# CHAPTER 5

Nutrition and Your Health

Lessons 1, 2, 3, 4, 5

# HEALTH TERMS

- **Nutrients-** the substances in food that your body needs to function properly to grow, to repair itself, and to supply you with energy.
- **Hunger-** a natural drive that protects you from starvation.
- **Appetite-** a desire, rather than a need, to eat.
- **Nutrition-** the process by which the body takes in and uses food.

# LESSON 1, FOOD IN YOUR LIFE

- They affect how you look, feel, act, grow, and even your abilities- how well you function each day.
- Learning the difference between a *physical need* for food and a *psychological desire* for food can help you make more healthful choices.
  - Physical need- when your body tells you through hunger when it needs food.
  - Psychological need- Eating in response to appetite rather than to hunger.

# LESSON 2

- **Carbohydrates**- the starches and sugars found in foods.
  - **Simple Carbohydrates-** (sugars) are present naturally in fruits, some vegetables, and milk.
  - **Complex Cabogydrates**- (starches) found in great supply in rice and other grains, seeds, nuts, legumes (dried peas and beans), and tubers (potatoes, yams.)
- **Role of Carbohydrates**
  - **Glucose**- a simple sugar and the body's chief fuel.
    - Not used right away, it is stored in the liver and muscles as a *starch substance* called **glycogen**.

- **Fiber-** found in the though, stringy part of the vegetables, fruits, and grains. Is a special form of complex carbohydrate.
  - Helps move waste through your **digestive system** and helps prevent appendicitis, and other intestinal problems.
- **Proteins-** nutrients that help build and maintain body tissues.
  - Muscle, bone, connective tissue, teeth, skin, blood, and vital organs all contain protein.
  - Made of chains of building blocks called ***amino acids.***
    - *substances that make up body proteins.*
- Protein-rich foods are categorized
  - *Complete Proteins- contain all the essential amino acids.*
  - *Incomplete Proteins- lack some of the essential amino acids.*

- **Lipids-** a fatty substance that does not dissolve in water.
  - **Saturated Fats-** holds all the hydrogen atoms it can.
  - **Unsaturated Fats-** It is missing one or more pairs of hydrogen atoms.
- Fats carry vitamins A, D, E, and K into your blood seves as sources of **linoleic acid**
  - An essential fatty acid not made in the body but which is essential for growth and healthy skin.
- **Cholesterol-** a fatlike substance produced in the liver of all animals, an, therefore, found only in foods of animal origin- meats, poultry, fish, eggs, & dairy products.

# LESSON 3, NUTRIENTS: VITAMINS, MINERALS, AND WATER

- **Vitamins**- compounds that help regulate many vital body processes, including the digestion, absorption, and metabolism of other nutrients.
  - of the 13 vitamins that play a key role in good nutrition, only one- vitamin D- is manufactured by the body.
  - Vitamins are classified into two groups:
    - Water-Soluble: Vitamin C and the 8 vitamins in Vitamin B complex. Dissolve in water and thus pass easily into the bloodstream in the process of digestion.
    - Fat-Soluble: Vitamins that are absorbed and transported by fat- includes Vitamins A, D, E, and K. Stored in the body's fatty tissue, the liver, and the kidneys.

## Water-Soluble Vitamins

| Vitamin | Role In Body | Food Source |
|---|---|---|
| C | Protects against infection; helps with formation of connective tissue | Citrus fruits, tomatoes, broccoli, peppers |
| B1 | Changes glucose into energy or fat; necessary for good appetite | Whole-grain, liver, yeast, nuts, wheat germ |
| B2 | Essential for producing energy from carbohydrates, fats, and proteins | Milk, cheese, spinach, eggs, beef liver |
| B6 | Essential to amino acid and carbohydrate metabolism. | Whole grains, fish, vegetables |
| B12 | Necessary for production of red blood cells and normal growth | Meat, fish, poultry, eggs, milk |
| Niacin | Important to maintenance of all body tissues | Milk, eggs, poultry, beef, peanut butter |

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|---|---|---|
| Folic Acid | Production of RNA and DNA and normal red blood cells | Green vegetables, orange juice |
| Pantothenic Acid | Functions in the breakdown and synthesis of carbohydrates, fats, and proteins | Milk, Cheese, poultry, wheat germ |

| **Fat-Soluble Vitamins** | | |
|---|---|---|
| Vitamin | Role In Body | Food Source |
| A | Maintenance of epithelial tissue | Milk and other dairy products |
| D | Promotes absorption and use of calcium and phosphorus | Fortified milk; eggs; sardines; salmon |
| E | May relate to transporting oxygen through blood | Vegetable oils, nuts, seeds |
| K | Essential for blood clotting | Spinach, broccoli, eggs, liver, cabbage |