

A

abdominal muscles—The muscles on the front of the body between the chest and the pelvic area.

absolute strength—A term for the total amount of weight you can lift or resistance you can overcome regardless of your body weight.

Achilles tendon—The tendon on the back of the leg that connects the muscles in the calf to the bone of the heel.

active aerobic activity—Aerobic activity done at an intensity that raises the heart rate above the threshold into the target zone; many less intensive activities are aerobic (such as typing, walking, and washing the dishes) but are not considered active aerobics.

active aerobics—Aerobic physical activities (see *aerobics*) that are of enough intensity to cause improvement in cardiovascular fitness.

active recreation—Activities done during your leisure time (free time) that are of enough frequency, intensity, and time to elevate the heart rate into the target zone; examples include backpacking and skiing.

active sports—Sports that elevate the heart rate into the target zone for cardiovascular fitness.

activity neurosis—A condition that occurs when a person is overly concerned about getting enough exercise.

aerobic activity—Steady activity in which the heart can supply all the oxygen the muscles need.

aerobic dance—A combination of dance steps and calisthenics done to music.

aerobics—Physical activities for which the body can supply adequate oxygen to allow performance to continue for long periods of time.

agility—The ability to quickly change the position of the body and to control the body's movements.

AI—An abbreviation for Adequate Intake, a term that refers to the minimum amount of a nutrient a person needs for good health; it is used when there is not enough evidence to provide an RDA.

alarm reaction—The first stage of the general adaptation syndrome; occurs when you are exposed to a stressor.

amino acids—Substances that make up proteins.

anabolic steroids—Strong drugs similar to the male hormone testosterone that can make muscles bulky to enhance athletic performance but that can be extremely dangerous to health.

anaerobic activity—Physical activity done in short, fast bursts in which the heart cannot supply oxygen as fast as muscles use it.

androstenedione—A food supplement that the body converts to a substance similar to anabolic steroids and that can have harmful effects similar to those of anabolic steroids.

anorexia athletica—An eating disorder that has symptoms similar to those of anorexia nervosa in which an athlete severely restricts food intake in an attempt to be exceptionally underfat.

anorexia nervosa—An eating disorder in which a person severely restricts food intake in an attempt to be extremely low in body fat and body weight.

artery—A blood vessel that carries blood from the heart to other parts of the body.

arthritis—A disease in which the joints become inflamed.

atherosclerosis—A disease in which certain substances, including fats, build up on the inside walls of the arteries.

attitude—A person's feelings about something.

B

balance—The ability to keep an upright posture while standing still or moving.

ballistic stretching—A series of quick but gentle bouncing or bobbing motions designed to stretch muscles.

basal metabolism—The amount of energy the body uses just to keep living.

biceps—The large muscle in the front part of the upper arm.

biomechanical principles—Rules related to the study of forces that can help a person move the body efficiently and avoid injury.

blood pressure—The force of blood against the artery walls.

body composition—The makeup of the body tissues, including muscle, bone, body fat, and all other body tissues.

body fatness—The percentage of body weight that is made up of fat.

body mass index (BMI)—A method of assessing body composition.

bulimia—An eating disorder in which a person binge eats, then purges.

C

- caliper**—An instrument used to measure skinfold thickness.
- calisthenics**—Exercises done using all or part of the body weight as the resistance.
- calorie**—A heat unit referring to the energy available in food and the energy used by body activities.
- cancer**—A disease characterized by uncontrollable growth of abnormal cells.
- carbohydrate**—A nutrient in starches and sugars that provides energy.
- cardiac muscle**—Heart muscle.
- cardiovascular fitness**—Ability of the heart, lungs, and blood vessels to function efficiently when a person exercises the body.
- cardiovascular system**—The body system that includes the heart, blood vessels, and blood, and functions by moving oxygen and nutrients to body cells and removing cell waste.
- cholesterol**—A fatlike substance found in animal cells and some foods, such as meats, dairy products, and egg yolks.
- circuit training**—A type of physical activity program in which the person performs a group of exercises in a sequence with brief rests between exercises.
- committed time**—Time that is dedicated to performing job, school, and other formal daily tasks, including time spent in transit (getting to school, for example).
- competitive stress**—A stress condition that may be eustressful or distressful and is associated with involvement in a competitive event.
- complete proteins**—Proteins containing all nine essential amino acids.
- complex carbohydrate**—A nutrient found in starches such as breads, vegetables, and grains, that provides the body with energy; made of long chains of simple sugars.
- con**—Someone who practices fraud.
- controllable risk factors**—Risk factors a person can act upon to change.
- cool-down**—A series of activities to help the body recover after a workout, usually consisting of a heart cool-down and a muscle cool-down and stretch.
- coordination**—The ability to use the senses together with the body parts or to use two or more body parts together.
- core exercises**—Exercises that build the muscles of the trunk and that help the body maintain a good posture.
- couch potato**—A person who is sedentary or does no physical activity.
- CRAC**—An acronym for contract-relax-antagonist-contraction; it is one type of PNF exercise for improving flexibility.
- creatine**—A substance, stored in the muscles, that helps supply energy for muscle contraction and can be taken as a supplement or created by your own body.
- criterion-referenced health standards**—Fitness test ratings that are based on the amount of fitness necessary for good health rather than a comparison to other people.

