

Recommended Minimum Criteria to Participate in the Chevron Houston Marathon

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Completing a marathon can be a tremendously gratifying and enriching experience. As Medical Director, my primary goal is to ensure a safe experience to the participants and to provide basic care to those of you who become ill or injured during the race. Most of you will never meet me on race day since most of you that get to the start line will cross the finish line successfully and marvel at the experience you just had. While I worry about the relative few of you I will meet on race day, many, many more of you will never make it to race day because of injuries incurred during the long training process for the marathon.

I would like to offer some advice that might make this high attrition rate less. In providing this advice, I hope that it will help you accomplish your goal of completing our marathon. More importantly, I hope that it helps you stay with running as a lifelong activity to help you remain healthy and fit.

Training for a marathon is a long and arduous process that exposes your body to many opportunities for injury. The rate of injury increases with increasing frequency of runs, length of runs, total weekly mileage, and intensity of training. All of these parameters occur when training for a marathon. Your body will acclimate to these parameters if given the time and assuming there is not some other intrinsic abnormality such as skeletal malalignment or poor running form. You are also much more likely to succeed if you have prior running experience.

The following recommendations are given primarily for first time participants and those of you with little running experience. The marathon and the training it requires will expose flaws in running technique and training plans. No matter how committed you are the marathon will expose your mechanical and training weaknesses. It is in your best interest to give yourself the opportunity to adjust to training, correct mechanical errors and to learn how to train properly for the marathon. I have found that this process often takes much longer than 6 months for new runners.

I recommend that new runners give themselves 3 years to train for their first marathon. During this time they will:

1. Increase their tolerance to the stress that running imposes on their musculoskeletal systems. They will also improve their cardiovascular and muscular endurance
2. Reduce the chance of injury from prematurely increasing training load. In other words , injury will often result from increasing mileage in preparation for a race before the body is ready to tolerate the demand
3. Become healthier with reduced risk of injury; thus have a greater chance at successfully completing a marathon
4. Ultimately, they will more likely stay with running as a form of exercise and benefit from this enduring commitment

The first year of training is used to establish tolerance to regular running. Goals for Year 1 are:

- a. Develop tolerance of running consistently 3-4 times weekly. This process may take 6 -12 months to achieve. It will vary from person to person. People that are more fit to begin with or have had athletic experience may progress more rapidly than those who are not as experienced.
- b. During this time the concepts of effort and recovery are experienced. These two principles are integral to training successfully. This awareness and knowledge should be utilized for all future training.
- c. Runners should also consider having their running form (gait) evaluated by someone trained in biomechanical analysis. A running coach can also be very helpful in developing an appropriate training program and properly implementing it.
- d. If training is progressing without difficulties entering a 5K or 10 K road race becomes a reasonable option. These events provide an assessment of fitness and also begin the process of learning the etiquette and strategy of racing.

The second year of training is designed to begin the fine tuning of your body with respect to training. Goals for year 2 are:

- a. Running regularly 3 – 5 times weekly should be tolerable. Now the runner should begin to employ periodization as a means of training. Periodization is a concept that incorporates the body's ability to adapt to the process of training, making improvement achievable in a safe and efficient way. This concept is based on effort and recovery. Simply stated the fundamental tenant of adaptation mandates that for every effort beyond current levels of function there must be recovery. It is during recovery that the body adapts physiologically, allowing function to reach a higher level. Not observing this tenant increases the chance of overtraining and injury.

The effort / recovery cycle is used day to day; but it is also applied to cycles of greater duration. These cycles can be designed around goals, provided that they are reasonably conceived. For example, if a runner wants to participate in a marathon, a training cycle should be designed to make the marathon day the time at which peak performance is attained. Within that year smaller cycles can be created to achieve aspects of increased performance. During the first few months of the larger cycle, a sub cycle will be used to develop muscular strength and a mileage base. The next several months would be concerned with developing pace. The final cycle would expand these pacing skills to greater distances, culminating in completion of the marathon. As you may have realized, I am laying out a periodized group of cycles with this 3 year plan for aspiring marathon participants.

