

## **Maffetone Method of Training: Beginners 10 Week 5k Run/Walk Program**

Using the Maffetone Method, written by Dr. Maffetone, Triathlete Magazine's "Coach of the Year", I have put together a simple and scientific plan to gaining fitness in your life that will enable you to be able to effectively participate in a 5k race, in some cases longer, as well as build a cardiovascular base that leads to superior health and fitness.

This plan is not designed to lead you to a point of pain and injury, but since we all have potential weaknesses in our muscular-skeletal structures, you need to be your own physician and monitor consistent pains that don't allow you to participate in your activity, or perhaps greatly alter your stride – which can eventually lead to additional pain and injury. With adults, typical beginning pains can start with shin splints, foot pain, lower back or hip pain – all of these body parts are effected by running/walking impact.

### **Happy Feet**

The first rule to help prevent these injuries is a good pair of running shoes. They are the most important and only real piece of equipment needed for a runner. The correct size of your running shoes may not be the same as your normal dress shoe size. Running actually causes your feet to swell up to a half-size larger, therefore it is best to try on shoes in the later part of the day when your feet have already been "working". Be sure you try your potential new shoes on with the same type of sock that you will be training in. Running socks are typically more padded than trouser socks and will take up more space in the shoe.

When trying footwear for running, test the fit of the shoe one shoe at a time. Start with the shoes unlaced, stand up and tap the toe of one shoe on the ground to slide your foot to the front. While your foot rests on the toebox, there should be a finger's width between your heel and the back of the shoe. Tighten the laces and your foot will be pulled back a bit. The heel should not move more than a ½ inch in any direction. You should have room to wiggle your toes, and comfortably flex the foot and the midsole of the shoe. Your foot arch should feel a rise under it for support. If you tend to have flat feet, shin splints or lower leg pain, try a good arch support that fits on type of the insole. I recommend the Dr. Scholl's Advantage ¾ inserts. They cost about \$8.95 and are found at most drug stores or stores that have a pharmacy department.

I don't like to recommend any one typical brand of shoes because my preference in shoes is based on the normality and abnormality of my own feet! I do often recommend for beginner runners that they purchase their shoes at a specialty running store where the individuals are trained to ask questions about your running distance and pace as well as past problems you have had with your feet. There is a huge difference in the quality of service that you will receive at a specialty running store and I can make some local recommendations to you.

## **Form**

The most efficient running stride is one in which the foot lands beneath the knee instead of extended out beyond the knee (overstriding). Sometimes this comes naturally and sometimes not. A runner should land softly on the heel and rock up through the ball of the foot for push-off. This allows the body weight to shift from the outside edge of the heel to the inside edge of the big toe. The landing should be essentially noiseless, so if you find yourself slapping with the foot, check your mechanics. A slapping foot is typically landing very hard on the heel and avoiding toe push-off. The opposite of that is a total toe landing that avoids heel strike which is detrimental to soft impact and leads to injury.

The main difference between walking and running is 30% of the stride length will be airborne when running. This “float phase” is the reason that there is more energy output in a runner than a walker. There is more impact also. You may consider doing a portion of your mileage on soft surfaces such as grass and trails, and track. Sidewalks are the hardest because they are concrete. Asphalt roads have some “give” to them if your only options are firm surfaces.

## **Energy Systems and Fuel 101**

Humans and most mammals have three energy systems. It is not necessary that you memorize these systems but it is important when you discuss diet and refueling that you understand the principles of these systems:

**Aerobic System:** This system is the main system trained when preparing for longer distance events. The aerobic system burns glycogen or carbohydrates for energy, but has the ability to use significant amounts of body fat for energy. As you train the aerobic fibers of a muscle they become more effective at burning stored fat.

**Anaerobic System:** This system becomes important in middle distance running from 800 meters to the mile. The main fuel used in the anaerobic system is glycogen or carbohydrates and has very little use for stored body fat. Your anaerobic system can be trained to become more efficient, but since it does not use as much oxygen, it will take carry you for more than 2 minutes in novice runners and up to 3.5 minutes for elite runners.

**ATP-PC System:** Not a lot of concern here in developing this in a 5k event as this system runs completely on glucose and other blood chemicals and does not last more than 10 seconds for most runners, possibly close to 20 seconds for the best in the world.