D

- dehydrated**—Lacking the necessary amount of body fluid.
- deltoid muscle**—Muscle of the shoulder by which the arm is raised.
- determinants**—Factors that influence whether you will practice a healthy lifestyle such as physical activity; examples include the weather, your time schedule, and availability of facilities.
- diabetes**—A disease in which a person's body cannot regulate its sugar (glucose) level.
- diastolic blood pressure**—The force against the artery wall just before the heart beats; it is the lower of the two blood pressure numbers.
- Dietary Guidelines**—Recommendations developed by the U.S. Department of Agriculture for following healthful eating practices.
- distress**—Negative or unpleasant stress.
- double progressive system**—A method or system of resistance training that progressively increases (1) the amount of weight and (2) the number of repetitions used when performing an exercise.
- DRI**—An abbreviation for Dietary Reference Intakes, or standards for healthy eating.

E

- eating disorders**—Health problems that manifest themselves through starvation, eating binges followed by purging, or overeating.
- electromyogram (EMG)**—A test performed to determine the amount of activity in a muscle or muscle group.
- ergogenic aid**—A product used in an attempt to enhance performance, including some food supplements.
- essential amino acid**—One of the nine amino acids that the body needs to take in from food.
- essential body fat**—The minimum amount of body fat a person needs for good health.
- eustress**—Positive stress.
- exercise**—Physical activity done especially for the purpose of becoming physically fit.

F

- fad diet**—A nutritionally unbalanced diet that falsely promises quick weight loss.
- fast-twitch muscle fibers**—Muscle fibers that contract at a fast rate and have great strength but very little endurance.
- fats**—Nutrients that provide energy, help growth and repair of cells, and dissolve and carry certain vitamins to cells.
- fiber**—A type of indigestible carbohydrate.
- fibrin**—An elongated sticky cell in the blood that helps the blood clot; too much fibrin is implicated in the development of atherosclerosis.

fitness profile—A summary of the results of self-assessments of several different parts of fitness.

FITT formula—A formula in which each letter represents a factor important for determining the correct amount of physical activity: F = frequency; I = intensity; T = time; T = type.

flexibility—The ability to move the joints through a full range of motion; a part of fitness that requires long muscles.

flexor—A muscle that when contracted bends a joint in the body.

food label—The label on foods that provides information about the nutritional value of the food.

food supplement—A product intended to add to a person's nutrient consumption.

force—Energy that affects a body or causes one body to affect another (e.g., the energy of muscles results in movement of the legs and subsequent movement of the total body).

form—The placement of body parts during an exercise.

fraud—The practice of quackery with the intent of deceiving others for financial gain.

free time—Time left over when time for work, school, and other commitments has been accounted for.

frequency—How often physical activity is performed; part of the FITT formula.

frostbite—A condition that results when body tissues become frozen.

G

general adaptation syndrome—The series of phases the body goes through when it is exposed to stressors.

gluteal muscle—One of the muscles of the buttocks.

goal setting—A plan to determine ahead of time what you expect to accomplish and how you can accomplish it.

