Better Rx for Information: Dietary Supplements Online

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Welcome to the truly weird world of dietary supplements. In this parallel universe, science has little place. And neither does federal oversight.”

Marion Nestle, author of Food Politics
"More than half of all American adults, or at least 114 million people, use dietary supplements like vitamin pills, diet pills, herbs and energy drink."

The Top 10 Dietary Supplements

Fish Oil/Omega-3
Glucosamine
Echinacea
Flaxseed Oils/Pills
Ginseng
Gingko Biloba
Chondroitin
Garlic
Coenzyme Q-10

"Nearly all of the herbal dietary supplements tested in a Congressional investigation contained trace amounts of lead and other contaminants."

“The law does not require supplement manufacturers to demonstrate the safety or effectiveness of their products to the FDA before selling them. Instead, the FDA must prove a supplement harmful.”

What to Look for in a Web Site

• **Accuracy** – Is the information correct and can it be verified in a trusted source? Does the information provide citations or links to trusted websites?

• **Authority** - Who is creating the information? Is contact information available? Is the author a recognized expert?

• **Currency** – Does the information reflect current knowledge and provide an update date?

• **Readability** – Does the language speak to all reading levels and are graphics used to enhance understanding?

• **Relevance** – Is the right kind and amount of information supplied for the intended audience, and ... is the information organized to facilitate learning and understanding?
Green tea (Camellia sinensis)

**Background**

Green tea is made from the dried leaves of *Camellia sinensis*, a perennial evergreen shrub. Green tea has a long history of use, dating back to China approximately 5,000 years ago. Green tea, black tea, and oolong tea are all derived from the same plant.

Tea varieties reflect the growing region (for example, Ceylon or Assam), the district (for example, Darjeeling), the form (for example, puerh is cut, gunpowder is rolled), and the processing method (for example, black, green, or oolong). India and Sri Lanka are the major producers of green tea.

Historically, tea has been served as a part of various ceremonies and has been used to stay alert during long meditations. A legend in India describes the story of Prince Siddhartha Gautama, the founder of Buddhism, who tore off his eyelids in frustration at his inability to stay awake during meditation while journeying through China. A tea plant is said to have sprouted from the spot where his eyelids fell, providing him with the ability to stay awake, meditate, and reach enlightenment. Turkish traders reportedly introduced tea to Western cultures in the 6th Century.

**Synonyms**

The Dietary Supplements Labels Database offers information about label ingredients in more than 4,000 selected brands of dietary supplements. It enables users to compare label ingredients in different brands. Information is also provided on the "structure/function" claims made by manufacturers. These claims by manufacturers have not been evaluated by the Food and Drug Administration. Companies may not market any dietary supplements for products that are intended to diagnose, treat, cure, or prevent any disease.

Ingredients of dietary supplements in this database are linked to other National Library of Medicine databases such as MedlinePlus and PubMed to allow users to understand the characteristics of ingredients and view the results of research pertaining to them, including the following characteristics:

- Uses in humans
- Adverse effects
- Mechanism of action

The Database can be searched by brand names, uses noted on product labels, specific active ingredients, and manufacturers.

Recalls from the U.S. Food and Drug Administration (FDA) and enforcement actions from the Federal Trade Commission (FTC) related to specific ingredients and supplement brands have also been provided.

- Created by the National Library of Medicine
- Information on label ingredients for more than 4,000 selected brands of dietary supplements
- Search for information by active ingredient, population, brand name, and manufacturer
Part of the National Institutes of Health (NIH). NCCAM is the government's lead agency for scientific research on CAM

- Evidence-based summaries on specific treatments and conditions

- Includes a guide for considering how and when to use CAM

- Information on clinical trials and CAM, including open NCCAM trials and
Dietary Supplements

Do you need one? Maybe you do, but usually not. Ask yourself why you think you might want to take a dietary supplement. Are you concerned about getting enough nutrients? Is a friend, a neighbor, or someone on a commercial suggesting you take one? Some ads for dietary supplements in magazines or on TV seem to promise that these supplements will make you feel better, keep you from getting sick, or even help you live longer. Sometimes, there is little, if any, good scientific research supporting these claims. Some dietary supplements will give you nutrients that might be missing from your daily diet. But eating healthy foods is the best way to get the nutrients you need. Others may cost a lot or might not benefit you as much as you would like. Some supplements can change how medicines you may already be taking will work. You should talk to your doctor or a registered dietitian for advice.

What if I’m Over 50?

