# Aya - Mid Term Review

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## Chapter 1 - Key Terms

### Heath

The overall condition of body or mind and the presence or absence of illness or injury

### Wellness

Optional health and vitality, encompassing physical, emotional, intellectual, spiritual, interpersonal and social, and environmental well-being

### Risk Factor

A condition that increases one's chances for illness or injury

### Infectious Disease

A disease that can spread from one person to another; caused by microorganisms such as bacteria and viruses

### Chronic Disease

A disease that develops and continues over a long period of time; usually vases by a variety of factors, including lifestyle factors

### Physical Fitness

A set of physical attributes that allow the body to respond or adapt to the demands and stress of physical effort

### Unintentional Injury

An injury that occurs without harm being intended

### Behaviour Change

A lifestyle management process that involves culminating healthy behaviours and working to overcoming unhealthy ones

### Target Behaviour

The specific behaviour or habit selected by an individuals who intends to develop a program to change/improve this particular behaviour

## Self-Efficacy

The belief in one's ability to take action and perform a specific behaviour

## Locus of Control

The figurative "place" a person designates as the source of responsibility for the events in his or her life

## Internal Locus of Control

Refers to those who believe that they are in control of their own lives

## External Locus of Control:

Refers to those who believe that factors beyond their control are most important in determining the events of their lives

**ADDITION DEFINITIONS**

## Self-Efficacy

Term used in psychology, roughly corresponding to a person's belief in their own competency. It has been defined in a variety of ways: as the belief that one is capable of performing in a certain manner to attain certain goals, as a person's belief about their capabilities to produce designed levels of performance that exercise influence over event that affect their lives. It is a belief that one has the capabilities to execute the courses of actions required to manage prospective situations. Understanding how to foster the development of self-efficacy is a vitally important goal for positive psychology because it can lead to living a more productive and happy life. Ones's sense of self-efficacy can play a major role in how one approaches goals, tasks and challenges.

## Self Esteem

Term used in psychology to reflect a person's overall evaluation or appraisal of his or her own worth. Self-esteem encompasses beliefs and emotions

## Self Confidence

Realistic confidence in one's own judgement, ability, power, etc. Excessive or inflated confidence in one's own judgement, ability, etc.

## Self-Concept

Natural and organization of beliefs about one's self. Self-concept is theorized to be multi-dimensional. For example, people have separate beliefs about physical, emotional, social and other aspects of themselves.

## Beliefs

Pertaining to thoughts concerning the way things are or what will result from certain actions

### Attitudes

Involve feelings about things. May be thought of as a value attached to a belief. Involve affect (feelings) as well as cognitive (thought_ aspects of beliefs.

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## Chapter 2 - Key Terms

### Body Composition

The proportion of fat and fat-free mass (muscle, bone and water) in the body

### Cardiorespiratory Endurance

The ability of the body to perform prolonged, large-muscle, dynamic exercise at moderate to high levels of intensity

### Exercise

Planned, structured, repetitive movement intended to improve or maintain physical fitness

### Exercise Stress Test

Test usually administered on a treadmill or cycle ergometer that involves analysis of the changes in electrical activity in the heart from an electrocardiogram (EKG or ECG) taken during exercise. Used to determine if any heart disease is present and to assess current fitness level.

### Fat-Free Mass

The nonfat component of the human body, consisting of skeletal muscle, bone and water.

### Flexibility

The ability to move joints through their full range of motion

### Graded Exercise Test (GXT)

An exercise test that starts at an easy intensity and progresses to maximum capacity.

### Health-related Fitness

Physical capacities that contribute to health: cardiorespiratory endurance, muscular strength, muscular endurance, flexibility,and body composition.

### Metabolism

The sum of all the vital processes by which food energy and nutrients are made available to and used by the body.

### Muscular Endurance

The ability of a muscle to remain contracted or to contract repeatedly for a long period of time.

### Muscular Strength

The amount of force a muscle can produce with a single maximum effort.

### Overtraining

A condition caused by training too much or too intensely, characterized by lack of energy, decreased physical performance, fatigue, depression, aching muscles and joints, and susceptibility to injury.

Physical Activity

Body movement carried out by the skeletal muscles that requires energy.

### Physical Training

The performance of different types of activities that cause the body to adapt and improve its level of fitness.

### Progressive Overload

The training principle that placing increasing amounts of stress on the body causes adaptations that improve fitness.

### Reversibility

The training principle that fitness improvements are lost when demands on the body are lowered.

### Skill-related Fitness

Physical capacities that contribute to performance in a sport or an activity: speed, power, agility, balance, coordination, and reaction time.

### Specificity

The training principle that the body adapts to the particular type and amount of stress placed on it.

