

## **Sprains & Strains**

Strains and sprains are injuries that differ in severity and in which tissues are affected, but are treated in similar ways. With either injury the area will likely be swollen, you may find it difficult to use, move or bear weight on it, and you will have some dull, aching pain in the injured area until completely healed. A strain involves overstretching or overuse of a muscle, ligament or tendon. You may feel pain, weakness or numbness in the injured area. A sprain is the stretching or tearing (partial or complete) of a muscle, ligament or tendon around a joint and usually occurs when the joint is forced to bend further than normal. The symptoms often include a popping or tearing sensation at the time of injury, swelling, and bruising that develop over the next 24 hours. The most common sprain is the ankle sprain, which is when the foot is turned inward and your full weight comes down on the ankle. A sprain is more serious than a strain and requires more intense treatment. Almost all resolve completely without further problems.

## **Treatment**

Proper treatment will help prevent swelling, protect the joint until it heals, prevent muscle weakness, and get you moving again as quickly as possible. The initial treatment consists of five parts, represented by the term **PRICE**. Remember the term **PRICE** and what it stands for, and you will know how to treat a strain or sprain.

**P** = Protect. Protect the part from re-injury. While it is good to keep the joint moving, you must avoid a second injury before the first one heals. This may mean not returning to the sport until you are completely healed. Use crutches or splints if you are advised to.

**R** = Rest. Rest the joint for at least one to two days. Again, the severity of the injury will determine how long you need to rest the limb.

**I** = Ice. Apply ice immediately because the swelling can start in a few minutes. Continue icing several times a day (15 minutes at a time) for two to three days, or longer depending on how severe your injury is.

**C** = Compression. Compress the area firmly (but not too tightly) with a stretch-type bandage like an ACE® bandage. Some serious sprains may require a cast, a splint, a brace or an air cast. Whichever bandage or splint is used should be wrapped firmly around the injury, but not so tightly that blood flow is restricted.

**E** = Elevation. Elevate the injured part to at least heart level as much as possible to help reduce swelling. But don't elevate too high because you could reduce blood flow. For an injured arm, keep the arm in a sling while you are up and about. When lying down, elevate the arm on pillows or across the chest. For an injured hand, try to keep it higher than the elbow. For an injured lower limb, elevate the injured part on pillows or a chair. The foot should be higher than the knee or hip.

The next treatment is protected motion that allows the ankle to move without moving too far and further injuring the joint. This may be as simple as using a compression wrap, splint or brace. After your initial recovery, your doctor may prescribe physical therapy to speed healing and help prevent future injury. Some forms of physical therapy help keep muscles from weakening and help remove any swelling. Other types may improve proprioception (the ability to know the position of your limb without looking at it). Sometimes your doctor may suggest heat, or alternating cold and heat. Severe injuries may require casting or even surgery when the ligaments are completely torn or if there are multiple ligaments injured.

### **DO:**

- Take any medicines prescribed by your doctor. Some over-the-counter medications may be used for less severe sprains, but only with your parents' permission.
- You should follow the instructions for PRICE immediately after your injury.
- Do any physical therapy prescribed by your doctor.
- Frequently move or stretch the fingers or toes of an immobilized limb to help circulation and decrease swelling.
- Compare the injured limb to the other limb. This is a good way to notice warning signs like changes in color, temperature and swelling.

### **DON'T:**

- Don't do activities that will increase swelling because this will slow your return to complete activity. Too much activity, standing or sitting with the injured limb hanging down should be avoided.
- Don't use heat for the first 72 hours after the injury because it will nearly always cause more swelling that will slow recovery.
- Don't use aspirin for the first 48 hours. Tylenol® (acetaminophen) is okay.
- Don't wear rings or bracelets on an injured limb.
- If your doctor gives you a splint, don't remove or reshape it – talk to your doctor if it is uncomfortable. If wrapping is too tight, loosen it.

### **CALL YOUR DOCTOR IF:**

- If swelling is increasing, (the skin around it should not be tight).
- If it feels warm or hot. (The injured part is usually cooler than surrounding tissues.)
- If you feel a sudden increase in the type or severity of pain.
- If the area is very red, purple or blue – this is different from bruised areas that are usually bluish. (The injured part is usually paler than the surrounding flesh.)
- If you can't bend your fingers or toes, even though it might hurt a little.
- If you keep a shoe on or if your doctor wraps the injured area in a bandage, cast, splint or compression wrap you should watch for signs that it is getting too tight and cutting off the blood supply to the injured area, or the hands, fingers, feet or toes. It can also press on muscles and nerves and damage them. Symptoms in the fingers and toes on the injured limb would include numbness, tingling, feeling as if they are asleep, blueness, duskiness or coldness. If any of these occur, check the circulation (pulse), loosen whatever is tight and call your doctor.
- You are not noticing significant improvement within seven to ten days.
- There is any popping, catching or giving way of the joint after the swelling has gone away. These may be signs of a more severe injury than was originally thought.

This handout should not be considered complete nor a substitute for evaluation and treatment by a physician. Always consult your doctor first.

