Chapter 15: Life Cycle Nutrition: Toddlers through the Later Years
Objectives for Chapter 15

- Describe young children's nutrient needs, and discuss some of the nutrition-related issues they face.
- Describe school-aged children's nutrient needs, and discuss some of the nutrition-related issues they face, including childhood obesity.
- Describe adolescents' nutrient needs, and discuss some of the nutrition related issues they face, including disordered eating.
- Summarize the nutrient needs of older adults and discuss some of the nutritional-related health concerns common of the age.
- Describe the physical, economic, and psychological factors that can affect the health of older Americans.
What Are the Issues Associated with Feeding Young Children?

• Two age-groups of very young children
  • Toddlers: 1 to 3 years old
  • Preschoolers: 3 to 5 years old
• Growth slows compared with infancy
  • Average weight/height gain in second year: 3 to 5 pounds, 3 to 5 inches
  • After that, per year: 4.5 to 6.5 pounds, 2.5 to 3.5 inches
• Smaller appetites, lower calorie needs relative to infants
What Are the Issues Associated with Feeding Young Children?, Continued

• Young children need to eat frequent, small meals with nutrient-rich foods
  • Toddlers are very active, but have small stomach, eat less at mealtimes
• Ages 2 to 3 need 1,000 to 1,400 calories daily
  • Protein-rich foods such as lean meats, eggs, poultry, dairy, beans, fruits, vegetables, whole grains
Practical Nutrition Tips Video: Marketing Preschool

Marketing Foods to Preschoolers

with
Joan Salge Blake
Table 15.1 Calorie Needs for Children and Adolescents

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>Activity Level* Sedentary</th>
<th>Activity Level* Moderately</th>
<th>Activity Level* Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3 years</td>
<td>Male and Female</td>
<td>1,000-1,200</td>
<td>1,000-1,400</td>
<td>1,000-1,400</td>
</tr>
<tr>
<td>4-8 years</td>
<td>Female</td>
<td>1,200-1,400</td>
<td>1,400-1,600</td>
<td>1,400-1,800</td>
</tr>
<tr>
<td>4-8 years</td>
<td>Male</td>
<td>1,200-1,400</td>
<td>1,400-1,600</td>
<td>1,600-2,000</td>
</tr>
<tr>
<td>9-13 years</td>
<td>Female</td>
<td>1,400-1,600</td>
<td>1,600-2,000</td>
<td>1,800-2,200</td>
</tr>
<tr>
<td>9-13 years</td>
<td>Male</td>
<td>1,600-2,000</td>
<td>1,800-2,200</td>
<td>2,000-2,600</td>
</tr>
<tr>
<td>14-18 years</td>
<td>Female</td>
<td>1,800</td>
<td>2,000</td>
<td>2,400</td>
</tr>
<tr>
<td>14-18 years</td>
<td>Male</td>
<td>2,000-2,400</td>
<td>2,400-2,800</td>
<td>2,800-3,200</td>
</tr>
</tbody>
</table>

*Based on Estimated Energy Requirements (EER) equations, using reference heights (average) and reference weights (healthy) for each age/gender group. For children and adolescents, reference height and weight are based on median height and weight for ages up to 18 years. EER equations are from the Institute of Medicine. Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids. (Washington, D.C.: The National Academies Press, 2002).
What Are the Issues Associated with Feeding Young Children?, Continued

- Be mindful of portion size
  - Use child-size cups and plates
  - Tailor portions to child's needs
- By 15 months, self-feeding: using cup, spoon
- Avoid choking hazards: hot dogs, nuts, whole grapes, round candy, popcorn, raisins, raw carrots should not be given to children younger than four
  - Always eat when sitting up, never while riding in car
- Food choices at day care should be monitored
• Young children have special nutrient needs
  • Calcium
    • 1 to 3 years: 700 mg/day
    • 4 to 8 years: 1000 mg/day
    • 8 oz milk, fortified soy drink/orange juice = 300 mg
  • Iron deficiency can lead to developmental delays
    • Cause: too much milk, other iron-poor foods
    • 1 to 3 years: 7 mg/day
    • 4 to 8 years: 10 mg/day
    • Provide lean meats, iron-fortified grains (cereal)
What Are the Issues Associated with Feeding Young Children?, Continued-3

