

Nutrition for Health

Osher Lifelong Learning Institute

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Agenda

- Course introduction
- Participant introductions
- Review of the syllabus and proposed outline
- Lecture 1:
 - Federal Guidelines for healthful eating
 - Relationship between food and chronic conditions
 - What factors influence our food choices?
 - Chapters 12, 13, 14

Federal Guidelines for Healthful Eating

- Food Groups
- Dietary Guidelines for Americans
- Dietary Reference Intakes (DRI) formerly the RDA

- Food Label

Diet Planning with the USDA Food Patterns

- Food group plan
 - Specifies portions
 - Foods sorted by nutrient density
- Variable groups depending on graphic
- Variety
 - Among the food groups and within each group

USDA Food Patterns – Food Groups & Subgroups



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1 c fruit =
1 c fresh, frozen, or canned fruit
½ c dried fruit
1 c 100% fruit juice

Fruits contribute folate, vitamin A, vitamin C, potassium, and fiber.

Consume a variety of fruits, and choose whole or cut-up fruits more often than fruit juice.

Apples, apricots, avocados, bananas, blueberries, cantaloupe, cherries, grapefruit, grapes, guava, honeydew, kiwi, mango, nectarines, oranges, papaya, peaches, pears, pineapples, plums, raspberries, strawberries, tangerines, watermelon; dried fruit (dates, figs, prunes, raisins); 100% fruit juices

Limit these fruits that contain solid fats and/or added sugars:

Canned or frozen fruit in syrup; juices, punches, ades, and fruit drinks with added sugars; fried plantains



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1 oz grains =
1 slice bread
½ c cooked rice, pasta, or cereal
1 oz dry pasta or rice
1 c ready-to-eat cereal
3 c popped popcorn

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

Make most (at least half) of the grain selections whole grains.

Grains subgroups:

Whole grains: amaranth, barley, brown rice, buckwheat, bulgur, cornmeal, millet, oats, quinoa, rye, wheat, wild rice and whole-grain products such as breads, cereals, crackers, and pastas; popcorn

Enriched refined products: bagels, breads, cereals, pastas (couscous, macaroni, spaghetti), pretzels, white rice, rolls, tortillas

Limit these grains that contain solid fats and/or added sugars:

Biscuits, cakes, cookies, cornbread, crackers, croissants, doughnuts, fried rice, granola, muffins, pastries, pies, presweetened cereals, taco shells

USDA Food Patterns – Food Groups & Subgroups



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1 c vegetables =
1 c cut-up raw or cooked vegetables
1 c cooked legumes
1 c vegetable juice
2 c raw, leafy greens

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

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

Vegetables subgroups:

Dark-green vegetables: Broccoli and leafy greens such as arugula, beet greens, bok choy, collard greens, kale, mustard greens, romaine lettuce, spinach, turnip greens, watercress

Red and orange vegetables: Carrots, carrot juice, pumpkin, red bell peppers, sweet potatoes, tomatoes, tomato juice, vegetable juice, winter squash (acorn, butternut)

Legumes: Black beans, black-eyed peas, garbanzo beans (chickpeas), kidney beans, lentils, navy beans, pinto beans, soybeans and soy products such as tofu, split peas, white beans

Starchy vegetables: Cassava, corn, green peas, hominy, lima beans, potatoes

Other vegetables: Artichokes, asparagus, bamboo shoots, bean sprouts, beets, brussels sprouts, cabbages, cactus, cauliflower, celery, cucumbers, eggplant, green beans, green bell peppers, iceberg lettuce, mushrooms, okra, onions, seaweed, snow peas, zucchini

Limit these vegetables that contain solid fats and/or added sugars:

Baked beans, candied sweet potatoes, coleslaw, french fries, potato salad, refried beans, scalloped potatoes, tempura vegetables

USDA Food Patterns – Food Groups & Subgroups



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1 oz protein foods =
1 oz cooked lean meat, poultry, or seafood
1 egg
¼ c cooked legumes or tofu
1 tbs peanut butter
½ oz nuts or seeds

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Protein foods contribute protein, essential fatty acids, niacin, thiamin, vitamin B₆, vitamin B₁₂, iron, magnesium, potassium, and zinc.

Choose a variety of protein foods from the three subgroups, including seafood in place of meat or poultry twice a week.

