Practical Practice Tips for Widely-Used Dietary Supplements

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Speakers

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About CRN

CRN is a trade association of dietary supplement, functional food and nutritional ingredient manufacturers and marketers, who join together to sustain and enhance a climate for our member companies to responsibly develop, manufacture and market dietary supplements, functional foods and their nutritional ingredients.
## About CRN

### Association

<table>
<thead>
<tr>
<th>Amount with CRN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
</tr>
<tr>
<td>Voting Members</td>
</tr>
<tr>
<td>Manufacturers</td>
</tr>
<tr>
<td>Suppliers</td>
</tr>
<tr>
<td>Associate members</td>
</tr>
<tr>
<td>Annual budget</td>
</tr>
<tr>
<td>Years in existence</td>
</tr>
</tbody>
</table>

*Also contains: scientific, regulatory, international, media relations and government relations expertise not found anywhere else.*
Some of CRN’s Members
Who takes dietary supplements?

According to the 2014 CRN Consumer Survey on Dietary Supplements, 68% of all U.S. adults take dietary supplements.
What do they take?

- **MULTIVITAMIN**: 51%
- **PROBIOTICS**: 7%
- **OMEGA-3/FATTY ACIDS**: 13%
- **CALCIUM**: 16%
- **VITAMIN D**: 21%
- **MELATONIN**: 4%
- **GLUCOSAMINE AND/OR CHONDROITIN**: 18%
- **HERBALS/BOTANICALS**: 7%
- **CRANBERRY**: 4%
A multivitamin/mineral supplement is the most common type of dietary supplement taken in the United States.

Council for Responsible Nutrition
Why take a multivitamin/mineral?

Multivitamin/mineral supplementation helps individuals achieve targeted nutrient intakes

Are there nutrient gaps to fill?
% Americans with Usual Intakes < EAR
NHANES 2005–2008


*Data are from *What We Eat in America, NHANES 2005–2008*
  Includes individuals aged ≥1 year, excluding breastfed children and pregnant or lactating females.
Significant portions of the U.S. population do not meet the EAR for key nutrients even when the contribution of fortification and supplementation are considered.

EAR estimated to meet the need of 50% of the population

Multivitamin/Mineral for Disease Risk Reduction

Dietary Supplements, including the MVM are not intended to treat disease

- However, when a study fails to show that a MVM is the magic bullet for chronic disease, some are ready to throw their vitamins away

Randomized Clinical Trials (RCTs) are considered the gold standard for showing effects of MVM on disease risk reduction

- RCTs have significant limitations when trying to measure the effects of nutrient interventions on chronic disease risk reduction
# Limits of RCTs for Nutrition Research

<table>
<thead>
<tr>
<th>Control Group</th>
<th>Drugs</th>
<th>Nutrients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug-free state</td>
<td>Nutrient free state unethical or impossible</td>
<td></td>
</tr>
</tbody>
</table>

| Baseline Drug/Nutrient Status | No baseline status | Nutrient sufficiency at baseline may mask effect |

<table>
<thead>
<tr>
<th>Effect Size</th>
<th>Drugs</th>
<th>Nutrients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large (if no effect in 6 - 12 months, no continued funding for drug-approval process)</td>
<td>Modest Aggregate over time Combined with current standard of care, including Rx drugs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scope of Effect</th>
<th>Drugs</th>
<th>Nutrients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Target</td>
<td>Nutrients impact all tissues and organs</td>
<td></td>
</tr>
</tbody>
</table>
Multivitamins Reduce the Risk of Total Cancer

RCT, n=14,641 men, ≥50 y, 10.7-13.3 y duration

TOTAL CANCER
8% Risk Reduction

PLACEBO
MULTIVITAMIN

COLORECTAL CANCER
11% Risk Reduction

PLACEBO
MULTIVITAMIN

Gaziano et al. JAMA 2012
### Hundreds of MVMs to choose from

<table>
<thead>
<tr>
<th>Age/Gender</th>
<th>Delivery form</th>
<th>Levels/forms of nutrients</th>
</tr>
</thead>
</table>
| • Iron – men vs. women  
• Ca+/Mg+  
• Fe+, folic acid, iodine – pregnancy  
• Adolescents  
• B12 – elderly | • tablet/capsule  
• liquid  
• gummy  
• powder  
• compliance | • RDA or less; higher levels  
• Taking other products - Ca+/Mg+; vitamin D.  
• Nutrient forms  
• Other ingredients – herbs, bioactives (Co Q10, lycopene, etc.) |
Probiotics – Who?