- Vitamin D: for healthy bones
  - 1 to 8 years: 600 IU/day
- Fiber: for bowel regularity
  - 1 to 3 years: 19 g/day
  - 4 to 8 years: 25 g/day
  - Whole grains, fruits, vegetables
- Fluids
  - 1 to 3 years: 4 cups/day
  - 3 to 5 years: 5 cups/day
  - Water, milk, juice; also in fruits, vegetables
What Are the Issues Associated with Feeding Young Children?, Continued-4

- Picky eating and food jags are common in small children
  - Division of responsibility in feeding:
    - Parents control type of food offered, when, and where
    - Children control whether to eat and how much
  - Parents should serve as good role models, eat varied diet
  - Food jags (favoring some foods to exclusion of others) are usually temporary
  - Young children following vegetarian diet need adequate Vitamin D, calcium, iron, zinc
ABC News Video: Medical Mystery: Young Boy Allergic to Food

Good Morning America
February 23, 2013

>> Bianna Golodryga: A true medical mystery.
What Are the Nutritional Needs and Issues of School-Aged Children?

• Quality of diet impacts growth of school-aged children (ages 6 to 11)
  • Parents/caregivers should encourage and model healthy habits
• Eating patterns may be affected by developmental disabilities
  • Example: autistic children may fixate on certain foods
Nutrition and Developmental Disabilities

- Attention deficit hyperactivity disorder (ADHD)
  - Also called attention deficit disorder (ADD)
  - Avoidance of certain foods may help
    - Sugar often blamed, but evidence lacking
  - Nutritional advice from registered dietitian may help counter effects of medication, disruptive mealtimes
- Autism spectrum disorder (ASD)
  - May involve GI tract, immune system, but link unclear
  - Possible diet strategies: restrict glutens, casein (milk protein), food allergens; increase vitamins/minerals
What Are the Nutritional Needs and Issues of School-Aged Children?, Continued

- High obesity rates in school-aged children
  - More than doubled in children, tripled in adolescents over past 30 years
  - Due to many factors: too many calories, too little physical activity
    - Excess calories from sugary drinks, sports drinks, high-fat foods, larger portions
    - Less physical activity due to increased "screen" time, less physical education at school
- Contributes to type 2 diabetes
Increase in Obesity among U.S. Children and Adolescents

Figure 15.1

<table>
<thead>
<tr>
<th>Survey period</th>
<th>Aged 2–5 years</th>
<th>Aged 6–11 years</th>
<th>Aged 12–19 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976–1980</td>
<td>5.0%</td>
<td>6.5%</td>
<td>5.0%</td>
</tr>
<tr>
<td>1988–1994</td>
<td>7.2%</td>
<td>11.3%</td>
<td>10.5%</td>
</tr>
<tr>
<td>2011–2012</td>
<td>8.4%</td>
<td>17.7%</td>
<td>20.5%</td>
</tr>
</tbody>
</table>

Percent
What Are the Nutritional Needs and Issues of School-Aged Children?, Continued-1

- Daily food plans for kids help guide food choices
  - Plans available at ChooseMyPlate.gov
  - Key messages:
    - Eat foods from every food group every day
    - Choose healthier foods from each group
    - Make the right choices for you
    - Take healthy eating one step at a time
    - Use healthy fats
    - Be physically active on a regular basis
Tips for Helping Children Eat Healthfully from ChooseMyPlate.gov

Cut back on kid’s sweet treats

1. Serve small portions
2. Offer healthy drinks
3. Use the check-out lane that does not display candy
4. Choose not to offer sweets as rewards
5. Make fruit the everyday dessert
6. Make food fun
7. Encourage kids to invent new snacks
8. Play detective in the cereal aisle
9. Make treats “treats,” not everyday foods
10. If kids don’t eat their meal, they don’t need sweet “extras”

