



## Dietary Supplements

### Getting Ready

1. Review the lesson plan before each session.
2. Copy selected handouts and follow-up questions:
  - a. Guide to Non-Nutrient Supplements
  - b. Guide to Common Nutrient Supplements
  - c. Recognizing Unsafe Dietary Supplements
  - d. Dietary Supplement Questions
3. Gather supplies needed for lesson and activities.

### Supplies Needed

1. Handouts.
2. Reminder cards for clients to ask their doctor and pharmacist about supplements they are currently taking (e.g., if they are safe).
3. See the activity and purchase the supplies in the “Food List”.
4. Flip chart and marker.

### Beginning the session

1. Introduce yourself and the name of the organization you represent.
2. Summarize the lesson by going over the objectives. Let the group know that the lesson will be informal and they can ask questions at any time.

### Objectives – The participants will:

1. Understand what a dietary supplement is.
2. Identify commonly used herbs and dietary supplements.
3. Learn to tell the doctor and pharmacist about herbs and dietary supplements.
4. Identify some helpful dietary supplements and some that may be harmful.



## Script

### Introduction

What are dietary supplements? (*Ask the audience if anyone can name some herbs and dietary supplements that people take?*)

There are hundreds of different kinds of dietary supplements!

Dietary supplements may contain:

1. Vitamins and minerals (such as calcium and vitamins C or E).
2. Herbs (from plant leaves, seeds, stems, roots, or bark).
3. Amino acids (from protein).
4. Enzymes (from plants or animals).
5. Body organs (from humans or animals, such as liver or shark cartilage).
6. Other chemicals from plants or animals.

They are usually pills, tablets, capsules, liquids, or powders. When deciding whether or not to take a dietary supplement, it is important to figure out if the supplement is both safe and helpful. If it is not safe, the supplement may harm you. If the supplement is not helpful, then you are wasting your money. We will learn some tips in how to do this today.

### What are some common dietary supplements?

The most common supplements are vitamins, minerals, and herbs. Americans are spending BILLIONS of dollars each year on supplements. A bottle of supplements can cost anywhere from about \$1 to more than \$300! Most supplements will cost between \$5 and \$15 for one bottle.

### Let's look at some common supplements.

*Have participants look at the handouts "Guide To Non-Nutrient Supplements" and "Guide to Common Nutrient Supplements."*

*Are any of these familiar to you? Are any of you taking these supplements now?*

*(Get a show of hands)*

### Helpful vitamin and mineral supplements include:

1. Multivitamins - that help you get all the nutrients you need.
2. Calcium and vitamins, which help protect your bones.
3. Vitamin E, which might protect your heart (as some studies show).



### **Non-nutrient supplements that may be helpful include:**

1. Garlic - to help lower blood cholesterol blood.
2. Ginkgo biloba - to help improve memory and blood flow (circulation).
3. Echinacea - to help fight upper-respiratory tract infections.
4. Glucosamine – can help reduce pain and swelling from osteoarthritis.

### **Food-related supplements include:**

1. Psyllium (as contained in *Metamucil*, *Fiberall*, *Naturacil*; this natural fiber laxative can help prevent constipation).
2. NutraJoint (a combination of gelatin and other vitamins and minerals for joint health).

### **Oral liquid nutritional supplements:**

1. Boost, Ensure, Glucerna, Nubasics, Resource and similar products are nutrient beverages that provide a source of balanced nutrition to supplement the diet.
2. Instant Breakfast is a similar product that is mixed with milk.
3. These types of products should not replace meals unless a person is unable to eat enough regular foods.
4. Use these products as directed by your doctor.

### **Should you tell your doctor and pharmacist about the herbs and supplements you are taking?**

Yes! Many herbs and dietary supplements act like drugs. Tell your doctor and pharmacist about the supplements you are taking because supplements can change the way your other medicines work. Make a list of all the supplements you take and ask your doctor and pharmacist to make sure they are safe for you.

### **Does the government control dietary supplements the same way they control drugs?**

No! Dietary supplements do not need a prescription from a doctor. Another problem is that they are not tested for safety and health benefits before they are sold like drugs are. The Food and Drug Administration (FDA) tests both food and drugs. So at the grocery store, you may see that Quaker Oats® Oatmeal has a health claim on the label that says oatmeal can help lower your cholesterol. This health claim is true. FDA does not have to test dietary supplements. The *Supplement Facts* label must list the serving size and all the ingredients. This is helpful, but there is still no way to know if what you think you are buying is actually in the bottle. Some companies sell expensive supplements that don't have enough of the ingredient to do anything helpful!

### **Are there any risks of taking dietary supplements?**

While some supplements are helpful, there might be times when supplements may cause problems. Taking a combination of supplements, using supplements with your medicines, or taking supplements in place of prescribed medications could be harmful! Supplements may be



dangerous before, during, and after surgery. It is important to tell your healthcare professional about the supplements you are taking, especially before surgery. Also, taking too much of some nutrients, even vitamins and minerals, can cause problems.