It is important to eat a diet of mainly complex carbohydrates and some fat, preferably the good fats, along with a slight increase in protein for a runner. Protein is not designed to be a fuel for exercise, although it is used once the carbohydrate (glucose) and fat supply are depleted or low. Protein repairs the body while you are resting and restores any damage you have created through daily living and exercise.

For runners a good guideline when planning eating that fuels your training program is:

**50-60% complex carbohydrates - 25-30% good fats- 15-20% protein\***

\*normal recommendation of protein for average adults is around 12%, but it has been proven that adults in a training program of exercise need to slightly increase this amount.

### **Training and Endurance**

The best way to define training as an equation is:

**Training = workout + rest**

Proper training mixes with sufficient rest to allow the body to recover so that your next workout session is not over stressing your body. If the stress is too great, or not enough, you will not get the endurance results that you want. Endurance is a cumulative effort over time, and the body can only absorb stress in increments. Endurance is defined as the development of a sufficient aerobic system that allows you to cover distance more efficiently and at a reduced amount of time. Let go of the “no pain, no gain” myth that says you have to really suffer to see results. The body must be taxed, then rested, taxed then rested. Eliminate the rest or reduce the rest will bring the exerciser to a point of breakdown in the form of injury or excessive fatigue. Balance (as always) is the key!

Stresses other than physical training might be present. These include:

- Poor health, compromised health
- Too many time commitments
- Disorders such as obsession or depression
- Poor nutrition and/or poor sleeping habits
- Weather conditions, wind, heat, cold, humidity

Be fully aware of the other stressors in your life prior to making your commitment to a training plan. If they are too great, consider a training plan that is slightly reduced or you will run the risk of injury or excessive fatigue.....Balance!

### **Proper Training Intensity**

The most simple way of determining that your training intensity level is on par is the use of heart rate monitoring. It can be manually taken or through an electronic device such as a heart rate monitor. Manually, one can find their carotid artery pulse on the front of the neck, or use the area on their wrist below the base of the thumb. Light pressure must be used so not to trigger a slowing of the heart rate. Use a stopwatch while you count the beats.

**Important:** If you have just stopped your exercise and you are taking your pulse in order to find out what your exercise heart rate is: Take it for only 6 seconds. Multiply it by 10 for your accurate beats per minute heart rate. It is important to take it immediately without delay as the heart will begin to drop dramatically in most people past 6 seconds. As you practice this method, it becomes easier to do – but it is important in the accuracy of finding out what your heart rate was when you were moving. If this is a real bother, you might invest in a heart rate monitor.

Your heart rate can tell you if you are training in your aerobic zone or if you are above that zone (anaerobic).

For runners I prefer the Maffetone Method formula as it tends to be more conservative and research is finding that this method is more accurate in oxygen-consumption tables and maximum heart rates. It is called the 180 method and was derived by Dr. Maffetone through the use of clinical trials and from gas-analyzed results.

### **The 180 method of finding aerobic heart rate**

#### **1. Subtract your age from 180 (180-age)**

#### **2. Modify this number if any of the following categories apply to you:**

- recovering from major illness or taking regular medication that changes your heart rate or blood pressure. Refer to your prescription details. **Subtract 10.**
- if you have not been exercising regularly for the past year, have a slight injury, or easily get colds and flu, have allergies or asthma. **Subtract 5.**

Example: A 30 year old who has not exercised regularly for over a year would find their maximum heart rate by doing the following:

$$180 - 30 - 5 = 145 \text{ maximum aerobic heart rate}$$

Once your maximum aerobic heart rate is found, use a range from that number up to 10 beats below that number. Example: a 145 maximum aerobic heart rate would indicate this person's training zone would be 135-145 beats per minute.

Do not confuse this with typically maximum heart rate charts that use the 220-age, then a percentage of that number as the formula. The 180 already takes into account that the formula will be finding your aerobic maximum – not your maximum heart rate.

### **Goals and Motivation**

Prior to starting, have your primary goal in mind. Write it down in a daily journal format where you are also going to record daily training activity. Review and focus on this goal on a regular basis (the journal helps you to do just that) and be prepared to have some flexibility in your routine. If you suddenly become ill and have to take some time off, do so. If you have increased family or work load, you may have to alter some of your training time. Your training journal should include your daily running routine, or indicate rest day, training heart rate, total workout time, time of day, running surface,

weather conditions, and any aches or pains. You can add feelings and emotions, likes and dislikes, other routines such as weight training or stretching, pilates, yoga, etc.