Be a healthy role model for children

1. Show by example
2. Go food shopping together
3. Get creative in the kitchen
4. Offer the same foods for everyone
5. Reward with attention, not food
6. Focus on each other at the table
7. Listen to your child
8. Limit screen time
9. Encourage physical activity
10. Be a good food role model

Figure 15.2
### Table 15.2 TASTE: More Matters: Include Fruit and Vegetables in Meals and Snacks

<table>
<thead>
<tr>
<th>T: Try something new</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add shredded carrots to casseroles, chili, meatloaf, soups, and stews.</td>
</tr>
<tr>
<td>Purée beans and add to sauces, soups, and stews.</td>
</tr>
<tr>
<td>Drop berries into cereal, yogurt, and pancake batter.</td>
</tr>
<tr>
<td>Make fruit and vegetable smoothies.</td>
</tr>
<tr>
<td>Enjoy bean and vegetable burritos.</td>
</tr>
<tr>
<td>Use leftover veggies in salads, or add them to a can of soup.</td>
</tr>
<tr>
<td>Keep grab-and-go snacks handy, such as snack-sized boxes of raisins, dried fruit, trail mix, and frozen 100% fruit juice bars. Cherry tomatoes and carrot sticks with hummus make a great pairing.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A: All forms of fruits and veggies count!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider fresh, frozen, 100% juice, canned, and dried.</td>
</tr>
<tr>
<td>Cook fruits and veggies in different ways, including steamed, slow-cooked, sautéed, stir-fried, grilled, roasted, and microwaved.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S: Shop smart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh produce in season is more affordable. Look for specials.</td>
</tr>
<tr>
<td>Clean and cut up produce so it’s ready to use.</td>
</tr>
<tr>
<td>At a restaurant, substitute vegetables for rice or french fries.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>T: Turn it into a family activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make fruit or vegetable kabobs with older kids.</td>
</tr>
<tr>
<td>Add vegetables to homemade pizza.</td>
</tr>
<tr>
<td>Take kids to farmers’ markets.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E: Explore the bountiful variety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use salad bars or buffets to try new flavors.</td>
</tr>
<tr>
<td>When grocery shopping, encourage kids to choose a new produce item for meals and snacks.</td>
</tr>
</tbody>
</table>
What Are the Nutritional Needs and Issues of School-Aged Children?, Continued-2

• The importance of breakfast
  • A nutritious morning meal is very important
  • Aids mental function, academic performance, school attendance rates, psychosocial function, mood
  • May be associated with healthier body weight
  • Optimally, children should eat breakfast at home before school
What Are the Nutritional Needs and Issues of School-Aged Children?, Continued-3

- School lunch contributes to a child's nutritional status
  - National School Lunch Program (NSLP) provides nutritionally balanced, low cost or free lunches
    - Standards set in *Dietary Guidelines for Americans*
  - For some children, school lunch is healthiest meal of the day
  - U.S. Department of Agriculture (USDA) donates food to program
What Are the Nutritional Needs and Issues of Adolescents?

- **Adolescence**: stage of life between start of puberty and adulthood
  - Many hormonal, physical, and emotional changes
- Peer pressure and other factors influence teen eating behaviors
  - Peer influence, defiance of authority may prompt different diets, negative habits
  - Busy schedule may influence food choices, increase snacking
What Are the Nutritional Needs and Issues of Adolescents?, Continued

- Adolescents need calcium and vitamin D for bone growth
  - Bone growth occurs in epiphyseal plate
  - Low calcium, vitamin D intake can cause low peak bone mass, increased fracture risk
    - Soft drinks and diet sodas displace milk in diet
- Teenage girls need more iron
  - Needed for muscle growth, blood volume
  - Girls have special need due to blood loss in menstruation
    - Inadequate iron intake is common
Epiphyseal Plate in Long Bone

Figure 15.3
Daily Calorie Intake from Sugar Drinks, United States, 2005–2008

![Bar chart showing daily calorie intake from sugar drinks by age group and survey period from 1976-1980, 1988-1994, and 2009-2010. The chart indicates a trend of increasing intake over time, with highest intake in 2009-2010.](chart.png)
What Are the Nutritional Needs and Issues of Adolescents?, Continued

- Adolescents: at risk for disordered eating
  - Anorexia nervosa, bulimia, binging, and other behaviors typically emerge during adolescence
- Disordered eating has emotional and physical consequences
  - Nutrient deficiencies can affect energy level and health
- Adolescents struggling with body image should seek help from mental health specialist
What Are the Nutritional Needs of Older Adults?