People over 50 need more of some vitamins and minerals than younger adults do. Your doctor or a dietitian can tell you whether you need to change your diet or take vitamins or minerals to get enough of these:

- Vitamin B12. Vitamin B12 helps keep your red blood cells and nerves healthy. As people grow older, some have trouble absorbing vitamin B12 naturally found in food. Instead, they can choose foods, like fortified cereals, that have this vitamin added or use a B12 supplement.
- Calcium. Calcium works with vitamin D to keep bones strong at all ages. Bone loss can lead to fractures in both older women and men. Calcium is found in milk and milk products (fat-free or low-fat is best), canned fish with soft bones, dark-green leafy vegetables like spinach, and for older men, shellfish.
- Vitamin D. To keep bones strong, adults need adequate amounts of vitamin D. This vitamin is found in fatty fish, orange juice, fortified milk, and supplements.
Office of Dietary Supplements (ODS)  
http://ods.od.nih.gov/

- ODS aims to educate the public and foster research
- Broad overviews of botanical and dietary supplements that address and answer the key questions consumers
- Database of fact sheets on herbs and dietary supplements culled from ODS and other vetted sources
Supplement Facts Labeling and Health Claims

How to read a supplement label

- Statement of identity (the title of the product)
- The label has to state that the product is a dietary supplement
- Net quantity of product (contents of the package)

Directions - This panel tells you how much to take.

This panel states the recommended dosage of one of the active ingredients - ephedrine-and states that it can be hazardous to your health.
Dietary supplements are frequently marketed with statements about health effects, for example:

"In the fight against infection, your best defense is tea tree oil."
"For better mental sharpness choose ginkgo biloba."

Current U.S. law states that these health claims must be "truthful and not misleading." But because there is no supporting science (the act states that manufacturers must have "substantiation" in hand - yet substantiation on a single scientific study that is inadequate or flawed. For this reason dietary supplements making health claims, the following disclaimer:

"This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, cure, or prevent any disease."

This disclaimer has led to many different, generalized statements of beneficial effects that avoid being specific. In practice, supplement marketers appear to be able to make any claim they want as long as they have a reasonable interpretation of critical package label information.

The fact is that it is virtually impossible for the consumer to tell if a dietary supplement's health claim is based on any substantive supporting science. In practice, supplement marketers appear to be able to make any claim they want as long as they have a reasonable interpretation of critical package label information.

- Helps consumers learn about acceptable function claims and alerts consumers to unacceptable claims and alerts consumers to unacceptable disease (drug) claims

<table>
<thead>
<tr>
<th>ACCEPTABLE STRUCTURE FUNCTION CLAIMS</th>
<th>UNACCEPTABLE DISEASE (DRUG) CLAIMS</th>
</tr>
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<tbody>
<tr>
<td>Helps maintain cardiovascular function</td>
<td>Protect against heart disease</td>
</tr>
<tr>
<td>Promotes healthy cholesterol level</td>
<td>Lowers cholesterol level</td>
</tr>
<tr>
<td>Promotes healthy joints</td>
<td>Reduces pain of arthritis</td>
</tr>
<tr>
<td>Supports regularity, healthy intestinal flora</td>
<td>Alleviates constipation, laxative</td>
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<tr>
<td>Promotes urinary tract health</td>
<td>Prevents urinary tract infections; improves urine flow in men over the age of 50; diuretic</td>
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<tr>
<td>Supports the immune system</td>
<td>Helps patients with reduced or compromised immune function</td>
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<tr>
<td>Improves absentmindedness</td>
<td>Helps cognitive functioning in the elderly</td>
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<tr>
<td>Reduces stress and frustration</td>
<td>Herbal prozac</td>
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The USP Dietary Supplement Verification Program
http://www.usp.org/USPVerified/dietarySupplements/
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The USP Dietary Supplement Verification Program is a voluntary testing and auditing program that helps dietary supplement manufacturers ensure the production of quality products for consumers. Available worldwide, the program verifies the quality, purity, and potency of dietary supplement finished products through the following processes:

- comprehensive laboratory testing of dietary supplement products and their ingredients against dietary supplement standards
- an on-site manufacturing facility audit for compliance with USP standards and FDA current Good Manufacturing Practices (CGMPs) Part 111)
- random off-the-shelf testing to confirm that USP Verified products continue to meet USP's strict standards

Learn more about the USP Verification Process.