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## Chapter 3 - Key Terms

### Pulmonary Circulation

The part of the circulatory system that moves blood between the heart and the lungs; controlled by the right side of the heart

### Systemic Circulation

The part of the circulatory system that moves blood between the heart and the rest of the body; controlled by the left side of the heart

### Atria

The two upper chambers of the heart in which blood collects before passing to the ventricles; also called auricles

### Venae Cavae

The large veins through which blood is returned to the right atrium of the heart

### Ventricles

The two lower chambers of the heart from which blood flows through arteries to the lungs and other parts of the body

### Aorta

The large artery that receives blood from the left ventricle and distributes it to the body

### Blood Pressure

The force exerted by the blood on the walls of the blood vessels; created by the pumping action of the heart. Blood pressure increases during systole and decreases during diastole

### Systole

Contraction of the heart

### Diastole

Relaxation of the heart

### Veins

Vessels that carry blood to the heart

### Arteries

Vessels that carry blood away from the heart

## Capillaries

Very small blood vessels that distribute blood and nutrients to all parts of the body

## Respiratory System

The lungs, air passages, and breathing muscles; supplies oxygen to the body and carries off carbon dioxide

## Alveoli

Tiny air sacs in the lungs whose wall gases such as oxygen and carbon dioxide defuse in and out blood

## Stroke Volume

The amount of blood the heart circulates with each beat

## Cardiac Output

The amount of blood pumped by the heart each minute; a function of heart rate and stole (the amount of blood pumped during each beat.)

## Glucose

A simple sugar that circulates in the blood and can be used by cells to fuel adenosine triphosphate (ATP) production

## Glycogen

A complex carbohydrate stored principally in the liver and skeletal muscles; the major fuel source during most forms of intense exercise. Glycogen is the storage form of glucose

## Adenosine Triphosphate (ATP)

Energy source for cellular processes

## Anaerobic - alactic Energy System

Energy system that supplies energy to muscle cells through the breakdown of cellular stores of ATP and creatine phosphate (CP)

## Anaerobic

Occurrence in absence of oxygen

## Anaerobic Lactic Energy System

Energy system that supplies energy to muscles cells throigh the breakdown of muscle stores of glucose and glycogen; so named because the chemical reactions take place without oxygen and produce lactic acid

## Lactic Acid

A metabolic acid resulting from the metabolism of glucose and glycogen; an important source of fuel for many tissues of the body, its accumulation may produce fatigue.

## Oxidative (aerobic) Energy System

Energy system that supplies energy to cells through the breakdown of glucose, glycogen, fates and amino acids; also called the aerobic system because the chemical reactions require oxygen/

## Aerobic

Dependant on the presence of oxygen

## Mitochondria

Intracellular structures containing enzymes used in the chemical reactions that convert the energy in food to a form the body can use

## Maximal Oxygen Consumption

(VO2max) The highest rate of oxygen consumption an individual is capable of during maximum physical effort, reflecting the body's ability to transport and use oxygen; measured in millilitres used per minute, per kilogram of body weight

## Free Radicals

Highly reactive compounds that can damage cells by taking electrons from key cellular components such as DNA or cell membrane; produced by normal metabolic processes and through exposure to environmental factors, including sunlight

## Cardiovascular Disease (CVD)

Disease of the heart and blood vessels

## Lipoproteins

Substances in blood, classified according to size, density and chemical consumption, that transport fats

### Endorphins

Substances resembling morphine that are secreted by the brain and decrease pain, suppress fatigue, and produce euphoria.

### Neurotransmitters

Brain chemicals that transmit nerve impulses

### Target Heart Rate Zone

The range of heart rates that should be reached and maintained during cardiorespiratory endurance exercise to obtain training effects

### Heart Rate Reserve

The difference between maximum heart rate and resting heart rate; used in one method for calculating target heart rate range

### Ratings of perceived Exertion (RPE)

A system of monitoring exercise intensity based on assigning a number of subjective perception of target intensity

### Synovial Fluid

Fluid produced within many joints that provides lubrication and nutrients for the joint

### Cross Training

Alternating two or more activities to improve a single concept of fitness (for example, walking 2 days per week and swimming 3 days per week to build cardiorespiratory endurance)

### Interval Training

Adding relatively more nits training sessions to less intense training sessions. Each more intense repetition should be followed by a rest period of an equal time length. For example, compete 3 repetitions of 200m sprints with each repetition followed by a rest period equal to the length of time taken to complete the 200m sprint.

### Fartlek Training

Incorporating relatively more intense training into a less intense training session. Using existing environmental conditions ie. hills and stairs, and plan the training session to include them on the running/jogging route.

# Chapter 4 - Key Terms

### Muscular Strength

The amount of force a muscle can product with a single maximum effort.