Protein foods subgroups:

Seafood: Fish (catfish, cod, flounder, haddock, halibut, herring, mackerel, pollock, salmon, sardines, sea bass, snapper, trout, tuna), shellfish (clams, crab, lobster, mussels, oysters, scallops, shrimp)

Meats, poultry, eggs: Lean or low-fat meats (fat-trimmed beef, game, ham, lamb, pork, veal), poultry (no skin), eggs

Nuts, seeds, soy products: Unsalted nuts (almonds, cashews, filberts, pecans, pistachios, walnuts), seeds (flaxseeds, pumpkin seeds, sesame seeds, sunflower seeds), legumes, soy products (textured vegetable protein, tofu, tempeh), peanut butter, peanuts

Limit these protein foods that contain solid fats and/or added sugars:

Bacon; baked beans; fried meat, seafood, poultry, eggs, or tofu; refried beans; ground beef; hot dogs; luncheon meats; marbled steaks; poultry with skin; sausages; spare ribs



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1 c milk or milk product =
1 c milk, yogurt, or fortified soy milk
1½ oz natural cheese
2 oz processed cheese

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Milk and milk products contribute protein, riboflavin, vitamin B₁₂, calcium, potassium, and, when fortified, vitamin A and vitamin D.

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

Fat-free or 1% low-fat milk and fat-free or 1% low-fat milk products such as buttermilk, cheeses, cottage cheese, yogurt; fat-free fortified soy milk

Limit these milk products that contain solid fats and/or added sugars:

2% reduced-fat milk and whole milk; 2% reduced-fat and whole-milk products such as cheeses, cottage cheese, and yogurt; flavored milk with added sugars such as chocolate milk, custard, frozen yogurt, ice cream, milk shakes, pudding, sherbet; fortified soy milk

USDA Food Patterns – Food Groups & Subgroups



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1 tsp oil =
1 tsp vegetable oil
1 tsp soft margarine
1 tbs low-fat mayonnaise
2 tbs light salad dressing

Oils are not a food group, but are featured here because they contribute vitamin E and essential fatty acids.

Use oils instead of solid fats, when possible.

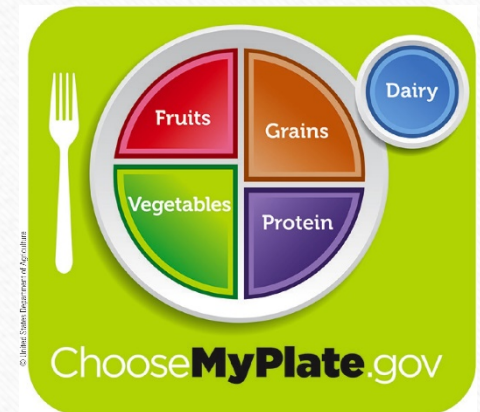
Liquid vegetable oils such as canola, corn, flaxseed, nut, olive, peanut, safflower, sesame, soybean, sunflower oils; mayonnaise, oil-based salad dressing, soft *trans*-free margarine; unsaturated oils that occur naturally in foods such as avocados, fatty fish, nuts, olives, seeds (flaxseeds, sesame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

Limit these solid fats:

Butter, animal fats, stick margarine, shortening

MyPlate Educational Tool

- Online educational tool
 - www.choosemyplate.gov
- Guides users through diet planning
- Flexibility of the USDA Food Patterns
 - National and cultural foods
 - Vegans & Vegetarians



Dietary Guidelines for Americans

- Science-based advice
 - Promote health
 - Guidance to reduce risk of major chronic diseases
 - Maintain healthy body weight
- Apply to most people age 2 and older



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Dietary Guidelines for Americans

- Four major topic areas
 - Balance calories to manage weight
 - Increase nutrient-dense foods
 - Reduce intakes of certain foods
 - Build a healthy eating pattern

