



The five components of fitness are important for physical health. The five components of fitness are: cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition. Maintaining healthy levels of fitness for each component helps a person live a healthy and productive life.

Cardiorespiratory Endurance – Cardiorespiratory endurance is the ability of the heart, blood, blood vessels and lungs to supply enough oxygen and necessary fuel to the muscles during long periods of physical activity.

The best type of cardiorespiratory endurance training is aerobic activities. Aerobic activities are those which force the body to use a large amount of oxygen for a sustained period of time. The heart becomes stronger and is able to pump more blood with each beat, which means the heart can beat at a slower rate and circulate the same amount of blood. This increased efficiency enables a person to work, exercise and play more often, more vigorously and for longer periods of time without getting tired.

Cardiorespiratory endurance training also improves appearance by toning the body and burning fat, which help to improve body composition. As personal appearance improves, a sense of well-being and a positive self-image is created. Cardiorespiratory endurance training improves health by reducing many of the effects caused by risk factors such as smoking, obesity, drug and alcohol abuse, heredity and age. These risk factors are associated with heart disease, type II diabetes, heart attacks and strokes.

Muscular Strength – Muscular strength is the ability of the muscle or muscles to push or pull with its total force. Increased muscular strength allows a person to lift, push, or pull with more force. Strength is always a benefit in any athletic situation but it is also important when the car has a flat tire, the door is stuck, or when the pickle jar cannot be opened.

Muscular Endurance – Muscular endurance is the ability of the muscles to repeat a movement many times or hold a position without stopping to rest. Improving muscular endurance allows a person to increase physical activity. A person with improved muscular endurance can accomplish more physical work by moving faster and taking fewer breaks. To improve muscular endurance, exercises should be repeated at least twelve times.

Muscular strength comes before muscular endurance. Before the brick layer can stack hundreds of bricks a day, he/she must have the muscular strength to lift the first brick. Once he/she has the initial strength to lift the first brick, the brick layer can begin to build muscular endurance.

The old adage, "If you do not use them you will lose them", is true. Muscles react positively to strenuous activity and negatively to inactivity. When the body is inactive, a large percentage of strength is lost over time. Building muscle is like putting money in the bank; it creates independence in later years. One of the best ways to build muscular strength and muscular endurance is through resistance training, or activities that place an additional force against the muscle or muscle group. Some examples of resistance training include; weight training, push-ups and crunches.



As the body ages, bone density tends to decrease which can lead to weak bones (osteoporosis). Building muscular strength and muscular endurance through resistance training, along with an active lifestyle, have been shown to improve bone density.

Physical performance will be enhanced through the development of muscular strength and muscular endurance. As muscles become stronger, physical performance is improved. Improving muscular strength and muscular endurance gives the body the ability to work, exercise or play more often, with more power and for longer periods of time.

Developing muscular strength and muscular endurance helps improve physical appearance. Resistance training helps control body composition by increasing muscle mass which is a part of fat-free mass. Muscles act as tiny furnaces that burn fat. The more muscle mass the body has, the more calories that can be burned. Building muscular strength and muscular endurance is a lifelong habit needed to maintain or improve physical appearance.

Flexibility – Flexibility is the muscles' ability to move a joint through a full range of motion. As the body ages, the muscles, tendons and ligaments stiffen and become less flexible. For example, when the shoulder muscles stiffen, the ability to throw is hindered because the arm will not move through the entire motion. Staying flexible is important to health and performance. Improving flexibility decreases a person's risk of injury, prevents post-exercise pain and helps relieve emotional tension.

The two stretching methods that are safe and effective are Dynamic and Static stretches. **Dynamic stretches** involves moving parts of the body continuously while gradually increasing reach, speed of movement or both that take a person gently to the limits of their range of motion. **Static stretches** involves stretching a muscle to the point of mild discomfort by holding it in a maximal stretch for an extended period. These stretches can be performed as part of the warm-up and/or cool down phases of a fitness program or as a separate flexibility program.

Body Composition – Body composition is the combination of fat-free mass and fat mass. This is everything the body is made of, including fat, bones, muscles, organs and water. Healthy levels of fat mass are essential for insulation of organs, the absorption of vitamins, nerve conduction and as an energy source.

Having too much or too little fat mass can become a health risk, lowering performance and detracting from appearance. A healthy level of fat mass for men is 10%-20% and a healthy level of fat mass for women is 15%-25%. Improving and maintaining body composition at healthy levels will reduce the risk of heart disease, type II diabetes, high blood pressure, strokes, certain types of cancer and obesity.

Body composition is affected by two factors; the number of calories eaten (energy in) and the amount of activity performed and calories burned (activity out). Both of these factors are controllable. A combined effort of eating a healthy diet (energy in) and increasing physical activity (activity out) is the best approach to maintaining a healthy level of body composition.



Key vocabulary words that will be introduced during this unit are:

- **Body Composition** – The combination of fat-free mass and fat mass
- **Cardiorespiratory Endurance** – The ability of the heart, blood, blood vessels and lungs to supply enough oxygen and necessary fuel to the muscles during long periods of physical activity
- **Flexibility** – The muscles' ability to move a joint through a full range of motion
- **Muscular Endurance** – The ability of the muscles to repeat a movement many times or hold a position without stopping to rest
- **Muscular Strength** – The ability of a muscle or muscles to push or pull with its total force
- **Static Stretches** – Involves stretching a muscle to the point of mild discomfort by holding it in a maximal stretch for an extended period.
- **Dynamic Stretches** – Involves moving parts of the body continuously while gradually increasing reach, speed of movement or both gently through a full range of motion. Stretching performed while in motion.
- **Resistance Training** – An activity that places an additional force against the muscle or muscle group.