- **Probiotics**: 7%
- **Omega-3/Fatty Acids**: 13%
- **Calcium**: 16%
- **Vitamin D**: 21%
- **Melatonin**: 4%
- **Protein**: 7%
- **Glucosamine and/or Chondroitin**: 7%
- **Herbals/Botanicals**: 18%
- **Cranberry**: 4%

Council for Responsible Nutrition
What are probiotics?

“Live microorganisms that, when administered in adequate amounts, confer a health benefit on the host.”

FAO/WHO Definition
(ISAPP consensus Oct. 13, 2013)
How do probiotics work?
Why take a probiotic?

• Gastrointestinal
  • Childhood diarrhea/acute
  • Antibiotic-associated/infectious diarrhea
    • Avoid side effects of *H. Pylori* tx
  • Necrotizing enterocolitis
    • Infection and inflammation of the intestines mostly seen in infants
  • *C. difficile* infection
  • Inflammatory Bowel Dz.
    • Ulcerative colitis/Crohn’s
  • Preventing pouchitis
    • Inflammation of the intestines that can follow intestinal surgery

• Immune Health
  • Atopic eczema
  • Childhood respiratory illness
    • Some evidence for other infections such as ear infections, strep throat, and colds
  • Vaginitis

• Emerging Science
  • Cognitive
  • Cardiovascular
  • Irritable Bowel Syndrome
  • Weight Management
Choosing a probiotic

- It cannot be assumed that research published on one strain of probiotic applies to another strain, even of the same species.
  - However, strain attributes do overlap

- For general digestive health
  - Lactic acid producers
    - *Lactobacillus acidophilus*
    - *Bifidobacterium lactis*

- Probiotics have a strong safety profile
  - Infrequent mild GI side effects, gas
  - Risk of serious adverse effect higher in immune compromised or critically ill individuals

---

**Meet the Bacteria**
These microorganisms have been shown to boost health in scientific studies:

<table>
<thead>
<tr>
<th>Strain</th>
<th>Benefits</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Bifidobacterium animalis</em> DN-173 010</td>
<td>Gut health and faster digestion</td>
<td>Dannon Activia yogurt</td>
</tr>
<tr>
<td>(marketing name: Bifidis Regularis)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Bifidobacterium infantis</em> 35624</td>
<td>Alleviates symptoms of irritable bowel syndrome</td>
<td>Procter &amp; Gamble’s Align supplement</td>
</tr>
<tr>
<td><em>Bifidobacterium lactis Bb-12</em></td>
<td>Helps immune system and digestive health</td>
<td>Yo-Plus yogurt, Nestle Good Start infant formula</td>
</tr>
<tr>
<td><em>Lactobacillus casei Shirotia</em></td>
<td>Helps immune system and digestive health</td>
<td>Yakult fermented dairy drink</td>
</tr>
<tr>
<td><em>Lactobacillus casei</em> DN-114 001 (marketing name: L. casei Immunitas)</td>
<td>Helps immune system; lessens duration of colds and flus in older people</td>
<td>Dannon’s DanActive dairy drink</td>
</tr>
<tr>
<td><em>Lactobacillus rhamnosus GR-1</em> in combination with <em>Lactobacillus reuteri</em></td>
<td>Improved vaginal health; helps eradicate vaginal infections</td>
<td>RepHresh Pro-B and Fem-Dophilus dietary supplements</td>
</tr>
<tr>
<td><em>Lactobacillus reuteri</em> 55730</td>
<td>Helps treat colic, gingivitis, antibiotic-associated diarrhea</td>
<td>BioGaia tablets, drops and lozenges</td>
</tr>
<tr>
<td><em>Saccharomyces boulardii</em> yeast*</td>
<td>Helps prevent and treat antibiotic-associated diarrhea</td>
<td>Florastor dietary supplement</td>
</tr>
</tbody>
</table>
Omega-3/Fatty Acids – Who?