Dietary Guidelines for Americans 2015

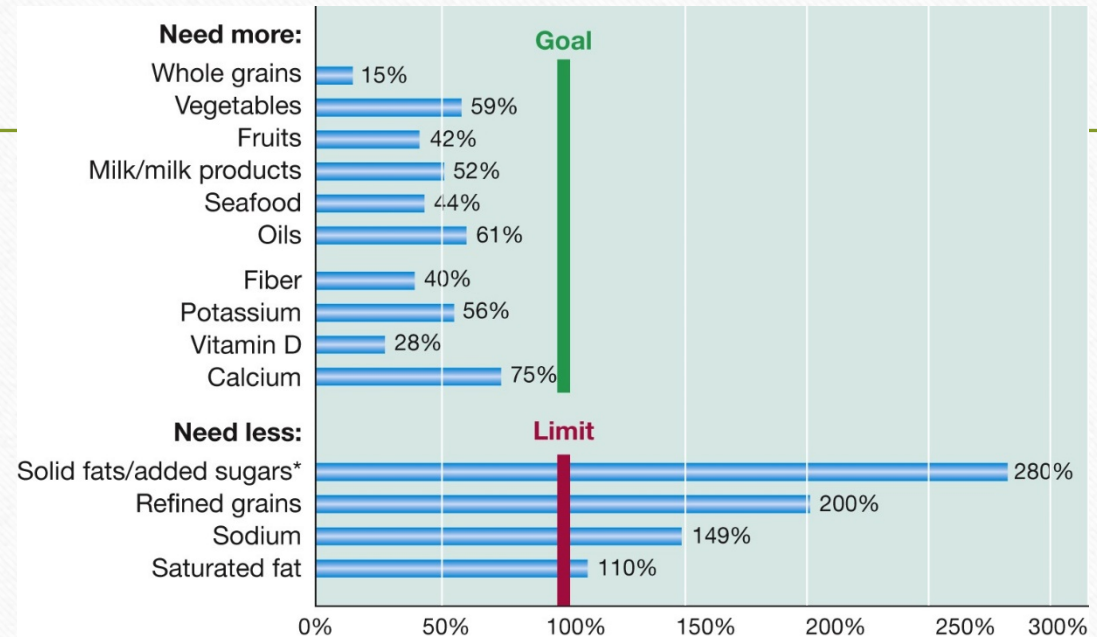
- Five major topic areas
 - Follow a healthy eating pattern across the lifespan. Eating patterns are the combination of foods and drinks that a person eats over time.
 - Focus on variety, nutrient-dense foods, and amount
 - Limit calories from added sugars and saturated fats, and reduce sodium intake
 - Shift to healthier food and beverage choices
 - Support healthy eating patterns for all

Dietary Guidelines for Americans 2015 – Key Recommendations

- **Less than 10 percent of calories per day from added sugars.**
 - This does not include naturally occurring sugars such as those consumed as part of milk and fruits.
- **Less than 10 percent of calories per day from saturated fats.**
- **Less than 2,300 milligrams (mg) per day of sodium for people over the age of 14 years and less for those younger.**

U.S. Diet and Dietary Guidelines Compared

- Americans need to choose more:
- Americans need to choose fewer:
- Joys of eating



*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.

Nutrient Recommendations

- Dietary Reference Intake (DRI)
 - Adequate Intakes (AI)
 - Tolerable Upper Intake Levels (UL)
 - Estimated Average Requirements (EAR)

