

**Welcome back! Group  
Quiz Bowl #1 fun!**



**Don't be bashful!  
Speak up & participate!**



## **BI 199 Discussion 2**

- I. Announcements** Paper topics due prior to discussion next Monday. Send to Pat @ [lombardi@uoregon.edu](mailto:lombardi@uoregon.edu)
- II. Paper & Presentation Guidelines** Q?
- III. Informal Group Work to Discuss Potential Topics**
- IV. Quiz Bowl on Chapter 1** Group competition p 23+
- V. Changing Behaviors in Memory of Jean!** pp 18-20
- VI. Group Activity** Tables inside front cover DRI, RDA, AI, UL?  
Trends? For which nutrients are ♀ requirements > ♂? Why?
- VII. Dietary Recommended Intakes** What? How established?
  - A. RDA, AI, UL pp 32-4
  - B. EAR → RDA, AMDR, HEI pp 32-7
- VIII. Dietary Guidelines for Americans** [ChooseMyPlate](#) pp 37-9,  
evolution, diet planning, discretionary cal? pp 37- 49
- IX. Think Fitness** p 42 + ACSM/CDC, USDA/HHS guidelines

# ***Paper Guidelines***

- 1. Any topic** on any controversy related to nutrition,  
If controversy from text, *ch 10-15*, rather than *ch 1-9*
- 2. 6 pages**, double-sided, double-spaced,  $\geq 10$  point, simple font (e.g., Arial, Cambri, Times, Universal)
- 3. Include Headers** *Introduction*, topic *Headers*, *Directions for Future Research*, *Summary & Conclusions*, *References*
- 4. 1 page of references** (so total = 7 pages), 8 point OK  
 $\geq 10$  references of which  $< 5$  web-based (.edu,.org,.gov)
- 5. Top resources** Science Library + (see S&W pp 19-20 & 26)  
<http://www.ncbi.nlm.nih.gov/pubmed/>  
<http://www.adajournal.org>, <http://www.ajcn.org>  
<http://www.cspinet.org/nah/>, <http://www.eatright.org>  
<http://www.heart.org> (click on *Getting Healthy*)  
<http://www.mayohealth.org>, <http://www.healthypeople.gov>  
<http://www.wellnessletter.com/> (rare accurate, reliable .com)
- 6. Due dates** e-mail to [lombardi@uoregon.edu](mailto:lombardi@uoregon.edu) Oct 13 (topic),  
Oct 27 (outline), Nov 17 (draft). **Dec 5 (final paper)** put in  
Pat's box  $< 5$  pm in Main Biology Office, 77 Klamath.

# Seek Accurate & Reliable Peer-Reviewed Resources!





WellnessLetter.com  
 University of California, Berkeley  
**WellnessLetter**  
 News and expert advice from the School of Public Health

55.00 • Volume 28 • Issue 12 • August 2012

On the cover: **Wheat**

**WellnessFacts**

- Lack of sleep can cause weight gain, much research has shown.** Now a study in the *American Journal of Clinical Nutrition* has found a new explanation for this via fMRI scans. When subjects slept only four hours a night for six nights, their "glad" slices from fMRI scans of brain activity (especially in areas that respond to pleasurable activities) increased much more than when they slept nine hours. That would increase the likelihood of overeating, the researchers said. Previous research suggested the lack of sleep can cause weight gain by affecting appetite hormones.
- The number of Americans with type 2 diabetes will double or triple by 2050** if current trends continue, according to "subtyping" projections from the CDC. While today's 1 in 10 American adults has diabetes, by 2050 the sharp rise will be due to an aging population, increases in minority groups that are at higher risk for diabetes, and continuing weight gain.
- Women who go through early menopause are at higher risk for osteoporosis.**

**Wheatophobia**  
 Will avoiding wheat really improve your health?

**W**heat has long been a dietary pariah for the millions of people who have jumped on the low-carb-diet bandwagon or who think they're allergic (or at least sensitive) to the grain. Now even more people are hesitating about eating wheat after reading claims made by Dr. William Davis, a cardiologist and author of the bestseller *Wheat Belly*, which is subtitled "Lose the Wheat, Lose the Weight, and Find Your Path Back to Health." "We only do wheat make us fat, he says, it is addictive and causes everything from heart disease, diabetes, and obesity."

and its gluten (a protein) is more likely to trigger reactions than that in older wheat. Fact: For well over a century, food scientists have developed hybrid varieties of wheat to be stouter and have higher yields, better quality, and greater resistance to disease and insects. That's a true case and insect. There's no most food crops. There's no clinical evidence that differences between today's wheat and older varieties have adverse effects on our health. It's all speculation on Dr. Davis's part, and feeds into the paranoia of modern agriculturalists. Is this particular fear is

is the main culprit in epidemic. staple in most parts of the world (wheat's little or no natural tannins (a-b) and rates at consumption topped since 2000. it is a slow burn. In fact, a such more as few women are different, the other attrib

SPECIAL FOOD ISSUE

**SCIENTIFIC AMERICAN**

**Food**

It started as fuel, became a passion, ignited a global crisis—and made us human

**INDRE**

**You Don't Know CALORIES**

**The Truth About GMOs**

**Why We Need**

BerkeleyWellness.com  
 University of California, Berkeley  
**WellnessLetter**  
 News and expert advice from the School of Public Health

55.00 • Volume 29 • Issue 14 • September 2013

**Nutrition Action HEALTH LETTER**  
 CENTER FOR SCIENCE IN THE PUBLIC INTEREST

July/August 2013 \$2.50

**SAVE OUR SEAFOOD**  
 What's good for us and the oceans

Seafood is good for our health. But the world's growing appetite for fish isn't good for the creatures that inhabit our oceans. Roughly 30 percent of the world's fish stocks are "overexploited"—in danger of collapse—according to the United Nations Food and Agricultural Organization. Another 57 percent are "fully exploited"—at or close to their sustainable limits. Then there's the threat from climate change and pollution. Here's how to find fish that protect your health and the oceans.

**WellnessFacts**

- Daily sunscreen use slows skin aging, even in middle-aged people.** According to a well-designed Australian study in the *Annals of Internal Medicine*, it's clear that consistent sunscreen use reduces the risk of skin cancer, but this is the first proof in humans that it also protects against photoaging—the wrinkling, dark spots, and sagging skin caused by the sun's ultraviolet rays. More than 900 white people ages 25 to 55 were either instructed to use broad-spectrum sunscreen (SPF 15) diligently every day or simply told to use sunscreen at their discretion (it would have been unethical to tell them not to use sunscreen at all). After four years, the daily sunscreen group had 24 percent less skin aging, on average, than the other group.
- Two-thirds of customers at fast-food restaurants underestimate their calorie intake, often by hundreds of calories.** A recent study in the *Journal of the American Dietetic Association* found that 79% of customers underestimated their calorie intake by 259 calories, on average. About one in four people underestimated by more than 500 calories. Underestimation was greatest among Subway diners, partly because of the chain's "healthy" label. The researchers suggested the Affordable Care Act will require calorie labeling at fast-food restaurants, though research on the effect of calorie displays has been mixed. Young and middle-aged Americans get 10 to 15 percent of their calories from fast food, according to CDC data.
- Men with prostate cancer who take statins drugs to lower their cholesterol have a reduced risk of dying from the disease.** Researchers tracked 1,000 Seattle-area men diagnosed with prostate cancer over a 10-year period and found that statin users were 80 percent less likely to die from the cancer than non-users, they controlled for age, weight, severity

**Nutrition Action HEALTH LETTER**  
 CENTER FOR SCIENCE IN THE PUBLIC INTEREST

April 2012 \$2.50

**Sugar Belly**  
 How Much is Too Much Sugar?

BY GONNIE LIESMAN

Have you heard of a beer belly. Now there's new research that fructose in added sugars may be the culprit.

**WellnessFacts**

- Carbs: Is more not better?** The American Dietetic Association's new position statement on carbohydrates is a landmark. It says that people with diabetes should eat a diet rich in whole grains, fruits, and vegetables, and that people with heart disease should eat a diet rich in whole grains, fruits, and vegetables. The new statement also says that people with diabetes should eat a diet rich in whole grains, fruits, and vegetables, and that people with heart disease should eat a diet rich in whole grains, fruits, and vegetables.
- Where to draw the line**  
 In January a study published in *Diabetes Care* found that people with type 2 diabetes who ate a diet rich in whole grains, fruits, and vegetables had a 26 percent lower risk of dying from heart disease. The study also found that people who ate a diet rich in whole grains, fruits, and vegetables had a 26 percent lower risk of dying from heart disease.
- The good news**  
 One of the good news stories about the new research is that it shows that people who eat a diet rich in whole grains, fruits, and vegetables have a lower risk of dying from heart disease. This is good news because it shows that people who eat a diet rich in whole grains, fruits, and vegetables have a lower risk of dying from heart disease.

