



Running

The View of an Orthopaedic Surgeon

Running is a very popular activity in the United States with approximately ten to eleven million people running more than one hundred days per year. Those who support and promote running claim that it improves the quality of life and actually can increase the length of life. Other benefits attributed to running include improved cardiopulmonary status, enhanced mental health by less depression, less anxiety, and a greater sense of tranquility.

It is felt there are many diseases, which actually are decreased by regular exercise including running. These are hypertension, diabetes, and osteoporosis to name but a few. Better sleep patterns and control of weight are also felt to be benefits of running.

Next to walking, running is the easiest and least expensive form of exercise.

It has been estimated that 45-70% of runners experience one musculoskeletal injury each year. Obviously then there may be negative health consequences from running as well as benefits.

Overuse Causes Running Injuries

The majority of running injuries in adults and children are caused by overuse. Overuse refers to problems caused by repetitive microtrauma rather than a single traumatic event.

There are factors which predispose and contribute to runners overuse injuries. These are extrinsic and intrinsic. Extrinsic factors contributing to overuse injury include training errors, old shoes, and running surface irregularities. Intrinsic factors would include poor flexibility and malalignment of the lower extremities.

Running 25-35 miles per week definitely increases the risk of incurring overuse injury. Running more than 45 miles per week, some feel, does not lead to any significant greater health benefit, but increases even more the chance of overuse injury. Increases in duration and intensity of running are responsible for most overuse injuries. Rigid running surfaces increase the risk of stress fracture. Running on hills predisposes to knee pain caused by tendinitis and patellofemoral pain syndrome. Most runners believe that shoes should be changed every three to six hundred miles or every six months.

We are often asked about orthotics and running. These definitely can help certain runners with injuries for which rest and stretching were not successful. A flat foot is more likely to be helped by orthotics than a high arched cavus foot.

Common Running Injuries

Stress fractures usually occur in the tibia. Risk factors for stress fracture include somewhat older age group and female. There is a development of localized pain with gradual onset and progressive worsening with continued training.

When this injury is suspected x-rays of the affected area must be obtained and often a nuclear bone scan is required to make the diagnosis.

Groin injuries are often associated with running on hills. Tendons on the medial side of the thigh are most often strained. It is manifested by pain in the thigh or the groin area. Tenderness over the pubic area or upper inner thigh is usually present



Patellofemoral pain seems to arise from weakness in the lower thigh muscles, which are responsible for controlling the patella tracking across the front of the knee.

Iliotibial band problems result from the iliotibial band structure on the outer aspect of the knee rubbing across the lateral femoral condyle or lower lateral aspect of the thigh bone.

Shin splints present with diffuse nagging pain over the lower leg which worsens with running and seems to be caused by inflammation of the anterior and posterior lower leg soft tissue structures. This can be very difficult to distinguish from a stress fracture.

Achilles Tendinitis and Plantar Fasciitis are the two most common ankle and foot problems in runners. Plantar fasciitis refers to heel pain, which usually is sharp and on the sole of the foot in the region of the heel especially the medial or inner side.

It is beyond the scope of this article to point out specific treatments for these problems. Suffice it to say that if symptoms are at all persistent, orthopaedic consultation should be sought for evaluation and treatment. This should be done at an early time rather than waiting for the condition to become chronic and hoping that it will go away.

Long Term Consequences

We are often asked whether running causes arthritis. There is no scientific evidence that running causes osteoarthritis in the lower extremities in recreational runners whose knees were normal when they started running. Our joints were made to last as long as we need them in most cases. Genetic research may prove in time that there is a hereditary predisposition to arthritis changes. Even without the inclusive evidence of genetic predisposition anyone practicing orthopaedic surgery for a period of time is aware of the greater tendency for arthritis in some families than others.

The problem is that many people who are running do not have normal joints and normal alignment in their lower extremities to begin with. We see many patients in our practice who have serious chondromalacia problems (see Online Orthopaedics article regarding chondromalacia) of the knee who are determined to begin running or continue running to stay in shape. We always advise against this, as they will surely increase their chance of developing osteoarthritis. Recreational runners who have normal joints should be able to enjoy running without fear of joint deterioration.

Several things are clear:

1. If you are unsure about the status of your lower extremities and wish to begin or continue a running program, have an evaluation by an orthopaedic surgeon.
2. Most running injuries are curable.
3. Running does not cause arthritis in the lower extremities per se.
4. Surgery is usually not the answer.



Online Orthopaedics

Thank you for using the Online Orthopaedics Library.

We hope it was useful to you. Please check back frequently because new topics and information are being added continuously by Dr. Haverbush.

Please feel free to print, download, and use/distribute this information (as long as you are not reselling it in any form). Remember, it is the property of Online Orthopaedics and we retain all rights regarding its content. Alteration of this document in any way is a violation of the copyright.

This material does not constitute medical advice. It is intended for informational purposes only. No one associated with Online Orthopaedics will answer medical questions via email.

Please consult Dr. Haverbush or a physician for specific treatment recommendations.

Thomas J. Haverbush, MD. P.C.

Office Address:

**315 E. Warwick Dr., Suite A
Alma, Michigan 48801
989-463-6092
Fax 989-463-8914**

Website Address:

www.orthopodsurgeon.com