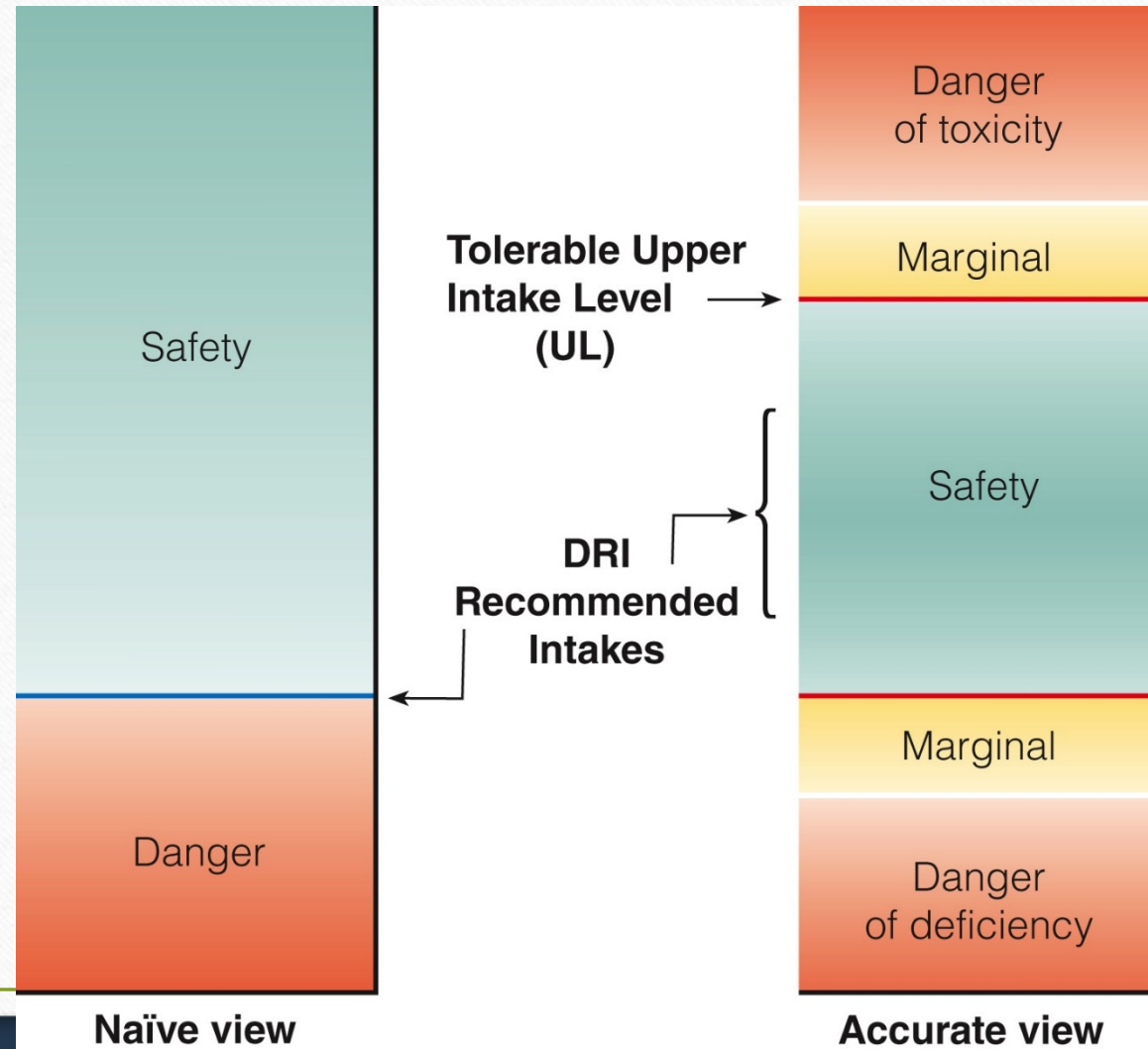
Nutrient Recommendations

- RDA and AI:
 - RDA: meets needs of healthy people
 - Experimental evidence
 - AI
 - Scientific evidence and educated guesswork

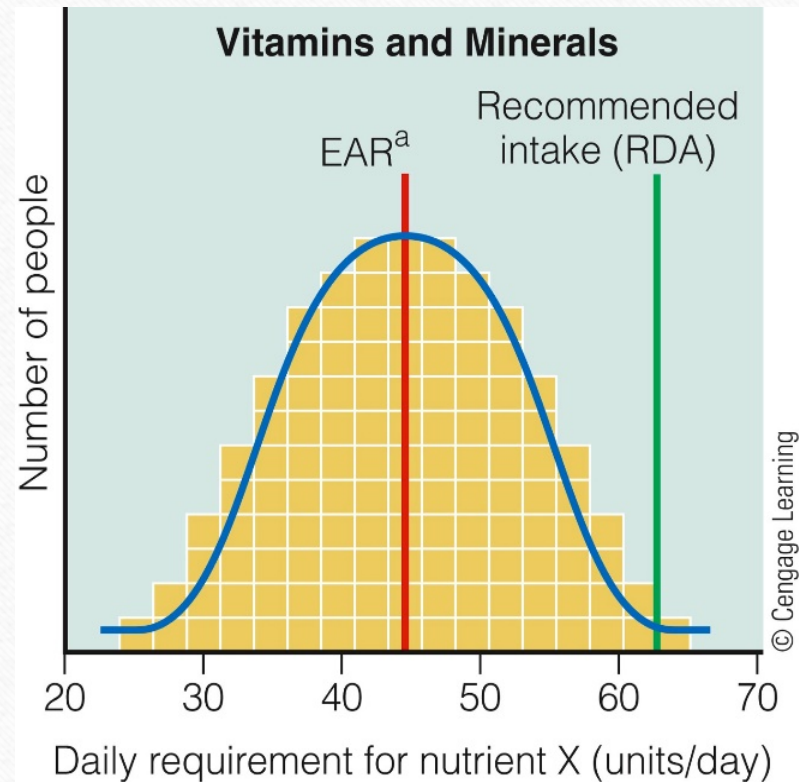
Nutrient Recommendations

- EAR: Nutrition research and policy
 - Assess nutrient intake of populations
 - Requirements for life stage and gender
 - Forms basis of RDA's
- UL: Safety
 - Supplement use
 - Toxicity

The Accurate View of Optimal Nutrient Intakes



How the Committee Establishes DRI Values – An RDA Example



^aEstimated Average Requirement

Nutrition Facts Panel

- Serving size
- Servings per container
- Calories/calories from fat
- Nutrient amounts and percentages of DVs
- Vitamins and minerals
 - Vitamin A, vitamin C, calcium, and iron

What's on a Food Label?

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 B₁₂ (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-cal energy intake

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

Calorie per gram reminder

The ingredients in descending order of predominance by weight

Chapters 12, 13, 14

- Chapter 12: Food groups; components of a healthy diet including: seasonality, fresh, tasty, variety, moderation, and balance.
- Chapter 13: The Ideal Diet: discusses dietary guidance, suggests a meal pattern, and amounts of nutrients.
- Chapter 14: Seasonal Menu: applied chapter on food cleaning, preparation, storage and some recipes.

Factors influencing food choices
