Principles of Training

The keys to selecting the right kinds of exercises for developing and maintaining each of the basic components of fitness are found in the principles of **specificity, overload, reversibility, progression, diminishing returns, and individual differences.**

Specificity:

The type of training in which individuals engage should be directed specifically at improving their abilities in life. Therefore, choose the right kind of activities to improve each physical fitness component, and the right combination of physical fitness components to help in activities of daily living. Strength training results in increases in strength for the muscles being exercised but does little to improve cardiorespiratory endurance. Also, train specifically for the specific activity of interest. For example, optimal running performance is best achieved when the muscles involved in running are trained for the movements required. It does not necessarily follow that a good swimmer is a good runner. Specificity also requires that one consider the speed of motion, the number of limbs moving, the direction in which they are moving, and the range over which the movement occurs.

Overload:

If a person works often (frequency) enough, hard (intensity) enough, and long (duration) enough to load the body above its resting level, physical fitness will improve. If this is done regularly over a period of time, the body will gradually adapt to the increase in demands. The term overload does not refer to the idea that one needs to overexert or exert at high intensities to obtain gains in fitness; it simply means that one needs to load the body more than it is usually accustomed to.

Reversibility:

Physical fitness or the effects of a physical activity program or an exercise program cannot be stored. If a person stops training for a period of time (three to five days, in some cases) a process of detraining will begin. The gains in fitness that were made begin to reverse themselves. If no exercise is done for a long enough period, fitness levels can revert to the original starting point. At least three balanced workouts a week (three hours minimum) are necessary to maintain a good level of fitness.

Progression:

Increasing the frequency, intensity, and/or duration of an activity over periods of time is necessary for continued improvement in physical fitness. Improvements in physical fitness are realized fairly rapidly at the onset of an exercise or training program. The rate of improvement will gradually slow down and level off (adaptation) if an overload is present (meaning that the load is increasing and that there is progress). At high levels of physical fitness it may even be necessary to change the type(s) of exercise(s) being performed.

Diminishing returns:

The fitter a person becomes, the more difficult it is to continue to become fitter at the same rate. Individuals who begin jogging can, over a relatively short time, improve the speed and duration of their runs. However, experienced distance runners may have to spend an entire training season to decrease their run time by just a second.

Individual differences:

Every person has a unique physical and psychological makeup that requires a unique training program. Factors that may play a role are current fitness level, gender, age, heredity, susceptibility to injury, rest and recovery needs, and diet. Two people working out with the same program could experience completely different results. Some activities can be used to fulfill more than one of a person's basic exercise requirements. For example, in addition to increasing cardiorespiratory endurance, running builds muscular endurance in the legs, and swimming develops the arm, shoulder, and chest muscles. If the proper physical activities are selected, it is possible to fit parts of a muscular endurance workout into a cardiorespiratory endurance workout and save time.