

Nutrition for Health

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Chapter 10

# Lesson 1 – The Importance of Nutrition

## Why Nutrition Matters

- The food you eat plays a role in your total health.
- Your body relies on food to provide it with nutrients.
- The energy your body receives from food is measured in calories.
- Healthy foods are fuel for your mind and body.
- Nutrition affects your lifelong health.

Can help reduce your risk of developing:

- Type 2 diabetes.
- Cardiovascular disease.

- Certain cancers.
- Osteoporosis.

## What Influences Your Food Choices?

(READ)

### Hunger and Appetite

- People eat for two main reasons.
- Hunger – natural physical drive to eat, prompted by the body's need for food.
- Appetite – psychological desire for food.

### Food and Emotions

- Eat in response to an emotional need.

- Stress, frustration, lonely, or sad.
- People may snack out of boredom or to use food as a reward.
- This can lead to unhealthy weight gain.
- Need to reconnect your eating with real hunger.

## Food and Your Environment

Environmental factors include:

- Family and culture.
- Friends.
- Time and money.
- Advertising.

# Lesson 1 – Assessment Questions

1. Name three health problems that good nutrition can help you avoid.
  - Cardiovascular disease, certain cancers, and stroke.
2. What is the difference between hunger and appetite?
  - Hunger is the physical need to eat while appetite is the desire to eat.
3. Identify two emotions that influence eating when someone isn't hungry.
  - Stressed and bored.

## Lesson 2 – Nutrients

### Giving Your Body What It Needs

Your body uses nutrients in many ways:

- As an energy source.
- To heal, build, and repair tissue.
- To sustain growth.
- To help transport oxygen to cells.
- To regulate body functions.

There are six types of nutrients .

These three are sources of energy.

- Carbohydrates.
- Proteins.
- Fats.

These three perform other bodily functions.

- Vitamins.
- Minerals.
- Water.

## Nutrients That Provide Energy

- Carbohydrates, proteins, and fats.
- Each gram of carbs/protein provides four calories of energy.
- Each gram of fats provides nine calories.
- The body uses these nutrients to build, repair, and fuel itself.

## Carbohydrates

- Nutrition experts recommend getting 45~65% of your daily calories from carbs.

# Types of Carbohydrates

There are three types of carbohydrates:

- Simple.
- Complex.
- Fiber.
- Simple carbs are sugars such as fructose (fruit) and lactose (milk).
- Complex carbs (starches) are long chains of sugars linked together.
- Common sources of complex carbs include: bread, pasta, beans, and root vegetables.

- Fiber moves waste through your digestive system.
- Can help you feel full/prevent overeating.
- May reduce the risk of cancer, heart disease, and type 2 diabetes.
- Teen girls (14~18) need 26 grams of fiber daily.
- Teen boys (14~18) need 38 grams of fiber daily.

Good sources include:

- Fruits, vegetables, whole grains, nuts, seeds, and legumes (beans).

## The Role of Carbohydrates

- Your body uses them by breaking them down into their simplest forms.
- Most of the carbs you eat are turned into simple sugar called glucose.
- Glucose is the body's main source of fuel.
- Glucose can be stored for later use.

## Benefits of Fiber (read)

### Proteins

- Nutrients the body uses to build and maintain cells and tissues.
- Made up of chemical called amino acids.

## Types of Proteins

- Your body uses about 20 amino acids.
- Your body produces 11 of these amino acids. (nonessential amino acids)
- The other 9 are called essential amino acids.
- You must get them from your food.
- Proteins from animal sources are “complete” proteins. They contain all 9 amino acids.
- Proteins from plant sources are usually missing one or more of the essential amino acids.

## The Role of Proteins

- The basic building material of all your body cells.
- Helps your body grow during childhood and adolescence.
- Maintains muscles, ligaments, tendons throughout your life.
- Can be used as a source of energy.
- Teen boys (14~18) 52 grams of protein daily.
- Teen girls (14~18) 46 grams of protein daily.
- 10~15% of your total daily calories should come from protein.