**Is being overweight okay after all?**  
 It may actually help you live longer, says a new study—but questions remain

**Where to draw the line**  
 First of all, what is overweight? The definition of overweight is based on body mass index (BMI). The BMI is a measure of body fat based on height and weight. The BMI is a measure of body fat based on height and weight. The BMI is a measure of body fat based on height and weight.

**The good news**  
 One of the good news stories about the new research is that it shows that people who are overweight have a lower risk of dying from heart disease. This is good news because it shows that people who are overweight have a lower risk of dying from heart disease.

**Reigniting the debate**  
 In May the IOM took things up when it announced that, despite current sodium recommendations, very low levels are not necessarily better and may even be harmful. The IOM is an independent nonprofit organization that convenes expert committees to examine research and advise the government and the public about health issues. The Salt Institute and other food industry groups welcomed the news, arguing that there should not be population-wide recommendations.

**Outstanding Peer-Reviewed Lay Resources**



## ***Presentation Guidelines***

1. **Same topic** as controversy covered in paper.
2. **8-10 min**, +4-5 min added for questions, answers & discussion.
3. **Any medium** .ppt, overheads, large-font thematic poster, skit, home-made video,...  
NB: Must notify Pat of equipment needs by 12 n Friday prior to presentation.
4. **Concise summary** of your findings, e.g., 5-6 .ppt slides, 5-6 key points, ID controversy, limited background, colorful with few words, summary & conclusions/take-home message.

# *Group Work to Discuss Potential Topics*





# Quiz Bowl on Chapter 1: Group Competition

1. Energy-yielding nutrients include all of the below except:  
a. vitamins   b. carbohydrates   c. fat   d. protein
2. Organic nutrients include all of the following except:  
a. minerals   b. fat   c. carbohydrates   d. protein
3. A nutritious diet provides no constituent in excess. This principle of diet planning is called:  
a. adequacy   b. balance   c. moderation   d. variety
4. A peach pie slice supplies 357 calories with 48 IU of vit A; one large peach has 42 calories with 53 IU of vit A. This is an example of:  
a. calorie control  
b. nutrient density  
c. variety  
d. essential nutrients

# Quiz Bowl on Chapter 1: Group Competition

5. Which is a processed food?  
a. carrots      b. bread      c. nuts      d. watermelon
6. Studies of populations in which observation is accompanied by experimental manipulation are \_\_\_ studies  
a. case    b. intervention    c. laboratory    d. epidemiological
7. Both heart disease and cancer are due to genetic causes and diet cannot influence whether they occur. T or F
8. People most often choose foods for the nutrients they provide. T or F
9. Both carbohydrates and protein have 4 calories/gram. T or F
10. One large, hard-boiled egg contains ~0.5 g carbohydrate ~5 g of fat, & ~6 g of protein. Approximately how many calories would you ingest, if you eat the entire egg? How did you arrive at your answer?



*Behavior Change Requires Awareness!*

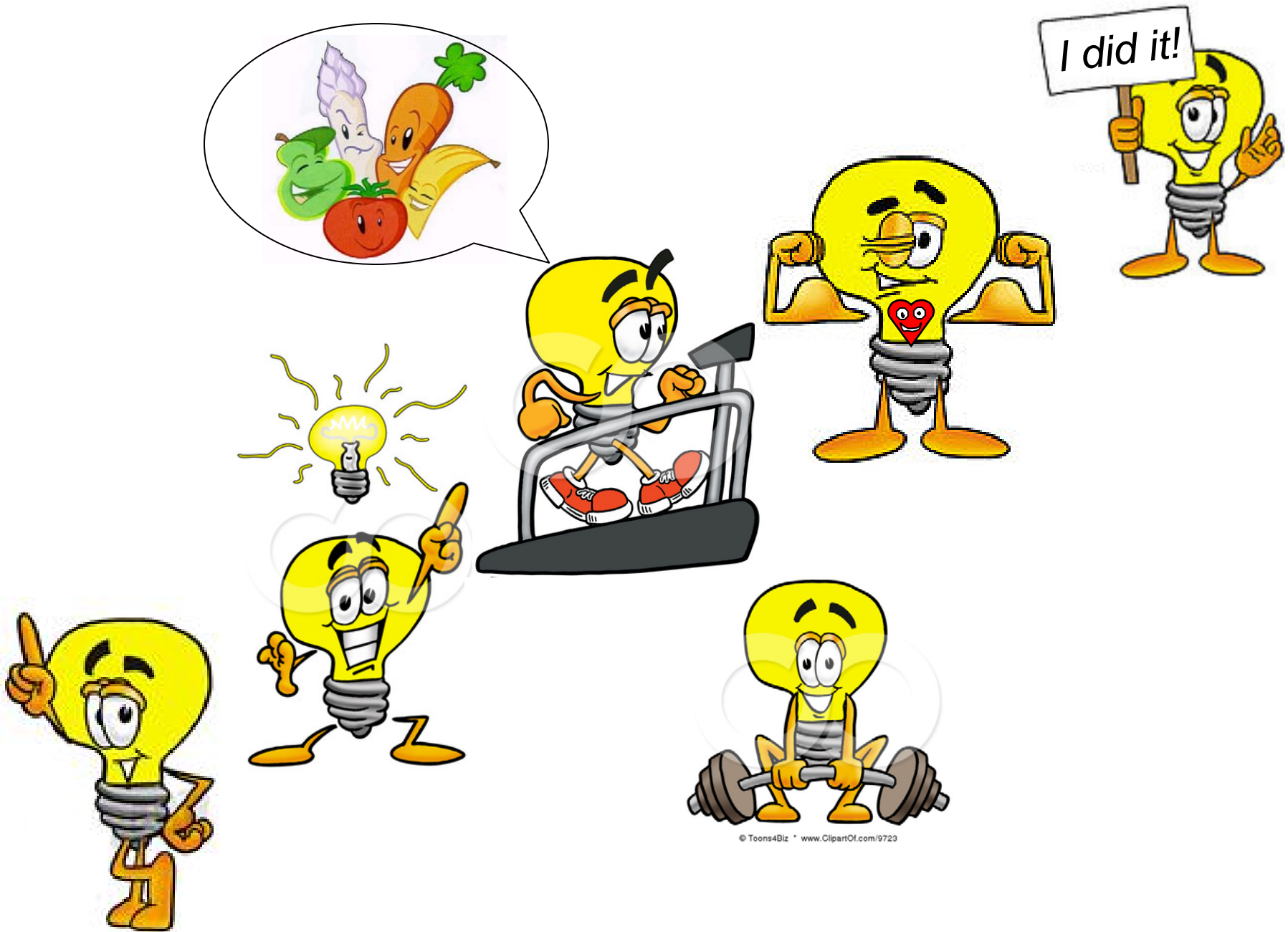




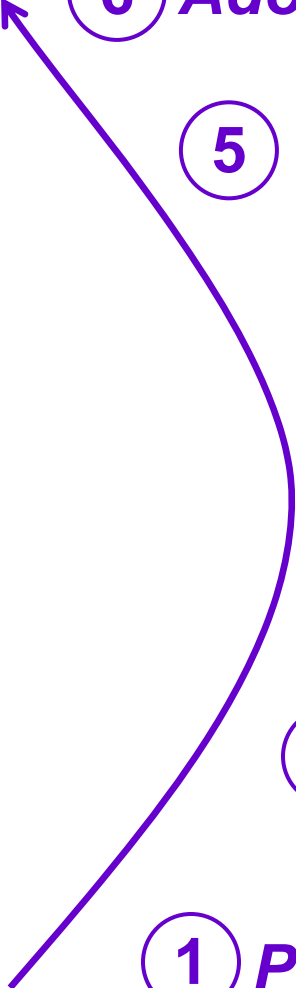
GUESS WHAT, CHARLIE BROWN...  
I'VE BEEN PICKED TO BE THE  
POSTER CHILD FOR AIR QUALITY  
IN KNOXVILLE, TENNESSEE.

... THAT'S  
GREAT, PIGPEN.





# Stages of Behavior Change

- 
- ① **Precontemplation** – Not considering change
  - ② **Contemplation** – Admit change may be needed
  - ③ **Preparation** – Prepare to change, initial steps
  - ④ **Action** – Committing time & energy
  - ⑤ **Maintenance** – Integrating into daily life!
  - ⑥ **Adoption** – New routine, former is gone!