### **Warming Up, Cooling Down and Stretching**

While running is an activity that uses the core muscles, obliques, abdominals and back muscles for proper stabilization of the spine, it also has a tendency to overuse the very active leg muscles, quadriceps, hamstrings, adductors, tibialis posterior and anterior, as well as hip flexors such as tensor fascia lata, iliopsoas, and the iliacus.

The debate over the usefulness of stretching is inconclusive, but running does require a greater range of motion in the hip flexors. What we do know about stretching is it is an activity that should be used on a warm muscle.

Recent research on running and stretching suggests that a person use the first 5-10 minutes of running to warm-up and the same once the activity has been achieved. Starting runs very slowly for the first 5 minutes is a good idea, and ending each run with a 5 minute walk is even better. Once you have completed this warm-down period of walking, a stretching routine should be incorporated to assist in recovery. Static stretching, holding the stretch for 20-30 seconds relaxes the muscle and helps it to maintain its range of motion.

## Basic Information Covered – Let’s Begin!

### 10 Week Program – Level 1

**Commitment: 4 days a week**

Week	Workout 1	Workout 2	Workout 3	Workout 4	Weekly Total in Minutes
<b>1</b>	Brisk five-minute warm-up walk. Begin with 60 seconds of running followed by 60 seconds of walking for 15 minutes. Walk slowly for 5 minutes. Total time = 25 minutes.	Brisk five-minute warm-up walk. Begin with 60 seconds of running followed by 60 seconds of walking for 15 minutes. Walk slowly for 5 minutes. Total time = 25 minutes.	Brisk five-minute warm-up walk. Begin with 60 seconds of running followed by 60 seconds of walking for 15 minutes. Walk slowly for 5 minutes. Total time = 25 minutes.	Only 3 days of training this week.	<b>75 minutes</b>
<b>2</b>	Brisk five-minute warm-up walk. Begin with 60 seconds of running followed by 60 seconds of walking for 15 minutes. Walk slowly for 5 minutes. Total time = 25 minutes.	Brisk five-minute warm-up walk. Begin with 90 seconds of running followed by 90 seconds of walking for 18 minutes. Walk slowly for 5 minutes. Total time = 28 minutes.	Brisk five-minute warm-up walk. Begin with 90 seconds of running followed by 90 seconds of walking for 18 minutes. Walk slowly for 5 minutes. Total time = 28 minutes.	Only 3 days of training this week.	<b>81 minutes</b>
<b>3</b>	Brisk five-minute warm-up walk. Begin with 60 seconds of running followed by 60 seconds of walking for 15 minutes. Walk slowly for 5 minutes. Total time = 25 minutes.	Brisk five-minute warm-up walk. Begin with 90 seconds of running followed by 90 seconds of walking for 18 minutes. Walk slowly for 5 minutes. Total time = 28 minutes.	Brisk five-minute warm-up walk. Begin with 2:00 min. of running followed by 2:00 of walking for 16 minutes. Walk slowly for 5 minutes. Total time = 26 minutes.	Only 3 days of training this week.	<b>79 minutes</b>
<b>4</b>	Brisk five-minute warm-up walk. Begin with 90 seconds of running followed by 90 seconds of walking for 18 minutes. Walk slowly for 5 minutes. Total time = 28 minutes.	Brisk five-minute warm-up walk. Begin with 2:00 min. of running followed by 2:00 of walking for 16 minutes. Walk slowly for 5 minutes. Total time = 26 minutes.	Brisk 5 minute walk. Begin with 3:00 min. of running followed by 2:00 of walking for 15 minutes. Walk slowly for 5 minutes. Total time = 25 minutes.	Brisk 5 minute walk; 8 minutes run. Walk slowly for 5 minutes. Total time = 18 minutes	<b>97 minutes</b>
<b>5</b>	Brisk five-minute warm-up walk. Begin with 3:00 min. of running followed by 2:00 of walking for 15 minutes. Walk slowly for 5 minutes. Total time = 25 minutes	Brisk five-minute warm-up walk. Begin with 60 seconds of running followed by 60 seconds of walking for 15 minutes. Walk slowly for 5 minutes. Total time = 25 minutes.	Brisk five-minute warm-up walk. Begin with 3:00 min. of running followed by 2:00 of walking for 15 minutes. Walk slowly for 5 minutes. Total time = 25 minutes	Brisk 5 minute warm-up walk. Run for 10 minutes. Walk slowly for 5 minutes. Total time = 20 minutes	<b>95 minutes</b>

