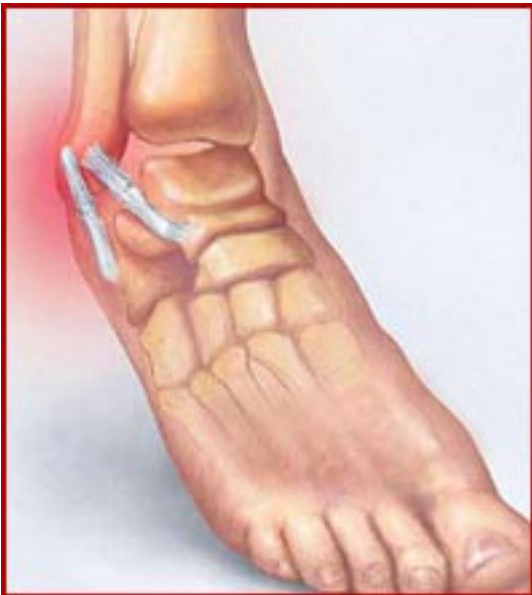


REHABILITATION OF ANKLE SPRAINS

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An ankle *sprain* is a very common injury that can happen to athletes, non-athletes, children and adults. A *sprain* refers to a stretching or tearing of a ligament. Ligaments are tough bands of fibrous tissue that connect one bone to another. They help stabilize joints, preventing excessive movement. One or more ligaments can be injured at the same time. Sprained ankles often result from a fall, a sudden twist, or a blow that forces the ankle joint out of its normal position. This may occur while participating in sports and recreational activities, wearing inappropriate shoes, or running, walking or stepping on uneven surfaces.

Inversion ankle sprains constitute 90% of all ankle sprains. This type of injury occurs when the foot is forced inward (inversion) and produces most of the pain on the outer side of the ankle. *Eversion* ankle sprains are less common and occur when the foot is forced outward (eversion), causing the most pain on the inner side of the ankle. A high ankle sprain is a unique and separate injury in which the ligaments around and above the ankle joint are injured. This is known as a *syndesmotic* sprain.



Pain and swelling are the most common symptoms of an ankle sprain. There may be bruising over the area of injury which may spread down into the foot towards the toes several days following the injury. Individuals may also experience difficulty walking or weight bearing on their injured ankle. Most ankle sprains can be managed conservatively. However, obvious evidence or suspicion of a broken bone, fracture or joint dislocation necessitates the need for emergency medical care.

Initial conservative management of ankle sprains should follow the **P.R.I.C.E.** principle (**P**rotection, **R**est, **I**ce, **C**ompression, **E**levation) summarized below.

PROTECTION: Protect from further injury with the use of a brace or splint. Walking aids such as crutches or a cane can be useful to help you get around.

REST: Relative rest of the injured ankle to allow for healing. An attempt should be made to begin range of motion exercises as soon as possible.

ICE: Crushed ice, ice cubes, or snow should be molded or applied to the ankle immediately. Icing will help to reduce pain, swelling, and inflammation. Ice application should not exceed 15 to 20 minutes at a time. Allow for skin temperature to return to normal before ice is reapplied. This cycle can be repeated as often as necessary within the first 48 to 72 hours. Ice should not be applied directly to the skin. Instead, a damp towel should be used to serve as a barrier between the ice and skin and act as a conductor of cold. Do not apply ice to blisters, open cuts or sores.

COMPRESSION: Compress the injured area with an elastic tensor bandage. This will help decrease swelling.

ELEVATION: Elevate the injured area (whenever possible) above the level of the heart, especially at night. Gravity helps reduce swelling by draining excess fluid.

The **P.R.I.C.E.** principle helps decrease pain and swelling and can be used during the rehabilitative process as needed. Additional treatment options include electrotherapy, ultrasound, taping, bracing, soft tissue techniques, manual mobilization and manipulation to decrease pain, swelling and joint stiffness. These will assist to improve function of the injured ankle. Rehabilitative strategies should progress to include active range of motion, stretching and strengthening exercises for the ankle joint and lower extremity. Proprioceptive/balance training is crucial in minimizing the risk of ankle instability and re-injury.



A trained health professional will be able to evaluate your ankle sprain and diagnose the degree of injury. If necessary, they may send you for an x-ray to make sure there is no evidence of bony fracture. Assuming that proper rehabilitative strategies are employed, successful recovery from an ankle sprain injury will depend upon the severity of ligament damage. Mild injuries usually heal completely without any residual consequence in 1 to 4 weeks. Moderate injuries usually require 4 to 12 weeks to heal. Severe injuries will take longer to heal. In some circumstances, surgery may be required for severe ankle sprains.

Untreated ankle sprains put individuals at greater risk of re-injury. The best way to prevent ankle sprains is to maintain good strength, muscle balance and flexibility. Taping and bracing may provide some protection against ankle sprains. Wearing proper footwear and paying attention to walking, running or working surfaces can also be helpful. Individuals should ensure that they prepare their bodies for sport, exercise and vigorous activities by warming up.

An untreated ankle sprain may lead to chronic ankle instability. This may also result in secondary foot, knee, hip, and back problems because of subtle changes in movement patterns. If you are having difficulty, you should contact a licensed health professional who deals in the diagnosis and treatment of ankle sprain injuries. A qualified health professional can determine the degree of your sprain and prescribe appropriate therapy, exercises, and rehabilitation strategies specifically for your circumstance. For more information, visit www.nhwc.ca.

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