• Chapter 2
• Planning a Healthy Diet
• Principles and Guidelines
• Adequacy
  – Sufficient energy
  – Adequate nutrients for healthy people
• Balance
  – Enough but not too much
• kCalorie (energy) control
  – Energy in = energy out
  – High nutrient density foods
• Principles and Guidelines
• Nutrient density
  – The most nutrients for the fewest calories
  – Low-nutrient density foods
    • Empty kcalorie foods
• Principles and Guidelines
• Moderation
  – Food selections – low in fat & added sugars
• Variety
  – Among and within food groups
Benefits of a varied diet

- Principles and Guidelines

- Dietary Guidelines for Americans
  - Science-based advice
  - Promote health and reduce chronic diseases
  - Nine areas of recommendation, covering
    - Diet
    - Physical activity

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      - Diet
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- www.healthierus.gov/dietaryguidelines

- Diet-Planning Guides

- Need tools and knowledge to plan an ideal diet

- USDA Food Guide
  - Five major food groups
    - Recommended daily amounts for each group
    - Notable nutrients
• Serving equivalents
• Nutrient density

• Diet-Planning Guides
• Diet-Planning Guides
• Diet-Planning Guides
• USDA Food Guide
  — Notable nutrients
    • Key nutrients of each food group
    • Allows for flexibility in diet plan
    • Greater encouragement of some food groups
  — Serving equivalents
    • Fruits, vegetables, milk = cups
    • Grains and meats = ounces

• USDA Food Guide
• Fruits
• Diet-Planning Guides
• USDA Food Guide
  — Nutrient dense choices
  — Mixtures of foods
  — Vegetarians
    • Can still use USDA Food Guide
  — Ethnic food choices
● USDA Food Guide
● Vegetables
● USDA Food Guide
● Grains
● USDA Food Guide
● Meat, Poultry, Fish, Legumes, Eggs, and Nuts
● USDA Food Guide
● Milk, Yogurt and Cheese
● USDA Food Guide
● Oils
● USDA Food Guide
● Solid Fats and Added Sugars
● Food Pyramid
● Diet-Planning Guides
● USDA Food Guide

   ● Educational tool
   ● Combines USDA Food Guide and Dietary Guidelines
   ● Allows for personal planning
   ● Pyramid shortcomings

   Healthy Eating Index
• MyPyramid: Steps to a Healthier You

• Serving Sizes

• http://www.youtube.com/watch?v=LBko_3wT44Q

• Diet-Planning Guides

• Exchange Lists
  — help to achieve kcalorie control and moderation.
  — Foods are sorted by energy-nutrient content.
  — Originally developed for those with diabetes
  — Portion sizes vary within a group
  — Food groupings may not be logical

• Diet-Planning Guides

• Putting the plan into action
  — Familiarize yourself with each food group

• Grocery shopping
  — Consider foods you enjoy
  — Make improvements little by little
  — Processed foods
    • Disadvantages
    • Advantages

• From Guidelines to Groceries

• Processed foods-
— have been treated to change their properties
— may have lost nutrients and gained sugar, fat and salt

• **Fortified foods:**
  — the addition of nutrients that were either not originally present, or present in insignificant amounts

• **Enriched:**
  — addition of nutrients that were lost in processing

• **Diet-Planning Guides – Grocery Shopping**

• **Grains**
  — Whole-grain products
  — Fortification & enrichment

• **Vegetables**
  — Fresh vs. canned or frozen

• **Milk**

• **Fruits**
  — Colors
  — Fruit juices

• **Meat, fish, & poultry**
  — Lean cuts
  — Portion sizes
  — Cooking techniques
Diet-Planning Guides

From Guidelines to Groceries

Grains

- **Refined foods** lose nutrients during processing.
- **Enriched foods** have nutrients added back that were lost during processing, including iron, thiamin, riboflavin, niacin, and folate.
- **Whole-grain** products are not refined. Examples include brown rice and oatmeal.
- **Fortified foods** have nutrients added that were not part of the original food.

From Guidelines to Groceries

Vegetables

- Choose fresh vegetables often.
- Dark green leafy and yellow-orange vegetables are important.
- Good sources of vitamins, minerals, and fiber
- Be careful to control added fat and salt.
- **Legumes**
  - Variety is important
  - Economical
  - Low-fat, nutrient-rich and fiber-rich

From Guidelines to Groceries

Fruit

- Choose citrus and yellow-orange fruits.
- Processed fruits are acceptable alternatives to fresh.
- Provides vitamins, minerals, fibers and phytochemicals
- Fruit juices lack fiber but are healthy beverages.
- Watch energy intakes and fruit “drinks.”
• From Guidelines to Groceries

• Meat, fish and poultry
  — Provides minerals, protein and B vitamins
  — Choose lean cuts.
  — **Textured vegetable protein** is a processed soybean protein and can be used in recipes.
  — Weighing can be used to determine portion sizes.
  — Use low-fat cooking methods, and trim and drain fat to reduce fat intake.

• From Guidelines to Groceries

• Milk
  — Dairy foods are often fortified with vitamins A and D.
  — Imitation foods that resemble other foods are nutritionally inferior.
  — Food substitutes are designed to replace other foods.
  — Many lower fat dairy products are available including fat-free, non-fat, skim, zero-fat, no-fat, low-fat, reduced-fat, and less-fat milk.

