

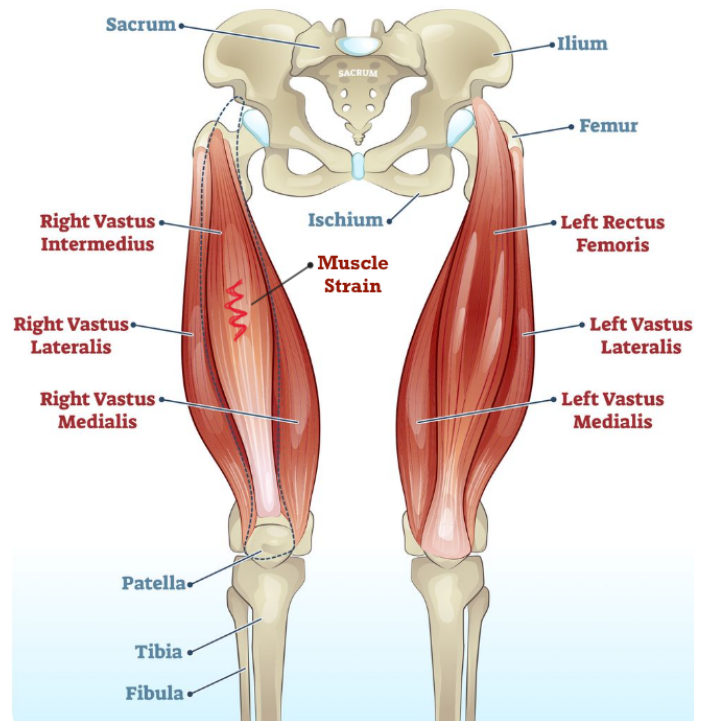
YOUR GROUP23

PATIENT HEALTH JOURNEY

BECOME AN EXPERT: Quadriceps Strain

Understanding Strains

Muscles and tendons are living tissues within the body. The primary role of muscles is to contract, generating a force which tendons transmit to a joint, allowing for movement to occur. Both muscles and tendons adapt to forces and are flexible by nature. When a muscle or tendon is stretched or stressed beyond its individual tolerance, a **strain** occurs. We like to describe tendons as 'white' tissues, meaning they do not have a large amount of blood supply, compared to muscles which are considered 'red' tissue and have a large amount of blood supply. This means that by nature tendons are slower to recover than muscles because our bodies healing process utilizes blood and its constituent cells (platelets).



When a strain occurs, it is classified on a three-point scale similar to a sprain.

Grade 1, or mild strains, involve only a few muscle or tendon fibers being stretched or torn. Pain or sensitivity may not be noticed until after the activity has ended, and muscular strength and endurance are rarely affected. Some muscle tightness may also occur. Recovery time is usually about 1-2 weeks with rest, ice, compression, and elevation (RICE) therapy and appropriate rehabilitation exercises.

Grade 2, or moderate strains, involve a partial tear of the muscle or tendon. Pain and swelling are immediate, and the area is often sore to the touch. Limited range of motion is often observed. Recovery time can range from a few weeks to a few months, depending on the severity of the injury and the individual's rehabilitation program.

Grade 3, or severe strains, involve a complete tear of the muscle or tendon. They are often characterized by a sharp, sudden pain, and the area will be significantly swollen and tender. A large lump where the tear is located may be felt and a substantial loss of function is displayed. Recovery time can take several months, and may require surgical intervention in some cases.

An important concept to understand as it relates to muscles and tendons is **load capacity**. Load capacity simply means that muscle and tendon tissues can only absorb a certain amount of force before they begin to break down. An acute, sudden force applied to the muscle or tendon may cause it to tear or rupture. Most individuals will remember an acute injury, such as slipping on ice and feeling immediate pain afterward.

BECOME AN EXPERT cont'd

Other times, an injury may be more chronic in nature, meaning that it is gradual overloading of the muscle or tendon that slowly breaks it down over an extended period of time. This chronic breakdown can occur during an activity you have always done without pain, such as going for a walk or up and down stairs.

Another equally important concept pertaining to muscles and tendons is something called **optimal loading**. Optimal loading means that as living tissues, muscles and tendons actually need to be loaded to keep healthy and strong. When people injure or overuse a muscle or tendon it causes pain, which can lead to decreased usage or over-protection of the affected area. However, reducing the use of the muscle or tendon can also cause it to weaken over time.

So what is a quadriceps strain?

Quadriceps strains are a common injury that affects the quadriceps muscle group, located in the front of the thigh. This muscle group is responsible for extending the knee joint and plays an important role in activities such as running, jumping, and squatting.

Quadriceps strains occur when the muscle is stretched or torn beyond its capacity, leading to damage and pain. The most common cause of quadriceps strains is overuse or sudden stress to the muscle. This can occur during activities such as sprinting, jumping, or sudden changes in direction. Other contributing factors can include muscle imbalances, fatigue, and inadequate warm-up or stretching before exercise.

Symptoms of a quadriceps strain typically include pain, stiffness, and swelling in the front of the thigh. Depending on the severity of the strain, there may also be bruising, weakness, or difficulty with movement.

Treatment for a quadriceps strain typically involves a combination of rest, ice, compression, and elevation (RICE) to reduce pain and swelling. Non-steroidal anti-inflammatory drugs (NSAIDs) may be recommended. Physical therapy can also help to regain strength and range of motion in the affected leg. In severe cases, surgery may be necessary to repair a torn muscle.

Why does this matter?

At Group23, we often see patients frustrated with their symptoms, lack of improvement, and the cost of ineffective treatments, products, and devices. Often the biggest issue we see with a diagnosis is the patient's lack of knowledge of the subject because no one has taken the time to explain what is truly happening! It's not enough to just know the words quadriceps strain; it's important to us that you understand what it means!



Check out a free lifestyle assessment, available with the Health & Wellness team!



Surgery is a possibility, but a last resort option in the case of quadriceps strains. We have a whole Toolkit of other options to try first!



Becoming an expert and setting a SMART goal ensures every treatment decision reflects your priorities, not ours!

BECOME AN EXPERT cont'd

Now that you know more about quadriceps strains, we can address treatment options that will allow you to return to sport/activity as soon as possible. No matter where you start, you can get to the point of less pain and improved functionality... **IF** you create good SMART goals, utilize the options in your Toolkit, and commit to working proactively with your Group23 Health Journey team!

Our care philosophy

We see treatment choices as a Patient Health Journey, and we take pride in being on this Journey with you the entire way. The most crucial part is becoming an expert and creating Rise Above goals specific to you and your lifestyle. Once your Group23 healthcare team understands your destination, we can accurately create a treatment plan that is fit for you!



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