H

hamstring muscles—A muscle group located on the back of the thigh.

health—The state of optimal physical, mental, and social well-being.

health-related physical fitness—Parts of physical fitness that help a person stay healthy; includes cardiovascular fitness, flexibility, muscular endurance, strength, and body fatness.

heart attack—A sudden failure of the heart to function properly; occurs when the blood supply to the heart is decreased or blocked.

heart rate—The number of times the heart beats each minute.

heat index—A combination of temperature and humidity; a high heat index puts a person at risk of a heat-related injury.

heat exhaustion—A condition caused by excessive exposure to heat and characterized by cold, clammy skin, and symptoms of shock.

heatstroke—A condition caused by excessive exposure to heat and resulting in a high body temperature and dry skin.

heredity—Characteristics passed from parents to their offspring.

high-density lipoprotein (HDL)—A substance often referred to as good cholesterol because it carries excess cholesterol out of the bloodstream and into the liver for elimination from the body.

humidity—The amount of water vapor present in the air.

hyperkinetic conditions—Health problems caused by doing too much physical activity.

hypermobility—Range of motion that is in excess of what is considered healthy for a specific joint.

hypertension—A health problem in which blood pressure is too high for good health.

hyperthermia—Refers to an exceptionally high body temperature; may result from exercise in the heat.

hypertrophy—An increase in muscle size.

hypokinetic conditions—Health problems or illnesses that are caused partly by the lack of regular physical activity.

hypothermia—A condition often related to cold weather in which the body temperature becomes abnormally low.

I

incomplete proteins—Proteins containing some, but not all, of the essential amino acids.

intensity—How hard a person performs physical activity; part of the FITT formula.

intermediate muscle fibers—Muscle fibers having characteristics of both slow- and fast-twitch fibers.

interval training—Physical activity in which short bursts of high-intensity exercise are alternated with rest periods.

involuntary muscle—A muscle that a person cannot consciously control.

isokinetic exercise—An exercise for muscle fitness that regulates the resistance and/or speed of movement through a full range of joint movement.

isometric contraction—A muscle contraction in which no movement occurs because of an equal force in the opposite direction; the length of the muscle remains constant under tension.

isometric exercise—An exercise that involves isometric contractions in which body parts do not move.

isotonic contraction—A muscle contraction that pulls on the bones and produces movement of body parts.

isotonic exercise—An exercise that involves isotonic contractions and in which body parts move.

J

joint—A place in the body where bones come together.

joint laxity—Looseness of a joint resulting from overstretched ligaments; a condition that can lead to hypermobility and injury.

junk food—Food that is high in calories but low in nutritional value.

K

kyphosis—A posture problem characterized by rounded shoulders.

L

latissimus dorsi muscle—A large muscle attached to the back and arm.

laws of motion—Rules or principles that explain the movement of an object as a result of the application of force. They are derived primarily from Newton's three laws of motion and can be applied in a variety of physical activity and sport settings.

laxity—Looseness of the joints that allows the bones to move in ways other than intended.

leisure time—Also called discretionary time, it is time free from work and other commitments.

lifestyle—The way you live, including your typical behaviors.

lifetime sports—Sports that can be performed throughout life (as you grow older); often include individual sports such as golf and tennis.

ligament—A band of strong tissue that connects bones.

lipoproteins—Substances that carry cholesterol through the bloodstream.

long-term goals—Goals that you can expect to accomplish in several months or over the course of a year.

lordosis—A back condition characterized by too much arch in the lower back; sometimes called swayback.

low-density lipoprotein (LDL)—A substance often referred to as bad cholesterol because it carries cholesterol that is most likely to deposit in the arteries.

low-impact aerobic exercise—Exercise in which one foot contacts the floor at all times.

M

maturation—The process of becoming fully grown and developed physically.

MET—A term derived from the word *metabolism*; it is the

amount of energy required to sustain life when you are resting—doing no physical activity.

micronutrients—Nutrients that are contained in foods in small amounts; vitamins and minerals.

microtrauma—An injury so small that it is often difficult to see or recognize, especially when it first occurs.

mineral—A nutrient that performs many functions in regulating the activities of cells.

moderate physical activity—Any type of exercise performed at an intensity equal to brisk walking.

motor skill—Another word for skill. “Motor” is used before the word “skill” because your “motor” nerves cause your muscles to contract when you perform a specific skill (see also **skill**, page 323).

muscle-bound—Having bulky muscles that decrease a person's flexibility.

muscle cramp—A spasm or sudden tightening of a muscle.

muscle fibers—Muscle cells, which are long, thin, and cylindrical.

muscular endurance—The ability to contract the muscles many times without tiring or to hold one contraction for a long time.