## ***Group Activity: RDI, RDA, AI, UL Tables inside front cover***

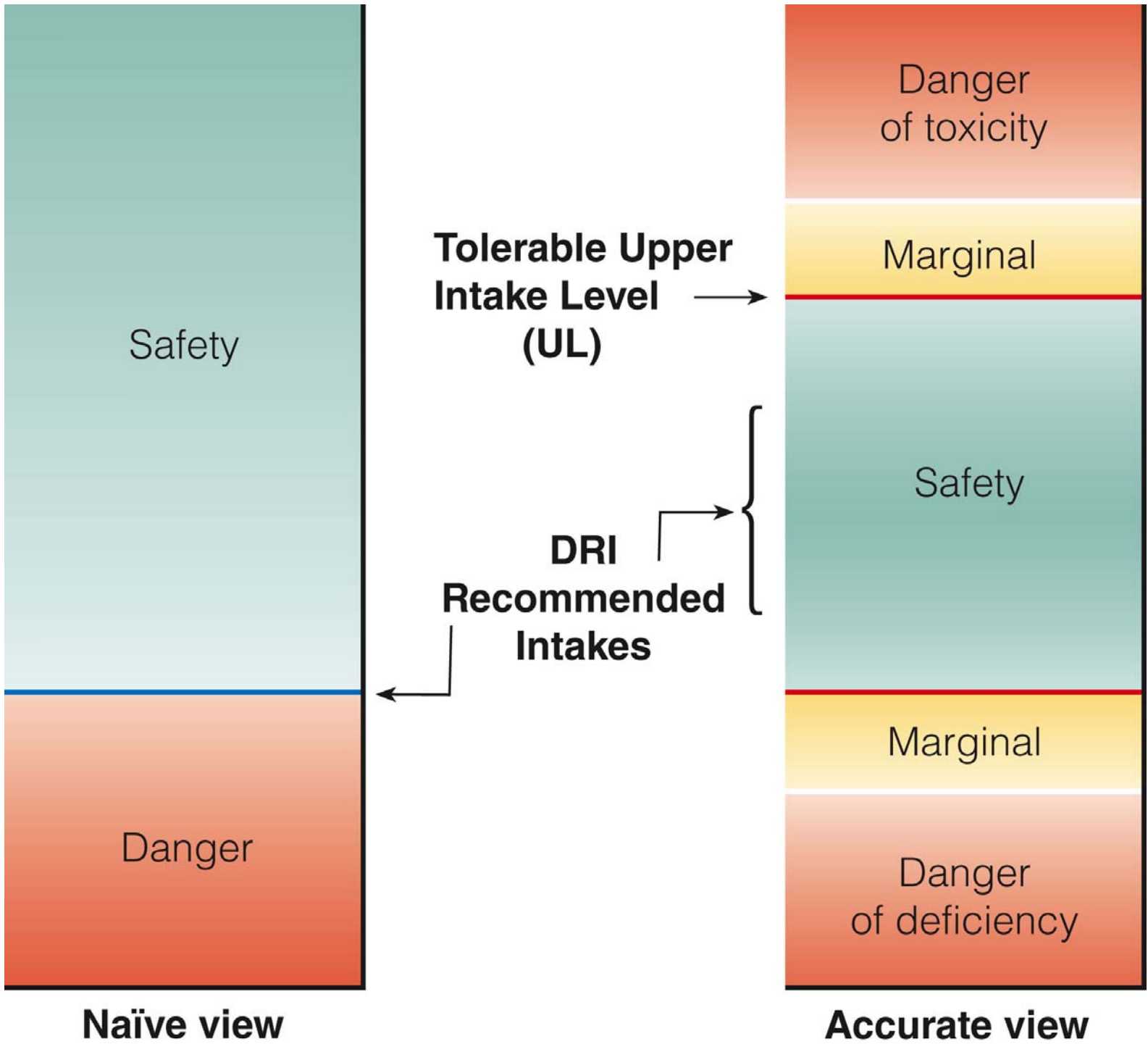
1. Any trends or general observations?
2. For which nutrients are requirements for females > for males? Ideas why?