# Fats

- Your body needs a certain amount of fat to function properly.
- Choose healthier fats.

## Types of Fats

- Dietary fats are composed of fatty acids.
- Classified as either unsaturated or saturated.
- Body needs but cannot produce essential fatty acids.
- Unsaturated fats vegetable oils, nuts, and seeds.  
Eating UF in moderate amounts may lower your risk of heart disease.

- **Saturated fats** meat and dairy products. Eating too many SF can increase your risk of heart disease.
- **Trans fats** fat formed through hydrogenation. Stick margarine and snack foods. Can harm health by raising total blood cholesterol level.

## Health Issues of Fats (Read)

### The Role of Fats

- Provides a concentrated form of energy.
- Essential fatty acids are important to brain development, blood clotting, and controlling inflammation.
- Help maintain healthy skin and hair.

- Absorbs and transports fat-soluble vitamins.
- Calories from fats that your body does not use are stored as body fat.
- Carrying too much body fat increases the risk of health problems.
- Consuming SF can increase level of cholesterol.
- Excess cholesterol can build up on the insides of your arteries.
- Raises your risk of heart disease.
- Teens need to consume less than 25-35% of their calories from fats.

## Other Types of Nutrients

- Vitamins, minerals, and water are necessary for various body functions.

## Vitamins

There are two types of vitamins:

- Water soluble – dissolve in water and pass easily into the bloodstream during digestion, unused amounts are moved by the kidneys.
- Fat soluble – stored in body fat for later use. Can build up to a harmful level.

## Minerals

- Body cannot produce minerals, it must get them from food.
- Calcium is especially important.
- Reduces the risk of developing osteoporosis.

## Water

Water's functions include:

- Moving food through the digestive system.
- Digesting carbs and proteins, and aiding other chemical reactions in the body.
- Transporting nutrients and removing wastes.
- Storing and releasing heat.
- Cooling the body through preparation.

- Teen girls need 9 cups a day.
- Teen boys need 13 cups a day.
- If you are active, you will need to drink more water to replace what your body loses when you sweat.
- Before, during, and after.
- Limit caffeine, it can cause dehydration.

## Lesson 2 – Assessment Questions

1. Which nutrients can your body use as sources of energy?
  - Carbohydrates and fats.
2. What are essential amino acids? From what source do you obtain essential amino acids ?
  - They are the 9 amino acids your body does not produce. The body must get them from food.
3. How does eating calcium-rich foods as a teen protect your lifelong health?
  - It promotes bone health.

## Lesson 3 – Healthy Food Guidelines

### Guidelines for Eating Right and Active Living

#### Dietary Guideline for America

- Provide science-based advice for healthful eating.
- Provide information on the importance of active living.

This advice can be summed up in three key guideline:

- Make smart choices from every food group.
- Balance food and activity.
- Get the most nutrition out of you calories.

#### Making Smart Choices

- Grains, vegetables, fruits, milk, and proteins.

# MyPlate – Figure 10.9

<https://www.choosemyplate.gov/resources/MyPlatePlan>

## Your Best Choices

- Focus on fruits.
- Vary your veggies.
- Eat calcium-rich foods.
- Make half your grains whole.
- Go lean with protein.
- Limit certain foods.

## Balancing Food and Physical Activity

- Dietary Guidelines recommend you balance the energy in your food with regular physical activity.
- 60 minutes of physical activity almost everyday.

## Getting the Most Nutrition Out of Your Calories

- Get enough nutrients out of the foods you eat by choosing nutrient dense foods.
- The more nutrient dense a food is, the more nutrients it packs into a given # of calories.
- Carrots vs. potato chips.
- How can you incorporate potato chips?