<b>6</b>	Brisk 5 minute warm-up walk. Begin with 2:00 min. of running followed by 2:00 of walking for 16 minutes. Walk slowly for 5 minutes. Total time = 26 minutes.	Brisk 5 minute warm-up walk. Begin with 4:00 min. of running followed by 2:00 of walking for 18 minutes. Walk slowly for 5 minutes. Total time = 28 minutes	Brisk 5 minute warm-up walk. Begin with 2:00 min. of running followed by 2:00 of walking for 16 minutes. Walk slowly for 5 minutes. Total time = 26 minutes.	Brisk 5 minute warm-up walk. Run for 15 minutes. Walk slowly for 5 minutes. Total time = 20 minutes	<b>100 minutes</b>
<b>7</b>	Brisk 5 minute warm-up walk. Begin with 2:00 min. of running followed by 2:00 of walking for 16 minutes. Walk slowly for 5 minutes. Total time = 26 minutes.	Brisk 5 minute warm-up walk. Begin with 8:00 min. of running followed by 60 seconds of walking for 20 minutes. Walk slowly for 5 minutes. Total time = 30 minutes	Brisk 5 minute warm-up walk. Begin with 2:00 min. of running followed by 2:00 of walking for 16 minutes. Walk slowly for 5 minutes. Total time = 26 minutes.	Brisk 5 minute warm-up walk. Run for 18 minutes. Walk slowly for 5 minutes. Total time = 28 minutes	<b>110 minutes</b>
<b>8</b>	Brisk 5 minute warm-up walk. Begin with 2:00 min. of running followed by 2:00 of walking for 16 minutes. Walk slowly for 5 minutes. Total time = 26 minutes.	Brisk 5 minute warm-up walk. Begin with 5:00 min. of running followed by 60 seconds of walking for 18 minutes. Walk slowly for 5 minutes. Total time = 28 minutes	Brisk 5 minute warm-up walk. Begin with 2:00 min. of running followed by 60 seconds of walking for 18 minutes. Walk slowly for 5 minutes. Total time = 28 minutes.	Brisk 5 minute warm-up walk. Run for 18 minutes. Walk for 3 minutes. Run for 4 minutes. Walk slowly for 5 minutes. Total time = 35 minutes	<b>117 minutes</b>
<b>9</b>	Brisk 5 minute warm-up walk. Begin with 4:00 min. of running followed by 2:00 of walking for 18 minutes. Walk slowly for 5 minutes. Total time = 28 minutes	Brisk 5 minute warm-up walk. Begin with 5:00 min. of running followed by 60 seconds of walking for 18 minutes. Walk slowly for 5 minutes. Total time = 28 minutes	Brisk 5 minute warm-up walk. Begin with 2:00 min. of running followed by 60 seconds of walking for 18 minutes. Walk slowly for 5 minutes. Total time = 28 minutes.	Brisk 5 minute warm-up walk. Run for 22 minutes. Walk for 3 minutes. Run for 5 minutes. Walk slowly for 5 minutes. Total time = 40 minutes	<b>124 minutes</b>
<b>10</b>	Brisk 5 minute warm-up walk. Begin with 4:00 min. of running followed by 2:00 of walking for 18 minutes. Walk slowly for 5 minutes. Total time = 28 minutes	Brisk five-minute warm-up walk. Begin with 2:00 min. of running followed by 2:00 of walking for 16 minutes. Walk slowly for 5 minutes. Total time = 26 minutes.	No Run this day	<b>RACE 5k</b>	<b>84 minutes+</b>

**References:**

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**Daniels Running Formula**, by Jack Daniels, Ph.D, Human Kinetics, Champaign, Illinois, 2<sup>nd</sup> edition, 2004