### Muscular Endurance

The ability of a muscle or group of muscles to remain contracted (sustain a level of muscular force) or to contract repeatedly

### Muscle Fibre

A single muscle cell, usually classified according to strength, speed of contraction and energy source

### Myofibrils

Protein structures that make up muscle fibres

### Hypertrophy

An increase in the number of muscle fibre, usually stimulated by muscular overload

### Atrophy

A decrease in the size of muscle cells

### Hyperplasia

An increase in the number of muscle cells

### Slow-twitch fibres

While muscle fibres that contract rapidly and forceful but fatigue quickly; usually recruited for actions requiring strength and power

### Intermediate fibres

A muscle fibre that responds somewhere in between the speed, endurance and contractile force of slow-and-fast-twitch fibres

### Power

The ability to exert force rapidly

### Motor Unit

A motor neuron connected to a number of muscle fibres

### Tendon

A tough band of sabres tissue that connects a muscle to a bone or other body part and transmits the force exerted by the muscle

### Ligament

A tough band of tissue that connect the end of the bones to other bones or supports organs in place

### Testosterone

The principle male hormone, responsible for the development of secondary sex characteristics and important in increasing muscle size

### Repetition Maximum (RM)

The maximum amount of resistance that can be moved a specific number of times; 1 RM is the maximum weight that can be lifted once. 5 RM is the maximum weight that be lifted five times

### Repetitions

The number of times an excretes is performed continuously during one set

### Static (isometric) exercise

Exercise involving a muscle contracting without a change in the length of the muscle

### Dynamic (isotonic) exercise

Exercise involving a muscle contraction with a change in the length of the muscle

### Concentric muscle contraction

An isotonic contraction in which the muscle gets shorter as it contracts.

### Eccentric muscle contraction

An isotonic contraction in which the muscle lengthens as it contracts; also called a plyometric contraction.

Note: A quick eccentric contraction is just one aspect of a plyometric movement. Eccentric contractions are not always considered to be plyometric in nature.

### Constant resistance exercise

A type of dynamic exercise that uses a constant load throughout a joint's entire range of motion.

### Variable resistance exercise

A type of dynamic exercise that uses a changing load, providing a maximum load throughout the joint's entire range of motion.

### Eccentric (plyometric) loading

Loading the muscle while it is lengthening; sometimes called negatives.

### Plyometrics

Rapid stretching of a muscle group that is undergoing eccentric stress (the muscle is exerting force while it lengthens), followed by a rapid concentric contraction.

### Speed loading

Moving a load as rapidly as possible.

### Isokinetic

The application of force at a constant speed against an equal force.

### Split routine

Training different muscle groups on alternate days, i.e., upper body one day, lower body the next and return to the upper body the next day.

### 1 repetition max (1RM)

Maximum amount of weight a person can lift at one time.

### Set

A group of repetitions followed by a rest period.

### Spotter

A person who assists with a weight training exercise done with free weights.

### Agonist

A muscle in a state of contraction, opposed by the action of another muscle, its antagonist.

### Antagonist

A muscle that opposes the action of another muscle, its agonist.

### Natural health products

Any product set out by the Natural Health Products Regulations in the Food and Drug Act governed by Health Canada. These products are considered to be safe as over-the-counter products and do not require a prescription to be sold.

### Anabolic steroids

Synthetic male hormones taken to enhance athletic performance and body composition.

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## Chapter 5 - Key Terms

### Active Stretching

A technique in which muscles are stretched by the contraction of the opposing muscles.

### Ballistic Stretching

A technique in which muscles are stretched by the force generated as a body part is repeatedly bounced, swung, or jerked.

### Collagen

White fibres that provide structure and support in connective tissue.

### Core Muscles

The trunk muscles extending from the hips to the upper back.

### Dynamic Stretching

A technique in which muscles are stretched by moving joints slowly and fluidly through their range of motion in a controlled manner; also called functional stretching.

### Elastic Elongation

Temporary change in the length of muscles, tendons, and supporting connective tissues.

### Elastin

Yellow fibres that make connective tissue flexible.

### Intervertebral Disk

An elastic disk located between adjoining vertebrae, consisting of a gel and water-filled nucleus surrounded by fibrous rings; serves as a shock absorber for the spinal column.

### Joint Capsules

Semi-elastic structures, composed primarily of connective tissue, that surround major joints.

### Nerve Root

The base of each of the 31 pairs of spinal nerves that branch off the spinal cord through spaces between vertebrae.

### Passive Stretching

A technique in which muscles are stretched by force applied by an outside force.

### Plastic Elongation

Long-term change in the length of muscles, tendons, and supporting connective tissues.

### Proprioceptor

A nerve that sends information about the muscular and skeletal systems to the nervous system.

### Range of Motion

The full motion possible in a joint.

### Soft Tissues

Tissues of the human body that include skin, fat, linings of internal organs and blood vessels, connective tissues, tendons, ligaments, muscles, and nerves.

### Static Stretching

A technique in which a muscle is slowly and gently stretched and then held in the stretched position.

### Vertebrae

Bony segments composing the spinal column that provide structural support for the body and protect the spinal cord.