# Healthful Eating Patterns (Read)

## Starting the Day Off Right

- After 8 hours of sleep your body needs to refuel.
- Children who eat breakfast do better in school/less likely to be overweight.
- Quick/easy/healthy.

## Sensible Snacks

- Provide energy to keep you going between meals.
- Help you from overeating at lunch/dinner.

Healthy examples include:

- Fresh fruit.
- Cut up vegetables (celery or carrots).
- String cheese.
- Unsalted nuts.
- Air-popped popcorn.
- Fat-free yogurt.

## Eating Right When Eating Out

Here are a few tips to keep in mind:

- Portion sizes.
- Preparation.
- Fresh fruits and vegetables.

- Go easy on the toppings.
- Don't drink your calories.

### Lesson 3 – Assessment Questions

1. What are the five basic food groups?
  - Grains, vegetables, fruits, milk, protein.
2. What kinds of foods are best to avoid or limit?
  - Foods high in fat.
3. Provide two examples of nutrient dense foods.
  - Low-fat milk and carrots.

# Nutrition Labels and Food Safety

## Nutrition Label Basics

Food labels include:

- Name of the food product.
- Amount of food in the package.
- Name and address of the company that makes, packages, or distributes the product.
- Nutrition facts panel, which provides information about the nutrients in the food.

## Ingredient List

- Ingredients in a food appear on the label in descending order.

## Food Additives

- Used to keep food safer for a longer period of time.
- Boost its nutrient content.
- Improve taste, texture, or appearance.

## Nutrition Facts (Read)

### Nutritional Claims

Federal law gives uniform definitions for the following terms:

- Free – food contains none, or an insignificant amount of a given component.
- Low – low-fat foods must have less than three grams or less of fat per serving.

- Light – must contain 1/3 fewer calories, 1/2 the fat, 1/2 the sodium of the original version.
- Reduced – food contains 25% fewer calories, or 25% less of a given nutrient, than the original version.
- High – food provides at least 20% of the daily value for a vitamin, mineral, protein, or fiber.
- Good source of – food provides 10~19% of the daily value of a vitamin, mineral, protein, or fiber.
- Healthy – must be low in fat and saturated fat and contain limited amounts of cholesterol and sodium.  
+ 10% of the daily value for Vitamin A,C, iron, calcium, protein, or fiber.

# Organic Food Labels (Read)

## Open Dating

There are several types of open dates:

- Sell by dates.
- Use by or expiration dates.
- Freshness dates.
- Pack dates.

## Food Safety

- Washing hands is one strategy to prevent foodborne illness.
- Foods can contain pathogens that may cause disease.

## How Foodborne Illness Occurs

- Bacteria and viruses cause most cases of foodborne illness.

(Read the rest of the section)

If the following symptoms are present consult a doctor:

- Fever higher than 101.5.
- Prolonged vomiting/diarrhea.
- Blood in stool.
- Signs of dehydration.

## Keeping Foods Safe to Eat

- One important process is pasteurization.
- Four basic steps for keep food clean include:
- Clean/avoid cross-contamination.
  - Separate.
  - Cook.
  - Chill.

## Food Sensitivities

Most common food allergens are found in:

- Milk.
- Eggs.
- Peanuts.
- Tree nuts.

- Soybeans.
- Wheat.
- Fish.
- Shellfish.
- Symptoms can range from mild to life threatening.
- Most dangerous reaction is anaphylaxis.

## Food Intolerance

- A negative reaction to food that doesn't involve the immune system.
- More common than food allergy.

## Lesson 4 – Assessment Questions

1. What does the term *light* mean when used on a food label?
  - The food contains  $\frac{1}{3}$  fewer calories,  $\frac{1}{2}$  the fat, or  $\frac{1}{2}$  the sodium of the original version.
2. What is the difference between a sell by date and a use by date?
  - A sell by date is the last day on which a store should sell a product. A use by date is the last day on which a product's quality can be guaranteed.
3. What is another term that refers to foodborne illness?
  - Food poisoning.