

## Basketball Shoes & Injuries



DADA

Too many basketball players overlook the importance of buying a durable and high-quality pair of basketball shoes, which is astounding when you consider how much time they spend pounding their feet into the ground. Bad shoes can lead not only to foot and ankle problems, but leg, hip, and even back pain as well. That's because alignment begins with your feet and moves up to influence the rest of your body. In time, the stress to a certain soft tissue or bone structure will create a fatigue injury which then renders the player unable to participate in his or her sport.

The average high school basketball player can greatly decrease his/her incidence of overuse injury by simply replacing his/her basketball shoes frequently, said Michael Lowe, DPM, team podiatrist of the Utah Jazz of the National Basketball Association. Dr. Lowe presented a study which showed that the average high school basketball player will utilize only one pair of new basketball shoes per season. **Dr. Lowe recommends that the basketball shoe be changed monthly during the season.** This has been found to greatly decrease the rate of injury to professional players, to the point that they will often replace shoe gear every two to three days or games.

The use of proper shoe gear has a strong relationship to the performance and stability of foot function within the shoe. Those shoes which compliment foot requirements for stability, flexibility and shock absorption, can greatly aid in the dissemination of stress to foot and leg structure. The amount of stress applied to the shoe gear before replacement with a new shoe also has a profound influence upon protecting the athlete. Most runners are encouraged to replace shoe gear every 350 -500 miles depending upon the size of the runner and his or her running environment. The same should be true of the basketball player. The average runner will spend about 66 hours in running to accumulate 500 miles on a pair of shoes ( 8 minute per mile pace times 500 miles). The average high school or collegiate athlete will work out easily **72 hours per month**. Basketball shoes are now made of the same types of materials, i.e. eva or polyurethane midsole and a harder outer sole material. These materials all have a fatigue factor which greatly influences function of foot and stress delivered to bone and soft tissue structures. Players in the NBA will rarely use a basketball shoe for longer than 7-10 days before replacing it with a new pair of shoes.

A positive secondary by-product of frequent shoe change is that of a protective influence of shoe gear to foot and ankle stability to external forces. As the shoe is worn over hours of use the leather uppers slowly begin to stretch to the rotational forces applied. Also the midsole material slowly deforms or compresses to repetitive ballistic starting and stopping of play. As these external changes to the shoe continue the rotational movement of the foot within the shoe slowly increases in range of motion. Therefore it can be seen that with newer shoe usage, there will be fewer inversion injuries as compared to injuries due to the lack of support from worn and stretched shoe gear materials which lack the integrity to decelerate foot rotational movement beyond normal positioning.

The use of a high top basketball shoe is still one of the best means for protecting the ankle from inversion sprains. NBA players choose a wide variety of shoe gear styles to play in; 68% of the players utilize a high top shoe, 15% utilize a 3/4 top shoe, and only 10% will use a low top basketball shoe for regular play. Your choice will be tempered by what is available and what properly fits.

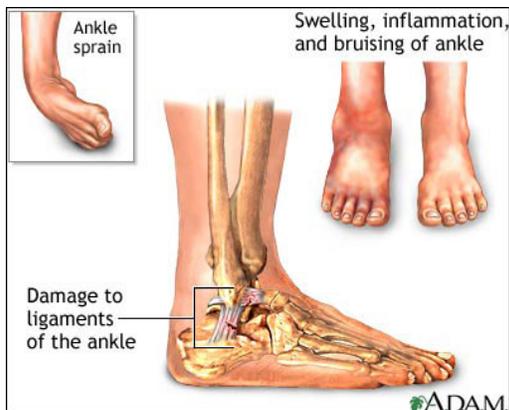
## Ankle Injuries



### What is an Ankle Sprain?

An ankle sprain is an injury to one or more ligaments in the ankle, usually on the outside of the ankle. Ligaments are bands of tissue, like rubber bands, that connect one bone to another and hold the joints together. In the ankle joint, ligaments provide stability by limiting side-to-side movement, but allowing motion in the proper directions.

