America take vitamin supplements, but only about 60% of people that use the supplements tell their doctor about it.

Since all vitamins have pharmacologic activity, they can interact with other medications, and they can cause serious adverse effects when taken in high doses. In a recent survey of parents who brought their children to an emergency department, out of 33% of children that were taking vitamins, researchers identified potential interactions with their medications. A common example of such an interaction involves an increased risk of liver damage when acetaminophen (Tylenol) and vitamin C were taken together.



A number of immediate side effects and long-term associations have been documented with use of high doses of common vitamins including vitamins A, E, C, and the B vitamins folic acid, pyridoxine (B6), and niacin. A few of these are described in the table. Due to the possibility for drug interactions and adverse effects, many people would like vitamins be regulated more strictly by the government and be treated more like drugs.

Currently, in the United States, vitamins are considered by the Food and Drug Administration (FDA) to be dietary supplements. Under this designation, vitamin manufacturers do not need to register their products with the FDA, nor do they need FDA approval to sell them. Furthermore, vitamin manufacturers do not need to include “negative” information along with the products to warn consumers of possible

FOR MORE INFORMATION

American Academy of Family Physicians
<http://familydoctor.org/online/famdocen/home/healthy/food/general-nutrition/914.printerview.html>

FDA
<http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm118079.htm>

Harvard School of Public Health
<http://www.nlm.nih.gov/medlineplus/vitamins.html>

Based on “Safety Considerations and Potential Interactions of Vitamins: Should Vitamins be Considered Drugs?” by Alexander L Rogovik, Sunita Vohra, and Ran D Goldman, *The Annals of Pharmacotherapy*, February 2010, <http://dx.doi.org/10.1345/aph.1M238>. For Our Patients is provided by *The Annals* to help explain the latest research and information relating to your medications. These summaries are for informational purposes only and are not a substitute for professional advice from your personal medical provider. If you have questions about this material, you should discuss it with your physician or pharmacist. This summary may be reproduced without permission for not-for-profit educational purposes only. Any other use must be approved by the publisher. © Copyright 2010, Harvey Whitney Books Company, hwbooks.com. FOPG1 DOI 10.1345/fop.1M238

side effects or outline doses that are considered safe.

In contrast, if vitamins were regulated as over-the-counter drugs, manufacturers would need to prove that their products meet certain standards for safety and effectiveness. Vitamins would then need to be produced in facilities that comply with current good manufacturing processes. Furthermore, the manufacturer could only market the product with the specific formulation and specifications that were approved by the FDA. The FDA would make certain that the label contained truthful and accurate safety information.

Recently, concerns over vitamin safety rose to a new level in Canada when food fortification regulations changed. The new policy will now allow food manufacturers to add vitamins to foods – including “junk” foods like chips and beverages. This is especially worrisome since it will boost consumption of vitamins, most likely leading to additional toxicities and interactions. Furthermore, this type of supplementation conveys the wrong message, especially to children and youth, who may begin to view fortified junk foods as “healthy”.

The debate over how to best classify vitamins is not likely to go away any time soon. For now, it is important for consumers to realize that too much of a good thing – even vitamins—can be harmful. You should always tell your healthcare provider about all the supplements that you use, and take only the dosage that he or she recommends.

IMMEDIATE SIDE EFFECTS	LONG-TERM ASSOCIATIONS
Vitamin A Blurred vision Headache Nausea and vomiting	Bone fracture Liver damage Lung cancer Stomach cancer
Vitamin E Bleeding Gastrointestinal upset Emotional disturbances	Breast cancer Heart failure Prostate Cancer
Vitamin C Diarrhea Headache Heartburn	Blocked arteries Stroke
Folic Acid Irritability Nausea	Coronary events Prostate cancer
Niacin Flushing Gastrointestinal upset Headache	Gout Impaired blood sugar Liver damage
Pyridoxine Breast soreness or enlargement Gastrointestinal upset Headache	Nerve pain Rosacea (inflammatory skin condition) Sunburn