• Life expectancy has increased
  • In 1900, 47 years
  • Today, ages 65 and older are fastest growing segment of population
• Advances in medical research, health care, public health policy have increased life span
• Number of older adults in United States will increase dramatically over next several decades
Aging of the Baby Boomers

Figure 15.5

- 65 and over
- 85 and over

People (millions)

Year

Projected

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What Are the Nutritional Needs of Older Adults?, Continued

- Older adults need fewer calories, not less nutrition
  - Metabolic rate declines with age, reducing calorie needs
  - Continued intake of nutrients required to build cells, repair tissues, reduce risk of chronic disease
- Older adults need to get adequate fiber and fluids
  - Fiber reduces risk of diverticulosis, heart disease, other chronic illnesses
  - Fiber and fluids help prevent constipation
  - Declining thirst mechanism increases risk of dehydration
Older Adults Benefits from Good Nutrition and Physical Activity

MyPlate for Older Adults

Illustration by Betsy Hayes  ©2011 Tufts University  http://now.tufts.edu/articles/eat-well-age-well

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## Table 15.3 Dietary Needs of Older Adults

<table>
<thead>
<tr>
<th>What Older Adults Need</th>
<th>Why Older Adults Need It</th>
<th>How They Can Get It</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrient-rich food</td>
<td>Lower metabolic rate reduces daily calorie needs and makes higher quality food even more necessary to supply nutrients.</td>
<td>Choose foods in each food group that are low in added sugar, fat, and sodium.</td>
</tr>
<tr>
<td>Adequate protein</td>
<td>Provides the amino acids to preserve lean tissue and bones</td>
<td>Include protein-rich foods, such as dairy, eggs, seafood, and chicken, at every meal and snack.</td>
</tr>
<tr>
<td>Adequate fiber</td>
<td>Reduced calorie intake decreases fiber intake.</td>
<td>Choose whole-wheat bread, cereals, and grains such as brown rice, vegetables, and whole fruit.</td>
</tr>
<tr>
<td>Adequate fluid</td>
<td>Decreased ability of kidneys to concentrate urine and a blunted thirst mechanism, which can increase risk of dehydration</td>
<td>Drink milk or water with and between meals.</td>
</tr>
<tr>
<td>Vitamin D-rich foods</td>
<td>Decreased ability to make the active form of vitamin D, which decreases the absorption of calcium and phosphorus and increases the risk of osteoporosis</td>
<td>Choose vitamin D-fortified milk, yogurt, and cereals. Add a vitamin D supplement if needed.</td>
</tr>
<tr>
<td>Synthetic vitamin B₁₂</td>
<td>Reduced production of stomach acid that releases naturally occurring vitamin B₁₂ from foods. Synthetic vitamin B₁₂ does not require stomach acid.</td>
<td>Choose vitamin B₁₂-fortified cereals, breads, and soy milk. Add a dietary supplement if needed.</td>
</tr>
<tr>
<td>Adequate iron-rich foods</td>
<td>Necessary for strong immune system and transportation of oxygen to cells and tissues</td>
<td>Choose lean meat, fish, and poultry. Enjoy enriched grains and cereals along with vitamin C-rich foods (e.g., citrus fruits) to enhance iron absorption.</td>
</tr>
<tr>
<td>Adequate calcium</td>
<td>To help prevent the loss of bone mass with age</td>
<td>Consume 3 servings of dairy foods daily. Add a dietary supplement if necessary.</td>
</tr>
</tbody>
</table>
What Are the Nutritional Needs of Older Adults?, Continued-1

