

Welcome back! Group Quiz Bowl #1 fun!

Don't be bashful! Speak up & participate!



BI 199 Discussion 2

- I. Announcements Project Safe Ride! Q from last time? Paper topics due prior to discussion next Monday. Send to Pat @ 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? RDA, AI, UL, EAR → RDA, AMDR, HEI pp 32-7 vs. DV? p 50
- VIII. Group Vending Machine Exploration!
- IX. Dietary Guidelines for Americans [ChooseMyPlate](#) pp 37-9, evolution, diet planning, discretionary cal? pp 37- 49
- X. 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, ≥ 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
 ≥ 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 Oct 12 (topic),
Oct 26 (outline), Nov 16 (draft). **Dec 4 (final paper)** put in
Pat's box < 5 pm in Main Biology Office, 77 Klamath.

Seek Accurate & Reliable Peer-Reviewed Resources!



SCIENTIFIC AMERICAN



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

Food

You Don't Know CALORIES

The Truth About GMOs

Why We Need

BerkeleyWellness.com

University of California, Berkeley

Wellness Letter

News and expert advice from the School of Public Health

ISSN 0037-7731

55.00 • Volume 29 • Issue 14 • September 2013

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 or higher) 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 adults consumed 836 calories per meal and underestimated by 173 calories, on average. Teenagers ate 750 calories, but misjudged by 259 calories. About one in four people underestimated by more than 500 calories. Underestimation was greatest among Subway diners, partly because of the chain's "health" label effect: 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 statin drugs to lower their cholesterol have a reduced risk of dying from the disease. A recent study in the *Prostate*, the 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, weights, severity

Salt: Is lower not better after all?

An important new report shakes up some assumptions about sodium

Don't worry about sodium... Cut back on sodium... Consume a lot less sodium... Don't go too low in sodium. Over the past few decades, Americans have been subjected to shifting messages about sodium (a main component of salt) and were undoubtedly buffeted ever more by a recent report from the Institute of Medicine (IOM), which suggested that a very low sodium intake could be bad for some people. Confused? We don't blame you.

A salty tale
For years health and nutrition experts emphasized reducing dietary fat and cholesterol and seemed to be less concerned about sodium. But as evidence mounted that excess sodium increased the risk of high blood pressure—a leading cause of heart attacks, strokes, and kidney failure—sodium took a more central place in dietary advice, and health officials began advising lower limits for more people.

In 2005 the government's Dietary Guidelines recommended no more than 2,300 milligrams of sodium a day (the amount in about a teaspoon of salt) and 1,500 milligrams for people at higher cardiovascular risk—everyone over 50, all African Americans, and anyone with hypertension, diabetes, or chronic kidney disease. (Previous guidelines had just said to choose and prepare foods with less salt and, before that, to keep sodium intake "moderate.")



Reigniting the debate
In May the IOM shook 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 on health issues. The Salt Institute and other food industry groups welcomed the news, arguing that there should not be population-wide recommen-

1,500-milligram daily limit for everyone, regardless of age and health status. Research has consistently shown that when people reduce sodium, blood pressure drops—especially in those who already have elevated blood pressure or are "salt sensitive" (that is, their blood pressure is more responsive to sodium intake). For example, studies on the DASH (Dietary Approaches to Stopping Hypertension) eating plan, which restricts sodium to either 2,300 or 1,500 milligrams a day, have found that the diet reduces blood pressure at both sodium levels, but more so at the lower limit. (Besides lowering sodium, DASH also emphasizes fruits and vegetables and low-fat and no-fat dairy foods, along with whole grains, fish, poultry, and nuts.)

According to the World Health Organization, hypertension is a leading factor in worldwide deaths and can be prevented by reducing salt intake and making other lifestyle changes.



Nutrition Action

Sugar Belly

How Much is Too Much Sugar?

Have you heard of a beer belly. Now there's new news: fructose in added sugars may be calories to that bulge

WellnessFacts
Can you catch the sleeping disease that risks Alzheimer's, diabetes and other chronic conditions? A new study in *Diabetes Care* found that the sleep apnea associated with obesity is linked to insulin resistance, a precursor to type 2 diabetes. The researchers say that the higher the risk of diabetes, the more likely the patient is to have sleep apnea.

Where to draw the line
First of all, what is more important is to understand the overall health of the patient. The *JAMA* study found that the researchers used a variety of methods to measure the patients' health. The researchers also found that the patients who were overweight or obese had a higher risk of sleep apnea. The researchers also found that the patients who were overweight or obese had a higher risk of sleep apnea.

The good news
One of the study's major findings is that the researchers found that the patients who were overweight or obese had a higher risk of sleep apnea. The researchers also found that the patients who were overweight or obese had a higher risk of sleep apnea.

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

55.00 • Volume 28 • Issue 12 • August 2012

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 fMRI scans "showed images of food that responded 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 that 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 "ubiquitous" projections from the CDC. While today 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 than women who go through menopause at a later age.

Summer tomato dishes, p. 14

Sodium: how low to go? p. 8

Wheatophobia
Will avoiding wheat really improve your health?

Wheat 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 the 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." Not only does wheat make us fat, he says, it is addictive and causes everything from heart disease, diabetes, arthritis, and this particular fear is the main culprit in the epidemic.

Staple in most parts of the world, wheat is little or no more than a "junk" staple (at least in terms of nutrition) and rates of consumption topped since 2000 it is slowing down. In fact, a few more wheat derivatives, the other claim avoid hearing this.

Why We Need

Nutrition Action
HEALTH LETTER
CENTER FOR SCIENCE IN THE PUBLIC INTEREST

55.00 • Volume 29 • Issue 8 • August 2013

WellnessFacts
Can you catch the sleeping disease that risks Alzheimer's, diabetes and other chronic conditions? A new study in *Diabetes Care* found that the sleep apnea associated with obesity is linked to insulin resistance, a precursor to type 2 diabetes. The researchers say that the higher the risk of diabetes, the more likely the patient is to have sleep apnea.

Where to draw the line
First of all, what is more important is to understand the overall health of the patient. The *JAMA* study found that the researchers used a variety of methods to measure the patients' health. The researchers also found that the patients who were overweight or obese had a higher risk of sleep apnea. The researchers also found that the patients who were overweight or obese had a higher risk of sleep apnea.

The good news
One of the study's major findings is that the researchers found that the patients who were overweight or obese had a higher risk of sleep apnea. The researchers also found that the patients who were overweight or obese had a higher risk of sleep apnea.

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 so 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—at close to their sustainable limit. And there's the threat from climate change and pollution.

Here's how to find fish that protect your health and the oceans.

