

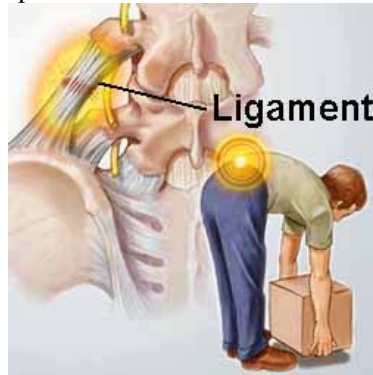
Sprains & Strains

PRINCIPAL DIAGNOSIS:

STRAIN/SPRAIN: Examination and patient symptom report reveals manifestations of a strain/sprain.

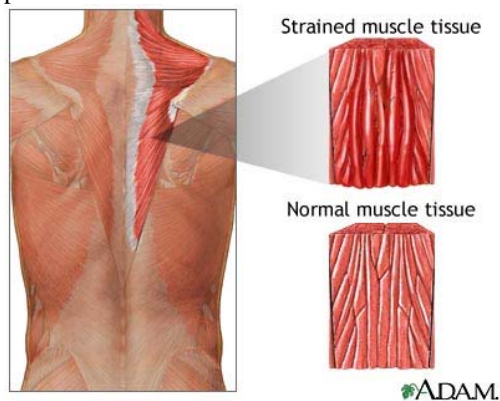
WHAT IS A SPRAIN?

A sprain is a stretch and/or tear of a ligament, the fibrous band of connective tissue that joins the end of one bone with another. Ligaments stabilize and support the body's joints. For example, ligaments in the knee connect the upper leg with the lower leg, enabling people to walk and run.



WHAT IS A STRAIN?

A strain is a stretch and/or tear of a muscle and/or tendon. Tendons are fibrous cords of tissue that attach muscles to bone. Muscles main function is to permit movement and to maintain balance.



WHAT CAUSES SPRAINS AND STRAINS?

A sprain is caused by direct or indirect trauma (a fall, a blow to the body, etc.) that overstretches a joint past its normal boundaries, and, in severe cases, ruptures the supporting ligaments. Typically, this injury occurs when an individual lands on an outstretched arm; slides into a base; jumps up and lands on the side of the foot; or runs on an uneven surface.

Chronic strains are the result of overuse (prolonged, repetitive movement) of muscles and tendons. Inadequate rest breaks during intensive training or work activities precipitates a strain. Acute strains are caused by a direct blow to the body, overstretching, or excessive muscle contraction.

WHAT ARE THE SIGNS OF A SPRAIN/STRAIN?

While the intensity varies, pain, bruising, swelling, and inflammation are common. There are 3 types of grades:

- **GRADE 1:** There is damage to individual muscle fibers (less than 0-20% of fibers). This is a mild strain which requires 2 to 3 weeks rest.
- **GRADE 2:** There is more extensive damage, with more muscle fibers involved, but the muscle is not completely ruptured (20-80% of fibers). The rest period required is usually between 3 and 6 weeks.
- **GRADE 3:** This is a complete rupture of a muscle. In a sports person this will usually require surgery to repair the muscle (80-100% of fibers). The rehabilitation time is around 3 months.

RED FLAGS: Red flags are considered symptoms such as 1) increased pain, 2) increased inflammation, and 3) numbness, tingling or weakness. Please call the physician if any of these symptoms occur.

TREATMENT PLAN/ APPOINTMENTS: Treatment plans vary per patient and per injury as each patient and injury is different. Initially, patients are treated more frequently as our goal is to increase healing and decrease pain.

As the injury begins to heal, treatment frequency is reduced and home stretching and exercises are increased. Our goal is to help the patient to further manage their condition as their spine continues to heal and stabilize. Possible treatment options may include:

- **Manual therapy** - Manual therapy such as gentle spinal adjustments and spinal traction increase circulation, reduce pain, reduce inflammation, and increase pain-free movements.
- **Activity modification** — This might include altering your home and workplace environments to avoid excessive twisting, stretching, and bending. Using proper lifting techniques also is important for protecting the spine.
- **Medications** — Medication can help relieve pain, and reduce inflammation and muscle spasms. An over-the-counter non-steroidal anti-inflammatory drug (NSAID), such as Motrin or Ibuprofen, might be recommended to help reduce pain and swelling. Stronger medications might be prescribed if the NSAIDs do not provide relief. These medications might include pain relievers and muscle relaxants. These medications can have side effects, including nausea, headaches, and sleepiness.

Exercise therapy — The goal of exercise and/or physical therapy is to reduce pain and inflammation through movement, and increase pain-free movement. Exercise also increases circulation, which aids healing and improves flexibility

PREVENTION TIPS: No one is immune to sprains and strains, but here are some tips developed by the American Academy of Orthopaedic Surgeons to help reduce your injury risk:

- Warm up and stretch before any physical activity
- Drink plenty of water, stay hydrated
- Nourish your muscles by eating a well-balanced diet
- Use or wear protective equipment
- Participate in a conditioning program to build muscle strength