• Older adults should monitor their micronutrients
  • Preformed vitamin A: overconsumption may increase risk of osteoporosis and fractures
  • Vitamin D: ability to convert from sunlight (and to absorb and convert to active form in intestines and kidneys) declines with age
    • Daily need increases from 600 IU/day to 800 IU/day for those aged 70 and older
  • Vitamin B₁₂: Many over age 50 can't absorb natural form because stomach produces less HCl
    • Synthetic form in fortified foods and supplements should be added to diet
Older Adults' Nutritional Needs and Issues

• Iron: deficiency uncommon but may result from lack of iron-rich diet, chronic malabsorption, intestinal blood loss, kidney disease, cancer, arthritis

• Zinc: needed for healthy immune system, ability to taste

• Calcium: absorption declines with age
  • Women over 50 need 1,200 mg/day
  • Men need 1,000 mg/day until age 70, then 1,200 mg/day after

• Sodium: reduce intake to ≤1,500 mg/day at age 50
What Additional Challenges Do Older Adults Face?

• Eating right for health and to prevent and manage chronic disease
  • Compounds, such as fiber, vitamins, and minerals, in whole and lightly processed foods help prevent age-related diseases (cancer, heart disease, and more)
    • Antioxidants help protect body from free radicals, may reduce risk of cognitive problems (Alzheimer's)
  • Most older Americans not eating healthiest diet
    • Too much sodium, saturated fat, calories
    • Inadequate servings from various food groups (dairy, fruits, vegetables, whole grains)
Fighting Cancer with a Healthy Lifestyle

- Cancer includes 100+ diseases characterized by uncontrolled growth and spread of abnormal cells
  - Half of all men and one-third of women in United States will develop cancer during lifetime
  - Most common
    - Men: prostate cancer
    - Women: breast cancer
Fighting Cancer with a Healthy Lifestyle, Continued

- Carcinogens are thought to cause most cancers
  - About 5 percent hereditary, rest caused by damage to DNA by carcinogens:
    - Tobacco: primary cause of lung cancer, mainly among smokers but also from secondhand smoke
    - Radiation: overexposure to UV radiation (sunlight) and other forms (X rays)
    - Industrial chemicals: certain metals (nickel), pesticides, and compounds (benzene)
    - Cancer-causing agents in foods and beverages
You can reduce your risk for cancer with a healthy diet

- Phytonutrients (lycopene)
- Antioxidants (carotenoids, selenium)
- Retinoids (vitamin A), vitamin D, folate
- Omega-3 fatty acids (in fish, some oils)
- Fiber
  - Helps dilute, shed waste products in intestinal tract
  - Feeds healthy bacteria in colon, creating by-product that may help fight cancer
Avoid foods and beverages that may increase your risk for cancer

- Diet high in red and/or processed meats
  - Nitrites in processed meats can react with amino acids to form cancer-promoting compounds (nitrosamines, nitroamides)
- Alcohol, consumed in excess
- High salt consumption
- Excess body weight
  - Contributes to as many as 1 in 5 cancer-related deaths
# Recommendations for Preventing Cancer

## Table 15.4 Recommendations for Preventing Cancer

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>What to Do</th>
<th>How to Do It</th>
</tr>
</thead>
</table>
| 1. Achieve and maintain a healthy weight, including during the teen years and young adulthood. | • Maintain a BMI between 21 and 23.*  
• Avoid weight gain, especially around your middle, as you age. | • Your pants are your best predictor of weight gain. If they begin to feel snug, assess your diet and your BMI. Is your diet heavy on the junk food?  
• See recommendation 3.  
• Review Chapters 10 and 11 for strategies to obtain and maintain a healthy BMI. |
| 2. Be physically active as a part of everyday life. | • Incorporate at least 30 to 60 minutes of physical activity into your day.  
• Reduce the amount of screen time (TV, DVDs, computer, video games) spent daily. | • Set a timer at your computer and get up and move for at least 5 minutes every hour.  
• Watch one less TV show or play one less computer game daily. Spend that time cleaning, doing laundry, or running errands. |
| 3. Limit consumption of energy-dense foods. Avoid sugary drinks. | • Cut back on sweets and treats that are energy (calorie) dense and serve up little nutrition besides calories.  
• Don’t drink your calories by guzzling sodas, sports and energy drinks, fruit juices, or sweetened coffee beverages. | • If you want to snack on goodies, eat no more than about 100 calories of the item. That’s typically one cookie or a small handful of chips or candy.  
• Drink one less sweetened beverage and one more glass of water daily. |
| 4. Eat mostly foods of plant origin. | • Eat at least 5 cups of a variety of colorful fruits and veggies for phytochemicals, fiber, and nutrients.  
• At least half of your daily grain choices should be whole grains.  
• Eat dried peas and beans (legumes) as often as you can. | • Eat at least one salad with a minimum of three different colored veggies daily.  
• Choose only whole-grain cereals, such as raisin bran, oatmeal, and shredded wheat, in the morning.  
• Add beans to your daily salad. |
## Table 15.4 (continued) Recommendations for Preventing Cancer