• Food Labels

• Ingredient list
  — Listing of all ingredients
  — Descending order of predominance by weight

• Serving sizes
  — Food and Drug Administration (FDA) role
  — Adjust calculations according to amount consumed
  — Sizes listed vs. USDA Food Guide sizes
• Food Labels

• Nutrition Facts

  — Quantities and Daily Values

  — Required information
    • Total food energy; food energy from fat
    • Total fat; saturated fat; trans fat; cholesterol
    • Sodium
    • Total carbohydrate; dietary fiber; sugars
    • Protein
    • Vitamins A & C; iron; calcium

• Food Labels

• Nutrition Facts

  — Listed by quantity and percentage standards per serving, called Daily Values

  — kCalories listed as total kcalories and kcalories from fat

  — Fat listed by total fat, saturated fat, and trans fat

  — Cholesterol

  — Sodium

  — Carbohydrate listed by total carbohydrate, starch, sugars, and fiber

  — Protein

  — Vitamin A, vitamin C, iron, and calcium are listed in % DV only.

• Food Labels

• Daily Values

  — Expressed as percentage

  — Relationship to health
“Ballpark” estimate of contribution to total diet

Based on 2000 kcalories per day

• Nutrient claims
  — Meet FDA definitions

• Food Labels
  • Nutrient Claims
    — Must meet FDA definitions and include conditions of use
    — No implied claims
    — General terms include free, good source of, healthy, high, less, light or lite, low, more, and organic.
    — Energy terms include kcalorie-free, low kcalorie, and reduced calorie.
    — Fat and cholesterol terms include percent fat-free, fat-free, low fat, less fat, saturated fat-free, low saturated fat, less saturated fat, trans fat-free, cholesterol-free, low cholesterol, less cholesterol, extra lean, and lean.
    — Carbohydrate terms include high fiber and sugar-free.
    — Sodium terms include sodium-free and salt-free, low sodium, and very low sodium.

• Food Label Terms

• Fat/Sodium
  • Fat Free = Less than 0.5 gm of fat per serving
  • Low Fat = 3 gm or less fat/serving
  • Less Fat = 25% or less fat than the comparison food
  • Low Cholesterol = 20 mg or less Cholesterol
  • Low Sodium = 140 mg or less per serving
  • Very Low Sodium = 35 mg or less per serving
  • Lite or Light- 50% or less of the fat or sodium than the comparison food
Food Label Terms

**Kcalories**

**Kcal Free** = Less than 5 kcal/Serving

**Light** = One third fewer Kcal than the comparison food

**Low Calorie** = 40 Kcal or less per serving

**Reduced Calorie** = At least 25% fewer Kcal per serving than the comparison food

**Fiber**

**High Fiber** = 5 grams or more of fiber per serving

Food Labels

Health claims

- Need for scientific evidence
- FDA report card

Structure-function claims

- Made without FDA approval
  - builds strong bones, improves memory, slows aging

Consumer education

- Coordination of USDA Food Guide, Dietary Guidelines, and food labels

Food Labels

Health Claims
“A” list- reliable health claims on the FDA “A” list represent significant scientific agreement; clear links between a nutrient and a disease or health-related condition.

“B” list health claims have supportive evidence but are not conclusive.

“C” list health claims have limited evidence and are not conclusive.

“D” list health claims have little scientific evidence to support the claim.

• Food Labels

• Structure-Function Claims
  - Claims made without FDA approval
  - Cannot make statements about diseases
    • builds strong bones
    • improves memory
    • Slows aging

• Vegetarian Diets

• Highlight 2

• Vegetarian Diets
  - Health Benefits of Vegetarian Diets - Lifestyle practices are often different from omnivores
    - Healthy body weights are common due to high intakes of fiber and low intakes of fat.
    - Blood pressure is often lower due to lower body weights, low-fat and high-fiber diets, and plenty of fruits and vegetables.
    - Lower incidence of heart disease due to high-fiber diets, eating monounsaturated and polyunsaturated fats, and low intakes of dietary cholesterol
      • Inclusion of soy products like tofu and tempeh
    - Lower incidence of cancer due to high intakes of fruits and vegetables
Other diseases

Vegetarian Diet Planning

Specific information for planning a vegetarian diet can be found at mypyramid.gov

Protein

- Lacto-ovo-vegetarians consume animal-derived products and thus high-quality protein.
- Meat replacements and textured vegetable protein can be used.

Iron

- Iron-rich vegetables and fortified grain products consumed with foods that are high in vitamin C can help vegetarians meet iron needs.

Zinc

- Consuming legumes, whole grains, and nuts can provide zinc to those who do not consume meat.

Vegetarian Diet Planning

Calcium

- Calcium is not an issue for the lactovegetarian.
- Calcium-rich foods should be consumed.

Vitamin B₁₂

- Vegans may not receive enough B12 from the diet.
- Consumption of fortified products or supplementation may be necessary.

Vitamin D can come from sunlight exposure or fortified foods.

Omega-3 Fatty Acids - Food sources include flaxseed, walnuts, soybeans, and their oils.

Healthy Food Choices

A variety of food is the key to adequacy. Be careful of macrobiotic diets.

Meal patterns are changed.

Diet and other lifestyle habits need to be healthy.