- OMEGA-3/FATTY ACIDS: 13%
- CALCIUM: 16%
- VITAMIN D: 21%
- MELATONIN: 4%
- PROTEIN: 7%
- GLUCOSAMINE AND/OR CHONDROITIN: 18%
- HERBALS/BOTANICALS: 18%
- CRANBERRY: 4%
- PROBIOTICS: 7%
- MULTIVITAMIN: 51%
Dietary fatty acids

• **Omega-3s** (essential fat)
  - Essential for human development
  - Must be consumed through diet
  - Component of cell membranes
  - Fish-source proven most bioavailable

• **Omega-6s** (essential fat)
  - Good in moderation only
  - Excess increases inflammation
  - Mostly from processed vegetable oils
  - GLA is the beneficial Omega-6

• **Omega-9**
  - Important, not an essential fat
  - Olive oil is a good source

• **Saturated Fat** (non-essential)
  - Animal fat, solid at room temp
  - Increases disease risk

• **Trans fats** (non-essential)
  - “partially hydrogenated”
  - New to nature
  - Associated with disease risk
PRO-INFLAMMATORY

- Thromboxane-A2
  - Constricts blood vessels
  - Constricts airways
  - Increases blood clotting
  - Reduces circulation
- Leukotrienes-4 series
  - Promotes inflammation
  - Constricts airways
  - Prolongs duration of inflammation
- Prostaglandin-E2
  - Increases sensitivity to pain
  - Increases swelling
  - Induces fever
  - Constricts blood vessels

ANTI-INFLAMMATORY

- Leukotriene-5 series
  - Relaxes blood vessels
  - Increases circulation
  - Relaxes airways
  - Promotes anti-inflammatory response
- Prostaglandin-E3
  - Improves circulation
  - Decreases sensitivity to pain
  - Relaxes blood vessels
  - Promotes anti-inflammatory response
- Prostaglandin-E1
  - Relaxes muscles spasms
  - Reduces blood clotting
  - Increases protective stomach secretions
  - Improves circulation

Omega-6
- LTB-4
- TXA-2
- PGE-2

Omega-3
- LTB-5
- PGE-3
- PGE-1

Council for Responsible Nutrition
Omega-3 supplements

Fish Oil
- Fish Body Oil – 18% EPA: 12% DHA
- Concentrated Fish Body Oil – Variable concentrations and ratios EPA:DHA
- Fish Liver Oil – contains other fat soluble vitamins A & D

Krill Oil
- Phospholipid structure
- Emerging science

Vegetarian EPA/DHA
- Algae-based
- No fishy taste
- Vegetarian

Vegetarian omega-3
- 18 carbon Alpha-linolenic Acid (ALA)
- Needs to be converted to EPA:DHA
## Omega-3 Recommended Intake

<table>
<thead>
<tr>
<th>REFERENCE</th>
<th>DAILY DOSAGE of EPA &amp; DHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ADA and Dieticians of Canada</td>
<td>500 mg/day EPA + DHA</td>
</tr>
<tr>
<td></td>
<td>2 servings of fatty fish/week (1/4 can of sardines/week)</td>
</tr>
<tr>
<td>ISSFAL</td>
<td>500 mg/day EPA + DHA</td>
</tr>
<tr>
<td>UK’s Scientific Advisory Committee on Nutrition</td>
<td>450 mg/day EPA + DHA</td>
</tr>
<tr>
<td>Australia and New Zealand National Health and Medical Research Council</td>
<td>610 mg/day EPA + DHA</td>
</tr>
<tr>
<td></td>
<td>430 mg/day DPA</td>
</tr>
<tr>
<td>World Health Organization</td>
<td>200 - 700 mg/day EPA + DHA</td>
</tr>
<tr>
<td></td>
<td>1-2 servings of fish per week (1/4 can of sardines/week)</td>
</tr>
<tr>
<td>American Heart Association</td>
<td>500 - 1000 mg/day</td>
</tr>
<tr>
<td>British Nutrition Foundation Task Force</td>
<td>1000 - 1500 mg/day</td>
</tr>
<tr>
<td>UK Department of Health</td>
<td>200 mg/day</td>
</tr>
<tr>
<td>Institutes of Medicine Dietary Reference Intakes</td>
<td>110 - 160 mg/day (based on 10% of AI for ALA in 2002)</td>
</tr>
</tbody>
</table>

