

# Sprains and Strains

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## What is the difference between a sprain and a strain?

The difference between a strain and a sprain is that a strain is an injury to a muscle or tendon and a sprain has affected ligament tissue. Both occur at joints where ligaments connect bone to bone and tendons connect bone to muscles. They are usually temporary, mild injuries that get treated similarly and heal quickly. The severity of the injury will depend on the extent of the injury. This can vary from a simple overstretch to a partial or complete tear.

## What is a Sprain?

A sprain is a stretch and/or tear of a ligament (a band of fibrous tissue that connects two or more bones at a joint). One or more ligaments can be injured at the same time.

## How does a sprain occur?

A sprain can result from a fall, a sudden twist, or a blow to the body that forces a joint out of its normal position and stretches or tears the ligament supporting that joint. Typically, sprains occur when people fall and land on an outstretched limb.

## What are the signs and symptoms?

The usual signs and symptoms include pain, swelling, bruising, instability, and loss of the ability to move and use the joint (called functional ability). However, these signs and symptoms can vary in intensity, depending on the severity of the sprain. Sometimes people feel a pop or tear when the injury happens.

## What is a Strain?

A strain is an injury to either a muscle or a tendon (fibrous cords of tissue that connect muscle to bone).

## How does a strain occur?

A strain is caused by twisting or pulling a muscle or tendon. Strains can be acute or chronic. An acute strain is associated with a recent trauma or injury; it also can occur after improperly lifting heavy objects or overstressing the muscles. Chronic strains are usually the result of overuse: prolonged, repetitive movement of the muscles and tendons.

## What are the signs and symptoms of a strain?

Typically, people with a strain experience pain, limited motion, muscle spasms, and possibly muscle weakness. They can also have localized swelling, cramping, or inflammation and, with a minor or moderate strain, usually some loss of muscle function. Injured workers typically have pain in the injured area and general weakness of the muscle when they attempt to move it. Severe strains that partially or completely tear the muscle or tendon are often very painful and

disabling.

## When to see a Doctor for a Sprain or Strain?

- You have severe pain and cannot put any weight on the injured joint.
- The injured area looks crooked or has lumps and bumps (other than swelling) that you do not see on the uninjured joint.
- You cannot move the injured joint.
- You cannot walk more than four steps without significant pain.
- Your limb buckles or gives way when you try to use the joint.
- You have numbness in any part of the injured area.
- You see redness or red streaks spreading out from the injury.
- You injure an area that has been injured several times before.
- You have pain, swelling, or redness over a bony part of your foot.
- You are in doubt about the seriousness of the injury or how to care for it.

## Treatment

Treatments for sprains and strains are similar and can be in two stages concluding with a final stage of full return to normal activity.

### Stage 1: Reduce swelling and pain.

- Best treated in the first 72 hours by RICE, meaning rest, ice, compress, and elevate.
- After 72 hours, heat can be used in conjunction with gentle massage to loosen the surrounding muscles.
- If there is a lot of pain, an anti-inflammatory tablet, topical anti-inflammatory cream or gel or pain reducer may be prescribed by the Medical Provider.
- In extreme injuries, an x-ray may be required to make sure there is no bone damage.
- A splint or brace might be used to keep from aggravating the sensitive joint.
- Sometimes, in repeated injuries, physical rehabilitation strengthens the adjacent muscles to prevent re-injury.

### Stage 2: Physical Rehabilitation

- Overall goal is to improve the condition of the injured area and restore its function.
- The health care provider will prescribe an exercise program designed to prevent stiffness, improve range of motion, and restore the joint's normal flexibility and strength and pain free range of movement.
- Some injured workers may need physiotherapy during this stage.
- The provider can recommend many different types of exercises, depending on the injury. A person with an injured knee or foot will work on weight-bearing and balancing exercises. The duration of the program depends on the extent of the injury, but the regimen commonly lasts for several weeks.
- Another goal of rehabilitation is to increase strength and regain flexibility. Depending on the patient's rate of recovery, this process begins about the second week after the injury. The physio will instruct the patient to do a series of exercises designed to meet these goals. During this phase of rehabilitation, injured workers progress to more demanding exercises as pain decreases and function improves.

**Final Stage: Return to full daily activities, including work and sports when appropriate.**

- Injured workers and the Rehabilitation Provider must work closely with their health care provider or physiotherapist to determine their readiness to return to full activity. Sometimes people are tempted to resume full activity or play sports despite pain or muscle soreness.
- Returning to full activity before regaining normal range of motion, flexibility, and strength increases the chance of re injury and may lead to a chronic problem.
- This is why the Rehabilitation Provider may discuss a structured gradual return to normal activity or duties. This will nearly always begin from the day the injury occurs. They will negotiate with the Employer the importance of providing suitable duties to assist with this process and with the Medical Provider to ensure all considerations are addressed.

**Recovery Time:**

Depend on the severity of the injury and individual rates of healing, a mild sprain may require up to 3 to 6 weeks of rehabilitation; a moderate sprain could require 2 to 3 months. With a severe sprain or strain, it can take up to 8 to 12 months to return to full activities and even surgery if there has been a significant tear.