



Peak Bodywork's Wellness Journal

Fall 2007

Volume 2, Issue 4

Pulled Muscles, Scar Tissue and Re-Injury

How does scar tissue affect recovery and re-injury of pulled muscles and sports injury?

By Brad Walker

Have you ever had an injury that just won't heal? And then when you think it has healed, you go and re-injure it again. You may have a problem with scar tissue.

So you've pulled a muscle? Over-stretched it, torn it, strained it, sprained it. Call it what you want. From an injury point of view, the initial healing process is all the same.

Sprains (ligament) and strains (muscle or tendon) are the most common type of soft tissue sports injury and are often caused by activities that require the muscles to stretch and contract at the same time. A lack of conditioning, flexibility and warm up can also contribute.

While most people are well aware of the importance of

applying the R.I.C.E. regime to a sprain or strain in the first 48 to 72 hours, it's after this that most people get stuck. Let's start by having a look at what happens during those first 72 hours and then move onto what's needed for a full recovery.

The First 72 Hours

Without a doubt, the most effective, initial treatment for soft tissue injury is the R.I.C.E.R. regime. This involves the application of (R) rest, (I) ice, (C) compression, (E) elevation and obtaining a (R) referral for appropriate medical treatment.

Where the R.I.C.E.R. regime has been used immediately after the occurrence of an injury, it has been shown to significantly reduce recovery time. R.I.C.E.R. forms the first, and perhaps most important stage of injury rehabilitation, providing the early base for the complete recovery of injury.

ery of injury.

The diagram below is a comparison of the same injury treated with the R.I.C.E.R. regime and without. The top row of pictures show the effects of a soft tissue injury when the R.I.C.E.R. regime is not used. While the bottom row of pictures show the effects of a soft tissue injury when the R.I.C.E.R. regime is used.

The first diagram in the series shows a rupture in the soft tissue immediately following an injury. 24 hours later, when R.I.C.E.R. has not been used, there is a large amount of uncontrolled bleeding and swelling. However, in the bottom diagram, the application of rest, ice, compression and elevation has significantly reduced the amount of bleeding and swelling.

The Problem with Scar Tissue

When a muscle is torn, you would expect that the body would repair that tear with new muscle. In reality, this doesn't happen. The tear, or rupture, is repaired with scar tissue. As you can see with the final diagram on the right hand side, when the R.I.C.E.R. regime is used, this limits the formation of scar tissue.

Now this might not sound like a big deal, but if you have ever suffered a soft tissue injury, you'll know how annoying it is to keep re-injuring that same old injury, over and over again. Untreated scar tissue is the major cause of re-injury, usually months after you thought that injury had fully healed.

Scar tissue is made from a very brittle, inflexible fibrous material. This fibrous material binds itself to the damaged soft tissue fibers in an effort to draw the damaged

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Mindfulness: The Reciprocal Flow Of Abundance

Giving Without Expectations

Since giving and receiving are so intimately intertwined in our lives, we often expect that we can attract abundance by simply conducting ourselves in an open-handed fashion. Yet we find ourselves wallowing in disappointment when our ample generosity is not met with the expected results. The answer to this quandary lies in the expectations that, in part, initially prompted us to give. Though our intention is likely pure, we can unintentionally mar the beautiful experience of giving by focusing on what we will eventually receive in return.

When we let go of the notion that we deserve to receive gifts based on giving gifts, bounty can once again flow freely in and out of our lives.

When the gifts you give are laden down with expectations, they cease to be gifts and become units of exchange that you are, in effect, trading for some reward. Thus, the reciprocal laws of the universe err on the side of the giver who shares for the sake of sharing. You may have seen this simple truth at work in your own experience, perhaps when life's busyness

prevented you from spending too much time contemplating the results your charitable actions would ultimately have on the lives of others. It was likely then that you received the greatest gifts in return for your kindness. If you have trouble divesting yourself of your expectations, you may need to reflect upon the root of your inability to act in the true spirit of giving. Each time you make a gift, whether spiritual or tangible, ask yourself if there is something you hope to receive in return. You may be surprised to discover that you expect to be repaid with

an easy life, financial windfalls, or opportunities.

To integrate this most selfless form of generosity into your life, you will have to let go of your need to be in control. Accepting that while like inevitably attracts like, it typically does so on an unobservable timetable. This can help you stop weighing the gifts you give against those you have received. Giving eventually becomes a profound joy that stands alone, separate from any and all conditions, and you will learn to appreciate the flow of reciprocal abundance as a gift in and of itself.

Pulled Muscles, Scar Tissue and Re-Injury, continued...

(Continued from page 1)

fibers back together. What results is a bulky mass of fibrous scar tissue completely surrounding the injury site. In some cases it's even possible to see and feel this bulky mass under the skin.

When scar tissue forms around an injury site, it is never as strong as the tissue it replaces. It also has a tendency to contract and deform the surrounding tissues, so not only is the strength of the tissue diminished, but flexibility of the tissue is also compromised.

So what does this mean for the athlete? Firstly, it means a shortening of the soft tissues which results in a loss of flexibility. Secondly, it means a weak spot has formed within the soft tissues, which could easily

result in further damage.

