

BACK PAIN

MUSCULAR STRAIN AND MUSCULAR SPRAIN

THE MOST COMMON CAUSE OF LOW BACK PAIN¹



Introduction

The adult spine and its vertebrae are supported by a complex network of muscle, cartilage, tendons, and ligaments, bearing the majority of the body's weight as it carries out its movements and activities such as walking, running, and lifting. For this reason, the lower back is a frequent area of strain and sprain.^{1, 2}

What is the difference between muscular strain and muscular sprain?

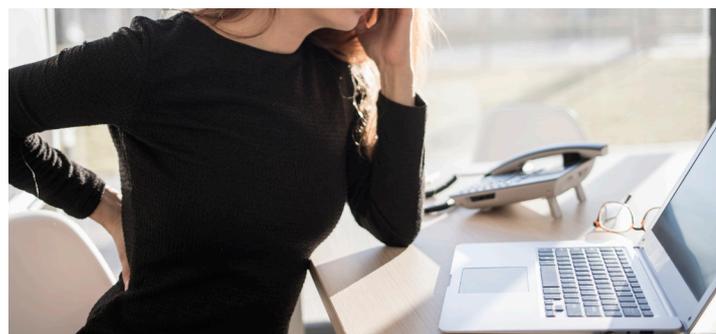
Muscle strain: overstretching and possible tearing of the muscles and tendons, the fibrous tissue cords that connect muscle to bone.³

Muscle sprain: overstretching or tearing of the ligaments, the tough fibrous tissue bands connecting two or more bones together in the joints.^{3, 4}

Both muscular strain and muscular sprain result in the often painful inflammation of the soft tissues in the lumbar region.¹

What are the causes of muscular strain and muscular sprain?

Both strains and sprains are caused by overstretching, tearing, or overuse. This can be a one-off event, such as a misstep or an accident, or it can be



the result of repetitive movements. Moreover, muscle strains are commonly classified as either “acute” or “chronic”. Acute strains are due to sudden or abrupt incidents, such as slipping. Chronic strains are due to repeated or prolonged actions over time.⁴

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Common causes of muscle strain or sprain in the lower back:

- Slipping (acute strain)
- Lifting an object that is too heavy, or lifting it in an awkward position (acute strain)
- Rowing (chronic strain)

Risk factors for muscle strain or sprain in the lower back

An accident or injury can occur in the course of everyday life and certain factors cannot be avoided or predicted. However, an individual's risk of suffering muscular strain or sprain is increased by the following:

- Use of improper techniques when performing manual work, such as lifting or loading
- Lack of proper equipment for manual work, sports, or leisure activities
- Not being prepared or in adequate physical condition for certain sports or activities
- Not doing proper warm-up exercises before taking part in sports activities
- Being physically tired or run down
- Aggravating environmental conditions, such as wet weather or uneven surfaces

Symptoms of muscle strain or muscle sprain in the lower back

Depending on the location and severity of injury, the following symptoms may be experienced^{1, 4}:

- Pain in the low back which may radiate to the buttock area (but not the legs)
- Swelling
- Stiffness or limited movement in the low back, even to the point of not being able to sit or stand up straight
- Muscle spasms
- Bruising
- A “popping” sensation in the joint, at the time of injury (sprain)
- Numbness (more severe cases)

Diagnosing muscular strain or sprain in the lower back

When pain persists more than two weeks, a visit to the doctor is necessary in order to rule out any underlying medical conditions and obtain a more detailed understanding of the sprain or strain. Diagnostic testing generally involves either x-rays or an MRI (magnetic resonance imaging).¹



Treatment of muscle strain or muscle sprain in the lower back

Muscular strains and sprains generally have an excellent prognosis, with over 90% of individuals making a complete recovery within one month.¹

Even though a doctor's visit might not be necessary, all types of muscular strain and sprain require immediate treatment with rest, ice, pressure, and elevation. However, bed rest should be limited to a couple of days in order to prevent further stiffening and weakening, which can actually aggravate pain. Indeed, beyond immediate recovery, long-term attention needs to be paid to modify or avoid behaviors or practices that may have led to the sprain or strain occurring in the first place.^{1,4}

Medication (NSAIDs)

This type of medication can be bought over the counter or prescribed by a doctor. Ibuprofen is an example of a common NSAID (non-steroidal anti-inflammatory drug). Each NSAID will have side effects and particular instructions which need to be understood before they are used. It's important to talk to your doctor before beginning treatment with an NSAID.

Physical therapy

Also known as manual therapy, physical therapy involves working with a professional physiotherapist to follow a rehabilitation and exercise program. Physical therapy can keep the body active and shorten recovery time.

Surgery

Surgery may be required in more severe cases where tearing has occurred.⁴

Questions about your diagnosis?

Unsure which treatment is right for you?

Did you know you have access to a free, independent and confidential decision support service?

Discuss your concerns and have your case reviewed by a specialist in your condition.

The decision is yours. And we're with you all the way.



1. Low Back Strain and Sprain. American Association of Neurological Surgeons website. <http://www.aans.org/Patients/Neurosurgical-Conditions-and-Treatments/Low-Back-Strain-and-Sprain> Accessed September 11, 2017.

2. Back Strains and Sprains. Cleveland Clinic website. <https://my.clevelandclinic.org/health/articles/back-strains-and-sprains> Reviewed January 16, 2015. Accessed September 11, 2017.

3. Sprains and Strains. National Institute of Arthritis and Musculoskeletal and Skin Diseases website. https://www.niams.nih.gov/health_info/sprains_strains/default.asp January 2015. Accessed September 15, 2017.

4. Sprains and strains. Mayo Clinic website. <http://www.mayoclinic.org/diseases-conditions/sprains-and-strains/basics/definition/con-20020958> January 24, 2015. Accessed September 15, 2017.

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