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>What to Do</th>
<th>How to Do It</th>
</tr>
</thead>
</table>
| 5. Limit intake of red meat and avoid processed meat. | • Limit beef, lamb, and pork to no more than 18 ounces a week.  
• Avoid processed meats (bacon, salami, hot dogs, and sausages). | • Eat red meat only at lunch in a sandwich, as the portion size will be only about 3 ounces.  
• Try veggie or turkey sausages. |
| 6. Limit alcoholic drinks. | If you choose to drink,  
• Women should consume no more than one alcoholic drink daily.  
• Men should consume no more than two alcoholic drinks daily. | • Make a glass of water the first drink, rather than alcohol, when you are socializing.  
• Alternate alcoholic beverages with nonalcoholic drinks to pace your evening. Make the nonalcoholic drink twice as big as the one containing the booze. |
| 7. Limit salt consumption. | • Avoid salt and salt-preserved or salty foods.  
• Limit sodium to no more than 2,400 mg daily. | • Remove the salt from your salt shaker and fill it with a no-salt seasoning blend, such as Mrs. Dash. |
| 8. Aim to meet nutritional needs through diet alone. | • Look to food, not supplements, to fight cancer.  
• Eat at least three meals a day to increase the variety and all the potential cancer-fighting compounds in food. | • Don't skip meals.  
• Eat at least three pieces of fruit daily. Challenge yourself to “eat the rainbow” by choosing fruits that are red, orange, yellow, green, blue, and purple. |

### Other Recommendations
- If you are pregnant, plan to breast-feed exclusively for up to six months and continue with complementary breast-feeding afterward to reduce your risk for breast cancer. Being breast-fed may also protect your child from becoming overweight.
- Cancer survivors should obtain nutritional recommendations from an appropriately trained professional, such as a registered dietitian nutritionist, and should eat a healthy diet, maintain a healthy weight, and be as physically active as they are able.


*See Chapter 10 to determine your BMI.*
What Additional Challenges May Older Adults Face?, Continued

• Heart disease and stroke
  • Many older adults have diabetes and hypertension, which add to risk for heart attack, stroke

• Cardiovascular disease more common with age
  • Most common: coronary heart disease, number one cause of death in United States

• Type 2 diabetes
  • Ability to maintain glucose blood level diminishes with age, can result in diabetes
  • Most people with this illness are overweight
What Additional Challenges May Older Adults Face?, Continued-1

• Hypertension
  • Controlled with medication, weight loss/physical activity, limiting alcohol/sodium

• Arthritis: painful inflammation in joints
  • Osteoarthritis most common, may be eased by supplements glucosamine and chondroitin
  • Rheumatoid arthritis: omega-3 fats in seafood may help

• Alzheimer's disease: form of dementia
  • Healthy diet, physical activity, social engagement may help reduce risk
Drug, Food, and Drug-Herb Interactions