Continued on page 2

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

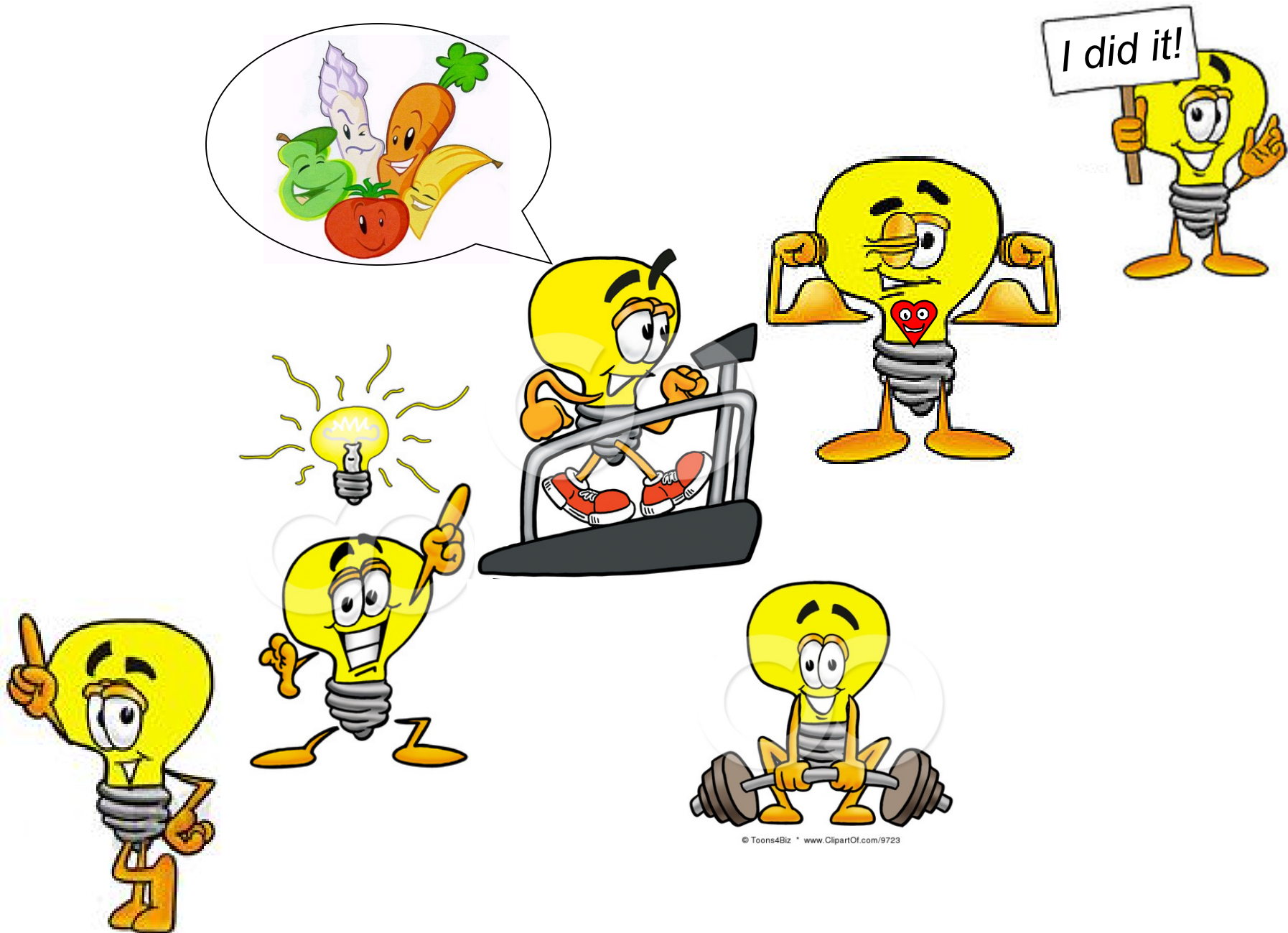
5. Which is a processed food?
a. carrots b. bread c. nuts d. watermelon
6. Studies of populations in which observation is accompanied by experimental manipulation are ___ studies
a. case b. intervention c. laboratory d. epidemiological
7. Both heart disease and cancer are due to genetic causes and diet 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!

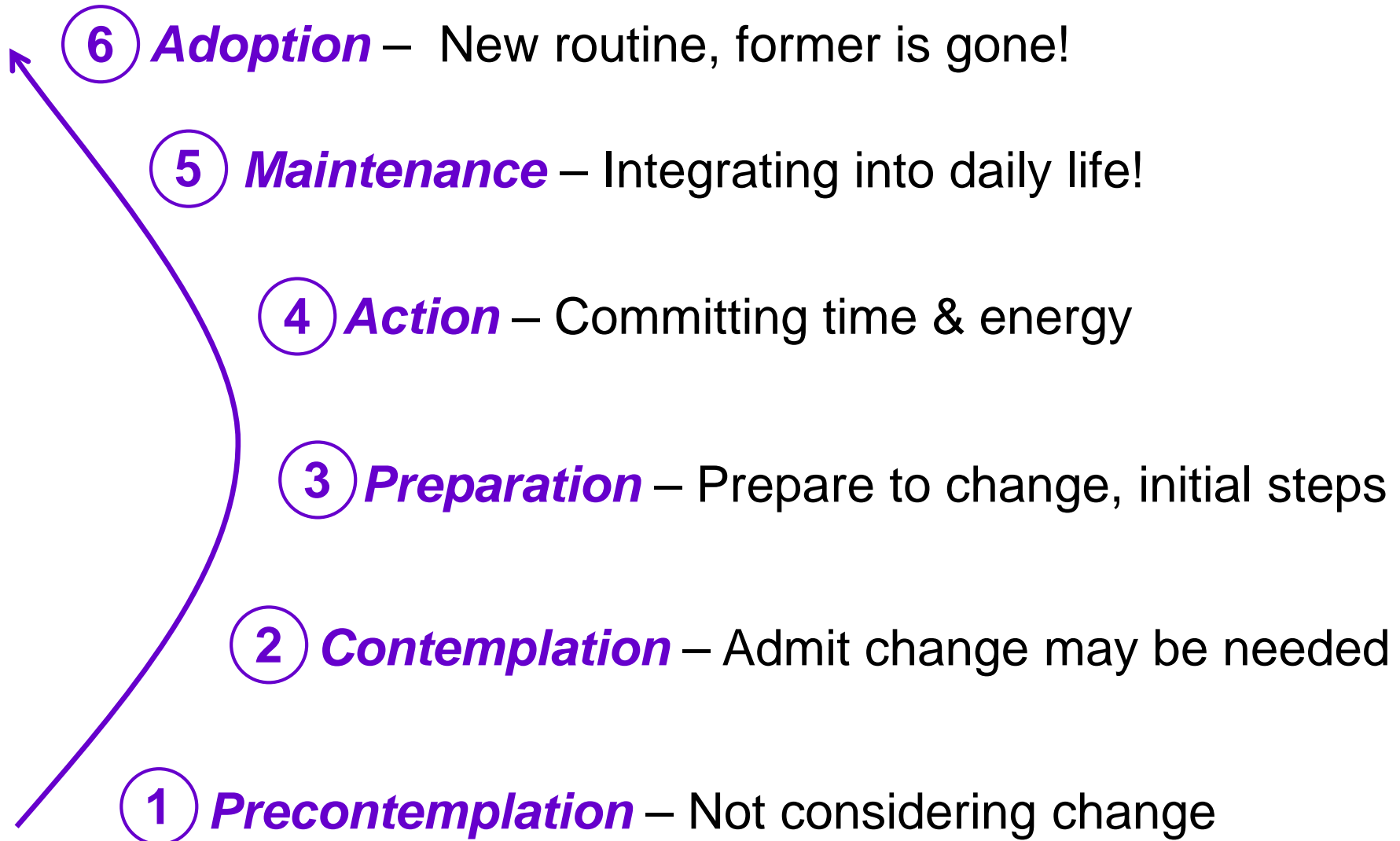


GUESS WHAT, CHARLIE BROWN...
I'VE BEEN PICKED TO BE THE
POSTER CHILD FOR AIR QUALITY
IN KNOXVILLE, TENNESSEE.