## STUDIES

1. Brownawell AM, Harris WS, Hibbelin JR                                   | 500 mg/d of EPA + DHA                                                                    |
2. Gebauer, Pstoa, Harris, Kris-Etherton                                    | 500 mg/d of EPA + DHA                                                                    |
3. Harris WS, Kris-Etherton PM                                              | 400 - 500 mg/d of EPA + DHA                                                              |
4. Pepping, Am J Health-System Pharmacy                                      | 2 - 4g fish oil caps/day                                                                 |
5. Simopoulous AP, Leaf A, Salem N Jr                                       | Minimum of 500mg of EPA + DHA/day                                                        |
6. Kris-Etherton PM, Grieger JA, Etherton TD                                | Highly recommend establishing EPA + DHA DRI's above present 100mg                      |
Calcium & Vitamin D – Who?

- Multivitamin: 51%
- Omega-3/Fatty Acids: 13%
- Calcium: 16%
- Vitamin D: 21%
- Melatonin: 4%
- Protein: 7%
- Glucosamine and/or Chondroitin: 18%
- Herbs/Botanicals: 4%
- Cranberry: 4%
Calcium & Vitamin D – Why?

- Americans are falling short of these nutrients
- Supplements help to fill the gaps

% of Individuals (≥ 1 yr) Not Meeting Average Requirements

- Calcium
- Vitamin D

- Non users
- Users
Calcium & Vitamin D – Why?

• Calcium is important for strong bones and may reduce the risk of osteoporosis
• Vitamin D helps the body absorb calcium
• Vitamin D has other roles in the body, including:
  • Cell growth modulation
  • Neuromuscular function
  • Immune function
  • Anti-inflammation
Calcium – How Much & When?

• Amount depends on age, gender and dietary intake
• Absorption is best when consuming ≤500 mg at one time

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-30 yr</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>31-50 yr</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>51-70 yr</td>
<td>1,000</td>
<td>1,200</td>
</tr>
<tr>
<td>&gt;70 yr</td>
<td>1,200</td>
<td>1,200</td>
</tr>
</tbody>
</table>
# Vitamin D – How Much & When?

- Amount depends on age, sun exposure, and dietary intake

<table>
<thead>
<tr>
<th>IOM Recommended Dietary Allowances (mcg) [IU]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
</tr>
<tr>
<td>19-70 yr</td>
</tr>
<tr>
<td>&gt;70 yr</td>
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</tbody>
</table>

- National Osteoporosis Foundation:
  - 400-800 IU (<50 yr); 800-1000 IU (older adults)

- North American Menopause Society: 700-800 IU in women at risk for deficiency due to low sun
Vitamin D – How Much & When?

Sun exposure
• Vitamin D synthesis can be affected by season, time of day, length of day, cloud cover, smog, skin melanin content, and sunscreen

Food sources
• Few foods naturally contain vitamin D
• Some foods are fortified with vitamin D (e.g., milk)

Dietary supplements
• Vitamin D$_2$ (ergocalciferol) and D$_3$ (cholecalciferol) are available
Melatonin – Who?

- Multivitamin: 51%
- Probiotics: 7%
- Omega-3/Fatty Acids: 13%
- Calcium: 16%
- Vitamin D: 21%
- Melatonin: 4%
- Protein: 7%
- Glucosamine and/or Chondroitin: 7%
- Herbs/Botanicals: 18%
- Cranberry: 4%
Melatonin – Why?

• Hormone produced by the pineal gland
• Involved in circadian rhythm
  • Production suppressed by bright light and increased in darkness
• Levels decline with age
• Used for sleep support and jet lag
• Other therapeutic uses
Endogenous Melatonin Levels

- **Peak in middle of the night**
- **Increase in evening**
- **Fall to low daytime levels in morning**

Graph showing the levels of melatonin (pg/mL) from noon to noon, with a peak in the middle of the night and a decrease in the morning.
Melatonin – How Much & When?

Common: 0.3-10 mg  
Clinical research indicates 0.3-3 mg most effective for sleep support

Take at bedtime

Some research shows optimal time is 9-11 h before the mid-point of sleep

Jet lag

Taken on the arrival day at the destination, continuing for 2-5 days
Protein – Who?

- Multivitamin: 51%
- Probiotics: 7%
- Omega-3/Fatty Acids: 13%
- Calcium: 16%
- Vitamin D: 21%
- Melatonin: 4%
- Protein: 7%
- Glucosamine and/or Chondroitin: 7%
- Herbs/Botanicals: 18%
- Cranberry: 4%
Protein – Why?