• Drugs, food, and herbs can interact in negative, unhealthy ways
• Foods can delay or increase absorption of drugs
  • Example: Calcium binds with tetracycline (antibiotic), decreasing absorption
• Drugs can interfere with metabolism of substances in foods, leading to dangerously high levels in blood
  • Example: tyramine in cheese, smoked fish, yogurt
• Herbal remedies may be unsafe with medication
  • Example: *Ginkgo biloba* interferes with blood clotting, should not be taken with blood thinners Coumadin or aspirin
## Potential Interactions of Medications, Herbs, Nutrients, and Foods

<table>
<thead>
<tr>
<th>Herb/Nutrient/Food</th>
<th>Purported Use</th>
<th>Potential Side Effects</th>
<th>Drug Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Astragalus</td>
<td>Enhance and support the immune system</td>
<td>Not well known</td>
<td>Medications that suppress immunity</td>
</tr>
<tr>
<td>Black cohosh</td>
<td>Reduce hot flashes and other menopausal Symptoms</td>
<td>Possible headache, stomach Discomfort, rash, possible liver dysfunction</td>
<td>Risk of interactions appears to be small</td>
</tr>
<tr>
<td>Calcium</td>
<td>Prevent osteoporosis</td>
<td>Constipation; calcium deposits in body</td>
<td>Decreases the absorption of antibiotics, bisphosphates, digoxin, high blood pressure medications, medications used to regulate heart beat, and more</td>
</tr>
<tr>
<td>Coenzyme Q10</td>
<td>Treatment of heart and blood vessel Conditions</td>
<td>Mild stomach upset, decreased appetite, nausea, diarrhea, rash, low blood pressure</td>
<td>Decreased efficiency of some cancer medications; enhanced effect of drugs to lower blood pressure; decreases warfarin (anticoagulant) effectiveness</td>
</tr>
<tr>
<td>Dong quai root</td>
<td>Relieve menstrual and menopausal Symptoms</td>
<td>Excessive bleeding. Skin sensitivity. May be carcinogenic with long-term use.</td>
<td>Enhances the blood-thinning effects of aspirin and anticoagulants as well as garlic and ginkgo biloba</td>
</tr>
<tr>
<td>Echinacea</td>
<td>Treat the common Cold</td>
<td>Fever, nausea, vomiting, stomach pain. Allergic reaction if also allergic to ragweed and other plants.</td>
<td>Decreased effectiveness of immune-Suppressing medications and drugs that are changed by the body</td>
</tr>
<tr>
<td>Fish oil</td>
<td>Reduce triglycerides and blood pressure; eye conditions; decrease inflammation</td>
<td>Excessive bleeding, fishy aftertaste in mouth, and allergic reaction in those with fish allergy</td>
<td>Enhances effectiveness of anticoagulant drugs such as warfarin and aspirin, and certain blood pressure drugs</td>
</tr>
<tr>
<td>Garlic, garlic</td>
<td>Lower blood pressure and blood cholesterol levels</td>
<td>Possible stomach and intestinal discomfort</td>
<td>Do not take with drugs used to treat tuberculosis and certain HIV/AIDS drugs. Avoid with anticoagulant medication, such as warfarin.</td>
</tr>
<tr>
<td>Ginkgo biloba</td>
<td>Reduce memory loss, dementia</td>
<td>Possible stomach and intestinal discomfort</td>
<td>Blood-thinning drugs and aspirin. Enhances the blood-thinning actions of vitamin E and garlic.</td>
</tr>
<tr>
<td>Herb/Nutrient/Food</td>
<td>Purported Use</td>
<td>Potential Side Effects</td>
<td>Drug Interactions</td>
</tr>
<tr>
<td>-----------------------</td>
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<td>-------------------------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Ginseng</td>
<td>Stress reduction, enhance immunity, stimulant</td>
<td>Diarrhea, itchiness, insomnia, headache, nervousness, rapid heart rate</td>
<td>May enhance drugs used to reduce blood glucose levels in type 2 diabetes. Do not combine with the anticoagulant warfarin. Enhances the blood-thinning actions of vitamin E, garlic, and ginkgo biloba.</td>
</tr>
<tr>
<td>Grapefruit, grapefruit juice</td>
<td>Source of vitamin C and phytonutrients</td>
<td>None known</td>
<td>Enhances effect of certain heart medications (calcium channel blocking agents), corticosteroids, immunosuppressants</td>
</tr>
<tr>
<td>Hawthorn</td>
<td>Congestive heart failure</td>
<td>Rare, but may cause stomach upset, headache, dizziness</td>
<td>Not much evidence, but may interact with certain heart medications</td>
</tr>
<tr>
<td>Kava kava</td>
<td>Reduce anxiety, stress, insomnia</td>
<td>Liver damage; long-term use may result in scaly, yellowed skin; drowsiness</td>
<td>Increases effectiveness of antianxiety drugs and sedatives</td>
</tr>
<tr>
<td>Licorice</td>
<td>Various disorders, including infections</td>
<td>Fatigue, headache, high blood pressure, weakness, among others</td>
<td>May reduce effectiveness of anticoagulant drugs such as warfarin</td>
</tr>
<tr>
<td>Milk thistle</td>
<td>Liver disorders</td>
<td>Allergic reactions in people who are allergic to ragweed and other plants; may lower blood glucose levels; some gastrointestinal discomfort.</td>
<td>Medications that lower blood glucose levels</td>
</tr>
<tr>
<td>Saw palmetto</td>
<td>Treatment for benign prostatic hyperplasia</td>
<td>Stomach upset</td>
<td>Anticoagulants, birth control pills</td>
</tr>
<tr>
<td>St. John’s wort</td>
<td>Reduce depression, anxiety, fatigue</td>
<td>Stomach upset, dry mouth, dizziness, headache, skin tingling</td>
<td>Must avoid with many medications. Alert pharmacist and doctor about St. John’s wort use.</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>Possibly preventing the risk of heart disease and Alzheimer’s disease</td>
<td>Excessive amounts can interfere with blood clotting, causing bruising and bleeding. Also, nausea, diarrhea, stomach cramps, fatigue, rash.</td>
<td>Certain immunosuppressive drugs; anticoagulants, such as warfarin; statins used to lower cholesterol; and large amounts of niacin</td>
</tr>
<tr>
<td>Yohimbine</td>
<td>Erectile dysfunction and sexual dysfunction in women</td>
<td>Increases blood pressure, heart rate, headache, anxiety, stomach upset, sleeplessness</td>
<td>Do not combine with monoamine oxidase (MAO) inhibitors, as effect is additive. Interacts with high blood pressure medications, and certain drugs used to treat mental illness.</td>
</tr>
</tbody>
</table>
What Additional Challenges May Older Adults Face?, Continued-2