OR... THAT'S
GREAT, PIGPEN.



Stages of Behavior Change



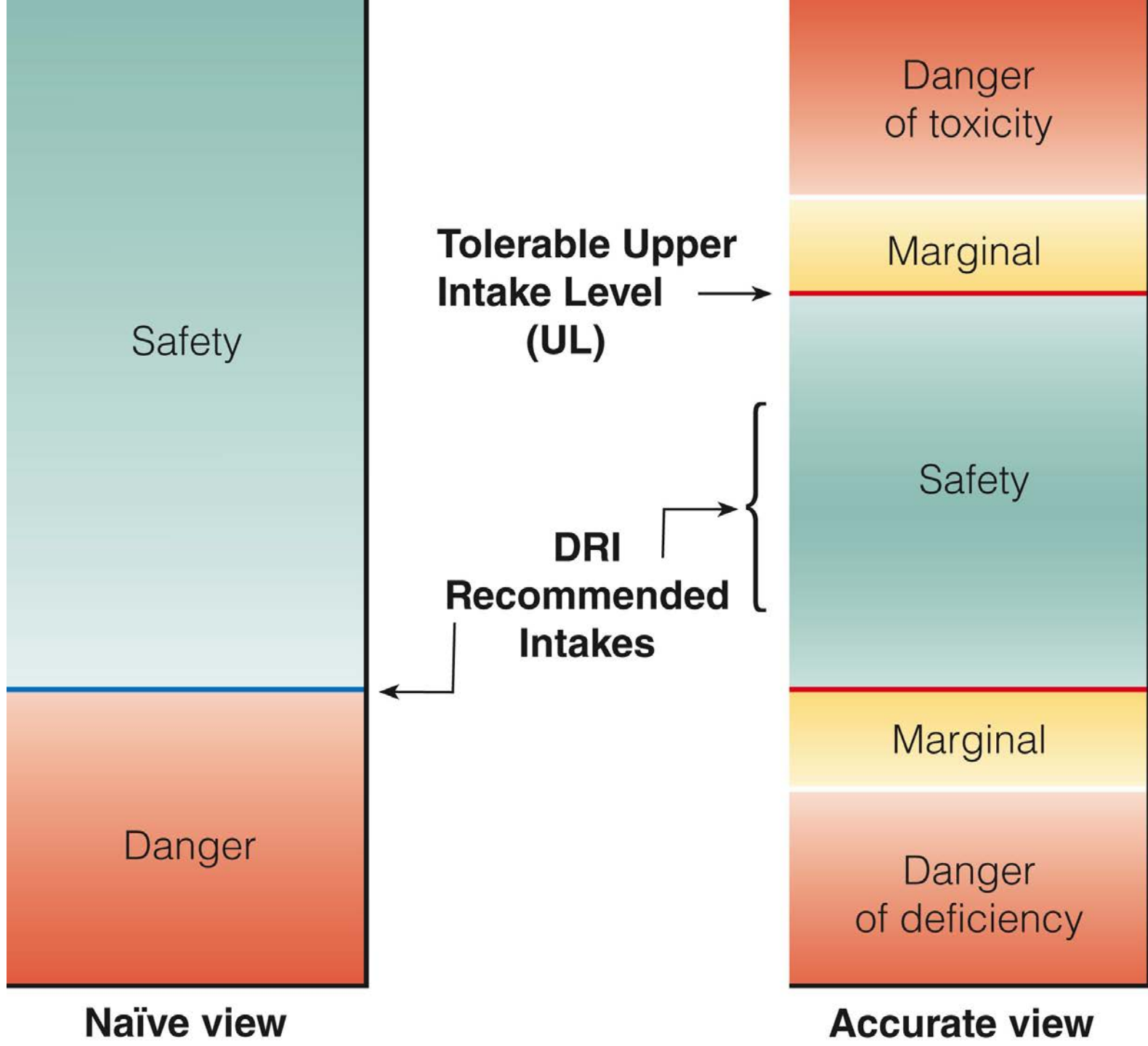
Group Activity: DRI, EER, RDA, AI, UL Tables inside front cover

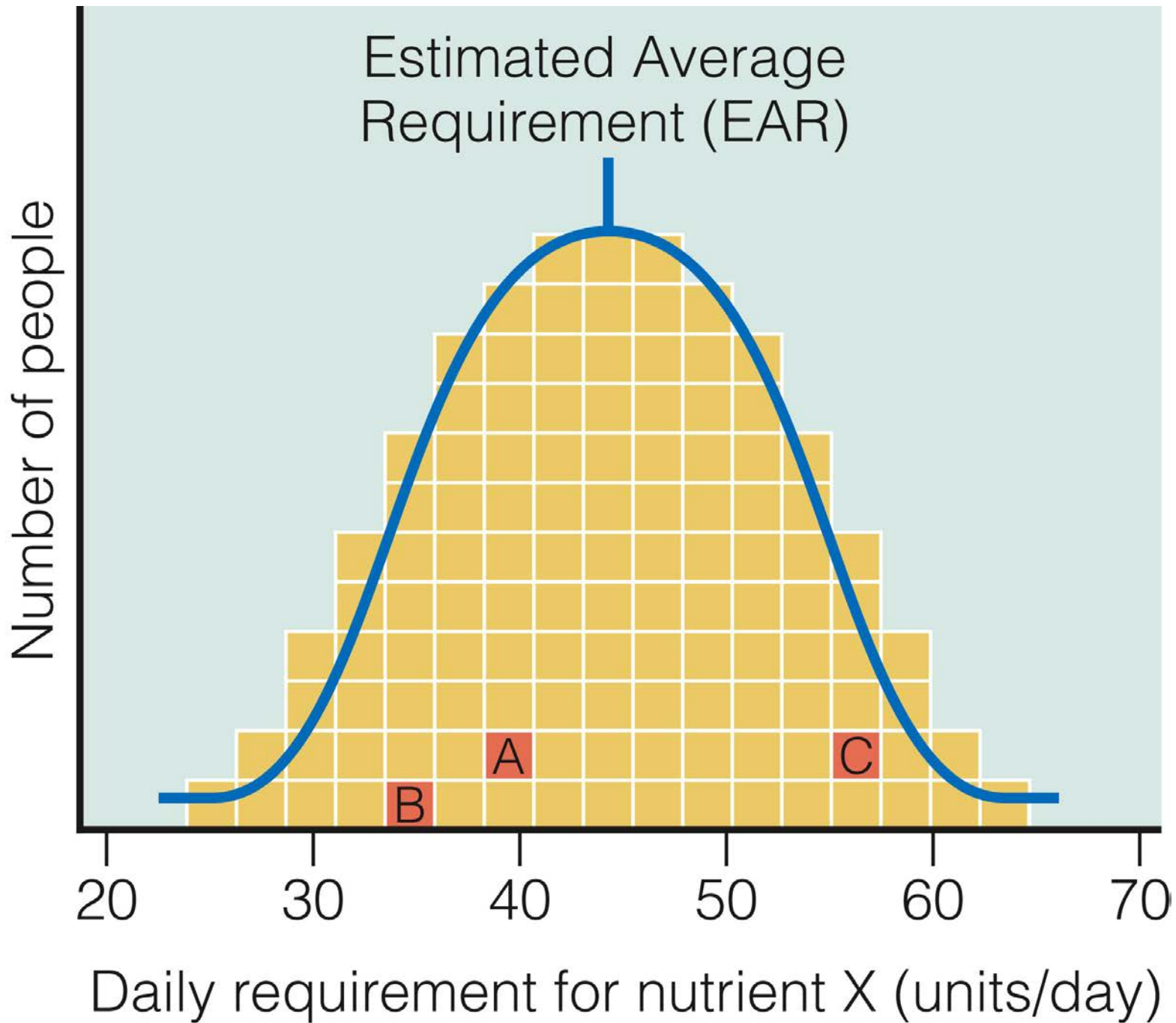
1. Any trends or general observations?
2. For which nutrients are requirements for females > for males? Ideas why?



