



### correct serving sizes

12<sup>th</sup> edition, p 279, 11<sup>th</sup> edition, p. 277

<p><b>1 Serving Looks Like ...</b></p> <p><b>Grain Products</b></p> <p>1 cup of cereal flakes = fist</p> <p>1 pancake = compact disc</p> <p>1/2 cup of cooked rice, pasta, or potato = 1/2 baseball</p> <p>1 slice of bread = cassette tape</p> <p>1 piece of cornbread = bar of soap</p>	<p><b>1 Serving Looks Like ...</b></p> <p><b>Vegetables and Fruit</b></p> <p>1 cup of salad greens = baseball</p> <p>1 baked potato = fist</p> <p>1 medium fruit = baseball</p> <p>1/2 cup of fresh fruit = 1/2 baseball</p> <p>1/4 cup of raisins = large egg</p>
<p><b>1 Serving Looks Like ...</b></p> <p><b>Dairy and Cheese</b></p> <p>1 1/2 oz. cheese = 4 stacked dice or 2 cheese slices</p> <p>1/2 cup of ice cream = 1/2 baseball</p> <p><b>Fats</b></p> <p>1 tsp. margarine or spreads = 1 dice</p>	<p><b>1 Serving Looks Like ...</b></p> <p><b>Meat and Alternatives</b></p> <p>3 oz. meat, fish, and poultry = deck of cards</p> <p>3 oz. grilled or baked fish = checkbook</p> <p>2 Tbsp. peanut butter = ping pong ball</p>

**great strategy: lessen plate, bowl and glass sizes**

12<sup>th</sup> edition, pp. 263-275; 11<sup>th</sup> edition, page 260-276

### DIETARY GUIDELINES

**Eat a variety of foods.** Choosing among different types of foods every day helps ensure that you get the protein, vitamins, and minerals you need.

**Maintain a healthy weight.** Excess pounds can increase your risk of high blood pressure, heart disease, stroke, certain cancers, and the most common kind of diabetes.

**Choose a diet low in fat, saturated fat, and cholesterol.** Fat contains more than twice the calories of an equal amount of protein or carbohydrates, and increases your risk of heart disease and certain kinds of cancer.

**Use sugars only in moderation.** Sugars, or simple carbohydrates provide few nutrients for their calories and can contribute to tooth decay.

**Use salt and sodium only in moderation.** Excessive sodium intake may increase your risk of high blood pressure. The Food and Drug Administration recommends that 1 adults restrict sodium to no more than 2,400 milligrams a day.

**If you drink alcoholic beverages, do so only in moderation.** Alcohol, which has a very low nutrient density can lead to dependence and other health problems.

### the digestive process

not in texts

- In the mouth, the teeth and tongue break food into small particles and mix them with saliva, which begins the chemical breakdown of the food.
- In the stomach, muscles lining the stomach further mix food, as acids and enzymes continue the chemical breakdown.
- The gallbladder and pancreas add enzymes to those in the small intestine.
- In the small intestine, enzymes continue to break down food, and special cells absorb the nutrients, which the blood carries to body cells where metabolism takes place.
- In the colon, cells continue to absorb the remaining minerals and water, leaving the fiber to be eliminated as waste product.

### essential nutrients

12<sup>th</sup> edition, pp. 264-268; 11<sup>th</sup> edition, p. 261-274

- Proteins:** The building blocks of the body needed for growth, maintenance and replacement of body cells. **30% recommended for your diet**
- Fats:** provide energy and serves as carrier for certain vitamins. Saturated fats are solid at room temps: animal fats. Unsaturated: commonly in vegetable oils 95% as triglycerides in our bodies, 5% as cholesterol **30% recommended for your diet**
- Carbohydrates:** organic compounds that provide our body and brain with glucose, often referred to as sugars. Complex carbohydrates are grains, vegetables, simple carbohydrates are fruits, refined sugar **40% recommended for your diet.**