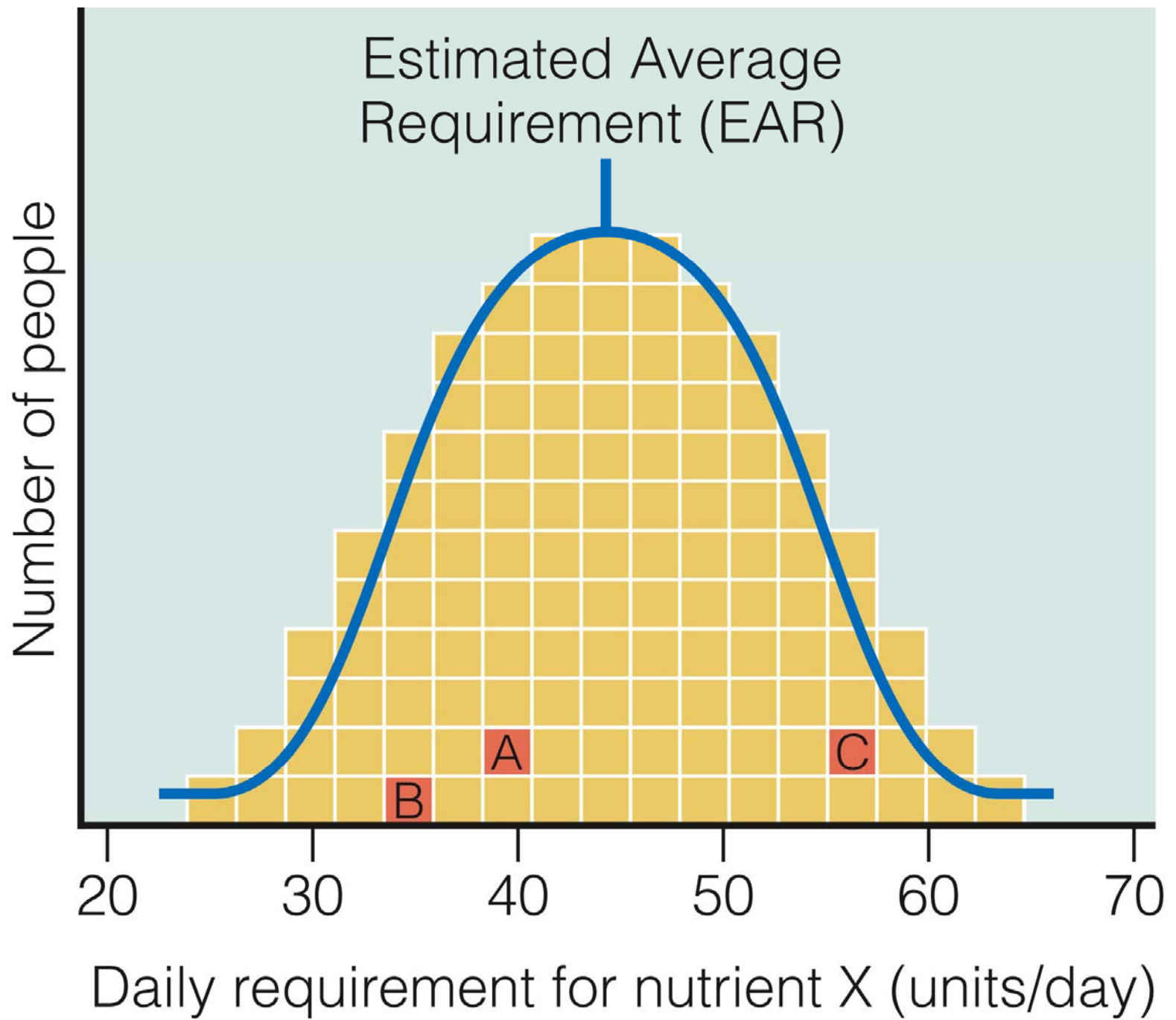


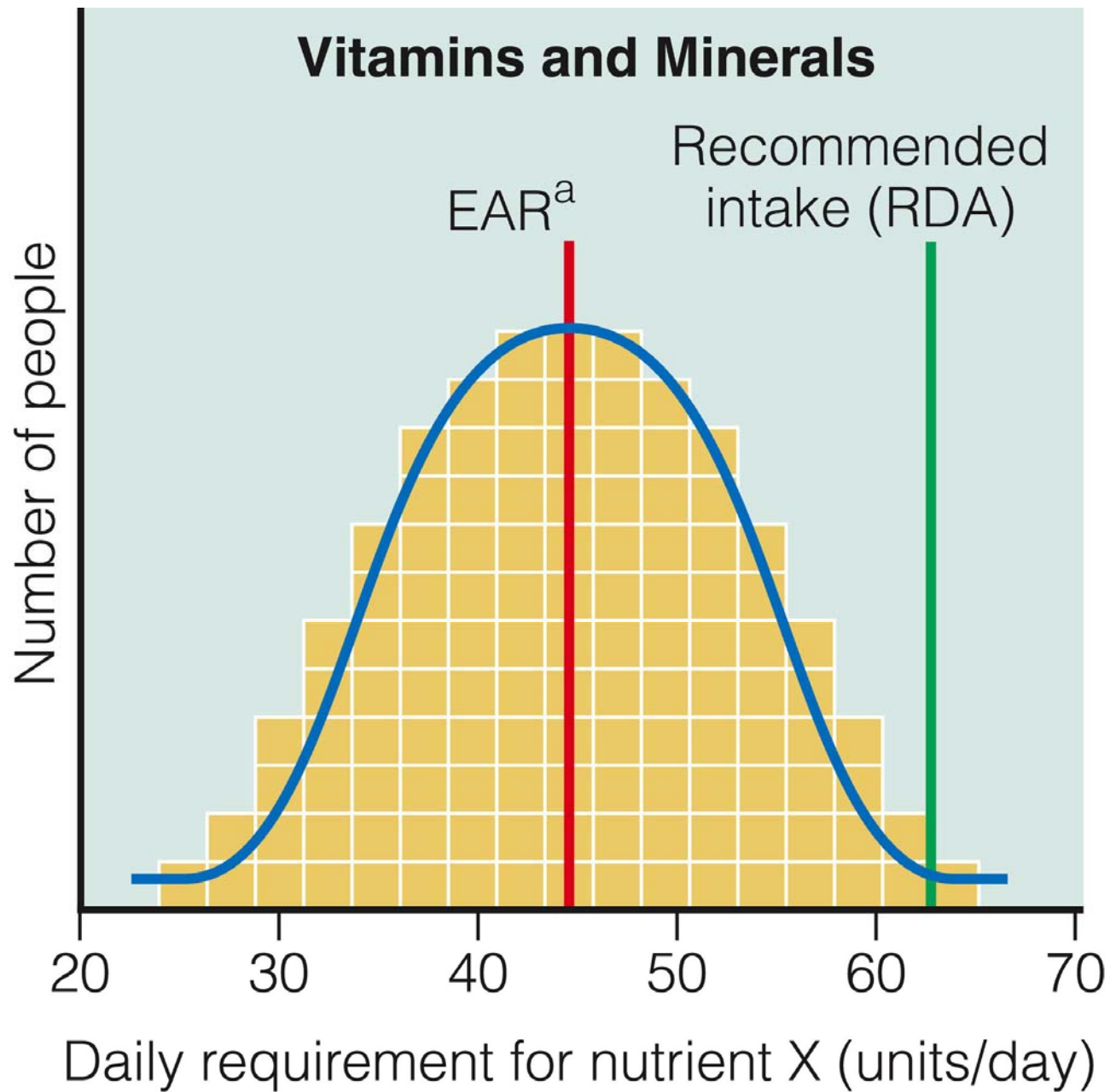
# ***Dietary Reference Intakes (DRI)***

*Set of standards established by research & used as goals in the US & Canada for energy (EER), carbohydrates & fiber, fats, proteins, water, vitamins & minerals(RDA/AI)*









<sup>a</sup>Estimated Average Requirement

***US Dietary Recommended Intakes (DRI)  
Committee Acceptable Macronutrient  
Distribution Ranges (AMDR)!***

<b><u>Energy Nutrient</u></b>	<b><u>% Total Calories</u></b>
<b>Carbohydrate</b>	<b>45-65%</b>
<b>Fat</b>	<b>20-35%</b>
<b>Protein</b>	<b>10-35%</b>



# *Emphasize ABCs + Variety & Moderation!*

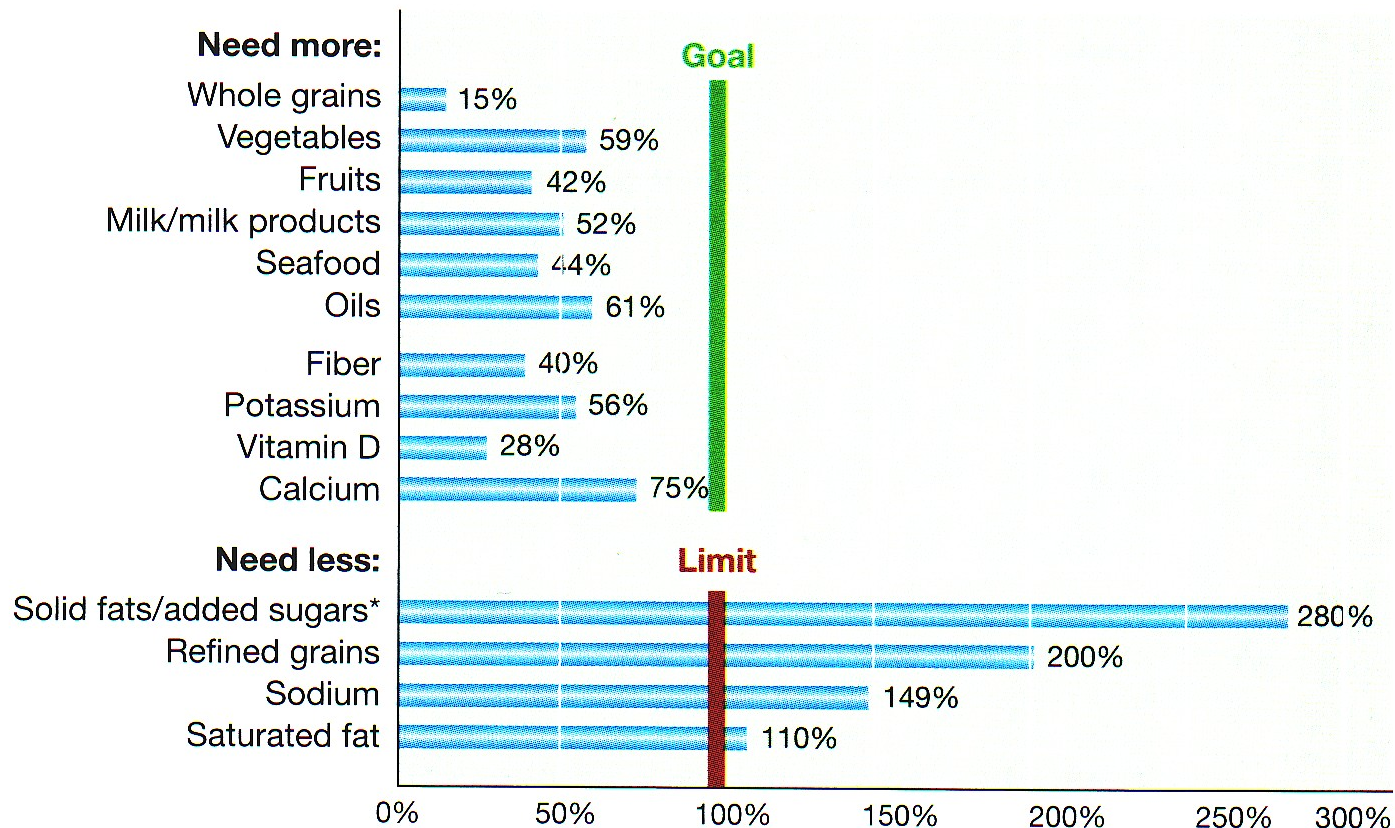




**Figure 2-4**

## How Does the Typical U.S. Diet Stack Up?

The bars below reflect the average diet of people in the United States, from toddlers to the elderly. The top part of the figure indicates serious shortages of nutrient-dense foods and nutrients; the bottom part indicates an overabundance of foods and nutrients that should be limited for health's sake.



\*Measured in calories.

Note: Based on data from U.S. Department of Agriculture, Agricultural Research Service and U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. What We Eat in America, NHANES 2001–2004 or 2005–2006.

Source: Dietary Guidelines for Americans, 2010.

***What the heck is a DV or Daily Value?  
Information relative to 2000 kcal diet***





The name and address of the manufacturer, packer, or distributor

The common or usual product name

Approved nutrient claims if the product meets specified criteria

The net contents in weight, measure, or count

Approved health claims stated in terms of the total diet



**Nutrition Facts**  
 Serving size  $\frac{3}{4}$  cup (28 g)  
 Servings per container 14

---

**Amount per serving**  
**Calories** 110      Calories from fat 9

---

	% Daily Value*
<b>Total Fat</b> 1 g	2%
Saturated fat 0 g	0%
Trans fat 0 g	
<b>Cholesterol</b> 0 mg	0%
<b>Sodium</b> 250 mg	10%
<b>Total Carbohydrate</b> 23 g	8%
Dietary fiber 1.5 g	6%
Sugars 10 g	
<b>Protein</b> 3 g	

Vitamin A 25% • Vitamin C 25% • Calcium 2% • Iron 25%

\*Percent Daily Values are based on a 2000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

	Calories:	2000	2500
Total fat	Less than	65 g	80 g
Sat fat	Less than	20 g	25 g
Cholesterol	Less than	300 mg	300 mg
Sodium	Less than	2400 mg	2400 mg
Total Carbohydrate		300 g	375 g
Fiber		25 g	30 g

Calories per gram  
 Fat 9 • Carbohydrate 4 • Protein 4

**INGREDIENTS**, listed in descending order of predominance:  
 Corn, Sugar, Salt, Malt flavoring, freshness preserved by BHT.  
**VITAMINS and MINERALS:** Vitamin C (Sodium ascorbate), Niacinamide, Iron, Vitamin B<sub>6</sub> (Pyridoxine hydrochloride), Vitamin B<sub>12</sub> (Riboflavin), Vitamin A (Palmitate), Vitamin B<sub>1</sub> (Thiamin hydrochloride), Folic acid, and Vitamin D.

