

Chapter 4: The Importance of Nutrition

What does healthful eating mean to you? Does it mean living entirely on “health food”? Does it mean saying good bye forever to pizza, burgers & candy bars? **THE ANSWER IS NO!**

Lesson 1: Healthful eating

Nutrients- substances found in food that your body needs for energy, proper growth, body maintenance & functioning.

6 nutrients- carbs, proteins, fats, vitamins, minerals, & water

Influences on your food choices: Why do you eat?

Hunger- natural drive

Appetite- personal desire, psychological...not physical

Culture- customs, traditions, beliefs

Family/friends, emotions, convenience/cost

Your body is like a car...it needs fuel!

3 energy sources- carbs, proteins, fats

1. **Carbs**- starches & sugars (main source of energy)
2. **Proteins**- build, maintain & repair body tissues (2nd source of energy)
3. **Fats**- concentrated form of energy that helps transport other nutrients to locations in the body where they are needed

Calorie- amount of energy needed to raise temp of 1kg of water 1 degree Celsius

Carbohydrates- 2 types

1. **Simple**- sugars(fruit, candy, cookies, soda)
 - a. absorbed quickly & provide quick energy
 2. **Complex**- starches (corn, potatoes, breads, cereals, pasta, rice, dry beans)
 - a. broken down slowly, more vitamins, long lasting energy
- 45%-65% of calories should be from carbs, mainly complex carbs
 - **Fig 4.2 p.116**
 - **Carbs in the body**- must be converted into glucose, excess glucose is stored in the liver as glycogen. Excess glucose that is not used, is stored as adipose tissue or body fat.
 - Ultra- endurance training requires large amounts of carbohydrates

Dietary fiber- subclass of carbohydrates-several functions= aide in digestion, lower cholesterol, controlling diabetes

-**teens**= 38gm (males) 36gm (females)

-**foods**- vegetables & fruits

-feel full & satisfied while low in calories

Protein- muscles= 29% protein / 70% water

-component of bones, connective tissues, skin, blood & vital organs

-helps to grow, repair & maintain

-**amino acids**- building blocks of proteins (22 total, body makes all but 9)

-**essential amino acids**- the 9 amino acids that are not produced by the body

complete proteins- contain all 9 essential amino acids

incomplete proteins- lack one or more essential amino acids. (plant foods except soybeans)

vegetarians- eliminate meat, fish & poultry

-must eat a variety of plant based foods & dairy for complete proteins

vegans- vegetarians who also eliminate eggs & dairy products

need special nutritional guidance from a health professional

Fat- provide energy, 9 calories per gram

-transports & absorbs vitamins A,D,E,K, helps regulate testosterone, enhances flavor & texture of foods, helps satisfy hunger because it takes longer to digest

Types of fat:

Saturated fatty acids- animal fats, butter, lard & solid at room temp

Trans fatty acids- certain oils are processed into solids (margarine/shortening – “partially hydrogenated”)

Unsaturated fatty acids- liquid at room temp & come from plant sources (corn oil, sunflower oil, some fish oils)

Fig 4.4 p. 120 “What is your upper limit on fat?”

Cholesterol- contained in saturated & trans fat

-fat like substance that is produced in the liver & circulates in the blood, only in foods of animal origin (egg yolks, meat, 6 fat milk)

-need 300mg per day

-LDL- (bad cholesterol) – builds up in arteries

-HDL-(good cholesterol) – eliminated in the liver

Fat & daily calories- 20%-30% of daily calories

Lesson 2: Vitamins, minerals & water

-**vitamins** -help control body processes & help your body release energy to do work

Fat soluble- carried by fat in food & in your body (A,D,E,K)

Water soluble- not stored in body, but must be replaced daily by eating nutritious foods

(C & B)

-**minerals**- substances that the body cannot manufacture, but are needed for forming healthy bones & teeth, also for regulating many vital body processes

-**calcium**- build/maintain strong bones (dairy products, dark green leafy veggies, canned fish)

-**potassium**- aids in muscle contraction (bananas, dried fruits & fruit juices)

-**sodium**- maintains fluid balance & helps the transmission of nerve impulses

-**iron**- part of hemoglobin in red blood cells

hemoglobin- carries O₂ from lungs to cells in the body (meats, beans, peanuts, and dried fruit)

-**water**- 60%-70% of your body weight is water / could die w/out it for 6-7 days

-regulates body temp, carries nutrients to cells, aids in digestion & is important for many chemical reactions in the body

-should have 8 cups (64 oz.) per day / foods-fruits, vegetables, soup

phytonutrients- plant nutrients

beta-carotene- (anti-oxidant)- carrots, cantaloupes

lutein- may protect against blindness (mangoes, peaches, collard greens, tangerines, yellow/red bell peppers, kale, and spinach)

“More about..... & Stress Break” p. 127 (caffeine)

dietary supplements- non-food form of one or more nutrients

Lesson 3: Choosing foods wisely- ABC's (fig 4.9 p 130)

A-Aim for fitness / **B**-Build a healthy base / **C**-Choose sensibly

-My pyramid fig 4.10 p. 131 / Serving sizes fig 4.11 p. 132 / nutrition facts panel fig 4.12 p. 133

Developing healthful eating habits- *variety, moderation, balance*

-importance of breakfast- “the most important meal of the day”

-must replenish energy from sleeping, improves physical / mental performance, maintain healthy weight

-don't have to be traditional foods

-**snacking** is good as long as the foods are not high in calories, fat & sugar. (**fig 4.13 p135 snacks**)

-dining out tips- more Americans are eating out than before

-pay attention to how the food is prepared, choose healthy side dishes, watch portion sizes, estimate serving, drink healthful beverages

Lesson 4: Nutrition for peak performance

-eating wisely is just as important as appropriate physical training

-“calories burned during physical activity” fig 4.14 p. 139

Pre-event meals- last full meal consumed prior to a practice session or competitive event itself

-eaten 1-3 hrs. before, if sooner nausea/stomach cramps can happen

-too much sugar can slow your performance

-fig 4.15 p. 140 “pre event foods”

-complex carbs throughout the day

-“myths & realities” p. 140

Post event eating: restoration- complex carbs & protein

Phase 1- drink fluids / Phase 2- have a snack (w/in 30 min. / Phase 3- eat a meal (2hrs after competition)

-Fitness check: “Understanding the Energy Equation” p. 142

Risks of supplements- are dangerous if used to enhance athletic performance

Ephedrine- compound that ^ the rate at which the body converts calories to energy.

-^ h.r./b.p., could lead to heart related problems & even death

Creatine- supplement that increases muscle size while enhancing the body’s ability to use protein. Long-term effects are unknown.

Androstenedione- chemical that aids the body in its production of testosterone. Like anabolic steroids, it promotes muscle growth. Can ^ risk of heart disease.