N

noncontrollable risk factors—Risk factors a person cannot change or control.

nutrient—A food substance required for the growth and maintenance of body cells.

nutrition—The study of foods and how they nourish the body.

nutritionally dense—Containing large amounts of nutrients for the number of calories provided.

O

obesity—The condition of being very overfat or having a very high percentage of body fat.

one repetition maximum (1RM)—The exertion that can be given by a muscle group when performing one repetition at a maximal level.

orienteering—A combination of walking, jogging, and map reading.

osteoporosis—A disease in which the bones deteriorate and become weak.

overfat—Having too much body fat.

overload—See *principle of overload*.

overuse injury—A body injury that occurs when a repeated movement causes wear and tear on the body.

P

PAR-Q—A questionnaire that helps you determine if you are physically and medically ready to participate in physical activity.

passive exercise—Being moved by a machine rather than using your own muscles to produce movement.

peak bone mass—A person's greatest bone mass, usually present when a person is young.

pectoral muscle—Muscle of the chest.

periodization—A method of scheduling progressive resistance exercise to provide variety and to enhance peak performance.

physical activity—Movement using the larger muscles of the body; includes sports, dance, and activities of daily life; may be done to accomplish a task, for enjoyment, or to improve physical fitness.

physical fitness—The ability of the body systems to work together efficiently.

physical skill—Specific physical task that a person performs.

plyometrics—A type of training designed to increase athletic performance using jumping and hopping and other exercises that cause lengthening of a muscle followed by a shortening contraction.

PNF stretching—A variation of static stretching that involves contracting a muscle before stretching it.

power—The ability to use strength quickly.

primary risk factor—A risk factor that is considered a major contributor to a disease.

principle of overload—A rule that states that in order to improve fitness, one needs to do more physical activity than one normally does.

principle of progression—A rule that states that the amount and intensity of physical activity needs to be increased gradually.

principle of specificity—A rule that states that specific types of exercise improve specific parts of fitness or specific muscles.

progressive resistance exercise (PRE)—The gradual increase in resistance used to improve muscle fitness.

protein—A nutrient that builds and repairs body cells.

ptosis—A posture problem characterized by a protruding abdomen.

pulse—The regular beating felt in the arteries; caused by contractions of the heart muscle.

Q

quack—Someone who practices quackery.

quackery—A method of advertising or selling that uses false claims to lure people into buying products that are worthless or even harmful.

quadriceps muscle—The muscle on the front of the thigh.

R

range of motion (ROM)—The amount of movement one can make in a joint.

range of motion (ROM) exercise—Flexibility exercise that is used to maintain the range of motion already present in the joints.

RDA—An abbreviation for Recommended Dietary Allowance, or the minimum amount of a nutrient needed for good health.

reaction time—The amount of time it takes a person to move once he or she realizes the need to act.

recreational activity—Form of exercise done during leisure time (free time) that is typically not classified as either sports or active aerobics.

registered dietitian—An expert in nutrition who is qualified to give advice about food and diet.

rehydrate—To drink liquids to replace those lost during physical activity.

relative strength—The amount of weight or resistance you can overcome for each pound of body weight (strength per pound of body weight).

repetitions—The number of consecutive times one does an exercise; usually referred to as reps.

reps—An abbreviation for repetitions; a term used to describe the number of consecutive times you perform an exercise.

resistance—A force that acts against the muscles.

resistance training—Exercises using resistance, in the form of free weights or machines, to develop muscular endurance or strength; also called weight training.

respiratory system—The body system including the lungs and air passages that functions by bringing oxygen into the bloodstream and eliminating carbon dioxide from the blood.

resting heart rate—The number of heartbeats during a period of inactivity.

RICE formula—A formula in which each letter represents a step in the treatment of a minor injury: R = rest; I = ice; C = compression; E = elevation.

risk factor—Anything that increases a person's chance of a health problem occurring.

RM—Repetition maximum; 1RM refers to the maximum amount of weight a group of muscles can lift at one time.

runner's high—The eustress people feel when they run or do exercise that they enjoy.