**Let's take a look at the handout “Recognizing Unsafe Dietary Supplements”**

Sometimes TV ads, the newspaper or even your friends can make a supplement sound like it really works. Before you buy a dietary supplement, you should always check with your doctor and pharmacist because some supplements can change the way your medicine works.

Here are some tips to help you recognize supplements that you should not buy (*Refer to handout*). Avoid supplements that offer:

1. **Quick fix remedies.** There are no quick fixes when it comes to health. Your best approach is to live a healthy lifestyle.
2. **Newspaper articles that say that research is currently underway.** Never trust a product that is based on a single study in the newspaper or when research has not been completed yet.
3. **Using Hollywood stars/athletes to say a product works.** TV and movie stars get paid to say what they say about supplements and sometimes they have not used the product at all!
4. **Products that claim to be safe because they have a patent.** Patents mean that no one else can make the same exact product. Patents do not mean the supplement is safe or helpful.
5. **Claims that sound too good to be true.** If it sounds too good to be true, it likely is.

**The handout lists herbs that are likely to be harmful.** When you buy a dietary supplement, do not buy one that contains any of these herbs. How do you tell if the supplement contains these herbs? That's right! Read the ingredient list.

These last tips are very important to follow, even if you are taking a supplement that is considered to be safe.

1. Don't use them for serious illnesses (see your doctor and follow his or her advice).
2. Don't give them to children.
3. Don't exceed the dosage given on the label (make sure to read the label).
4. Make sure that the label has the words “USP” or (United States Pharmacopeia).



## What should you do before you decide to take any dietary supplement?

That's right, check with your doctor and pharmacist to see if it is safe. If you are already taking a dietary supplement, plan to make a list this week of all your supplements and give to your doctor and pharmacist.

## Homework! (Hand out reminder cards)

Make a list today of your supplements and ask your doctor and pharmacist if they are safe.

## Activity

“Recognizing safe and helpful dietary supplements” (See Food List)

Bring food list items and describe how each product is safe **and** helpful, safe **or** potentially helpful or **neither** safe nor helpful. Break up into 2 teams. Show one of the products. The first team to raise their hand will explain:

1. Whether the product is safe and/or potentially helpful. Both points must be addressed or the opposite team gets to try to answer. (1 point each for safe or helpful = 2 points possible)

2. Why the product is not safe or not helpful. (1 point to explain as best as possible)

\*\*The object of the game is to win by earning the most points. Each question = possible 3 points. If budget is limited, you can make handmade, mock product labels.

The **American Dietetic Association** has issued a position statement as of January 2001 concerning dietary supplements: *It is the position of The American Dietetic Association (ADA) that the best nutritional strategy for promoting optimal health and reducing the risk of chronic disease is to wisely choose a wide variety of foods. Additional vitamins and minerals from fortified foods and/or supplements can help some people meet their nutritional needs as specified by science-based nutrition standards such as the Dietary Reference Intakes (DRI).*

From the: *Journal of the American Dietetic Association*. January 2001 Volume 101 Number 1

## Organizations

### Food and Drug Administration

5600 Fishers Lane

Rockville, MD 20857

<http://www.fda.gov/>

Adverse reactions should be reported to FDA's MedWatch, (800) 322-1088

### Office of Alternative Medicine/National Institutes of Health

9000 Rockville Pike, Mailstop 2182

Bldg. 31, Room 5B-3B

Bethesda, MD 20892

(800) 531-1794

<http://www.nccam.nih.gov/>



## National Council Against Health Fraud

<http://www.ncahf.org/>

## Additional Reading for the Educator

American Botanical Council: General Herbal Information. Herb Reference Guide. Available online at <http://www.herbalgram.org/genherbinfo/herbref.html>

Bent, S., Ko, R. (2004). Commonly Used Herbal Medicines in the United States: A Review. *The American Journal of Medicine* 116: 478-485.

National Center for Complimentary and Alternative Medicine at the NIH. (2004). A New Portrait of CAM Use in the United States. *Complimentary and Alternative Medicine at the NIH newsletter* XI (3): 2-3.

Pierce, A. (1999). *Practical Guide to Natural Medicines*. The American Pharmaceutical Association. William Morrow and Company, Inc., New York, NY (ISBN 0-688-16151-0).

Sparreboom, A., Cox, M., Acharya, M., and Figg, W. (2004). Herbal Remedies in the United States: Potential Adverse Interactions With Anticancer Agents. *Journal of Clinical Oncology* 22 (12): 2489-2503.