The serving size and number of servings per container

Calorie information and quantities of nutrients per serving, in grams (g) and milligrams (mg)

Quantities of nutrients as "% Daily Values" based on a 2,000-calorie energy intake

Daily Values reminder for selected nutrients for a 2,000- and a 2,500-calorie diet

Calorie per gram reminder

The ingredients in descending order of predominance by weight

# Deck of Cards

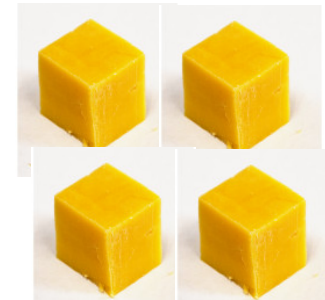


≡

4 oz → 3 oz



raw → cooked



≡ 1 oz

≡ 1.5 oz



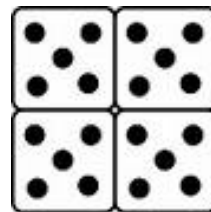
or



≡ 1 c



≡ 1/3 c



≡ 1/4 c



# Make $\geq \frac{1}{2}$ of your grain selections whole grains!

## Key:

- Foods generally high in nutrient density (choose most often)
- ▲ Foods lower in nutrient density (limit selections)

## GRAINS



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### Make at least half of the grain selections whole grains.

These foods contribute folate, niacin, riboflavin, thiamin, iron, magnesium, selenium, and fiber.

**1 oz grains is equivalent to 1 slice bread;  $\frac{1}{2}$  c cooked rice, pasta, or cereal; 1 oz dry pasta or rice; 1 c ready-to-eat cereal; 3 c popped popcorn.**

- Whole grains (amaranth, barley, brown rice, buckwheat, bulgur, millet, oats, quinoa, rye, wheat) and whole-grain, low-fat breads, cereals, crackers, and pastas; popcorn.
- Enriched bagels, breads, cereals, pastas (couscous, macaroni, spaghetti), pretzels, rice, rolls, tortillas.
- ▲ Biscuits, cakes, cookies, cornbread, crackers, croissants, doughnuts, french toast, fried rice, granola, muffins, pancakes, pastries, pies, presweetened cereals, taco shells, waffles.



# Choose a variety of vegetables each day!

## Key:

- Foods generally high in nutrient density (choose most often)
- ▲ Foods lower in nutrient density (limit selections)

## VEGETABLES



© Polara Studios, Inc.

### Choose a variety of vegetables each day, and choose from all five subgroups several times a week.

These foods contribute folate, vitamin A, vitamin C, vitamin K, vitamin E, magnesium, potassium, and fiber.

**1 c vegetables is equivalent to 1 c cut-up raw or cooked vegetables;  
1 c cooked legumes; 1 c vegetable juice; 2 c raw, leafy greens.**

#### Vegetable subgroups

- 1. Dark green vegetables: Broccoli and leafy greens such as arugula, beet greens, bok choy, collard greens, kale, mustard greens, romaine lettuce, spinach, and turnip greens.
- 2. Orange and deep yellow vegetables: Carrots, carrot juice, pumpkin, sweet potatoes, and winter squash (acorn, butternut).
- 3. Legumes: Black beans, black-eyed peas, garbanzo beans (chickpeas), kidney beans, lentils, navy beans, pinto beans, soybeans and soy products such as tofu, and split peas.
- 4. Starchy vegetables: Cassava, corn, green peas, hominy, lima beans, and potatoes.
- 5. Other vegetables: Artichokes, asparagus, bamboo shoots, bean sprouts, beets, brussels sprouts, cabbages, cactus, cauliflower, celery, cucumbers, eggplant, green beans, iceberg lettuce, mushrooms, okra, onions, peppers, seaweed, snow peas, tomatoes, vegetable juices, zucchini.
- ▲ Baked beans, candied sweet potatoes, coleslaw, french fries, potato salad, refried beans, scalloped potatoes, tempura vegetables.

# Choose a variety of fruits & $\leq \frac{1}{2}$ as juice!

## Key:

- Foods generally high in nutrient density (choose most often)
- ▲ Foods lower in nutrient density (limit selections)

## FRUITS



© Polara Studios, Inc.

**Consume a variety of fruits and no more than one-half of the recommended intake as fruit juice.**

These foods contribute folate, vitamin A, vitamin C, potassium, and fiber.

**1 c fruit is equivalent to 1 c fresh, frozen, or canned fruit;  $\frac{1}{2}$  c dried fruit; 1 c fruit juice.**

- Apples, apricots, avocados, bananas, blueberries, cantaloupe, cherries, grapefruit, grapes, guava, kiwi, mango, nectarines, oranges, papaya, peaches, pears, pineapples, plums, raspberries, strawberries, tangerines, watermelon; dried fruit (dates, figs, raisins); unsweetened juices.
- ▲ Canned or frozen fruit in syrup; juices, punches, and fruit drinks with added sugars; fried plantains.

# Make fat-free or low-fat dairy choices!

## MILK, YOGURT, AND CHEESE



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**Make fat-free or low-fat choices. Choose lactose-free products or other calcium-rich foods if you don't consume milk.**

These foods contribute protein, riboflavin, vitamin B<sub>12</sub>, calcium, magnesium, potassium, and, when fortified, vitamin A and vitamin D.

**1 c milk is equivalent to 1 c fat-free milk or yogurt; 1½ oz fat-free natural cheese; 2 oz fat-free processed cheese.**

- Fat-free milk and fat-free milk products such as buttermilk, cheeses, cottage cheese, yogurt; fat-free fortified soy milk.
- ▲ 1% low-fat milk, 2% reduced-fat milk, and whole milk; low-fat, reduced-fat, and whole-milk products such as cheeses, cottage cheese, and yogurt; milk products with added sugars such as chocolate milk, custard, ice cream, ice milk, milk shakes, pudding, sherbet; fortified soy milk.



# *If you eat meat, make lean or low-fat meat choices!*

## MEAT, POULTRY, FISH, LEGUMES, EGGS, AND NUTS



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**Make lean or low-fat choices. Prepare them with little, or no, added fat.**

Meat, poultry, fish, and eggs contribute protein, niacin, thiamin, vitamin B<sub>6</sub>, vitamin B<sub>12</sub>, iron, magnesium, potassium, and zinc; legumes and nuts are notable for their protein, folate, thiamin, vitamin E, iron, magnesium, potassium, zinc, and fiber.

**1 oz meat is equivalent to 1 oz cooked lean meat, poultry, or fish; 1 egg;  
1/4 c cooked legumes or tofu; 1 tbs peanut butter; 1/2 oz nuts or seeds.**

- Poultry (no skin), fish, shellfish, legumes, eggs, lean meat (fat-trimmed beef, game, ham, lamb, pork); low-fat tofu, tempeh, peanut butter, nuts (almonds, filberts, peanuts, pistachios, walnuts) or seeds (flaxseeds, pumpkin seeds, sunflower seeds).
- ▲ Bacon; baked beans; fried meat, fish, poultry, eggs, or tofu; refried beans; ground beef; hot dogs; luncheon meats; marbled steaks; poultry with skin; sausages; spare ribs.

## Select recommended oils & limit amounts!

### OILS



Matthew Farruggio

Select the recommended amounts of oils from among these sources.

These foods contribute vitamin E and essential fatty acids (see Chapter 5), along with abundant calories.

**1 tsp oil is equivalent to 1 tbs low-fat mayonnaise; 2 tbs light salad dressing; 1 tsp vegetable oil; 1 tsp soft margarine.**

- Liquid vegetable oils such as canola, corn, flaxseed, nut, olive, peanut, safflower, sesame, soybean, and sunflower oils; mayonnaise, oil-based salad dressing, soft *trans*-free margarine.
- Unsaturated oils that occur naturally in foods such as avocados, fatty fish, nuts, olives, seeds (flaxseeds, sesame seeds), and shellfish.