Some ankle sprains are much worse than others. The severity of an ankle sprain depends on whether the ligament is stretched, partially torn, or completely torn, as well as on the number of ligaments involved. Ankle sprains are not the same as strains, which affect muscles rather than ligaments.



## What Causes a Sprained Ankle?



Sprained ankles often result from a fall, a sudden twist, or a blow that forces the ankle joint out of its normal position. Ankle sprains often occur while participating in sports, wearing inappropriate shoes, or walking or running on an uneven surface.

Sometimes ankle sprains occur because of congenitally weak ankles. Previous ankle or foot injuries can also weaken the ankle and lead to sprains.

### Signs and Symptoms

The signs and symptoms of ankle sprains may include, pain or soreness, swelling, bruising, difficulty walking, and stiffness in the joint.

These symptoms may vary in intensity, depending on the severity of the sprain. Sometimes pain and swelling are absent in people with previous ankle sprains. Instead, they may simply feel the ankle is wobbly and unsteady when they walk. Even if you don't have pain or swelling with a sprained ankle, treatment is crucial. Any ankle sprain, whether it's your first or your fifth, requires prompt medical attention. If you think you've sprained your ankle, immediately begin using the "R.I.C.E." method: **R**est, **I**ce, **C**ompression, and **E**levation to help reduce swelling, pain, and further injury.

## Why Prompt Medical Attention is Needed

There are four key reasons why an ankle sprain should be promptly evaluated and treated:

An untreated ankle sprain may lead to chronic ankle instability, a condition marked by persistent discomfort and a “giving way” of the ankle. You may also develop weakness in the leg.

You may have suffered a more severe ankle injury along with the sprain. This might include a serious bone fracture that could lead to troubling complications if it goes untreated.

An ankle sprain may be accompanied by a foot injury that causes discomfort but has gone unnoticed thus far.

Rehabilitation of a sprained ankle needs to begin right away. If rehabilitation is delayed, the injury may be less likely to heal properly.

## Non-Surgical Treatment and Rehabilitation

When you have an ankle sprain, rehabilitation is crucial. The following are treatment options:

- **Immobilization.** Depending on the severity of your injury, you may require a short-leg cast, a walking boot, or a brace to keep your ankle from moving. You may also need crutches.
- **Early Physical Therapy.** You may require a rehabilitation program as soon as possible to promote healing and increase your range of motion for a faster recovery. Fashioned by all NBA & WNBA protocols this includes: Ultrasound Heat, Massage, Electrical Stimulation, Strapping, and prescribed exercises (Bosu Ball, Balance Board, Theraband).
- **Medications.** Non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, aleve, motrin, or topicals like Flexall 454 maximum strength, may be recommended to reduce pain and inflammation. In some cases, prescription pain medications are needed.
- **Icing.** You may be advised to ice your injury several times a day until the pain and swelling resolves. Place a Zip-Lock bag full of ice cubes, wrapped in a thin towel against the injured area.
- **Compression Wraps.** To prevent further swelling, you may need to keep your ankle wrapped in an elastic bandage or stocking.
- **Custom Molded Orthotics.** These are custom insoles that improve the alignment between your feet & legs which in turn reduces stress on your feet, legs, hips, & back. They are also a performance enhancer which allow you to move quicker and faster on the basketball court (**Most NBA/WNBA players wear them**).

## **When is Surgery Needed?**



In more severe cases, surgery may be required to adequately treat an ankle sprain. Surgery often involves repairing the damaged ligaments. After surgery, rehabilitation is extremely important. Completing your rehabilitation program is crucial to a successful outcome.

## **Healthy Active Future**

By following the aforementioned protocols you can attain a speedy recovery without compromising your future. Lack of treatment can result in chronic ankle instability which greatly increases your risk of recurrent ankle sprains, which can potentially become a career ending injury.



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