Sports Nutrition

Weight Management

Healthy Aging
Protein for Healthy Aging

- Protein supplements can help preserve skeletal muscle mass in the elderly
- Research suggests that equally distributing protein intake at each meal maximally stimulates muscle synthesis
- Supplemental leucine may also increase muscle protein synthesis
Protein – Common Forms

Whey
- Concentrate
- Isolate
- Hydrolysate

Casein
- Also from dairy

Vegan
- Soy
- Rice
- Pea
# Glucosamine and/or Chondroitin – Who?

<table>
<thead>
<tr>
<th>Supplement</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multivitamin</td>
<td>51%</td>
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</table>
Glucosamine

• Aka chitosamine
• Amino sugar (2-amino-2-deoxyglucose...)
• Natural source – shellfish, “vegetarian”
• Synthetic
• Available forms
  • Glucosamine hydrochloride (G HCl)
  • N-acetyl-glucosamine (NAG)
  • Glucosamine sulfate (G SO₄)
Chondroitin

• Complex carbohydrate (chondroitin-4-...)
• Natural source – cartilage (shark/bovine)
• Synthetic
• Available forms
  • Chondroitin sulfate (Ch SO₄)
Glucosamine & Chondroitin – Why?

- Joint Health
- Osteoarthritis
- Rheumatoid Arthritis
- TMJ Arthritis
- Pain (Joint, Back)
Glucosamine & Chondroitin – Things to Consider

- Side effects – mild GI – G & C
- Allergy - pre-existing “shellfish” allergy – G
- BSE – C

Drug interactions
  - Warfarin/Coumadin/Blood thinners - G & C
  - Antimitotic chemotherapy agents - G
Glucosamine & Chondroitin – Evidence

• Evidence supports the role of glucosamine and chondroitin for:
  • Knee function/pain (G, G+C)
  • TMJ function/pain (G)
  • Hand osteoarthritis function/pain (C)

• Less evidence available for rheumatoid arthritis pain

• Inconsistencies in evidence
  • Study design; G HCl vs G SO₄; dose and dosing
Glucosamine & Chondroitin – How Much?

- Glucosamine Hydrochloride: 1500 mg (bolus or split t.i.d.)
- Glucosamine Sulfate: 1500 mg (bolus or split t.i.d.)
- Chondroitin Sulfate: Range of 200-400 mg b.i.d or t.i.d. (total: 400-1200 mg/day).
  - RCTs use 1200 mg (bolus or split t.i.d.)
Herbals/Botanicals – Who?

- Multivitamin: 51%
- Probiotics: 7%
- Omega-3/Fatty Acids: 13%
- Calcium: 16%
- Vitamin D: 21%
- Melatonin: 4%
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Botanicals / Herbals

Top 10 in Mainstream & Natural Channels (2013)

1. Horehound
2. Yohimbe
3. Cranberry
4. Black Cohosh
5. Senna
6. Cinnamon
7. Flax Seed/Oil
8. Echinacea
9. Valerian
10. Saw Palmetto

1. Turmeric
2. Grass (Wheat/Barley)
3. Flax Seed/Oil
4. Aloe
5. Spirulina
6. Milk Thistle
7. Elderberry
8. Echinacea
9. Maca
10. Saw Palmetto
# Botanicals / Herbals

Others in Mainstream & Natural Channels (2013)

<table>
<thead>
<tr>
<th>Ashwagandah</th>
<th>Green Coffee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bromelain</td>
<td>Green Tea</td>
</tr>
<tr>
<td>Cat’s Claw</td>
<td>Horny Goat Weed</td>
</tr>
<tr>
<td>Chamomile</td>
<td>Horsetail</td>
</tr>
<tr>
<td>Chia</td>
<td>Kava kava</td>
</tr>
<tr>
<td>Evening Primrose</td>
<td>Peppermint</td>
</tr>
<tr>
<td>Garlic</td>
<td>Red Clover</td>
</tr>
<tr>
<td>Ginger</td>
<td>Red Yeast Rice</td>
</tr>
<tr>
<td>Ginkgo</td>
<td>St. John’s Wort</td>
</tr>
<tr>
<td>Goldenseal</td>
<td>Stevia</td>
</tr>
</tbody>
</table>
Botanicals / Herbals

• Botanical - having to do with plants / plant parts.
• Herb – plant used in cooking, tea and medicinal purposes.
• Herbal - having to do with medicinal/edible plants.
• Referred by Latin binomial, i.e., Genus species
  • Black Cohosh = Actaea racemosa
  • Ginger = Zingiber officianale
  • Kava kava = Piper methysticum
Botanicals / Herbals – Which Parts?