The USP Verified Mark and what it means

Products that meet the program’s stringent criteria are awarded the distinctive USP Verified Mark for use on labels, packaging, and promotional materials. The Mark makes it easy for customers, healthcare practitioners, and retailers to identify USP Verified products. Seeing the USP Verified Mark on a label indicates that the dietary supplement product inside:

- Contains the ingredients listed on the label, in the declared potency and amounts. Tests have shown that contents of some supplements don’t match the label and some contain significantly less or more than the claimed amount of key ingredients. There may be health risks when supplements taken for a specific health condition do not contain ingredients in appropriate quantities. USP Dietary Supplement Verification helps assure customers that they are getting the value they expect from a product they are purchasing.
- Does not contain harmful levels of specified contaminants. Some supplements have been shown to contain harmful levels of certain heavy metals (e.g., lead and mercury), pesticides, bacteria, mold, fungi, or other contaminants. At specific levels these contaminants can pose serious risks to one’s health.
- Will break down and release into the body within a specified amount of time. If a supplement does not break down properly to allow its ingredients to dissolve in the body, the consumer will not get the full benefit of its contents. USP Dietary Supplement Verification tests products against federal recognized dissolution standards.
- Has been made according to FDA current Good Manufacturing Practices (cGMPs) using sanitary and well-controlled procedures. Assurance of safe, sanitary, well-processed, and well-documented manufacturing and packaging processes indicates that a supplement manufacturer is quality-conscious and concerned for public well-being.

Where you can find the Mark

The USP Verified Mark can be found on dietary supplement products stocked in U.S. pharmacies, wholesale clubs, groceries, and other retail outlets. (See a complete list of current USP Verified products.) The USP Verified Mark also appears next to verified products featured on several professional and consumer health databases: Natural Medicines Comprehensive Database (www.naturaldatabase.com) and ConsumerReports.org (subscription may be necessary to view site information.)

What makes the program unique

A nonprofit, federally recognized standards-setting organization, USP is the only such organization that also offers voluntary verification services. USP’s expertise in the field stems from its nearly 200 years of experience establishing standards of quality for medications and, more recently, dietary supplements and food ingredients. USP standards are used in more than 130 countries and are federally recognized per the Federal Food, Drug and Cosmetic Act and the Dietary Supplement Health and Education Act.

Learn more about USP Dietary Supplement Verification and USP Verified products through our resources section. Or, find out how you can apply for verification at http://www.usp.org/USPVerified/dietarySupplements.
Drugs and Supplements

Look up prescription and over-the-counter drug information.

Find a drug by its first letter

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z #

Search for drugs

Herbs, supplements and vitamins

- Aloe
- Arginine
- Beta-carotene
- Black cohosh
- Chondroitin sulfate
- Coenzyme Q10
- Cranberry
- Creatine
- DHEA
- Dong quai
- Echinacea
- Ephedra
- Evening primrose oil
- Evening primrose oil

- Horse chestnut
- Lactobacillus acidophilus
- Lycopene
- Melatonin
- Milk thistle
- Niacin
- Omega-3 fatty acids, fish oil, alpha-lipoic acid
- Red yeast rice
- Riboflavin
- SAMe
- Saw palmetto
- Soy
- St. John’s wort
Supplement information from the Natural Standard

Explains the evidence in everyday language for efficacy on diseases and conditions

Links to quality consumer health information on related conditions
About Herbs, Botanicals & Other Products
About Herbs, Botanicals & Other Products

- Created by Memorial Sloan-Kettering Cancer Center
- Presents information in a version for the healthcare professional and the consumer
- Provides evidence for clinical usage, images, and a “Special Point” specific to each product
- “FAQs” contains concise information on the dangers and mechanism of action of herbal products
Drugs.com

http://www.drugs.com/npc/
Drugs.com
http://www.drugs.com/npc/

- New collaboration with the FDA to help consumers better manage their meds to reduce errors
- Information comes from the MedFacts Natural Products Consumer database
- Entries provide safety and efficacy ratings for evidence
- Offers detailed or concise information for consumers and health care professionals
- Question/answer format arrangement
Consumer Reports
http://www.consumerreports.org/
Dangerous supplements
What you don't know about these 12 ingredients could hurt you

Last reviewed: September 2010

We Americans do love our dietary supplements. More than half of the adult population have taken them to stay healthy, lose weight, gain an edge in sports or in the bedroom, and avoid using prescription drugs. In 2008, we spent $29.7 billion on them, according to the Nutrition Business Journal, a trade publication.

What consumers might not realize, though, is that supplement manufacturers routinely, and legally, sell their products without first having to demonstrate that they are safe and effective. The Food and Drug Administration has not made full use of even the minimal authority granted it by the industry-friendly 1994 Dietary Supplement Health and Education Act (DSHEA).

As a result, the supplement marketplace is not as safe as it should be.

- We have identified a dozen supplement ingredients that we think consumers should avoid because of health risks, including cardiovascular, liver, and kidney problems. We found products with those ingredients readily available in stores and online.

- Independent, non-profit consumer research organization.

- CR accepts no advertising. It does not allow the use content in advertising or for any other commercial purpose.

- Routinely perform analyses of the contents of dietary supplements.

- Frequently publish reports on their web site at no charge.
THANK YOU!