EXAM 2 STUDY GUIDE

Sunday, March 2, 2014
11:33 AM

CHAPTER 5: Nutrition

BMI: $\frac{\text{WEIGHT}}{\text{HEIGHT}}$

Types of Nutrients:

- Micro-nutrients: needed in small amounts
  Ex: Vitamins, minerals
- MACRO-nutrients: needed in LARGE amounts
  Ex: Water, carbohydrates, proteins, fats

H2O Function:

- Digests, absorbs, transports nutrients
- Helps regulate body temperature
- Carries waste out of the body
- Lubricates our body parts

Carbohydrates:

- The body's main source of energy
- Fuel most of the body's cells during daily activities
- Used by muscle cells during high-intensity exercise
- Only source of energy for brain cells, red-blood cells, and some other types of cells
- Types:
  - Simple carbohydrates (sugars)
    - Easily digestible and composed of 1 or 2 units of sugar
      - Ex: Glucose, fructose, galactose, lactose, maltose, sucrose
  - Complex carbohydrates (starches and dietary fibers)
    - Sources:
      - Whole grains (whole wheat, brown rice, oatmeal, corn)
      - Vegetables

        - Some fruit
- Fiber
    - Complex carbohydrate found in plants that cannot be broken down by the digestive tract
    - Allows for passage of food quickly through the intestines, which helps prevent hemorrhoids and constipation
    - Fiber is best obtained through diet, not pills or supplements
    - Sources:
        - Fruits
        - Vegetables
        - Dried beans
        - Peas & other legumes
        - Cereals
        - Grains
        - Nuts
        - Seeds

Proteins:

- Function:
    - Build and maintain muscles, bones, and other body tissues
        - Form enzymes that facilitate chemical reactions
    - Types:
        - Complete proteins
            - Sources: meats, eggs, fish, milk, poultry, cheese
        - Incomplete proteins
            - Vegetable proteins: grains, seeds, nuts
    - Complementary proteins: proteins that in combination provide essential amino acids
    - Mutual supplementation: nutritional strategy of combining two incomplete protein sources to provide a complete protein
        - Ex: Rice & Beans

Fats:

- Principal form of stored energy in the body

- Provide essential fatty acids
- Role in the production of other fatty acids & Vitamin D
- Provide the major material for cell membranes and for the myelin sheaths that surround nerve fibers
- Assist in absorption of fat-soluble vitamins
- Affect texture, taste, and smell of foods
- Provide emergency reserve when we are sick or when our food intake is diminished
- Types:
  - Saturated fat: found in animal products & other fats that remain solid at room temp
    - Beef
    - Pork
    - Poultry
    - Whole-milk dairy products
    - Certain tropical oils (coconut and palm)
    - Certain nuts (macadamia)
  - Monounsaturated fat: found primarily in plant sources, are liquid at room temperature, & are semisolid or solid when refrigerated
    - Olive, safflower, peanut & canola oils
    - Avocados
    - Many nuts
  - Polyunsaturated fat: commonly referred to as “oil”; liquid at room temperature & when refrigerated
    - Corn and soybean oils
    - Fish, including trout, salmon & anchovies
  - Cholesterol: a waxy substance that is needed for several important body functions
    - The body produces it from the liver & obtains it from animal food sources (meat, cheese, eggs, milk)
    - Too much cholesterol can clog arteries & lead to cardiovascular disease
    - LDLs (low density lipoproteins) are the “bad” cholesterol, while HDLs (high density lipoproteins) are considered “good”
    - Recommended: consume no more than 300mg per day