S

saturated fats—Fats that are solid at room temperature; found mostly in animal products.

sedentary—Being inactive or participating in very little physical activity.

self-management skills—Skills used by a person to take control of his or her lifestyle or behavior to stay physically active.

set—A group of repetitions of a specific exercise; each set of repetitions or reps is followed by a rest period before another is performed.

shinsplint—A pain in the front of the shins that is caused by overuse.

short-term goals—Goals that you can expect to accomplish in several days or weeks.

side stitch—A pain in the side of the lower abdomen that occurs as a result of vigorous activity.

simple carbohydrate—A nutrient found in sugars that can be used by the body for energy with little or no change during digestion.

skeletal muscle—Muscle that is attached to bones and makes movement possible.

skill—The capability for doing a specific task well; improves with practice.

skill-related physical fitness—Parts of fitness that help a person perform well in sports and activities requiring certain skills; includes agility, balance, coordination, power, reaction time, and speed.

skinfolds—Layers of fat under the skin that are measured to determine body fatness.

slow-twitch muscle fibers—Muscle fibers that contract at a slow rate and have great endurance.

smooth muscles—Muscles that make up the walls of internal organs such as the stomach and blood vessels.

spa—Originally a name for an establishment that had mineral baths thought to be health-enhancing. Some modern spas have saunas and whirlpool baths and provide other services, such as hair and skin care and massage.

speed—The ability to perform a movement or cover a distance in a short time.

sport skill—A specific skill necessary to succeed in sports; examples include throwing, catching, batting, kicking, and swinging a racket or club.

sport supplement—A product sold to enhance athletic performance.

sports—Activities that generally are done competitively and have well-established rules.

sprain—An injury to ligaments.

stage of exhaustion—The third stage of the general adaptation syndrome; occurs when the body is not able to resist a stressor and medical treatment is necessary.

stage of resistance—The second stage of the general adaptation syndrome; occurs when the body and its immune system start to resist or fight a stressor.

static stretching—Stretching slowly as far as possible without pain.

strain—An injury to a tendon or muscle.

strength—The amount of force a muscle can produce.

stress—The body's reaction to demanding situations.

stress response—The body's way of preparing a person to deal with demanding situations.

stressor—Something that causes or contributes to stress.

stretching exercise—Flexibility exercise that works to increase the range of motion by stretching farther than the current range of motion.

stroke—An injury to the brain that occurs when the blood supply to the brain is severely reduced or shut off, often as a result of a blood clot or other obstruction.

systolic blood pressure—The force against the artery wall just after the heart beats; it is the higher of the two blood pressure numbers.

T

target ceiling—A person's upper limit of physical activity.

target fitness zone—The correct range of physical activity to build fitness.

target weight—The weight at which a person has a healthy amount of body fat.

tendon—A band of strong tissue that connects a muscle to a bone.

threshold of training—The minimum amount of overload one needs to build physical fitness.

time—How long a person does physical activity; part of the FITT formula.

transfatty acids—Unsaturated fats that have been converted to a solid form similar to saturated fats.

triceps muscle—A muscle located on the back of the upper arm.

type—The kind of activity you do to build a specific part of fitness or to gain a specific benefit; part of the FITT formula.

U

UL—An abbreviation for Tolerable Upper Limit, or the maximum daily amount of a nutrient that can be consumed without health risk.

underfat—Having too little body fat.

underwater weighing—A technique used to assess body fat levels in which a person is immersed in water and then weighed.

unsaturated fats—Fats, such as vegetable oils, that are in liquid form at room temperature.

V

vein—A blood vessel that carries blood filled with waste products from the body cells back to the heart.

vitamin—A nutrient needed for growth and repair of body cells.

voluntary muscle—Muscle over which a person has conscious control.

W

warm-up—A series of activities, usually consisting of a heart warm-up and a muscle warm-up and stretch, that prepares the body for more vigorous exercise and helps prevent injury.

weight training—The lifting of weights to build strength; also called resistance training.

wellness—A state of being that enables a person to reach his or her highest potential; includes intellectual, social, emotional, physical, and spiritual health.

windchill factor—A combination of wind and temperature; a high windchill factor puts a person at high risk of hypothermia and frostbite.

workout—The part of the physical activity program during which a person does activities to improve fitness.

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