

Empire Fitness would like to thank Mr Wayne Westcott PhD and [www.ssymca.org](http://www.ssymca.org) for the following

# Fitness Components

## Endurance Training

Also referred to as cardiovascular or aerobic exercise, endurance training is a form of activity that elevates your heart rate through sustained exercise. Running, cycling, swimming, and rowing are all forms of endurance training. Aerobic dance, roller blading, and cross-country skiing are also examples of cardiovascular exercise.

You may perform endurance training every day if you wish. However, if you decide to train every other day, you will receive the same cardiovascular benefits. Your heart will become a stronger pump, which usually results in a lower and healthier heart rate. Your blood vessels will increase in size and number, thereby lowering your blood pressure. As your blood becomes a better oxygen transporter, you should tolerate more exercise before becoming breathless. Your physical capacity will increase, and your risk of heart disease will decrease.

In order to receive the cardiovascular benefits of endurance training you should exercise continuously for 15-30 minutes at a time. Exercising for less than 15 minutes is of limited value, while exercising for more than 30 minutes may result in overuse injuries.

Maintaining your target heart rate is important when performing endurance training. You should exercise at about 70 percent of your maximum heart rate. The chart below illustrates your target heart rate according to age.

AGE	25	35	45	55	65	75
70% of Maximum Heart Rate (beats per minute)	136	130	123	116	109	102
Maximum Heart Rate (beats per minute)	195	185	175	165	155	145

### Warm-Up

To prepare your body for vigorous endurance training, spend 3-6 minutes in low level exercise. This creates blood flow to your muscles, which enables them to become fully prepared for the exercise you are about to perform. When you have completed the warm-up you may gradually increase the training intensity.

### Cool-Down

At the conclusion of your endurance training spend 3-6 minutes in low level exercise to enhance blood return to your heart and limbs. This will also help prepare your body for resting function.

# Strength Training

Also referred to as weight training, strength training provides an anaerobic workout. This means that your muscles are stressed to maximum capacity in a short duration of time, usually between 30 to 90 seconds per exercise. To maximize safety and effectiveness, each exercise should be performed in a slow and controlled manner through a full range of motion.

As you begin to strength train, your muscles, tendons, ligaments, and bones should become stronger and more injury-resistant. Because muscle is very active tissue, it burns more calories. This means that as you add more muscle your resting metabolism will increase, thereby helping you to maintain a desirable bodyweight. Your physical capacity will also increase. You will feel stronger and function at a higher level of activity with less effort.

You should perform strength exercises on an every-other-day schedule. Muscles need sufficient recovery time to rebuild following your workout. If muscles are not given enough time to rest you may develop overuse injuries or cause your muscles to breakdown rather than build up.

Training can be performed using free weights or weight stack machines. Our center has a beautiful and well-cared-for selection of Nautilus equipment, which is a weight stack system. Our members train using one set of 8-12 repetitions on each machine. When the proper weightload is used, this provides excellent stimulus for strength gains.

Your weightload should be heavy enough to cause temporary muscle failure within 8 to 12 repetitions. When you are able to complete 12 repetitions in good form, you may increase the weights by adding 2 ½ to 5 pounds. This gradual weight increase is called progressive resistance, and it is the key to strength development. As your muscles grow stronger you will be able to lift more weight. You will be encouraged as you see your progress over time, as recorded on our workout cards.

All movements should be performed slowly. Take 2 seconds to lift the weightload, pause for one second, and then lower the weightload in 4 seconds. Slow training uses more muscle tension, more muscle force, and more muscle fibers. It also reduces the risk of injury.

For maximum results perform all movements completely, from full muscle extension to full muscle flexion. Partially lifting and lowering the weights will result in muscle imbalances and possible injury. Full-range training ensures greater muscle effort and joint flexibility.

Our Nautilus Fitness Center is arranged so that you work larger muscle groups first, and proceed to smaller muscle groups. This ensures that your energy levels coincide with the requirements of the exercise at hand. Proceed from machine to machine in order and without delay for a better overall training effect.

# Flexibility Training

Also called stretching exercise, flexibility training is important for several reasons. First, it increases blood flow to your muscles, which helps them to become warm and elastic. Stretching also stimulates the production or retention of lubricants between connective tissue fibers, which decreases injury risk as you perform various activities. It also improves joint range of motion and enhances physical performance.

For best results, stretch when your body is warm, or at the end of your workout routine. Move slowly into the stretch, aiming for gentle tension or the beginning of mild discomfort. Never create pain while stretching. Do not bounce or move quickly when performing these exercises, as this can trigger cramping or microscopic tears in the muscle. Hold each stretch for 15-60 seconds.