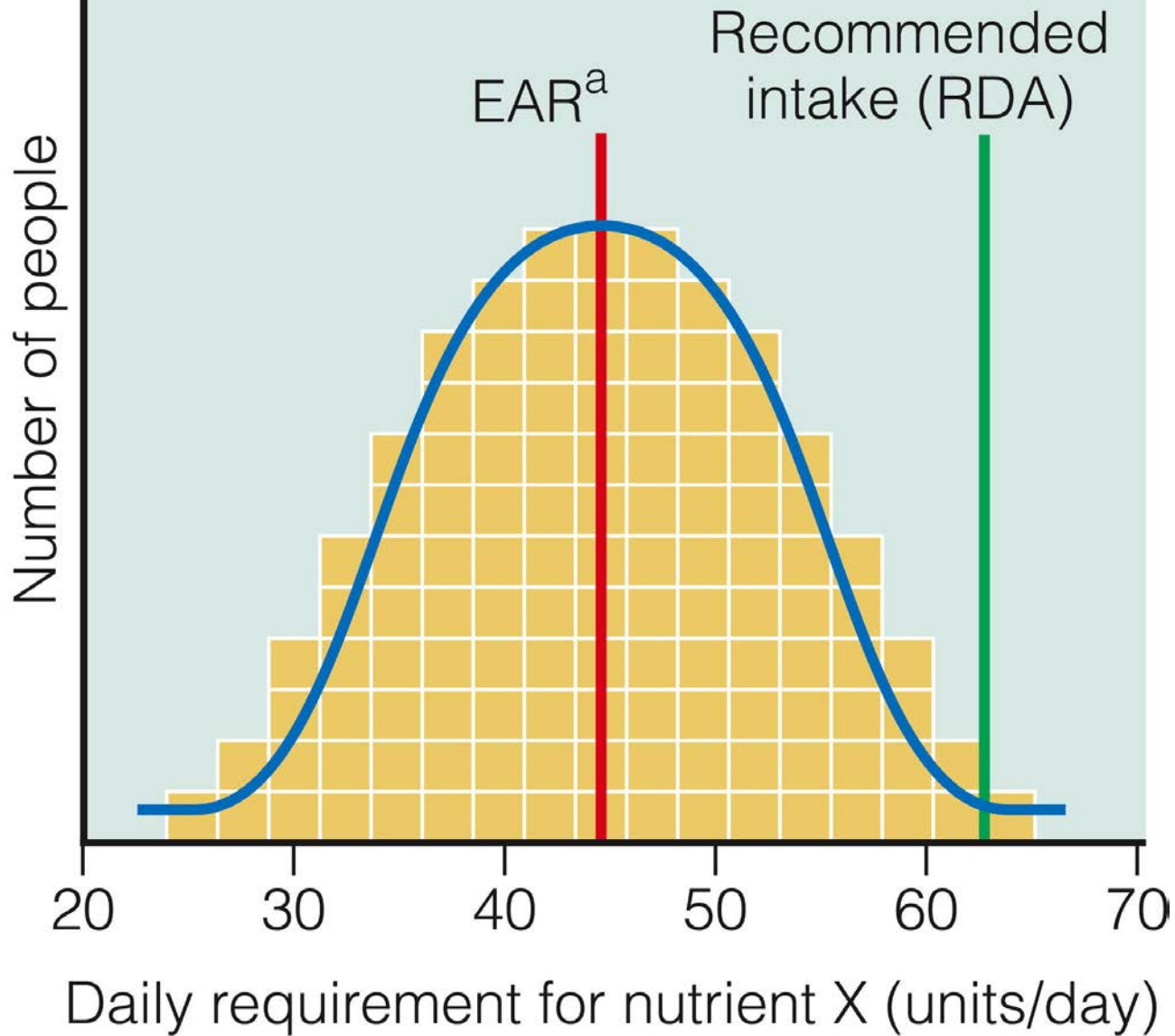
Dietary Reference Intakes (DRI)

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)





