

MARATHON RUNNING **A recipe for injury prevention**

Thousands of people aspire each year to completing the famous London marathon. Many more focus their training efforts on one of the many other marathons and half marathons held annually around the country. Unfortunately, a significant number of these find themselves injured and unable to compete when race day arrives. One of the biggest causes of injury amongst runners is a lack of knowledge when it comes to planning a sound training programme.

Successfully completing a half or full marathon is just like baking a cake. It requires several ingredients in the right proportions and, most importantly, time for it to bake. The ingredients for a sound training programme are endurance, strength, speed, core stability and flexibility. A carefully planned training programme can help you avoid runners knee, tendonitis, achilles heel problems, torn calf muscles, sprained ankles, muscle strains and other injuries.

Endurance

As you build up your volume of running over time, your body adapts to the increasing stresses you place on it by improving the efficiency of your lungs and the chemical reactions required to utilise oxygen for burning energy in your muscles. Your heart also becomes stronger and more effective in pumping oxygen and energy-rich blood to your muscles. These changes allow your body to cope with longer and longer periods of activity before the onset of fatigue.

Speed

In addition to the chemical reactions that burn energy in the presence of oxygen, you have another system that allows your body to burn a different energy source without oxygen. This is called anaerobic metabolism. Incorporating speed training into your programme helps to increase your body's ability to utilise this energy source on race day

Strength

During running the forces on the joints of your lower body reach several times your body weight. Controlled movement of these joints and protection from injury, therefore, require a great deal of strength from the surrounding muscles to allow them to act effectively as shock absorbers. The strength of your upper body and arms is also important in maintaining good posture of form while running. This helps to conserve energy and in a long distance race energy conservation is vital.

Core Stability

In addition to upper body strength, your running form or posture depends on your ability to control your trunk movements. Some rotation of the upper trunk is necessary to allow smooth arm swing which in turn serves to counterbalance the opposite movement of your legs and add to your momentum. Conversely, your lower trunk requires a great deal of stability to provide a "solid" base from which to push against the ground and propel your body forward. Your lower trunk stability is provided primarily by your abdominal and buttock muscles and requires a great deal of precision. One of the consequences of a lack of lower trunk or core stability is overloading of the

leg muscles and joints. In a repetitive activity such as running, overloading inevitably leads to injury.

Flexibility

Regular training can cause muscles to become tight which in turn can also lead to overuse injuries. Remaining flexible through regular stretching helps your muscles to work most efficiently and prevents injuries.

Baking Time

Now that you have all the ingredients mixed together and into the pan, you need to allow plenty of cooking time for your training programme. Just as you can't bake a cake in half the time by doubling the oven temperature, you cannot fast track your running training by cramming in large amounts of training in a short period of time. This is a mistake very often made by runners as they set their sights on a race with too little time left to prepare for it. The result is injury caused by overuse of muscles or joints which have not been allowed adequate time to adapt to the increased stress.

So how do you know if you are increasing your training too quickly? A good guideline is to increase your total weekly mileage by no more than ten to fifteen percent from one week to the next and allow your body a week or two to adapt to the new distance before adding further miles or harder runs. Most importantly recognise that even minor recurring aches and pains will often become more serious injuries if left untreated and will take significantly longer to treat.

Combining a variety of running workouts with complementary strengthening and stability programmes will not only prevent injury but also enhance your race day performance and your long term enjoyment of a regular training programme.

Joining a local running club can be a great way for runners to experience different training workouts and gain advice from more experienced runners and coaches. Whether you train alone, with a friend, or with a club, remember to have fun and if you do find yourself injured seek help from your local physiotherapist early to allow you to get back out running again as quickly as possible. Our sports injuries clinic has staff with skills and experience in training and rehabilitating athletes at international level in sports orthopaedics, injuries, and fitness training programmes.

This information brought to you by the Physio Studio, Binfield Bracknell's premier physiotherapy practice.

www.physiostudio.com

<http://www.physiostudio.com/running-knee-pain.html>