Tyler VE, Foster S. (1999) *The Honest Herbal*. Haworth Publishing. Binghamton, NY ISBN: 0789008750

Tyler VE, Robbers JE (1999). *Herbs of Choice*. Haworth Publishing. ISBN: 0789001594

U.S. Food and Drug Administration. Center for Food Safety and Applied Nutrition. Tips for Older Dietary Supplement Users. Available online at <http://www.cfsan.fda.gov/~dms/ds-savv2.html#risks>



## Reviews of efficacy and safety of non-nutrient dietary supplements

Agency for Healthcare Research and Quality. 2000. Garlic: Effects on Cardiovascular Risks and Disease, Protective Effects Against Cancer, and Clinical Adverse Effects. Summary, Evidence Report/Technology Assessment: Number 20. AHRQ Publication No. 01-E022. Rockville, MD. Available online: <http://www.ahrq.gov/clinic/epcsums/garlicsum.htm>.

Agency for Healthcare Research and Quality. 2004. Effects of Omega-3 Fatty Acids on Cardiovascular Disease. Summary, Evidence Report/Technology Assessment: Number 94. AHRQ Publication No. 04-E009-1. Available online: <http://www.ahrq.gov/clinic/epcsums/o3cardsum.pdf>.

Birks, J., Grimley Evans, J. 2004. Ginkgo Biloba for Cognitive Impairment and Dementia (Cochrane Review). In The Cochrane Library, Issue 3. Chichester, UK: John Wiley & Sons, Ltd. Available online: <http://www.cochrane.org//cochrane/revabstr/ab003120.htm>.

Linde, K., Mulrow, C. D. 2004. St John's Wort for Depression (Cochrane Review). In The Cochrane Library, Issue 3. Chichester, UK: John Wiley & Sons, Ltd. Available online: <http://www.cochrane.org//cochrane/revabstr/ab000448.htm>.

Towheed, T. E., Anastassiades, T. P., Shea, B., Houpt, J., Welch, V., and Hochberg, M. C. 2004. Glucosamine Therapy for Treating Osteoarthritis (Cochrane Review). In The Cochrane Library, Issue 3. Chichester, UK: John Wiley & Sons, Ltd. Available online: <http://www.cochrane.org//cochrane/revabstr/ab002946.htm>.

United States Preventive Services Task Force. 2003. Routine Vitamin Supplementation to Prevent Cancer and Cardiovascular Disease: Recommendations and Rationale. Annals of Internal Medicine 139(1): 51-55.



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## Food List

Review the following products with participants while emphasizing safety and deciding whether the product is considered helpful. Help them to evaluate for themselves why each product may be safe and helpful or not.

**Oats** (*A food that is safe and helpful - regulated by FDA.*)

Point out health claim that the oatmeal does help to reduce cholesterol.

This is a food, and FDA supports this health claim.

**Vitamin/Mineral Bottle** (*Considered safe and helpful.*)

A one-a-day type formula with calcium and vitamin D.

Considered to be a safe supplement.

Point out current cost ~ \$7.00 - \$10.00

**Vitamin/Mineral Bottle** (*Not safe, large doses can be harmful.*)

One from a health food store with mega-doses of B vitamins or vitamin A.

Point out greater cost of this supplement and higher health risk.

**Ensure or Boost** (*Safe and helpful, but expensive long-term.*)

This product is both safe and helpful.

Emphasize that these supplements should not replace a meal unless the person cannot eat.

Those with diabetes should talk to their doctor or dietitian regarding meal management and medication use.

**Ginkgo biloba** (*Safe and potentially helpful.*)

Has shown to be somewhat effective for improving memory and blood flow.

Moderately Expensive ~\$12.00 - \$20.00.



### Guide to Non-Nutrient Supplements

**\*Talk to your doctor before using any of these supplements\***

| <i>Name</i>   | <i>What does it do?</i>                                       | <i>Cautions</i>   |
|---|---|---|
| <b>Echinacea</b>  | May improve immune system                                     | May worsen auto-immune disorders<br>Do not use with cyclosporin and any anticancer drugs  |
| <b>Ginseng</b>  | May improve well-being  | May enhance blood thinners<br>May not be effective<br>Interacts with phenelzine   |
| <b>Ginkgo biloba</b>  | May improve memory and blood flow                             | May enhance blood thinners<br>May cause mild headache   |
| <b>Garlic</b>   | Lowers blood cholesterol                                      | May enhance blood-thinners<br>May interfere with diabetic medicines<br>Can cause heartburn and body odor                                |
| <b>Glucosamine</b>  | Helps reduce inflammation and pain from osteoarthritis        | Expensive   |
| <b>St. John's Wort</b>  | May improve mild or moderate depression                       | May cause headache and light sensitivity<br>Interferes with cyclosporin (Neoral, Sandimmune), digoxin (Lanoxin) and warfarin (Coumadin) |
| <b>Peppermint</b>   | May aid digestion   | May cause tingle in throat<br>May worsen acid reflux disease  |
| <b>Fish oils</b>  | May lower blood triglycerides                                 | May enhance blood thinners<br>May upset stomach   |
| <b>Ginger</b>   | May reduce nausea and vomiting<br>May aid digestion           | Side effects are very rare  |
| <b>Soy</b>  | May lower risk of osteoporosis<br>May lower blood cholesterol | Interferes with tamoxifen<br>May worsen estrogenic cancers<br>Avoid soy pills<br>Use soy foods (tofu, soy milk, soybeans)               |
| <p>Be sure that supplements have on the label: USP (United States Pharmacopeia)<br/>AND the words "standardized" or "guaranteed potency."</p> |   |   |