- Whole plant
- Fruit/Berries
- Flowers
- Bark
- Leaves
- Stems/Twigs
- Roots/Rhizomes/Tubers
Botanicals / Herbals – Dosage Forms

• Fresh
• Dried
• Extract (Specific solvent to remove targeted constituent)
  • Liquid or dried (evaporated liquid)
• Tincture (Alcohol/water solvent)
• Decoction (Boiled & simmered for specified time in water)
• Tea (Infusion steeped with addition of boiling water)
• Powders, Capsules, Tablets
Botanicals / Herbals - Quality

• Standardization
  • Identify / Quantify
  • Plant part / Labeling

• Batch-to-batch consistency; QC - Quality
  • Marker Compound(s)

• Batch-to-batch consistency; QC – Biological activity
  • Biomarker Compound(s)

• Quality
  • Brand recognition
  • Brand longevity
  • Third party certification/verification
Botanicals / Herbals - Quality

Good Manufacturing Practices (GMPs)

• Control for Quality
  • Processes
  • Personnel
  • Product
  • Documentation

• Aspects
  • Identification
  • Consistency
  • Solvent(s)
  • Contaminant(s); Heavy metals (inorganic); Pesticides; etc.
  • Adulterant(s)
Botanicals / Herbals – Things to Consider

• Diverse; Physiological action from mild to potent
  • Subtle long-term (chronic)
  • Dramatic, immediate (acute)

• Dependent on
  • Physiological activity/action
  • Dose / Dosing regimen
  • Chemical constituent(s), Extract?, Plant part(s)?, Geography?
  • Solvent(s)
  • Contaminant(s)
  • Adulterant(s)
Cranberry – Who?

- Multivitamin: 51%
- Probiotics: 7%
- Omega-3 Fatty Acids: 13%
- Calcium: 16%
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- Protein: 7%
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- Herbs/Botanicals: 7%
- Cranberry: 4%
Cranberry

Overview

• *Vaccinium macrocarpos*; Family: Ericaceae
• Cranberry Juice; Cranberry Juice Extract
• Plant part: Berries
• Uses:
  • Urinary Tract Infection (UTI)
  • Neurogenic bladder
  • Urinary deodeorizer with incontinence
  • Benign Prostatic Hyperplasia (BPH)
Cranberry – Things to Consider

- Doesn't work for everyone...data on women with high risk for recurring UTI.
- Doesn't acidify urine or diminish bacteria.
- Acidity of Juice - increases GI problems
- Acidity of Juice – organoleptic problems
- Oxalates in Juice - can lead to stones.
- Drug interactions
  - Warfarin/Coumadin/Blood thinners
Practical Extras
How to Read a Supplement Label

http://crnusa.org/about_label.html
Proposed Labeling Changes

- FDA issued a proposed rule on changes to nutrition and supplement facts labeling
- Recommended daily intakes (RDIs) for many nutrients will change
- Units of measure will change (e.g., from IU to mg)

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Current RDI</th>
<th>Proposed RDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>1000 mg</td>
<td>1300 mg</td>
</tr>
<tr>
<td>Chloride</td>
<td>3400 mg</td>
<td>2300 mg</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>30 IU</td>
<td>15 mg</td>
</tr>
</tbody>
</table>
Tainted Products Marketed as Supplements

• May contain the active ingredients in FDA-approved drugs or their analogs, or other compounds, such as novel synthetic steroids.
• Labeled as “alternative to [drug]” or “alternative to [anabolic steroid]”
• Common categories:
  • Body Building
  • Sexual Enhancement
  • Weight Loss
• Tools: FDA RSS feed and e-mail alerts
Helpful Resources

- https://naturalmedicines.therapeuticresearch.com/
- http://naturaldatabase.therapeuticresearch.com/
- http://ods.od.nih.gov/
Thank you!

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