### essential nutrients, con't

- Water:** the essential substance that helps in digestion, elimination, and maintenance of bodily fluids and temperature...60-70% of our body is water! We need equivalent of 9-12 8oz. glasses a day.
- Fiber:** also called bulk or roughage. Helps move food through the digestive process. Best found in complex carbohydrates such as grains, seeds, beans. Helps against colon and breast cancers plus heart disease, diabetes, and obesity.
- Vitamins:** organic substances needed in very small amounts by the body to perform a variety of functions. There are two types: water soluble dissolve in water, and fat soluble which absorb through intestines with fat
- Minerals:** naturally occurring inorganic substances that are needed in small amounts for certain essential function of the body.

**Note: you still need a balanced diet to absorb vitamins and minerals!**

### complementary proteins

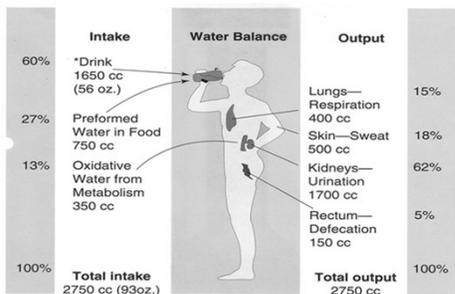
12<sup>th</sup> edition, pp. 264-265; 11<sup>th</sup> edition, p. 262-263

Eating combinations of two different types of these protein-rich foods results in a process known as *mutual supplementation*, in which complementary proteins are formed. Complementary proteins contain all of the essential amino acids and thus help avoid protein deficiencies.

Legumes and grains  
Legumes and nuts and seeds  
Green leafy vegetables and grains  
Green leafy vegetables and nuts and seeds

## the ins and outs of water

12<sup>th</sup> edition, p 264; 11<sup>th</sup> edition, p. 261-262 (diagram not in books)



We need equivalent of 9-12 8oz. glasses of water per day or 70-90 oz. per day

## The *new* food pyramid:

12<sup>th</sup> edition, pp. 275-276; 11<sup>th</sup> edition, p. 276-277

### Make half your plate fruits and vegetables

Eat red, orange, and dark-green vegetables, such as tomatoes, sweet potatoes, and broccoli, in main and side dishes.

Eat fruit, vegetables, or unsalted nuts as snacks they are nature's original fast foods.

### Switch to skim or 1% milk

They have the same amount of calcium and other essential nutrients as whole milk, but less fat and calories. Try calcium-fortified soy products as an alternative to dairy foods.

### Make at least half your grains whole

Choose 100% whole-grain cereals, breads, crackers, rice, and pasta. Check the ingredients list on food packages to find whole-grain foods.

### Vary your protein food choices

Twice a week, make seafood the protein on your plate. Eat beans, which are a *natural* source of fiber and protein. Keep meat and poultry portions small and lean.



## good v. bad fats

12<sup>th</sup> edition, pp. 267-270; 11<sup>th</sup> edition, p. 265-267

- **Trans fats** are artificially created as a side effect of partial hydrogenation (*adding hydrogen to plant oil*)
- **trans fats** are great for food processors because:
  - better shelf life
  - stabilizes flavour
- molecular structure of **trans** fats or hydrogenated fats adds to coronary disease & high cholesterol
- not allowed in most European countries. Many US cities and states are beginning to legislate removal. Some companies, KFC, Starbucks, etc. have already voluntarily removed
- from Jan'06 must be noted on US food labels
- good fats (Omega-3's): eat in moderate amounts: fats from fatty fish (*salmon, tuna, herring*) and vegetable oils (*olive, canola*).

