



CARDIORESPIRATORY ACTIVITY

Training for the 1.5 Mile Run

The Chicago Fire Department's Physical Fitness Incentive Program is a great motivator to begin a workout program, or if you are already fit, to maintain or improve upon your foundation. There are several **training methods** used to prepare for this event, along with a **progression plan**. A progression plan must provide details for a graduated progression in the frequency, duration and intensity of exercise. There are three stages of progression for a cardiorespiratory endurance exercise plan: the **Initial Conditioning Stage**, the **Improvement Conditioning Stage** and the **Maintenance Conditioning Stage**.

You should consult your physician before beginning any exercise program.

Initial Conditioning Stage. (For beginners) This stage usually lasts 4 to 6 weeks or longer and includes low-level aerobic activities, stretching and light calisthenics. Exercise frequency should begin with every other day. Depending upon your initial level of fitness and functional capacity, duration should start at 10 to 20 minutes and gradually increase according to your cardiorespiratory and musculoskeletal response. For beginners, a natural sequence of progression can or might be:

1. Walk/jog distance intervals: Walk 50 yards, jog 50 yards, and repeat 10 to 20 times; or
2. Walk/jog time intervals: Walk for 2 minutes, jog for 2 minutes, and repeat for a total of 20 minutes. Over time, gradually increase the jogging interval to a sustained distance for 20 to 30 minutes or until you reach your energy expenditure.
3. Jogging: Gradually increase your jogging distance to a desired distance or level of energy expenditure.

The most important thing to remember during the initial conditioning stage is to be conservative with the exercise intensity. Of course, you would like to be fit by tomorrow, but doing too much too soon can result in injury or burnout. Take it slow, and increase your training gradually. Begin at a conservative 60% of your maximal heart rate.

Improvement Conditioning Stage. (Intermediate) This is the primary conditioning stage for most aerobic training programs. Exercise frequency can be increased to 5 days a week. You will move your attention away from strengthening the heart and lungs, to developing the muscles in the legs and buttocks. Distance and time can be increased. Speed and different training techniques can also be utilized. Try increasing your run at the end of the week by 2 to 10 minutes. The exercise intensity can be increased based on your fitness level and age. Exercise duration should be increased every 2 to 3 weeks, according to your response and goals. Exercise at 70% to 90% of your maximal heart rate.

1. Jog for 20 to 30 minutes. For the last 5 minutes of your run, increase your pace to elevate your heart rate.
2. Try to increase your run to 45 minutes or one hour for cardio endurance.
3. Running: As your jogging endurance improves, increase your stride frequency and length to a comfortable running style.

Maintenance Stage. When you reach your goal or target functional capacity, the maintenance stage begins. This stage is usually reached after the first 6 months of training but can be reached beforehand, depending upon what you are training for. It is important to reassess your goals at the beginning of this stage. Cardiorespiratory fitness during the maintenance stage can often be maintained by regularly engaging in a variety of endurance-related sports activities that are fun and enjoyable.

Reassessing your goals:

- What am I training for?
- Is the frequency of my training enough?
- What intensity am I training at?
- Do I need longer or shorter durations for training?

There are five major training methods:

- Continuous training
 - Intermediate slow distance
 - Long slow distance
- Interval training
 - Aerobic interval training
 - Anaerobic interval training
- Fartlek training
- Circuit training
- Aerobic cross-training

Continuous Training. Continuous training involves conditioning-stage exercises, such as walking, jogging, cycling and swimming. The intensity is maintained continuously between 50% and 85% (maximal oxygen uptake). For those individuals with initially low functional capacities, continuous training may be initiated at 40% of functional capacity. Continuous training is divided into two types:

1. **Intermediate Slow Distance:** 20 to 60 minutes of continuous aerobic exercise. This is the most common type of sustained aerobic exercise for fitness improvement, body fat reduction, improvement in cardiorespiratory fitness and cardiorespiratory risk factor management.
2. **Long Slow Distance (LSD):** 60 or more minutes of continuous aerobic exercise. This method is usually employed for athletic training (i.e., cycling, long distance running).

Interval Training. Interval training involves alternating more intense bouts of cardiovascular exercise with those that are less intense. Interval training is useful for beginning exercisers, as well as conditioned exercisers who wish to improve their aerobic power. You can use two types of interval training: **aerobic** and **anaerobic**.

1. **Aerobic Interval Training:** Aerobic interval training is best suited for those beginning in the poor or low cardiorespiratory fitness classification because it is less intense. Aerobic interval training uses exercise bouts of 2 to 15 minutes at an intensity between 60% and 80% of your functional capacity. Those with poor or low functional capacity should start with 2- to 3-minute exercise intervals at 60% to 70% of their functional capacity. Rest intervals should take approximately the same time. Intervals can be repeated based on your response and goals. For example, running for 2 minutes at a moderate pace, or 60% to 70% of your functional capacity, and then slowing down your pace for 2 minutes for recovery. This can be repeated 5 to 10 times for a total workout. For higher intensity, use 70% to 90% of your functional capacity for 5 to 15 minutes. This type of training should be used for those in a higher cardiorespiratory fitness class. Note: you can also utilize bicycling as an interval training workout.

2. **Anaerobic Interval Training:** Anaerobic interval training is reserved for those in the higher cardiorespiratory fitness class who desire to increase speed and overall aerobic power. Anaerobic interval training usually results in lactic acid concentration and muscular discomfort. The chance of injury is greater because of high muscle contraction. A warm-up should be done, along with stretching. The training is usually between 30 seconds and 4 minutes at an intensity of 85% to 100% of functional capacity (maximal oxygen uptake). For example, sprinting for 200

yards, resting for 30 seconds and repeating 10 times; or running for 1/2 mile, resting for 1 minute and repeating for 4 to 6 times.

Fartlek Training. Fartlek training is similar to interval training, but the work/rest intervals are not accurately measured. The intensity is determined by how you feel. One of the most useful applications is running, where the warm-up consists of running for 10 to 20 minutes, and then the pace is significantly varied every 5 to 10 minutes. This should be reserved for those in the average or above average cardio level. Example: Run at a pace comfortable to hold a conversation for 10 minutes, and then pick up the pace for 5 to 10 minutes or until you feel fatigued; slow down for 5 minutes; and repeat for 45 minutes.

Circuit Training. Circuit training takes you through a series of exercise stations with a brief rest period. Historically, circuit training was designed to enhance muscular endurance. Alternatively, aerobic circuit training programs are a great way to enhance your cardiorespiratory level. Stations may include: stationary cycling, treadmill running or walking, elliptical training, moderate stair climbing and rowing. Stations can be utilized for 1 to 5 minutes, with a 15-second rest between stations. Training times can be 20 to 50 minutes at 50% to 70% of your functional capacity.

Aerobic Cross-Training. Aerobic cross-training is an individualized combination of various aerobic training methods with a variety of intensities and modes. It is primarily for exercisers in the maintenance phase of conditioning who want variety and intensity based on how they feel during a workout. Example: A 50-minute workout in which you would jog for 15 minutes, swim for 20 minutes and then jog for another 15 minutes. Another example would be bicycling for 20 minutes to a track or running course; then running for another 20 minutes; and cycling again for 20 minutes to complete your workout.

With knowledge, dedication and consistency, we progress!