- Economic and emotional conditions can affect nutritional health.
  - Food insecurity: limited access to adequate, nutritious food
    - Older Americans Act (1965) provides support and services for ages 60 and older, including nutrition education and congregate meals

- Depression and grief affect nutrition and health

- Alcohol abuse can add to depression, impair judgment and coordination, lead to accidents
  - Alcohol may interact negatively with medication
Red Flags for Alcohol Abuse in Older Adults

- Drinks to calm nerves, reduce stress or depression, or forget his or her troubles.
- Gulps drinks.
- Frequently has more than one drink a day.
- Lies about or tries to hide his or her drinking habits.
- Hurts self or others when drinking.
- Needs increased amounts of alcohol to get high.
- Feels irritable, resentful, or unreasonable when not drinking.
- Has medical, social, or financial worries caused by drinking.
What Additional Challenges May Older Adults Face?, Continued-3

- Staying physically active
  - A necessity, not an option
  - Many benefits:
    - Lowers risk of chronic disease
    - Helps maintain healthy bones, muscles, joints
    - Reduces anxiety, stress, depression
    - Improves sleep, flexibility, range of motion
    - Can help postpone cognitive decline
    - Promotes independent living
Staying physically active (continued)

Suggested exercise per week for adults over age 65 (2008 *Physical Activity Guidelines for Americans*):

- 150 minutes moderate intensity or 75 minutes vigorous intensity, or combination of the two
- Muscle strengthening activities two or more days
- If unable to meet these goals, be as physically active as possible
- Avoid sitting for long periods