- b. Pacing refers to the speed at which you will run a given race or distance. It is a tangible reference in your pursuit of your desired finish time. Training at this pace is important in developing your ability to achieve your goal. Learning to train at different paces in general helps you become more capable as a runner. Workouts done at varied paces can be more intense and may require more recovery time. It is important to have a good running base (year 1) prior to starting more intense workouts.

c. Introduce more intense training such as speed work and hill training. These workouts are even more demanding than pace workouts. They are designed to stress your musculoskeletal and cardiovascular systems such that during recovery both systems become stronger. This in turn, improves your ability to perform, mainly by increasing speed and power. However, this type of training will expose weaknesses in biomechanics and alignment. This can result in injury and is a primary reason why participants fail to reach the start line. Moving into this type of training requires care and attention to technique. It is very common for runners to move into this type of training before they are ready. Furthermore, even those that are capable frequently do this type of training too frequently or too intensely. Appropriate coaching is a valuable tool at this stage.

d. Training for a half marathon is a good strategy during the second year of training if there are no setbacks up to this point. By the end of the second year you should be adequately trained to be able to complete a half marathon distance in such a way that injury is a low risk. This will be an important step in developing the physical ability and the mental confidence to train for a marathon.

As you move into your third year of training, you will be ready to consider entering a marathon and beginning the formal training for that particular race. At this point you have two years of consistent running and should have begun to utilize more advanced training techniques. During the third year, these techniques and the base that you have been establishing will be used with the goal of completing the training for the marathon. Goals for year 3 are as follows

a. Choose a marathon that you would like to complete. Pick one that allows you to train adequately. Also, consider the climate of the race. Try to match it to the climate you train in. Ideally, choose a local race. Don't pick a difficult course. Courses that are flat and races that have good amenities make for a more enjoyable experience your first time through. In short, don't make it harder than it needs to be.

b. Training with a running club can be very helpful. Pick a training group that has experience. Run with members that are close to your level of running. Be careful not to run beyond your capabilities. Don't lose touch with your own response to training. A drawback to training with a running club is that often participants forget that they are individuals and need to train according to their individual needs rather than according to what the group might be doing on any particular day.

c. To this end, you should modify your training as necessary to allow your body to accommodate to increasing mileage without exceeding your ability to respond to training. Monitoring your morning pulse is a good way to measure your readiness to train on a given day. Generally, your morning pulse will be very consistent. As you train it will likely become slower and stronger. If one morning it is higher than usual you may indicate a developing illness or be fatigue as a result of over training or not getting enough sleep. On such days you should reduce your training or take the day off from running. Similarly if your body is sore or tender, you may be developing an overuse injury. In this case reduce your training until you feel better. Cross training is helpful but not if you are tired in general. Cross training is more effective for resting a specific part of your body.

d. Understanding your hydration needs will be critical to being successful in training and ultimately in the marathon. When you run over an hour you will need to replace fluid losses. Learning how to meet these needs is an individual process. In general, thirst is a reasonably good guideline to stay safely hydrated. Being a little dehydrated is easy to correct and not usually a factor in performance. Being significantly dehydrated or over hydrated can be a more serious problem. Heat and humidity will cause you to sweat more in order to remain cool. You will lose more fluids as a result. You will also lose sodium. Both must be replaced in order to maintain normal function in your body. (Please refer to other articles on the marathon website for a more in depth discussion of this issue). Using your weight before and after long runs can help you understand the amount of fluid you lose for varied conditions. As you become more fit your body adjusts and this will be reflected in your pre and post run weights. Generally, for each pound of body weight you lose on a run, you should replace 16 ounces of fluid. This should have some sodium in it. You may also need to use more salt on your food as long as you do not have high blood pressure. If you do not lose weight on a run you do not need to replace fluids other than to satisfy your thirst. If you gain weight, you should not drink much at all until you are urinating regularly. Ultimately, having monitored your weight as a response to levels of effort and weather conditions will help you gauge your hydration needs for the marathon and the conditions that day.

Training for a marathon is very challenging but potentially very rewarding. I hope this plan makes your chances for success much greater and the likelihood of injury much less. This plan is designed to allow for differences in individuals. In doing so participants will be able progress at a pace that suits their capabilities. They will have adequate time to adjust to the demands of distance running and marathon training. Furthermore, learning skills that can improve mechanics and pace will enhance performance. This time frame for marathon training affords the time to learn and adjust. As a result the great benefits of exercise and the thrill of completing a marathon are attainable.