Vitamins and Minerals



^aEstimated Average Requirement

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

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

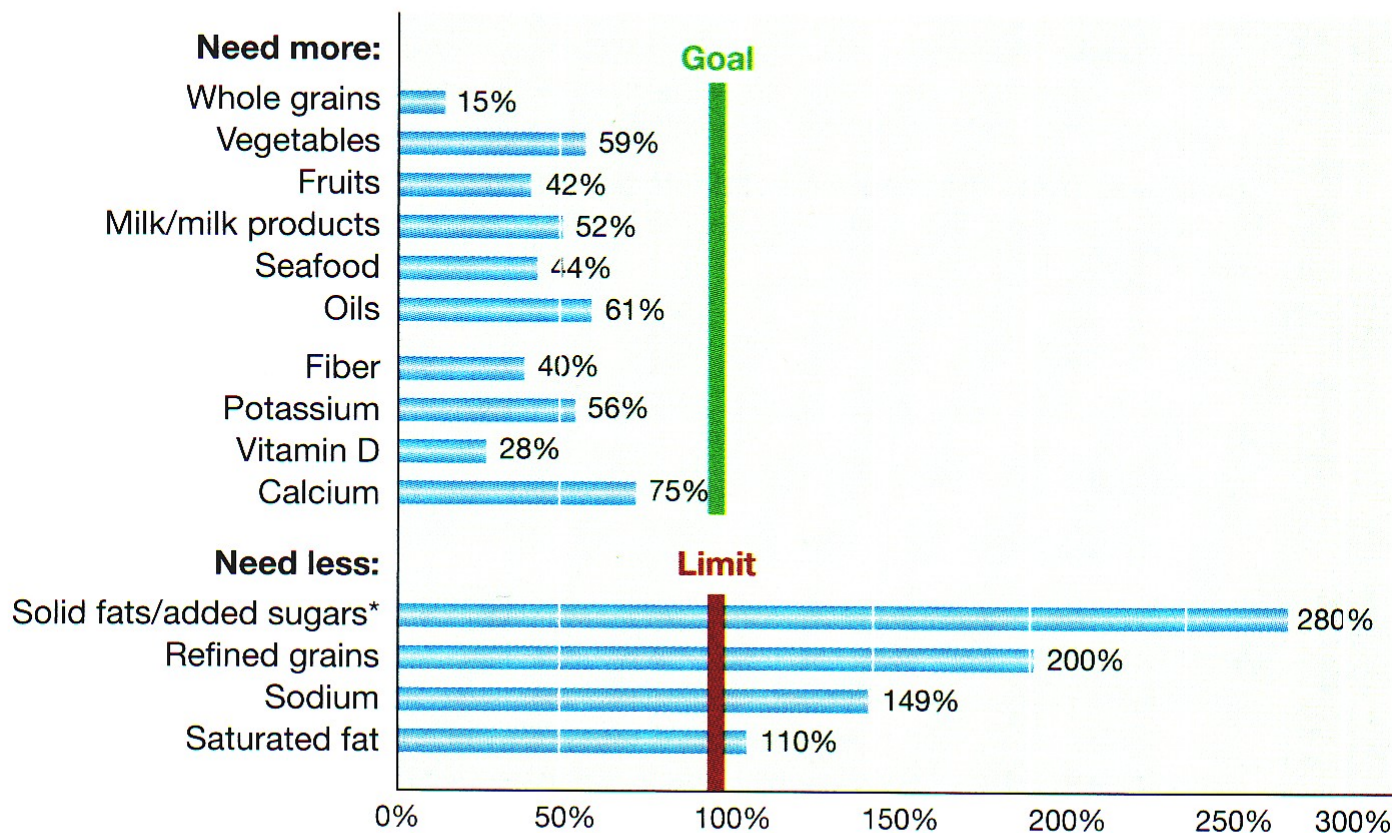
Emphasize ABCs + Variety & Moderation!



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*	
Total Fat 1 g		2%
Saturated fat 0 g		0%
Trans fat 0 g		
Cholesterol 0 mg		0%
Sodium 250 mg		10%
Total Carbohydrate 23 g		8%
Dietary fiber 1.5 g		6%
Sugars 10 g		
Protein 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 B₆ (Pyridoxine hydrochloride), Vitamin B₂ (Riboflavin), Vitamin A (Palmitate), Vitamin B₁ (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

4 oz → 3 oz



Deck of Cards



or

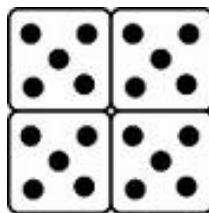


≡ 1 c

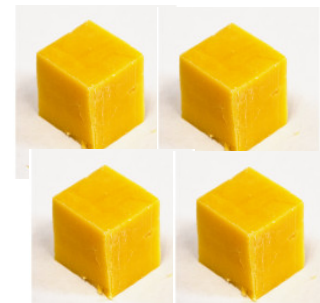
raw → cooked



≡ 1/3 c



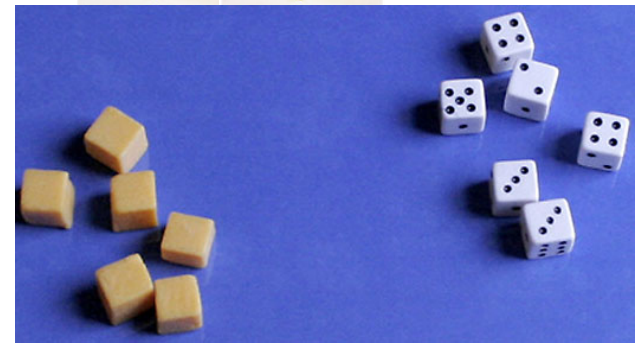
≡ 1 oz



≡ 1/4 c



≡ 1.5 oz

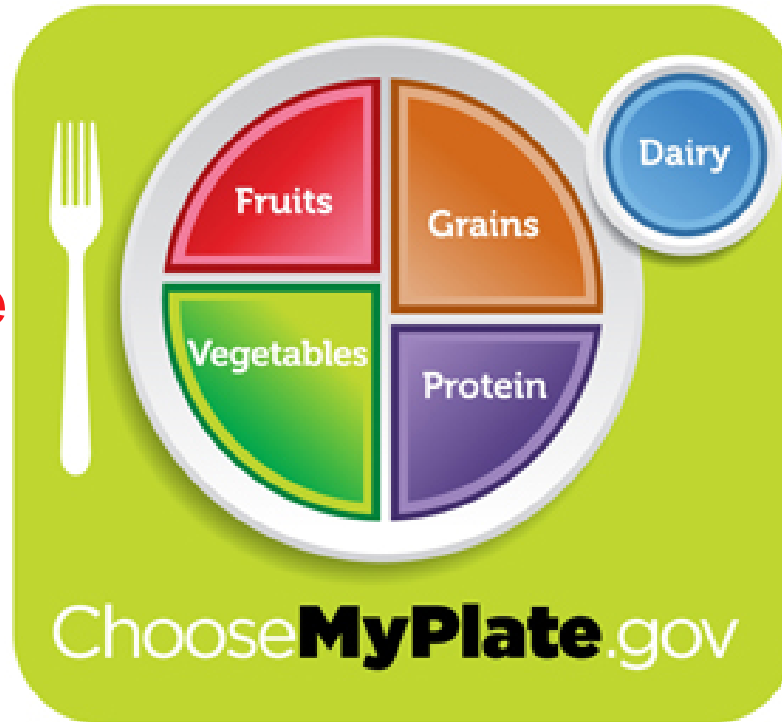


Group Exploration: Vending Machine Nutrition? Nutrient Density?



MyPlate *General Recommendations!*

2. Focus on fruits.
Whole fruit preferable to juice, but any fruit counts!
Fill $\frac{1}{2}$ your plate with fruits & vegetables!



3. Make at least $\frac{1}{2}$ of your grains whole grains!

5. Get your calcium-rich foods. Buy skim or 1% milk. Go easy on cheese!

1. Vary your veggies.
Fill $\frac{1}{2}$ your plate with fruits & vegetables!

4. Go lean with protein. Keep protein to $< \frac{1}{4}$ plate! Nuts, beans, peas, seeds, poultry, lean meat, seafood,...