# Limit solid fats & added sugars!

## SOLID FATS AND ADDED SUGARS



Matthew Farruggio

### Limit intakes of food and beverages with solid fats and added sugars.

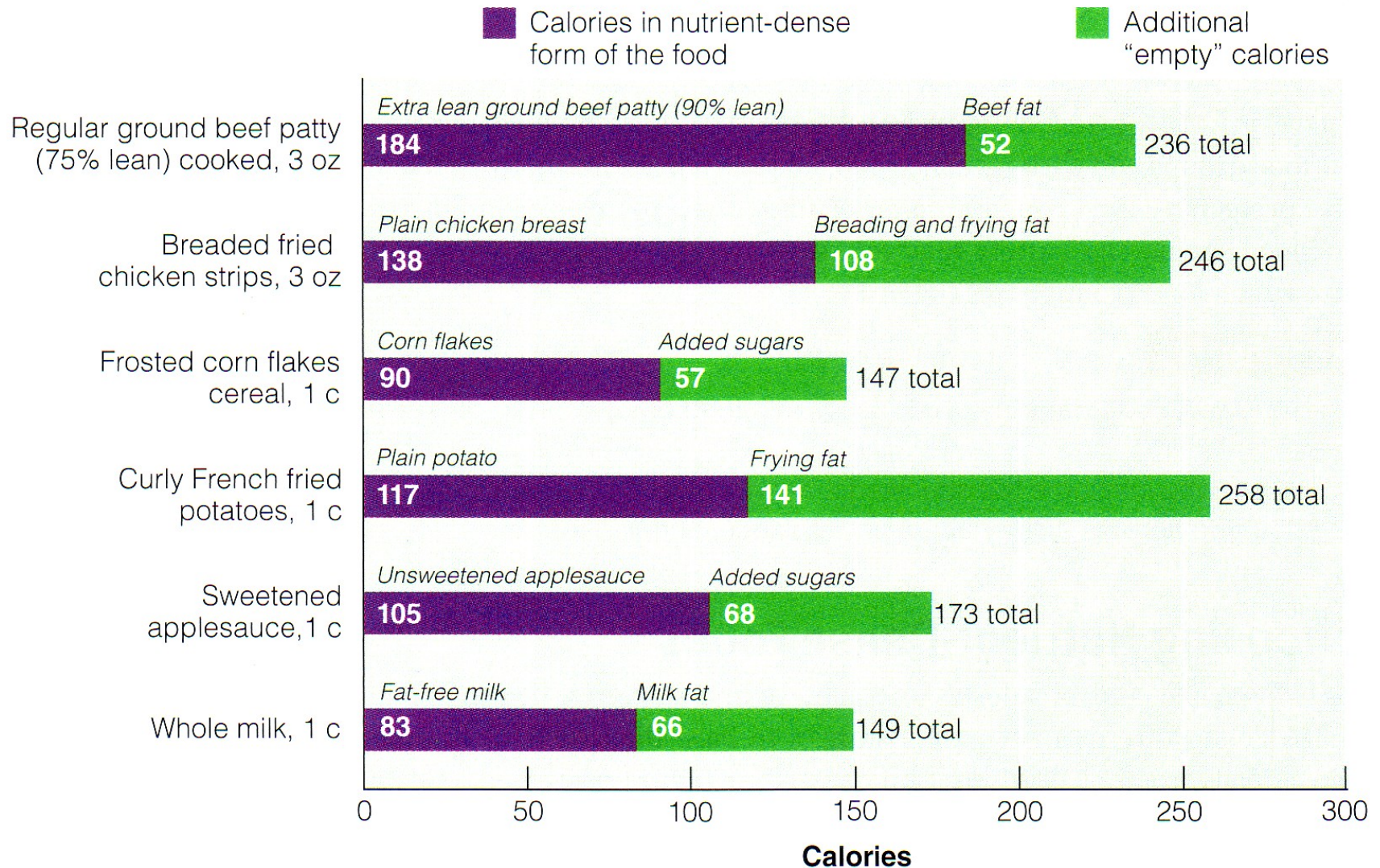
Solid fats deliver saturated fat and *trans* fat, and intake should be kept low. Solid fats and added sugars contribute abundant calories but few nutrients, and intakes should not exceed the discretionary calorie allowance—calories to meet energy needs after all nutrient needs have been met with nutrient-dense foods. Alcohol also contributes abundant calories but few nutrients, and its calories are counted among discretionary calories. See Table 2-2 on page 44 for some discretionary calorie allowances.

- ▲ Solid fats that occur in foods naturally such as milk fat and meat fat (see ▲ in previous lists).
- ▲ Solid fats that are often added to foods such as butter, cream cheese, hard margarine, lard, sour cream, and shortening.
- ▲ Added sugars such as brown sugar, candy, honey, jelly, molasses, soft drinks, sugar, and syrup.
- ▲ Alcoholic beverages include beer, wine, and liquor.



**Figure 2-6**

**How Solid Fats and Added Sugars Add Calories to Nutrient-Dense Foods**



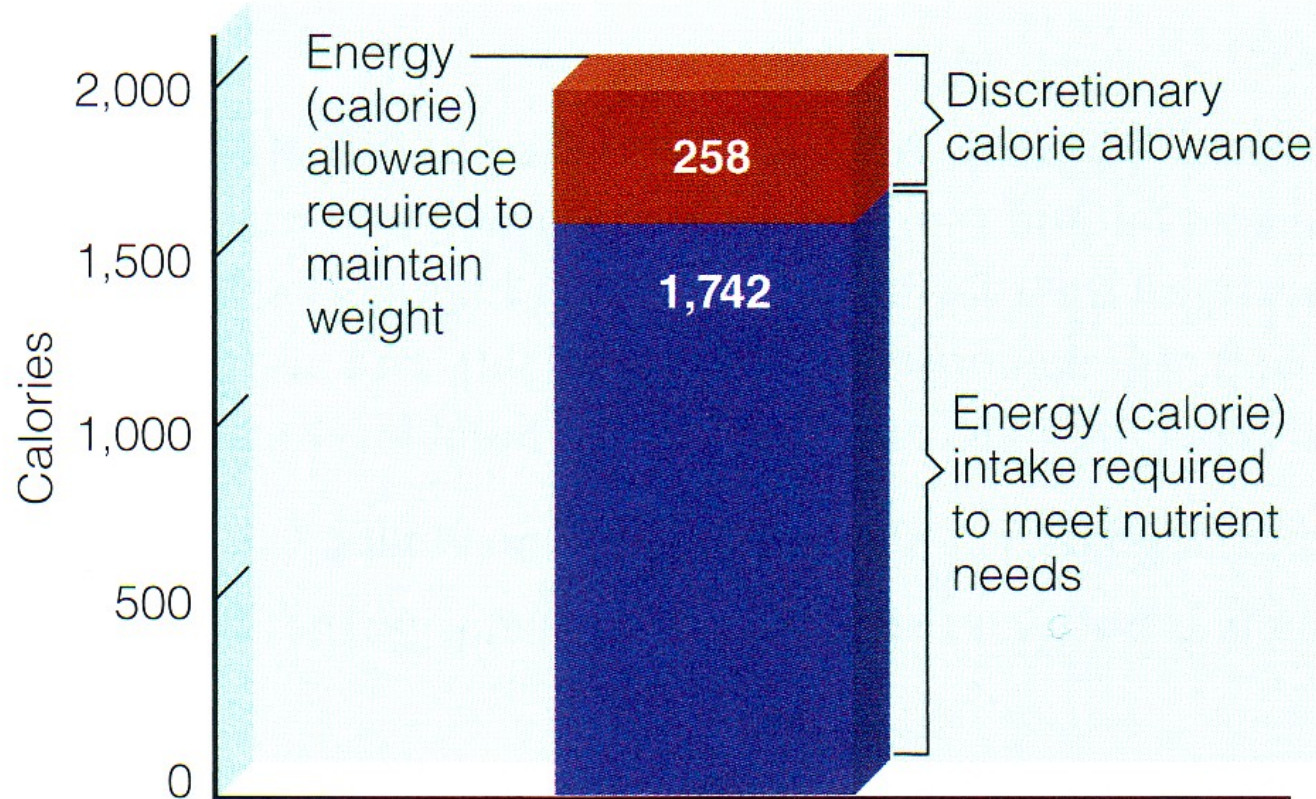
Source: U.S. Department of Agriculture and U.S. Department of Health and Human Services, Dietary Guidelines for Americans 2010, p. 47.



**Figure 2-7**

## Discretionary Calorie Concept

The discretionary calorie allowance sets the upper limit for calories from added sugars and solid fats in USDA Food Patterns.



