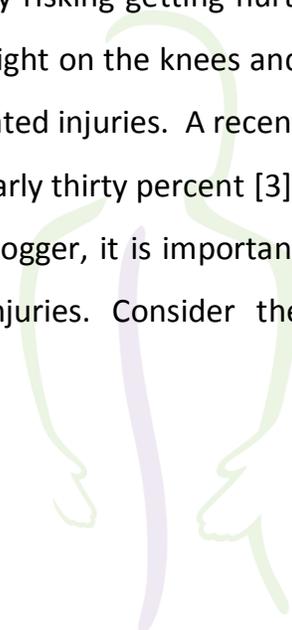


Hit the Road Running: An Enthusiast's Guide to Injury Prevention

Running is a popular sport for people interested in getting into shape, building strength and endurance, and reducing stress levels. Running can be done virtually anytime and anywhere, and is relatively inexpensive, aside from the cost of a good pair of running shoes.

Regular aerobic exercise, like running, has been proven to lower blood pressure, reduce the risk of heart disease, and even combat stress. A recent study showed that running protects against disability and early mortality in older adults [4]. With so much evidence supporting the benefits of running, it's easy to see why so many people are donning their cross trainers and taking to their local trails and tracks.

Unfortunately, many runners assume they can warm up as they go, and skip critical steps, such as stretching and strengthening, thereby risking getting hurt. Since running puts forces of up to four times the body's weight on the knees and feet, runners of all ages and skill levels experience sport-related injuries. A recent study suggests the overall injury rate amongst runners is nearly thirty percent [3]! Whether you're a seasoned marathoner or a recreational jogger, it is important to take preventive steps to avoid common running injuries. Consider the following questions:



Do you experience any of the following symptoms during or after running?

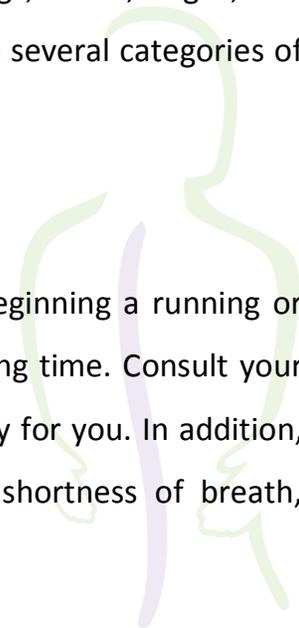
1. Aching in the muscles along the shins?
2. Discomfort along the outside of the thigh, that gets worse when going down stairs?
3. Twisting or swelling of the ankles?
4. Aching in the ball of your foot?
5. Heel pain that is worse in the morning?
6. Cramping of the calf and/or thigh muscles?
7. Aching around the kneecap after running?
8. Stiffness in the knees that is worse in the morning?
9. Sharp pain in a small area along the shin, that gets worse when you tap or press on it?
10. Light-headedness, difficulty breathing, and/or chest pain?

If you answered yes to one or more of these questions, you could be at risk of developing or already suffering from a running-related injury. Consult your chiropractor for a thorough assessment of your symptoms and risk factors.

Running-related injuries most commonly affect the feet, legs, knees, thighs, and hips. The good news is that these injuries tend to arise from several categories of risk factors, many of which are preventable [1, 2]:

Unresolved Previous Injuries:

If you have a joint or muscle injury or condition, beginning a running or jogging program could aggravate it and prolong your healing time. Consult your chiropractor to make sure running is an appropriate activity for you. In addition, if you suffer from cardiovascular disease or experience shortness of breath,



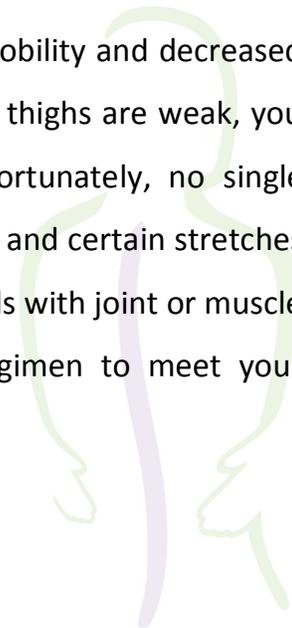
lightheadedness or chest pain during physical activity, be sure to consult a healthcare practitioner before attempting to jog or run.

Inappropriate Footwear:

Wearing running shoes that fit poorly, are too old or too worn to provide you with enough support and cushioning can lead to injuries. In addition, not all types of shoes are appropriate for every runner. If your feet have low or high arches, you will likely benefit from a running shoe designed to support your particular needs. Some runners even make use of custom-made foot orthotics, which are shoe inserts custom molded to your feet and designed to compensate for mechanical faults, such as low arches. Whatever foot type you have, choosing the right pair of shoes and replacing worn-out shoes regularly will go a long way to minimizing your risk of injury.