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



© Polara Studios, Inc.

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



© Polara Studios, Inc.

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 B₁₂, 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



© Polara Studios, Inc.

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

Meat, poultry, fish, and eggs contribute protein, niacin, thiamin, vitamin B₆, vitamin B₁₂, 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

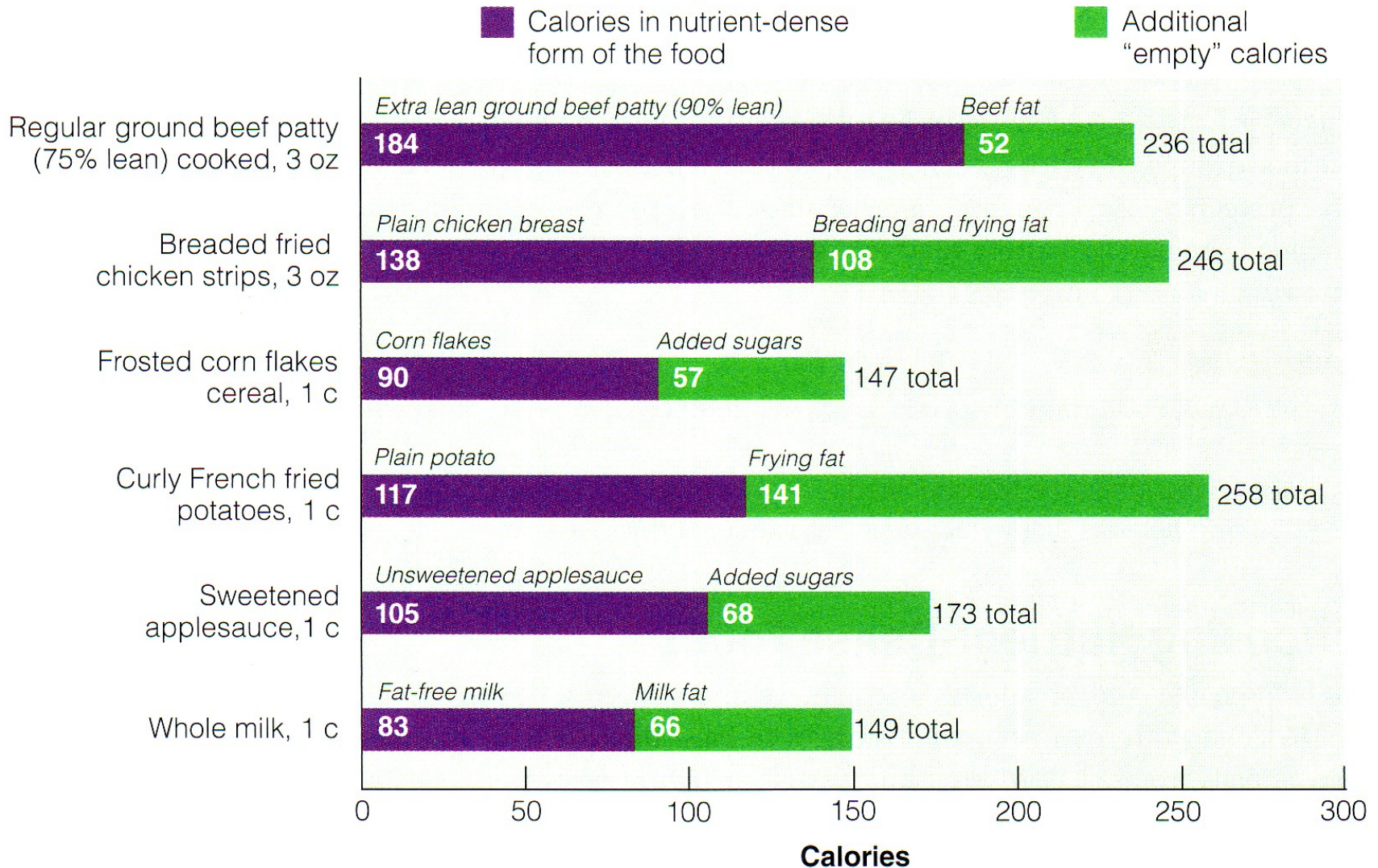
Limit intakes of food and beverages with solid fats and added sugars.

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

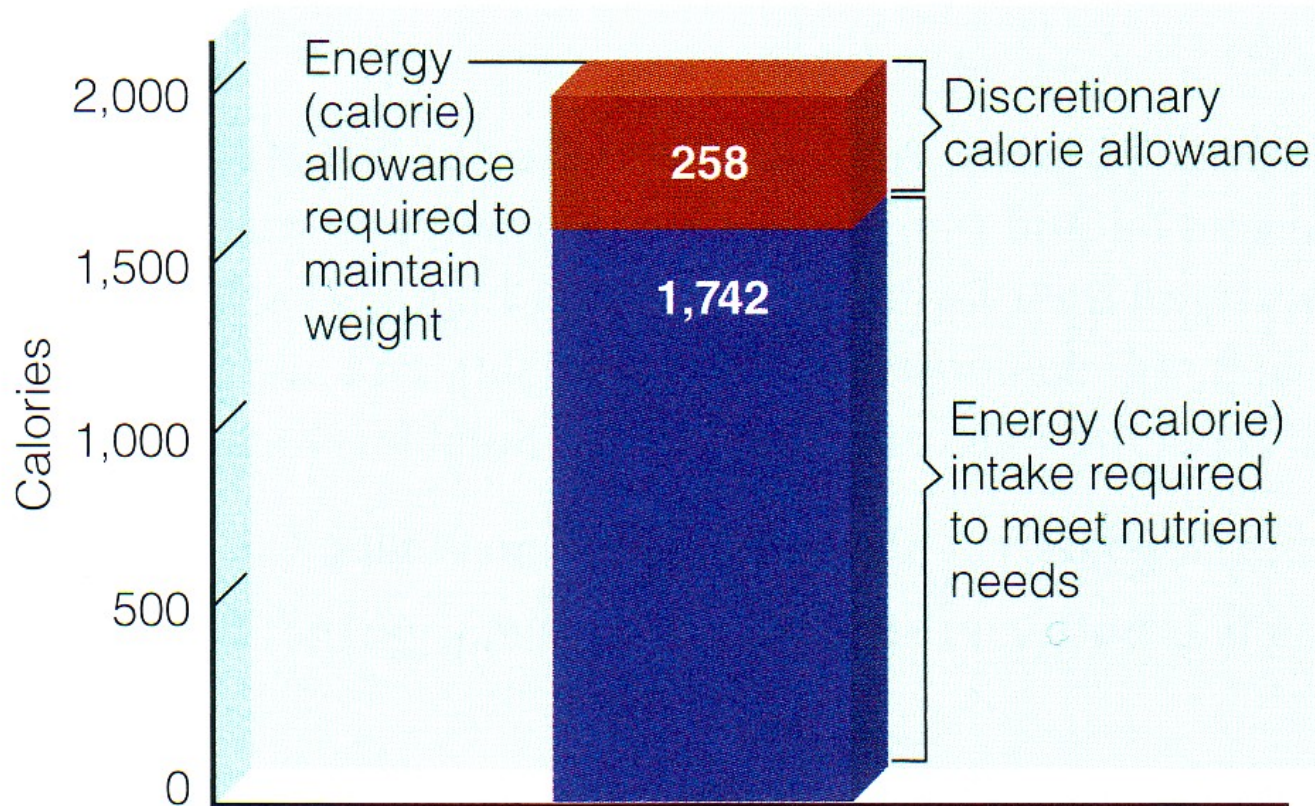


Source: U.S. Department of Agriculture and U.S. Department of Health and Human Services, Dietary Guidelines for Americans 2010, p. 47.