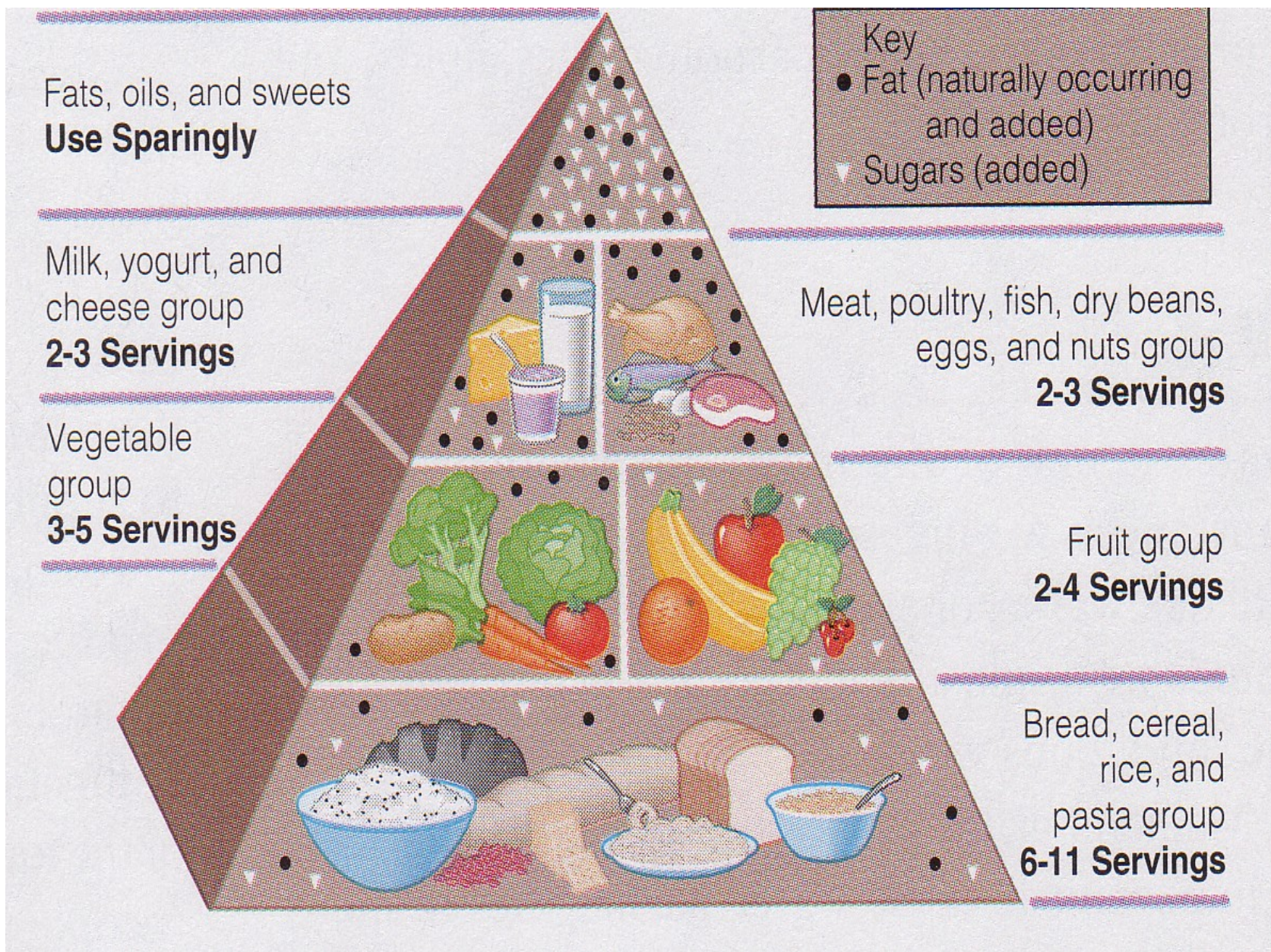
© Cengage Learning



***History of  
Establishing  
Guidelines for  
Americans***

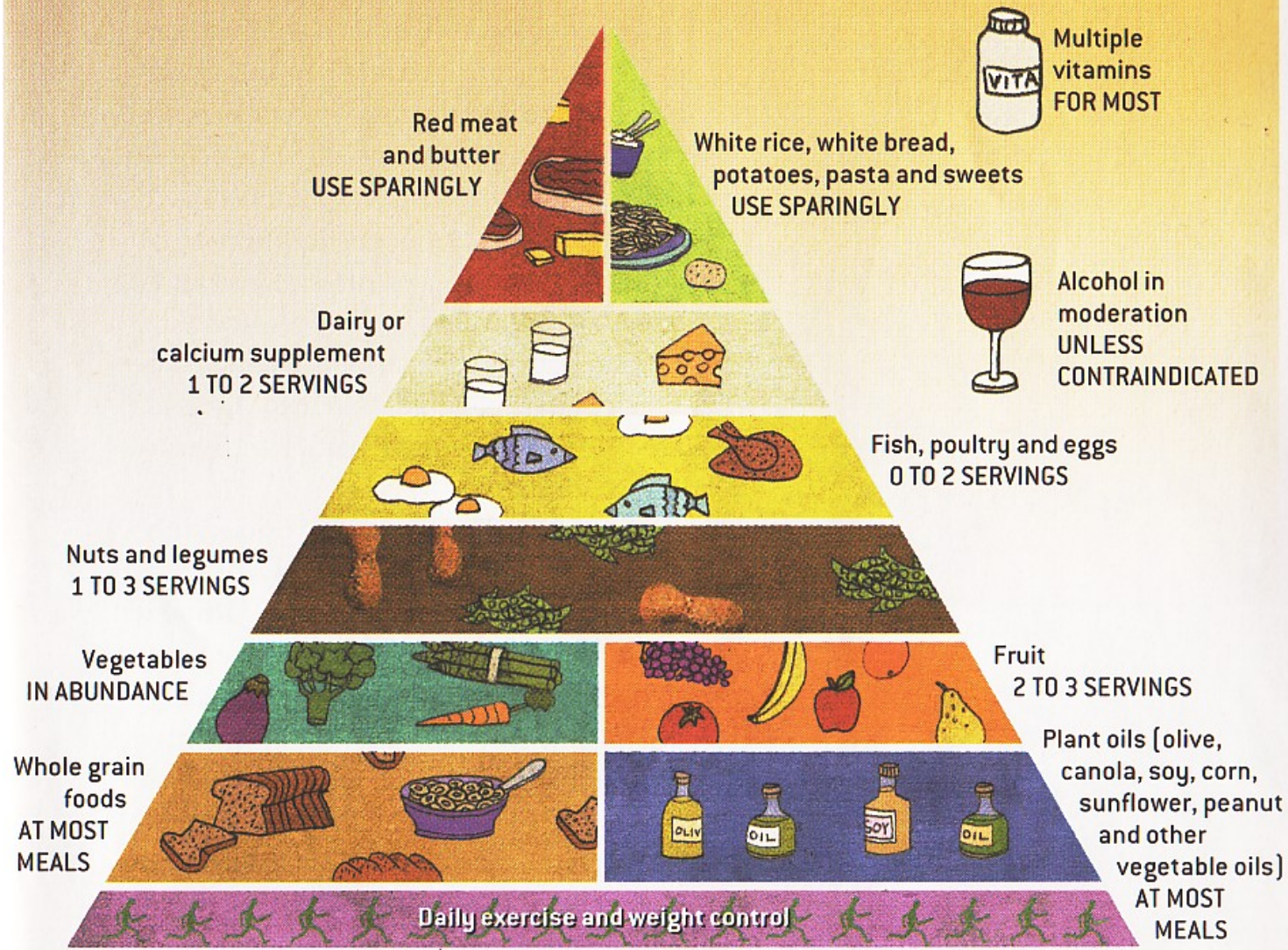


# USDA Food Pyramid 1992





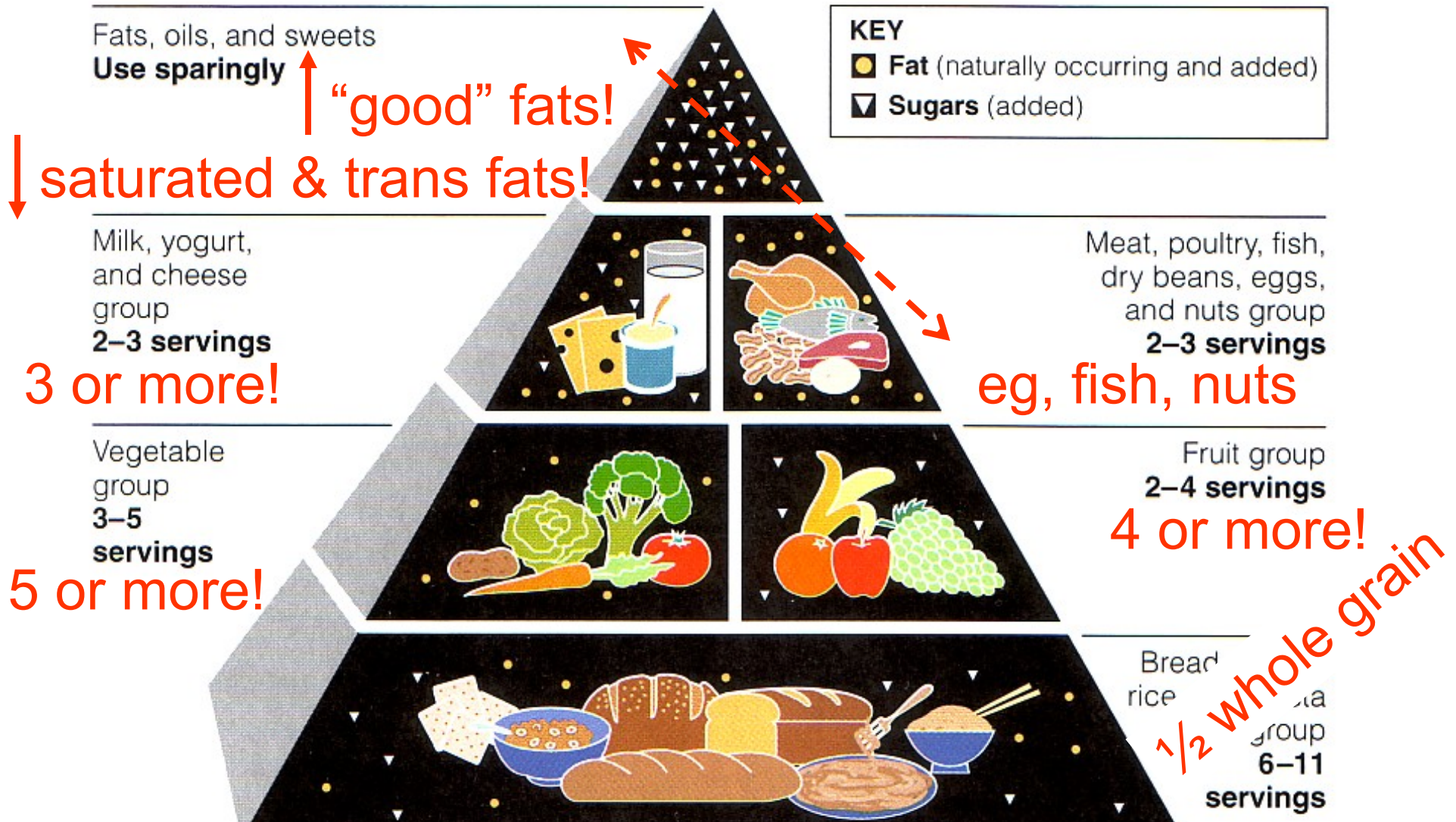
# Willett & Stampfer Suggestions 2003



## NEW FOOD PYRAMID



# US Modifications to 1992 Food Pyramid 2005



**Regular Physical Activity: Exercise! Exercise!!**



# *Dietary Guidelines for Americans 2005 Food Guidance System*

Hooray!



1. ↑ emphasis on ↓ kcal + ↑ exercise.
2. 9-A-Day! 4 fruit + 5 vegetable servings.
3.  $\geq 3$  of 6 whole grains  $\longrightarrow$   $\frac{1}{2}$  whole grains!
4. 3 servings of dairy, eg 3 c fat-free milk.
5. ↓ saturated + trans fats + ↑ unsaturated/  
“good” fats, eg  $\Omega$ -3 fish, walnuts.
6. Drink in moderation if at all.
7. Practice food safety.

# [MyPlate.gov](http://MyPlate.gov)

Based on  
2010 Dietary  
Guidelines  
Released  
June 2, 2011

**Choose MyPlate.gov**

**MAKE A HEALTHY PLATE**

**Fruits**

**Grains**

**Protein**

**Vegetables**


**Dairy**

**Vegetables**

Vary your veggies.

Any vegetable or 100% vegetable juice counts as a member of the Vegetable Group.


Fill half your plate with fruits and vegetables.



**Fruits**

Focus on fruits. Whole fruit is preferable to juice but any fruit counts: fresh, frozen, canned, 100% juice or dried.

Fill half your plate with fruits and vegetables.




**Grains**

Make at least half your grains whole.

Read labels to find more whole grain foods.

Whole wheat, oatmeal and brown rice are all good.




**Protein**

Go lean with protein.

Keep portion to 1/4 of the plate.

Nuts, beans/peas, seeds, poultry, lean meat, seafood, soy and eggs are in this group.




**Dairy**

Get your calcium-rich foods.

Remember to buy skim milk or 1% milk.

