



CIRCUIT TRAINING



Circuit training is a series of exercises in which a person moves from one station to another. It is one of the most popular methods of training because of its versatility and because training goals can be met in a short period of time. Circuit training provides people with the opportunity to improve all five components of fitness in one workout. It can also be used to meet other training goals, such as a warming up prior to activity, improving one specific component of fitness, or improving sports skills. It is important to warm-up the body to prepare for activity and reduce the risk of injury. The warm-up should include activities that elevate the heart rate, raise the core body temperature, and warm the muscles that will be used in the activity for the day. Engaging in a light jog mixed with some skipping and sliding movements while swinging the arms in an exaggerated way would be considered a good warm-up, as would jogging in place, followed by light calisthenics such as jumping jacks and dynamic stretching. Circuit training, or using **circuits**, any group of two or more exercises performed in a pattern, can also be used to warm-up the body.

In a circuit, a person rotates from one station to the next after performing a prescribed number of repetitions or after a set period of time depending on the activity or exercise and the fitness level of the participant. With stations usually requiring 8-12 repetitions or lasting 30-50 seconds, circuit training keeps a person engaged from start to finish. The variety of the stations and the short time intervals of activity at each station can provide a fun and motivating training session.

Circuits can be designed to improve all five components of fitness. For this to occur, a circuit must include exercises that alternate and emphasize different components of fitness. By alternating the exercises, one component of fitness has a chance to recover while another component is stressed. For example, a circuit could alternate cardiorespiratory endurance exercises with muscular strength and muscular endurance exercises.

Because there is little time to rest between stations during circuit training, and many of the stations require large muscle movements, the heart rate will increase. Therefore, over time, the heart and lungs will improve their ability to supply oxygen to the muscles and cardiorespiratory endurance will be improved. By including stations in which resistance is used as a way to overload the muscles, muscular strength and muscular endurance will also improve.

Circuit training that increases the heart rate to improve cardiorespiratory endurance and overloads the muscles to improve muscular strength and muscular endurance requires a great deal of energy. This type of vigorous workout will help build muscles and will burn excess calories leaving fewer calories to be stored as fat. As a result, body composition can be improved.

Although flexibility can be improved or at least maintained as joints are moved through their full range of motion during circuit training, it is recommended that a person perform a flexibility routine at the end of the workout as part of the cool-down. This will decrease muscle soreness as well as increase flexibility.

While circuit training can be used for warm-ups as well as a way to improve all five components of fitness at one time, it can also be used as a method to focus on one component at a time or sport specific skills. For example, one circuit can be designed to focus on cardiorespiratory endurance, while another circuit can be designed to focus on volleyball skills such as passing, setting or serving. When using circuit training and other activities to improve the components of fitness, it is important to remember the FITT Principle. Frequency, intensity, time and type of activity are the variables that can be manipulated to produce improvements in fitness levels. The table below provides information for cardiorespiratory endurance, muscular strength, muscular endurance and flexibility as they relate to three variables of the FIT Principle.



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COMPONENT OF FITNESS	FREQUENCY	INTENSITY	TIME/REPETITIONS
Cardiorespiratory Endurance	5+	65%-85% MHR	60 min. +
Strength	2-3	Heavy	4- 8 reps.
Strength/Endurance	2-3	Moderate	8-12 reps.
Muscular Endurance	2-3	Light	12-20 reps.
Flexibility	3 +	Static	30 seconds

It is also important to remember that circuits include exercises that alternate and emphasize different muscle groups and/or parts of the body. By alternating the exercises, one muscle group or part of the body has a chance to recover while another muscle group or part of the body is stressed. For example, a circuit could alternate between exercises that stress the muscles of the upper body and ones that stress the muscles of the lower body.

Circuits can be designed to meet a variety of training goals in as many ways as equipment, facilities and the imagination will allow. During circuit training, a person is engaged from start to finish. The variety of the stations and the short time intervals of activity at each station can provide a fun and motivating training session to meet a variety of training goals.



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

- **Circuit Training** – A series of exercises in which a person moves from one station to another
- **Circuit**- any group of two or more exercises performed in a pattern