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.





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

USDA Food Pyramid 1992

Fats, oils, and sweets
Use Sparingly

Milk, yogurt, and
cheese group
2-3 Servings

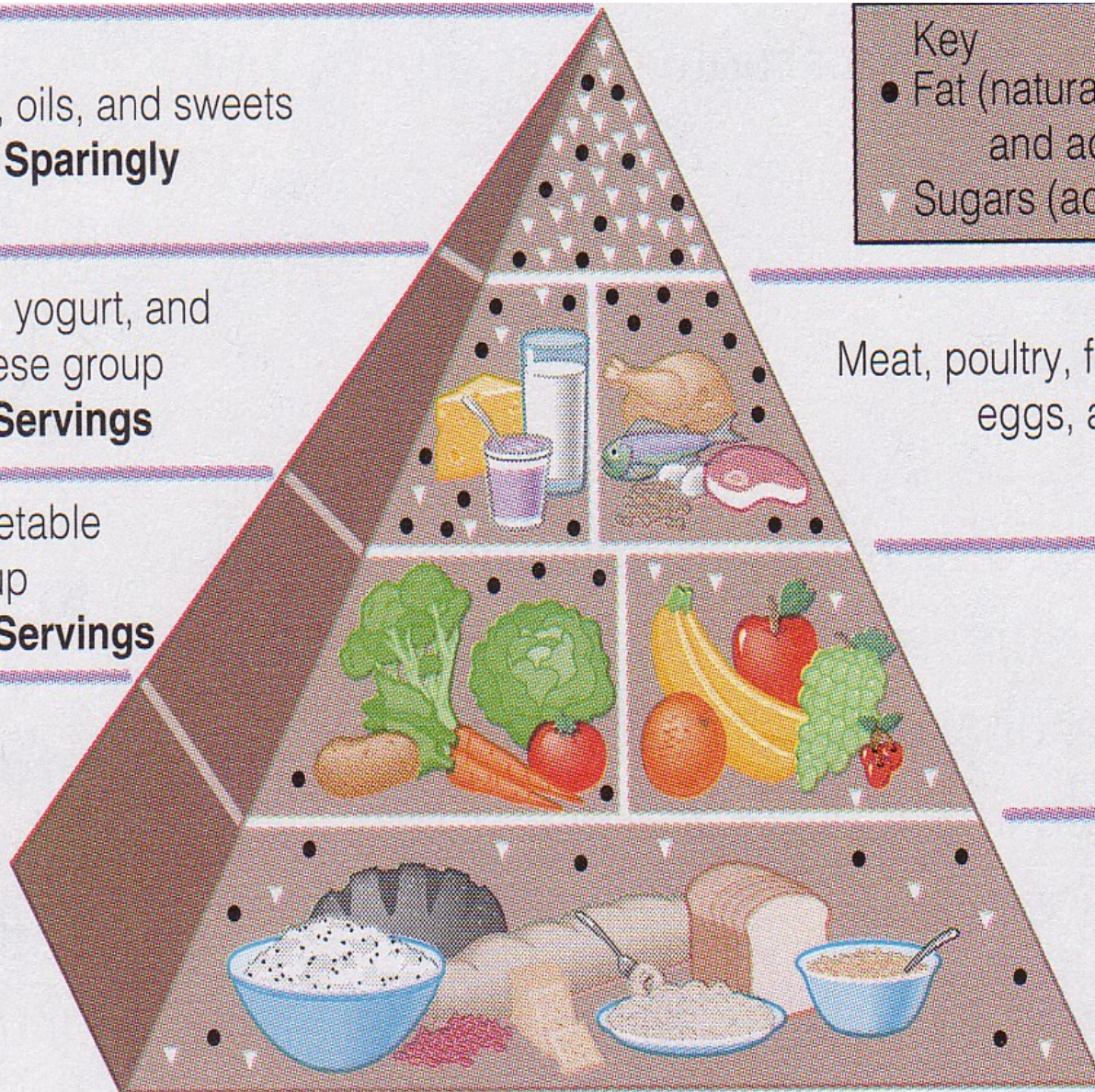
Vegetable
group
3-5 Servings

Fruit group
2-4 Servings

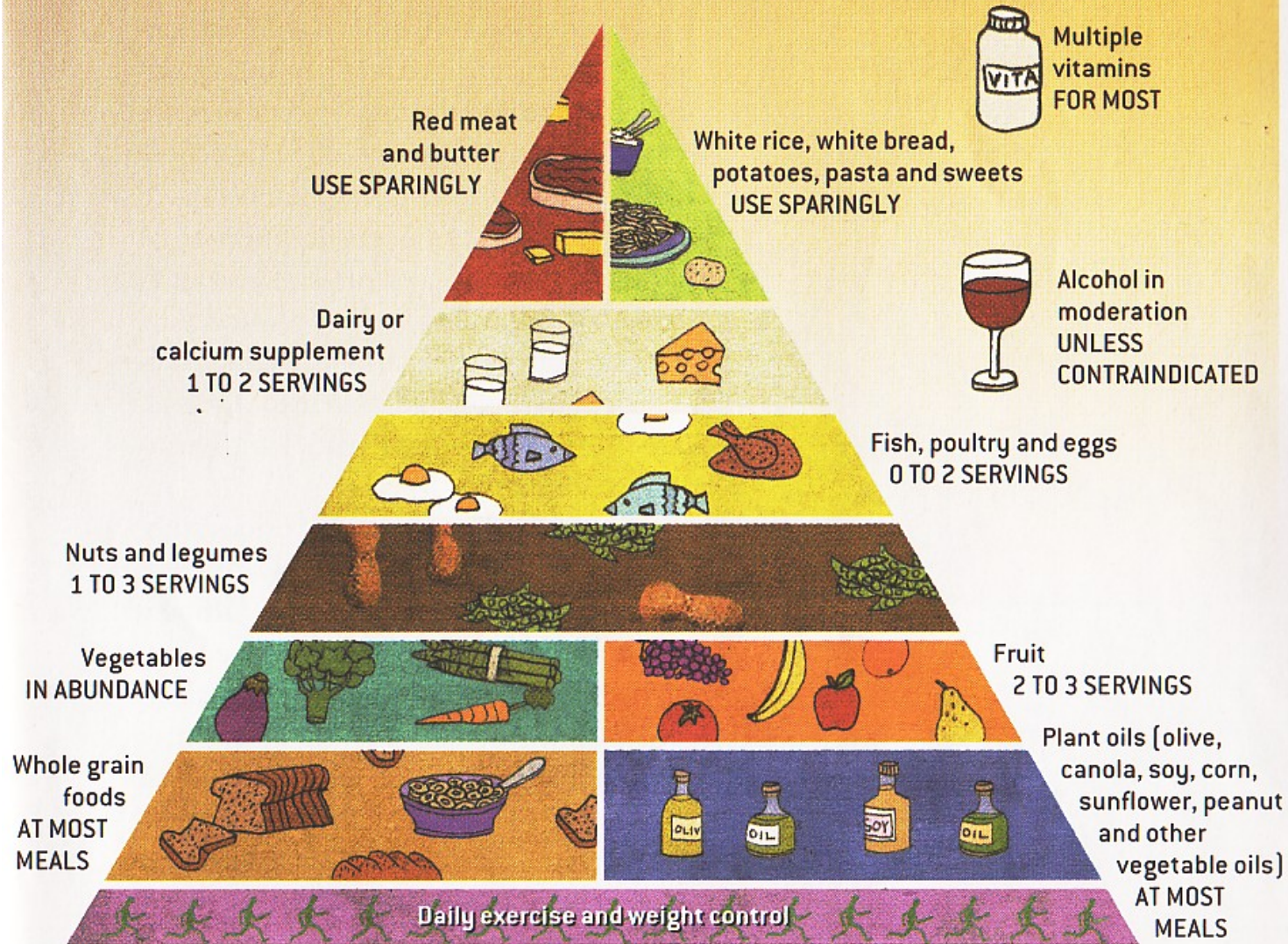
Bread, cereal,
rice, and
pasta group
6-11 Servings

Key

- Fat (naturally occurring and added)
- ▼ Sugars (added)



Willett & Stampfer Suggestions 2003



NEW FOOD PYRAMID

US Modifications to 1992 Food Pyramid 2005

Fats, oils, and sweets

Use sparingly

↑ "good" fats!

↓ saturated & trans fats!

KEY

● Fat (naturally occurring and added)

▼ Sugars (added)

Milk, yogurt,
and cheese
group

2-3 servings

3 or more!

Meat, poultry, fish,
dry beans, eggs,
and nuts group

2-3 servings

eg, fish, nuts

Vegetable
group

3-5
servings

5 or more!

Fruit group

2-4 servings

4 or more!

Bread,
rice,
pasta

group

6-11

servings

1/2 whole grain

Regular Physical Activity: Exercise! Exercise!!

Dietary Guidelines for Americans 2005

Food Guidance System

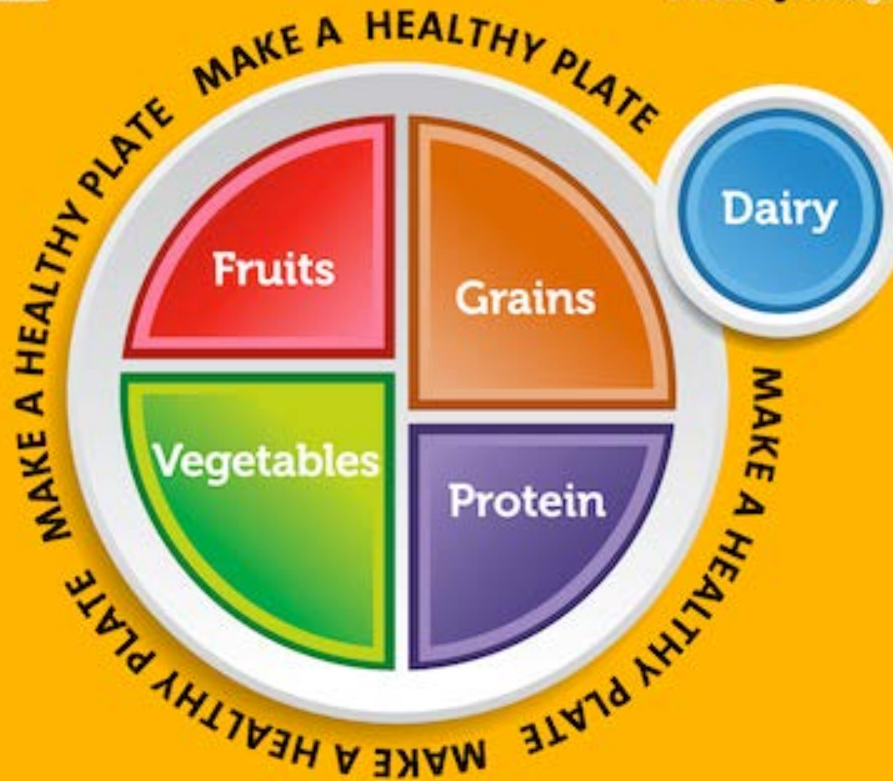
Hooray!



1. ↑ emphasis on ↓ kcal + ↑ exercise.
2. 9-A-Day! 4 fruit + 5 vegetable servings.
3. ≥ 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 Ω -3 fish, walnuts.