Tight and/or Weak Muscles:

Regular stretching both before and after running decreases resistance in the muscles and connective tissues, leading to improved mobility and decreased muscle soreness. In addition, if the muscles of your legs or thighs are weak, you may benefit from a strengthening exercise routine. Unfortunately, no single stretching or strengthening routine works for every person, and certain stretches or strengthening techniques can be dangerous for individuals with joint or muscle problems. Your chiropractor can help you develop a regimen to meet your particular needs.



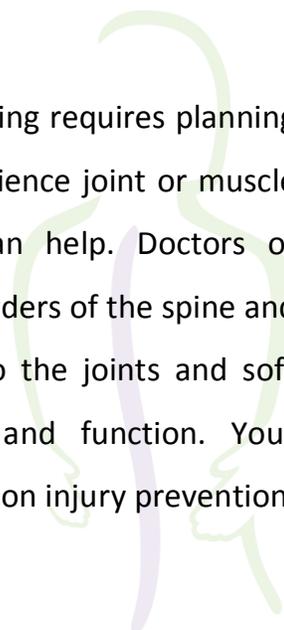
Improper Training Techniques:

Though many runners aim to improve their speed and endurance, increasing your distance or speed too fast and running too often can place excessive strain on your muscles and joints, resulting in injuries, which may include stress fractures in the bones. It is important to pace yourself when training, set realistic goals, and take time to rest your joints and muscles by not running everyday.

Improper Nutrition and Hydration:

Since running places great demands on the body, a proper dietary balance of proteins, carbohydrates, fats, as well as vitamins and minerals is essential for preventing injuries and attaining your peak performance levels. In addition, when you run, you sweat out essential fluids and minerals, and so, it is important to hydrate yourself by replacing those substances using water as well as sports drinks. Proper hydration has been shown to reduce muscle cramping, as well as the risk of dangerous conditions, including heat stroke.

Whether your goal is to take up jogging or win a race, running requires planning and preparation to do safely and comfortably. If you experience joint or muscle pain or discomfort while running, your chiropractor can help. Doctors of chiropractic are specialists trained to treat and prevent disorders of the spine and extremities. They also offer gentle hands-on treatment to the joints and soft tissues, which has been shown to improve mobility and function. Your chiropractor will be able to provide you with tips and advice on injury prevention, so you can hit the road running.



The Ten Most Common Running Injuries: A Glossary of Terms

1. *Shin Splints*: Inflammation of the connective tissues that attach the muscles in your legs to the shin bone.

2. *Runners' Knee*: Inflammation of the tendon that connects the quadriceps muscle in the front of

the thigh to the tibia bone of the leg.

This condition is also called *Patellar Tendonitis*.

3. *Iliotibial Band Syndrome*: Irritation and swelling of the iliotibial band, a long band of dense tissue that runs from

the outside of the hip to

the leg, typically resulting in pain at or just below the knee.

4. *Ankle Sprains*: Damage or rupture of the ligaments surrounding the ankle, most commonly caused by twisting of

the ankle when running. Swelling and

bruising of the ankle and foot are common symptoms.

5. *Stress Fractures*: Partial or complete cracks in the outer layers of the bone as a result of repetitive stress or impact.

Typical sites include the shin bones,

bones of the feet, thigh bones.

6. *Plantar Fasciitis*: Inflammation of the connective tissue that runs from the heel to the ball of the foot.

Common symptoms include heel pain and

stiffness that is worse in the morning.

7. *Achilles Tendonitis*: Inflammation of the Achilles tendon, the long tendon that attaches the calf muscles

to the heel.

8. *Metatarsal Stress Syndrome*: Irritation of the joints, nerves, and connective tissues that surround the

metatarsal bones,

which are the long foot bones that connect the arch of the

foot to the toes.

9. *Muscle Strains and Cramps*: Tightening and/or inflammation of the muscles in the thighs and legs

commonly caused by

overuse, inadequate stretching, overheating, and

dehydration.

10. *Heat Exhaustion*: A moderate increase in body temperature accompanied by paleness, dizziness, and

possibly nausea and vomiting due to overheating and dehydration. This should not be

confused with *heat stroke*,

characterized by very high body temperatures, flushed or

red skin, absence of sweating, and

fainting. If you suspect someone has heat stroke, call 911 for

immediate medical assistance.

References:

1. Chorley JN, Cianca JC, Divine JG, Hew TD (2002). Baseline Injury Risk Factors for Runners Starting a Marathon Training Program. *Clin J Sports Med*; 12(1): 18-23.
2. Johnston CA, Taunton JE, Lloyd-Smith DR, McKenzie DC (2003). Preventing Running Injuries: Practical Approach for Family Doctors. *Can Fam Physician*; 49: 1101-9.
3. Taunton JE, Ryan MB, Clement DB, McKenzie DC, Lloyd-Smith DR, Zumbo BD (2003). A Retrospective Case Control Analysis of 2002 Running Injuries. *Br J Sports Med*; 37(3): 239-44.
4. Wang BW, Ramey DR, Schettler JD, Hubert HB, Fries JF (2002). Postponed Development of Disability in Elderly Runners: A 13-year Longitudinal Study. *Arch Intern Med*; 162(20): 2285-94.

