

JOINT SPRAIN

A joint *strain* is defined as the over-stretching of the ligamentous joint support without disruption of the integrity of ligamentous fibrils or avulsion of the tendon away from its bony attachment. A *joint sprain* occurs when the stress on the joint is severe enough to cause tendon fibril tearing (usually at its proximal or distal point of attachment) or the avulsion of a small fragment of bone at the site of tendon insertion or origin. The severity of the sprain generally depends on how much joint subluxation has occurred.

A *joint sprain* usually causes pain, joint instability, and swelling (by effusion or hemorrhage). Such swelling further strains the involved ligaments. Unrelieved effusion may promote the formation of adhesions, between soft tissue structures, that may delay recovery. The joint most commonly sprained is the ankle, usually resulting from inversion of the joint under pressure (stepping on a *turned ankle*).

Treatment

In the treatment of the acute *joint sprain*, initial concern should be the control of swelling (effusion). Swelling can be minimized by the immediate application of an inflatable splint or a firm bandage that will not stretch (either linen straps or athletic

tape applied over a covering sleeve), with care taken to avoid distal strangulation. The sleeve or band-age should remain in place for seven to 10 days. Elevation of the involved extremity to heart level or above will also help to prevent swelling.

Cryotherapy (ice packing, ice massage, or ice bath) may be used to help inhibit any accompanying inflammatory process, though it is ineffective for reducing or preventing swelling. According to clinical research, ice packing does not decrease or prevent swelling. However, less swelling is produced than when either heat packing or contrast packing (or baths) are used.

After a few days (following the injury), the patient should begin non-weight bearing range of motion exercises that include all the normal ranges of motion. Ideally, the patient should perform these exercises actively and without help from the therapist.

When the swelling has disappeared, the patient may attempt to weight bear or take resistance into the involved joint, but only after it has been taped for joint support. If the injury has resulted in damage to the ligament or joint structure, a sufficiently stabilizing orthotic device may have to be used to provide ongoing stability when the joint is stressed.