## unsaturated fats in oils

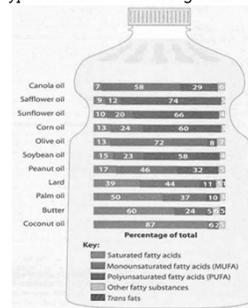
12<sup>th</sup> edition, pp. 267-266; 11<sup>th</sup> edition, p. 265-267

228,000 deaths annually are attributed to the consumption of **trans** fats due to coronary disease

**Saturated fats:** solid at room temperature...red meat and dairy products are our largest contributor in our diets

**Unsaturated fats:** liquid at room temperatures and are plant based.

types of fats in common vegetable oils



## medical value of food

12<sup>th</sup> edition, pp.273; 11<sup>th</sup> edition, p. 271

- **antioxidants:** helps reduce incidents of some cancers and heart disease. Found in most fruit and vegetables and vitamin C. Studies show antioxidants reduce 'free radicals' which can damage tissue and aging
- **foliate:** or folic acid. A form of vitamin B believed to protect against cardiovascular diseases
- **probiotics:** microorganisms found in fermented foods such as yogurts to help digestive process.
- **daily supplements:** 52% of US adult take some sort of daily supplements costing \$23 billion annually. No medical research has determined beneficial effect in many instances. Primary sources such as fruits, vegetables, whole grains and lean protein when consumed in balanced amounts are best!

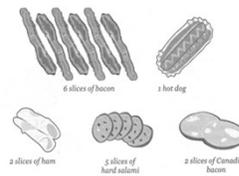
## changing the meat and potatoes diet

not in texts

- heavy red meat eaters are twice as likely to get prostate cancer and colon cancer



According to the new report, that much daily processed meat increases the risk of colorectal cancer by 18%. In practice, that looks like:



- three servings of fruit or vegetables can reduce the risk of stroke by 22%
- reduction in saturated fat intake with red meats also having a high incidence of growth hormones and anti-biotics.

## Vegetarianism – a healthy diet?

12<sup>th</sup> edition, pp. 279-280; 11<sup>th</sup> edition, p. 279

- Approx. 9% of Americans or 9 million people are vegetarians
- Vegans avoid all animal products including dairy products and eggs; eating nuts, veg., grains, fruits
- Lacto-vegetarians avoid animal flesh and eggs
- Semi-vegetarians (*non-red meat eaters*) eat chicken, fish, dairy products
- Reasons are varied from personal to striving for a more healthy diet
- Need to purposefully eat balanced meals with complimentary proteins such as soy or other protein alternatives
- Supplements to avoid vitamin/mineral deficiencies.



## when funds are short

12<sup>th</sup> edition, pp. 281-282; 11<sup>th</sup> edition, p. 283

- eat foods when in season
- never go to the market hungry
- make a shopping list...just don't wander
- shop at warehouse or large chain stores  
*in Modesto: WinCo & Food Maxx have best overall prices*
- use coupons in newspaper or on-line
- buy in volume, and divide into zip-lock bags
- cook a large meal and freeze small portions
- try not to buy convenience or prepared foods
- Grow your own fruit/veg
- Avoid fast food, taco trucks, or coffee bars which are far more expensive than buying foods from a market and preparing it yourself... *college males spend on average \$99.17 on fast food a month!*

## eating well in college

12<sup>th</sup> edition, pp. 281-282; 11<sup>th</sup> edition, p. 281

- eat a balanced whole grain breakfast to start your day!
- avoid mayonnaise or creamy dressings, hold the cheese
- avoid the false economy of 'super-sizing' a meal
- order skinless chicken breast sandwiches broiled, not breaded or fried...try baked 'fries'
- if you order a salad, watch fatty or high calorie dressings, ask for dressing on the side
- avoid lard or saturated fat foods
- drink water instead of sugary drinks
- healthy options: Subway's, Togo's, Sandwich Shop on Kansas, Scotts Subs down street on east side of Carpenter, or sandwich and deli shops,
- be prepared: pack a meal or lunch... energy bars, veg. or fruit in zip-lock bags, etc.



