

HLTH140 EXAM #2

Chapter 6- Nutrition

1. **Describe fuel potential**
2. Describe the importance and function of water
 - a. Water digests, absorbs, and transports nutrients. Regulates body temperature, carries waste products out of the body, and lubricates our moving parts. Replaces electrolytes (combined w balanced diet).
 - b. Need 8-12 cups a day.(1-1.5 mL/calorie spent)
3. Explain the function of proteins, what they're made of, daily requirement, incomplete and complete proteins, and mutual supplementation
 - a. Function: build and maintain muscles, bones and other tissues. Form enzymes that facilitate chemical reactions
 - b. Made of: 20 diff amino acids (9 cannot be produced by body- essential amino acids)
 - c. Requirement: 9 essential amino acids
 - d. Incomplete: vegetable proteins: contain small amounts of essential AA
 - e. Complete: animal proteins: ample amounts of all essential AA
 - f. Mutual supplementation: food with one AA, combined with food with another AA → all essential AAs
4. Discuss the function and types of fats, including saturated, unsaturated (poly and mono) and trans fats
 - a. Function: energy source, material for cell membranes, help absorb vitamins ADEK,
 - b. Types:
 - i. Saturated fat- stable at room temp, animal sources,
 - ii. Unsaturated- poly= liquid at room temp and fridge; mono= liquid at room temp and solid in fridge. Plant sources
 - iii. Trans fat- produced through hydrogenation, liquid vegetable oils are turned into more solid fats (prolong shelf-life/improve taste). Raise LDLs and lower HDLs.
5. Discuss carbs, including their function, types (simple and complex) and refined v whole grains
 - a. Function: main energy source, high energy activities
 - b. Complex: multiple sugar units, includes starches and dietary fiber
 - c. Whole grains: original state, have many nutrients
 - d. Refined: processed to make easier to digest
 - e. Simple: easily digestible composed of one or two units of sugar
 - i. Glucose, fructose, galactose, lactose, maltose, sucrose
 - ii. "sugar high"
6. Describe Vitamins (function, which are considered essential, solubility, and sources)
 - a. Function: catalysts for releasing energy from carbs proteins and fats, aid chemical reactions in the body, maintain components of the immune nervous and skeletal systems
 - b. Essential: A C D E K B (thiamine, riboflavin, niacin, folic acid, b6, b12)
 - c. Solubility: A D E K are fat-soluble. The rest are water soluble

- d. Sources:
 - i. A= dairy, fish, dark greens, yellow and orange
 - ii. C= citrus, broccoli, tomatoes, leafy veggies
 - iii. D= fish and eggs
 - iv. E= plant oils, seeds, avocado
 - v. K= dark greens, broccoli, cheese
 - vi. Thiamine= whole grain cereals
 - vii. Riboflavin= milk, mushrooms, spinach, liver
 - viii. B6= meat, poultry, fish, bananas
 - ix. B12= meat poultry, fish, dairy
 - x. Niacin= meat, fish, poultry, peanuts, beans
 - xi. Folate= legumes, oranges, bananas
7. Describe minerals (function, which are considered essential, solubility and sources)
- a. Naturally occurring inorganic substances that are needed by the body in relatively small amounts
 - b. Function: build strong bones, metabolic processes, maintain proper function of body systems
 - c. Essential: 100 + milligrams of macrominerals: calcium, chloride, magnesium, phosphorous, potassium, sodium. -100 milligrams of microminerals: chromium, cobalt, copper, fluoride, iodine, iron, manganese, molybdenum, nickel, selenium, silicon, tin, vanadium, zinc
 - d. Solubility: insoluble
 - e. Sources: c
 - i. Calcium= dairy, fish, dark green leafy
 - ii. Iron= meat, poultry, legumes, dark leafy
 - iii. Magnesium= wheat bran, nuts, legumes
 - iv. Potassium= spinach, squash, bananas, milk, potatoes
 - v. Sodium= table salt, soy sauce, processed food
 - vi. Zinc= meat poultry, dairy
8. Discuss phytochemicals, including function, sources and types.
- a. Substances naturally produced by plants
 - b. Function: keep cells healthy, slow down tissue degeneration, prevent formation of carcinogens, reduce cholesterol, protect the heart
 - c. Antioxidants= free radicals created from metabolism of oxygen are neutralized by this. Fruits and veggies brightly colored (blackberries, walnuts, strawberries)
 - d. Phytoestrogens= plant hormones similar to human estrogen. Lower cholesterol and reduce heart disease. Brussel sprouts, broccoli, cauliflower.
 - e. Phytonutrients= substances extracted from veggies and plants and used in supplements. May prevent cancer (lycopene from tomatoes inhibits prostate stomach and esophagus cancer)

Chapter 7- fitness

1. Define physical activity, exercise, physical fitness, skill-related fitness, and health related fitness

- a. Physical activity- activity that requires any type of movement
 - b. Exercise- structured, planned physical activity, often carried out to improve fitness
 - c. Physical fitness- the ability of the body to respond to the physical demands placed upon it
 - d. Skill related fitness- the ability to perform specific skills associated with various leisure activities or sports
 - e. Health related fitness- ability to perform daily living activities with vigor
2. Describe the benefits of exercise, and the guidelines for exercise and physical fitness as set by the American College of Sports Medicine
- a. Benefits: longer lifespan, better functioning of every system, process info more quickly, decrease anxiety and depression, relieve stress, improve quality of life, stress response more calm, better sleep, better connection to self and something beyond self, better self esteem
 - b. Guidelines: 150 minutes of moderate intensity of exercise, or 75 minutes of vigorous intensity exercise a week.
 - i. Moderate= noticeably accelerates the heart rate
 - ii. Vigorous= causes rapid breathing and a substantial increase in heart rate
 - iii. 10 minutes or more and spread throughout the week.
3. Be able to identify each of the components of health related fitness, the benefits of each, training/development for each component, and program development
- a. Body composition: the relative amounts of fat and fat free mass in body
 - i. Recommended percent body fat is 21-35% for women and 8-24% for men
 - b. Flexibility:
 - i. Ability of joints to move through their full range of motion
 - ii. Benefits: reduce muscle tension and prevent injury
 - iii. Passive- partner applies pressure to your muscles, typically producing a stretch beyond what you can do on your own
 - iv. Static- stretch until you feel tightness in the muscle and then hold that position for a set period of time without bouncing
 - v. Ballistic stretching- muscle is stretched in a series of bouncing movements designed to increase the range of motion.
 - vi. Proprioceptive neuromuscular facilitation- therapeutic exercise that causes a stretch reflex in muscles
 - vii. 2-3 days a week, 15-30 seconds hold. After warm up, preferably after work out.
 - c. Muscular strength and endurance:
 - i. Benefits: increased lean body mass, prevents osteoporosis, prevents diabetes, decreased anxiety and depression, improves posture,
 - ii. Muscular strength- capacity of a muscle to exert force against resistance
 - iii. Muscular endurance- capacity of a muscle to exert force repeatedly over a period of time