Go easy on cheese.

Skim yogurt is a good choice, too.



# ***American Heart Association (AHA) & National Heart, Lung & Blood Institute***

***<http://www.my.americanheart.org>***



***<http://www.nih/nhlbi.gov>***

Department of Health and Human Services · National Institutes of Health

**National Heart Lung and Blood Institute**

People Science Health







**We all have multimillion-dollar bodies!!**

**Can you believe that's Nicole?**

Hollywood glamour queen Nicole Kidman likes to swim to keep that multimillion-dollar body in shape. But the down-to-earth superstar doesn't need a fancy spa — she does her laps at the local YMCA! Nice goggles, Nic!





# How much aerobic?




**Continuous exercise**  
**≥ 50% muscle mass**  
**≥ Conversational pace**  
**20-60 min/session**  
**3-5 days/wk**

<http://www.acsm.org/about-acsm/media-room/news-releases/2011/08/01/acsm-issues-new-recommendations-on-quantity-and-quality-of-exercise>



**AMERICAN COLLEGE**  
of **SPORTS MEDICINE**

## **Guidelines: Healthy Adults < 65 yr**

American Heart  
Association®   
*Learn and Live™*

**Do moderately intense aerobic exercise  
30 min/d, 5 d/wk**

**OR**

**Do vigorously intense aerobic exercise  
20 min/d, 3 d/wk**

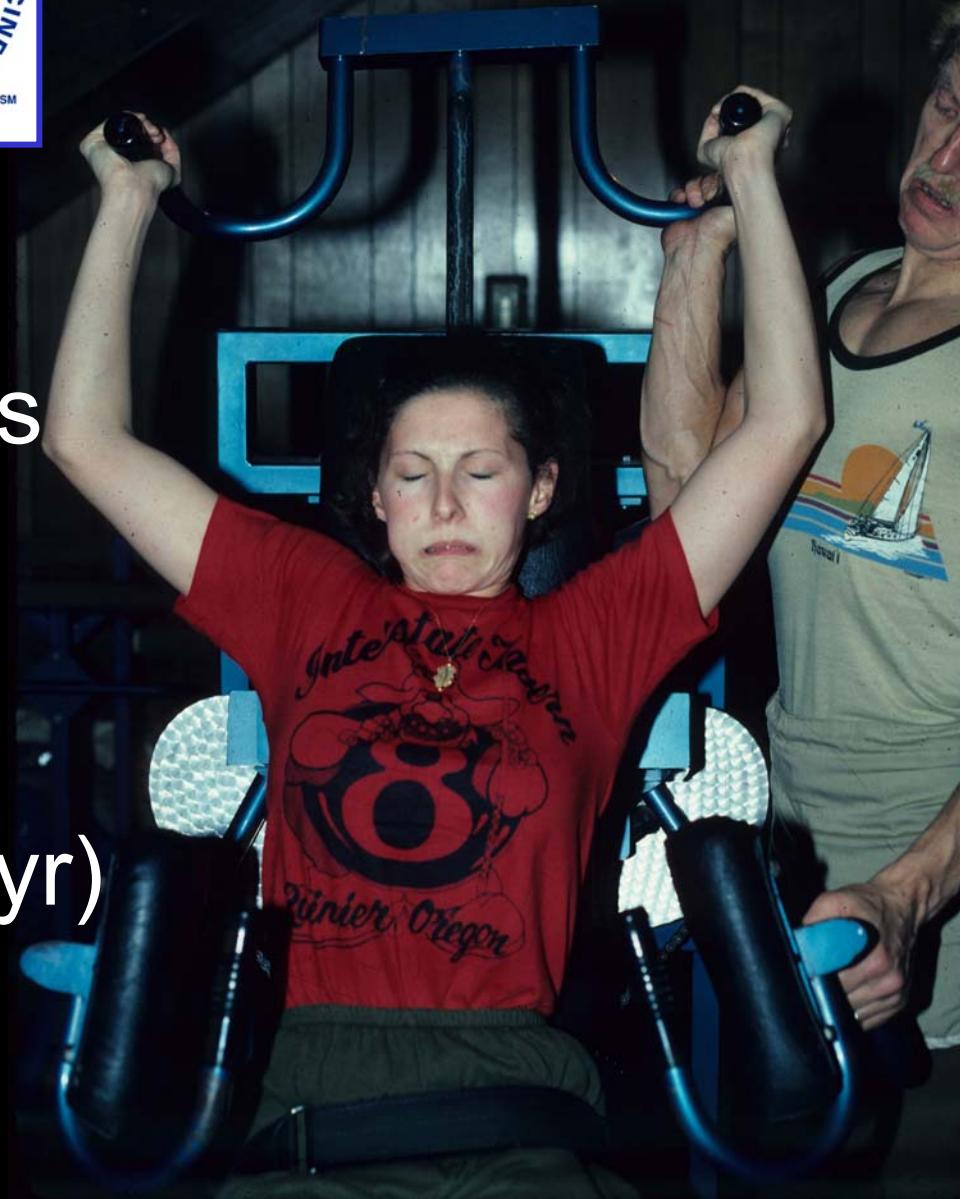
**AND**

**Do 8-10 strength-training exercises  
8-12 repetitions/each exercise, 2 d/wk**



# How much strength?

- ✓ 2-3 days/wk
- ✓ 8-10 exercises for major muscle groups
- ✓  $\geq 1$  set/exercise
- ✓ 8-12 (most) or 10-15 (frail/ $> 50-60$  yr) repetitions/set



Federal exercise guidelines include strength training for all

<http://www.health.gov/paguidelines/guidelines/default.aspx>



**Adults: Moderate to Vigorous Exercise  $\geq$  30 min, 5 d/wk**

**Children: Moderate to Vigorous Exercise  $\geq$  60 min, 5 d/wk**