## \$5.00 dinner in 5 minutes



Canned salmon \$.29  
avocado .70  
spinach  
Tomatoes  
broccoli  
Cucumber  
Olives  
CROUTONS  
Olive oil/vinegar dressing  
1 lg. glass fuzzy water  
**\$5.09**

## food safety

12<sup>th</sup> edition, pp. 284-285; 11<sup>th</sup> edition, p. 282-284

- wash your hands, and clean food prep area before beginning
- most meats, poultry or fish last only two days in the frig. if it smells or looks bad...toss it! (3 day rule)
- be observant of packaging and damage in stores
- never thaw frozen foods at room temperature
- never leave cooked foods standing uncovered or out for longer than two hours
- cook all meats thoroughly
- do not use the same cutting boards for meats and vegetables... keep your cutting boards clean.
- do not cross contaminate
- Four core practices:



## modern food concerns

12<sup>th</sup> edition, pp. 284-286; 11<sup>th</sup> edition, p. 284

- **food additives:** additives are added to reduce risk of food borne illness, enhance the look and taste, and increase shelf life. Some additives can enhance nutrient value. Studies show however, the less additives, the better in many instances
- **food allergies:** Hyper sensitivity to a food. With many foods ingredients being added to processed foods, it is increasingly important to read food labels. Peanut allergies are the most common
- **food intolerance:** Can cause gastric or stomach upset. Lactose intolerance (compound found in milk) is the most common
- **irradiation:** process that involves treating foods with waves of low dose radiation to kill microorganisms and increase shelf life.

## modern food concerns, *con't*

12<sup>th</sup> edition, pp. 284-286; 11<sup>th</sup> edition, p. 284

- **Locavores:** The movement to eat more locally produced foods. Most food in the U.S. travels 1500 miles to consumers. Increasing evidence that foods lose nutritional value after several days, along energy costs of transport reduce benefit.
  - **gluten free:** foods without Gluten which is a protein found in wheat, rye, and barley which can cause Celiac disease which is an inherited autoimmune disease affecting the small intestine stopping nutrient absorption and causing pain, cramping, bloating, and other symptoms.
  - **genetically modified foods (GM foods):** The insertion or deletion of genes into the DNA of an organism. GM foods are sometimes created to improve yield, make them insect/drought resistant, or improve color, appearance or enhance nutrition. Tomatoes were the first foods to be modified to make them harder when ripe to allow mechanized processing. Cotton, soybean and corn are the most commonly foods modified.
- good pro/con piece on p. 287 in 12<sup>th</sup>, p. 286 in 11<sup>th</sup> edition -



## high fructose corn syrup

not in texts

- This inexpensive sweetener is converted from corn starch and used in many products
- North Americans consume on over 35.7 pounds a year
- Found primarily in sodas which are the # 1 cause of childhood obesity
- Concern through numerous studies of the human body's inability to process product's molecular structure
- Other studies have found association to mid-section fat retention and intake of high fructose corn syrup



## organic foods

12<sup>th</sup> edition, pp. 282-283; 11<sup>th</sup> edition, p. 280



- **Organically grown food:** passed guidelines and test demonstrating that at least 95% produced without hormones, antibiotics, genetic modification, or germ-killing radiation
- fastest growing segment of grocery market
- several farms and dairies in San Joaquin valley participate in Organic production
- most beneficial in foods that are high in artificial substance absorption: dairy, meats, thin skinned vegetables and fruits
- less beneficial in thick skinned foods: bananas, oranges
- more important for young who are more sensitive to additives in foods.

## healthy eating simplified

not in texts

- Don't buy food in fancy packages...shop the perimeter of the store
  - Let the 'my plate' concept guide you: half veg., quarter lean protein, quarter whole grains. Fruits should be dessert
  - Eat natural snacks of fresh or dried fruit, veg, low fat cheese, yogurt, or nuts
  - Eat slowly and chew your food to reduce calorie consumption
  - Mix it up...vary your foods
  - Don't make food the central focus of your life
  - Eat the most calories in the morning, and decrease throughout the day
  - A big dinner after 7:00pm is linked to being overweight
- refer to the 'food rules' handout

**remember...in the United States we are blessed with an overabundance of choice**

**you as a responsible consumer need to sift through and find quality and less quantity to maintain healthy nutrition and a healthier life!**