*Herb Med@:* [www.herbmed.org](http://www.herbmed.org)



### Guide to Common Nutrient Supplements

**\*Talk to your doctor before using any of these supplements\***

| <i>Name</i>  | <i>What does it do?</i>   | <i>Cautions</i>   |
|--|---|---|
| <b>Tablets, capsules or pills*</b>                                 |   |   |
| <b>Multivitamins with Minerals</b>                                 | Has important nutrients   | Be sure it contains vitamin D (400 IU)<br>Be sure it contains vitamin B-12 (about 12 to 25 mcg)                                 |
| <b>Calcium plus Vitamin D</b>                                      | Protects bones<br>Vitamin D helps calcium absorption  | Do not exceed 2000 IU of vitamin D daily<br>Most people will need about 400 to 800 mg of calcium and 200 to 400 IU of vitamin D |
| <b>Vitamin E</b>   | May protect the heart   | May enhance blood-thinners<br>Do not exceed 1000 IU daily   |
| <b>Fiber supplements (examples)</b>                                |   |   |
| <b>Psyllium in products such as Metamucil, Fiberall, Naturacil</b> | Laxative<br>Lowers blood cholesterol  | May cause gas<br>May lower blood sugar  |
| <b>Oral liquid nutritional supplements (examples)</b>              |   |   |
| <b>Boost, Ensure, Glucerna, Glucerna, Nubasics, Resource</b>       | Nutrient beverages to supplement diet<br>Source of balanced nutrition                             | Should not replace meals unless unable to eat enough regular foods  |
| <b>Instant Breakfast</b>   | Mixed with milk to provide a nutrient beverage to supplement diet<br>Source of balanced nutrition | Should not replace meals unless unable to eat enough regular foods  |

**\*Be sure these supplements have on the label: USP (United States Pharmacopeia) AND the words “standardized” or “guaranteed potency.”**



## Recognizing Unsafe Dietary Supplements

Sometimes when we shop, read the paper or watch TV, we hear of a new food or product that can help prevent or fight disease. Often, these products have not been tested to see if they are safe and helpful. Remember that the government does not regulate dietary supplements and health claims may not be true.

### Health claims are probably false if they:

- Offer quick fix remedies or cure-alls.
- Say that research is currently underway.
- Use Hollywood stars or athletes to say a product works for them.
- Claim to be safe because they have a patent.
- Sound too good to be true.

Some herbs are dangerous or may change the way your medicine works.  
Always read the ingredient label and talk to your doctor!



### DANGEROUS - DO NOT TAKE!

|                      |                     |  |
|----------------------|---------------------|--|
| Aristolochia fangchi | Iscador             | These herbs may cause liver damage, heart problems, increased blood pressure, potassium depletion, nervous disorders and/or other disorders including death. Many also can interfere with medications! |
| Essiac               | Comfrey Licorice    |  |
| Borage               | Ma Huang Life Root  |  |
| Calamus              | Ephedra Pau D'Arco  |  |
| Cat's Claw           | Germander Pokeroot  |  |
| Chapparal            | Kava Kava Sassafras |  |
| Coltsfoot            | Hydrangea Yohimbe   |  |

### Protect yourself against the harmful effects of herbs and dietary supplements:

1. Tell your doctor and pharmacist what herbs and supplements you are taking.
2. Don't use them for serious illnesses (follow your doctor's advice).
3. Don't give them to children.
4. Don't exceed the dosage given on the label (make sure to read the label).
5. Make sure that the label has the words "USP" or (United States Pharmacopeia) AND the words "standardized" or "guaranteed potency."



## Dietary Supplement Questions

|       |         |
|-------|---------|
| Name: | Age:    |
| Date: | County: |

### 1. Circle any supplements you are taking:

None

Herb

Multivitamin

Calcium

Ensure or Boost

Glucosamine

Vitamin D

Vitamin E

### 2. Will you always tell your doctor about all the supplements you take?

No

Yes

### 3. Will you always read the label on a supplement to decide if a supplement is both safe and helpful?

No

Yes

### 4. Did you learn something new today?

No

Yes