Metabolism & Digestion Cheat Sheet

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Vocabulary

Metabolism	The process of chemically changing nutrients, such as fats & proteins, into end products that are used to meet the energy needs of the body or stored for future use, thereby helping maintain homeostasis
Basal Metabolic Rate (BMR)	The minimum amount of energy required to maintain body functions in the resting, awake state
Anabolism	The use of energy to change simple materials into complex body substances & tissue
Catabolism	The breaking down of substances from complex to simple, resulting in a release of energy
Macronutrients	Nutrients that are needed in large amounts
Micronutrients	Nutrients that are needed by the body in limited amounts
Chyme	Semiliquid product of digestion that travels from the stomach through the intestines
Peristalsis	Wavelike muscular movement through the digestive tract
Dysphagia	Difficulty Swallowing
Marasmus	A protein & caloric deficiency
Kwashiorkor	Lack of protein accompanied by fluid retention
Hyperlipidemia	Elevation of plasma cholesterol, triglycerides, or both
Cachexia	Physical wasting

Carbohydrates

Fats

Fats (cont)

	Sources include canola, olive, & peanut oils, as well as almonds, sesame seeds, avocados, & cashews
Polyun-saturated Fatty Acids	Have multiple pairs of double carbon bonds
	Sources include corn , safflower, sesame, soybean, & sunflower seed oils, & fish (such as halibut herring, mackerel, salmon, sardines, fresh tuna, trout, & whitefish)
Transfats	Composed of partially hydrog-enated fatty acids, & saturated fats
	Known to raise the body's total cholesterol
Choles-terol	A waxy, fatlike substance that is found in all cells of the body
	~75% is produced by the liver & intestines; the remaining 25% is from dietary intake

Protein

Definition	Chemical substances composed of carbon, hydrogen, & oxygen molescules
Function	Major suppliers of energy & include sugars, starches, & fiber
Simple	Are broken down & absorbed quickly, providing a quick source of energy
	Ex: sugars, such as those derived from fruit (fructose), table sugar (sucrose), milk products (lactose) & blood sugar (glucose)
Complex	Take longer to break down before absorption & use by the body's cells
	Are composed of starches, glycogen, & fiber
	Provide the body with vitamins & minerals
Fiber	Is a complex carb & classified as soluble or insoluble
	Solubility refers to the disposition of the fiber when mixed with another substance
	Insoluble fiber doesn't retain water but allows formation of bulk, resulting in the accelerated passage of the end products of food through the intestines & a slowing of starch absorption
	Soluble fiber mixes with water & forms gel-like substance, which results in slower digestion
	Lack of fiber can lead to bowel--related conditions, such as constipation, hemorrhoids, & formation of diverticula
	The presence of protrusions of the intestinal membrane through the muscular layer of the intestine is called *diverticulosis*

Definition	Composed of carbon, hydrogen, & oxygen & yield 9 kilocalories per gram when metabolized with the body
Lipids	Refer to any fat within the body, including true fats & oils (such as fatty acids, cholesterol, & phospholipids)
Function	Needed for energy& to support cellular growth
Benefits	Energy production, support & insulation of major organs & nerve fibers, energy storage of adipose tissue, lubrication for body tissues, vitamin absorption, & transportation of fat-soluble vitamins (A, D, E, & K)
Triglycerides	The most abundant lipids in food
	Although it's important to have a limited intake of triglycerides, an excess can be unhealthy, contributing to health problems such as coronary artery disease & obesity
Saturated Fatty Acids	Contain as many hydrogen atoms as carbon atoms can bond with & no double carbon bonds
	Sources include hard margarines, vegetable shortenings, pastries, crackers, fried foods, cheese, ice cream, & other processed foods
Monounsaturated Fatty Acids	Have only 1 double bond between carbon atoms

Function	Actively participate in the development, maintenance, & repair of the body's tissues, organs, & cells
Amino Acids	Referred to as the "building blocks" of proteins

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