



Treatment of Acute Injury and Safe Return to Sports and Activities



Injury is unplanned and never welcome. However, once an athlete is injured, part of the treatment plan involves estimation on the anticipated time out of action and return to play. These principles apply to athletes at all levels of competition and even to the everyday “active” person recovering from an ailment.

These criteria represent the opinions of our medical staff and have been developed over many years of experience with injured patients. They are time tested and have served our patients and us well over the years. In addition, they are consistent with guidelines established by **The American Orthopedic Society for Sports Medicine** (www.aossm.org).

The Initial treatment of Injury

The treatment of the injured athlete is a complex undertaking and involves several parties all of whom need to be informed and, hopefully, in agreement. Needless to say, a complete discussion of specific injury is not appropriate, yet general statements and principles do apply. Minor injuries can be treated independently but a physician should see more serious injuries. They may need x-rays and a more professional opinion. After a diagnosis is made, working with a physical therapist or athletic trainer is very important when available. Following acute injury, regardless of body part or mechanism of injury, the most immediate concern is to control swelling, pain, stiffness and weakness. The magnitude of injury is determined at the time, which has already passed. All we can do is limit and control the “ravages” or consequences of injury.

The concept of “**RICE**” is still very appropriate

REST- either a defined period or a brief (symptom driven) period of protection is helpful to allow injured tissues to heal and reduces further tissue injury/bleeding/swelling. This may involve crutches and/or a knee brace for knee injury or sling or splint for upper extremity injury.

ICE- regardless of the location or severity of injury, ice directly to the site or area is best for the first 48-72 hours. Ice should be applied 20 minutes on and 20 minutes off the site if injury. It should be applied with a light covering between the skin and the ice. Ice should **never be applied directly to the skin or for prolonged periods of time**. This can cause severe frostbite burns. There is no single regimen for applying ice and opinions will vary. Any regimen is better than none at all. Heat is never OK for acute injury.





COMPRESSION- all tissue injury will result in soft tissue swelling. Sometimes this will be severe and sometimes minor. Following injury, a significant amount of rehabilitation time is usually spent undoing swelling, stiffness and weakness. Therefore, it makes sense to make every effort to reduce this from the beginning. The positive pressure of compression (ace wraps, ankle splints, etc.) can really help.

ELEVATION- this applies to injury at the ends of our limbs more so than the parts closer to our trunk and torso. Stay off of your feet and elevate your arms or legs as appropriate.

To this regimen can be added short courses of anti-inflammatory medication. Studies have shown that immediate use of these medicines for a limited amount of time such as 5-7 days may reduce the inflammation that injury may cause. Taking these medications is potentially harmful if there history of allergy to aspirin or similar medicines, bleeding ulcers, gastrointestinal problems, easy bruising or bleeding tendencies. Patients taking blood thinners should not take these medicines. Even some herbal supplements and vitamins may increase your risk of bleeding from these medicines. Pediatric patients should consult their physicians. 600-800 mg of ibuprofen (Advil or Motrin – these are all the same) 2-3 times a day with meals for 5-7 days is the recommended dose. Aleve 1-2 pills 2 times a day can be just as effective, if preferred.

After the acute or initial phase is over, the transition to heat is subject to opinion but may begin after about 5 days. Heat promotes soft tissue flexibility and improves range of motion of the affected extremity. Once the pain and swelling is controlled and range of motion is functional, muscle strengthening can begin. Rehabilitative exercises rely on lower weights and more repetitions. The concept is quite different from a workout using more weight and fewer reps.

The Later Phases of Recovery from Injury

The next phase of recovery begins when range is normal or almost normal as determined by pre-injury motion or compared with the other side. Strength should be improving and almost normal. There should be minimal or no swelling or pain. When this point is reached, then attention is turned to general conditioning. In order to return to your sport, not only do you need to rehabilitate your musculoskeletal system, but you also need to regain the level of cardiovascular training that you had prior to injury. This means doing some aerobic conditioning. This can be accomplished through a variety of means such as; swimming, exercise bike, elliptical trainers, XC ski machines, treadmill or outdoor walking or running.

The last phase of recovery is sport specific skills acquisition and the power activities that will prepare you for the safe return to sports. The type of agility drills will clearly depend upon your sport. For lower extremity injury one should do some sprints, cuts, crossover drills, figure of eights and jumps. For upper extremity injury one should be able to throw lightly progressing as tolerated, use

a racket or swim. The speed and intensity of play will increase with time until ready for return to sports.

Summary

- The criteria for safe return to sports after injury include the following:
- There should be minimal or no pain
- There should be minimal or no swelling
- There should be normal or near normal motion in the extremity that was injured
- There should be normal or near normal strength in the muscles of the extremity that was injured
- There should be time to recover general athletic conditioning
- There should be good training of sports specific skills
- There may be a need for supplemental bracing, taping or padding

Quick “sideline” or at home tests for readiness

In order to prevent further injury, make sure that the initial injury was properly treated and rehabilitated. Sometimes an athlete feels ready and says they are ready but you just don't know if they are. Here are some good quick home or sideline tests that can be applied that may help coaches, trainers or parents decide if their athletes or children are ready.

For any upper extremity injury, the athlete should have minor pain, good motion, normal strength by testing (have them hold their arms out to the side and push down real hard, hold arms out in front of body and do the same, bend the elbow and have them pull towards themselves, then bend elbow and push away real hard), they should have the ability to do push ups, if throwing is involved try doing that, if a racket is involved try some hitting, if contact is involved have them try that with a team mate.

For any lower extremity injury, again there should be minor pain, good motion, the ability to squat down fully, jump up and down on the affected leg, run up and down the stairs (if at home), sprint short distances, do some crossovers or figure of eights. If kicking is involved, have them demonstrate.

With these simple and “quick” tests, it will serve to reduce the likelihood that any athlete will be playing with any significant injury. If pain or problems persist, then, of course, professional help should be sought.

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