6. Drink in moderation if at all.
7. Practice food safety.

MyPlate.gov

Based on
2010 Dietary Guidelines
 Released
 June 2, 2011



Vegetables	Fruits	Grains	Protein	Dairy
<p>Vary your veggies.</p> <p>Any vegetable or 100% vegetable juice counts as a member of the Vegetable Group.</p> <p>Fill half your plate with fruits and vegetables.</p>	<p>Focus on fruits. Whole fruit is preferable to juice but any fruit counts: fresh, frozen, canned, 100% juice or dried.</p> <p>Fill half your plate with fruits and vegetables.</p>	<p>Make at least half your grains whole.</p> <p>Read labels to find more whole grain foods.</p> <p>Whole wheat, oatmeal and brown rice are all good.</p>	<p>Go lean with protein.</p> <p>Keep portion to 1/4 of the plate.</p> <p>Nuts, beans/peas, seeds, poultry, lean meat, seafood, soy and eggs are in this group.</p>	<p>Get your calcium-rich foods.</p> <p>Remember to buy skim milk or 1% milk.</p> <p>Go easy on cheese.</p> <p>Skim yogurt is a good choice, too.</p>

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!





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

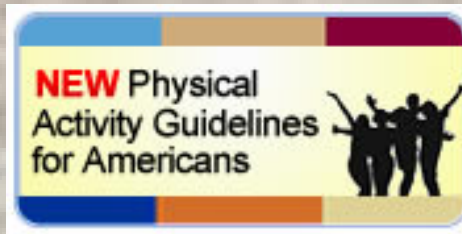
**Do 8-10 strength-training exercises
8-12 repetitions/each exercise, 2 d/wk**



S

yr)

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