Lastly, the formation of scar tissue will result in a loss of strength and power. For a muscle to attain full power it must be fully stretched before contraction. Both the shortening effect and weakening of the tissues means that a full stretch and optimum contraction is not possible.

Getting Rid of the Scar Tissue

To remove the unwanted scar tissue it is vital that you start a course of deep tissue sports massage. While ultrasound and heat



will help the injured area, they will not remove the scar tissue. Only massage will do that.

Working with a qualified massage therapist to reduce scar tissue is recommended. Your therapist will also teach you an appropriate self massage routine.



Self Massage

To start with, the area will be quite tender. Start with a light stroke and gradually increase the pressure until you're able to use deep, firm strokes. The more you massage the effected area the harder and deeper you will

be able to push.

Use deep, firm strokes, moving in the direction of the muscle fibers. Concentrate your effort at the direct point of injury, and use your thumbs to get in as deep as possible to break down the scar tissue.

A few final points before finishing up. Be sure to drink plenty of fluid during your injury rehabilitation. The extra fluid will help to flush a lot of the waste products from your body.

Also, I recommend you purchase a special ointment to use for your massage called "Arnica". This special ointment is extremely effective in treating soft tissue injuries, like sprains, strains and tears. You can purchase this ointment at most health food shops and pharmacies.

Stretching for Injury Rehabilitation Speed up Your Recovery with the Right Type of Stretching.

By Brad Walker

Choosing the right type of stretching during your rehabilitation program will have a tremendous effect on the speed of your recovery, while choosing the wrong type could lead to further injury and a very slow recovery.

The recovery process of a soft tissue injury can be broken down into a number of phases and it's important that the right type of stretching be employed for each phase.

The First 72 Hours

Without a doubt, the most effective, initial treatment for soft tissue injury is the R.I.C.E.R. regime. This involves the application of **(R)** rest, **(I)** ice, **(C)** compression, **(E)** elevation and obtaining a **(R)** referral for appropriate medical treatment.

Where the R.I.C.E.R. regime has been used immediately after the occurrence of an injury, it has been shown to significantly reduce recovery time. R.I.C.E.R. forms the first, and perhaps most important stage of injury rehabilitation, providing the early base for the complete recovery of injury.

However, during this phase of the rehabilitation process **NO STRETCHING** should be used at all! This is not the time to start stretching. Concentrate on the R.I.C.E.R. regime and avoid all stretching or any activity that puts stress on the injured area. Stretching during this early stage of the rehabilitation process will only cause more damage to the injured tissues. **Avoid stretching during the first 72 hours.**

The Next 10 to 14 Days

After the first 72 hours most of the initial swelling will have subsided and you can start with some gentle active rehabilitation techniques.

The most effective treatment at this stage is the use of heat and massage, but including **light, gentle static and passive stretching exercises** after your heat and massage treatment will help to dramatically speed up the recovery process.

Static stretching is performed by placing the body into a position whereby the muscle (or group of muscles) to be stretched is under tension. Both the opposing muscle group and the muscles to be stretched are relaxed. Then slowly and cautiously the body is moved to increase the tension of the stretched muscle group. At this point the position is held or maintained to allow the muscles to lengthen.

Passive stretching is very similar to static stretching; however another person or apparatus is used to help further stretch the muscles. Due to the greater force applied to the muscles, this form of stretching is slightly more hazardous. Therefore it is very important that any apparatus used is both solid and stable. When using a partner it is imperative that no jerky or bouncing force is applied to the stretched muscle. The important point to remember during this phase of the rehabilitation process is **light, gentle stretching**. Never, never, never do any activity that hurts injured area. Of course you may feel some discomfort, but never push yourself to the point where you're feeling pain. Be very careful with any activity

you do. Pain is the warning sign; don't ignore it.

The Next 2 to 5 Weeks

The aim of this phase of your rehabilitation will be to regain all the fitness components that were lost as a result of the injury. Regaining your flexibility, strength, power, muscular endurance, balance, and co-ordination will be the primary focus.

Without this phase of the rehabilitation, there is no hope of completely and permanently making a full recovery from your injury. A quote from a great book called "Sporting injuries" by Peter Dornan & Richard Dunn will help to reinforce the value of this phase of the rehabilitation process.

"The injury symptoms will permanently disappear only after the patient has undergone a very specific exercise program, deliberately designed to stretch and strengthen and regain all parameters of fitness of the damaged structure or structures. Further, it is suggested that when a specific stretching program is followed, thus more permanently reorganizing the scar fibers and allowing the circulation to become normal, the painful symptoms will disappear permanently."

Stick with the static and passive stretching exercises described above, but also include PNF Stretching.

PNF stretching, or Proprioceptive Neuromuscular Facilitation, is a more advanced form of flexibility training that involves both the stretching and contrac-

tion of the muscle group being targeted. PNF stretching was originally developed as a form of rehabilitation and to that effect it is very effective. It is also excellent for targeting specific muscle groups, and as well as increasing flexibility, (and range of movement) it also improves muscular strength.

Looking Long Term

Once you have started to regain the fitness components that were lost during the injury process, it's time to focus on making the injured area stronger and more flexible that it was before the injury occurred. To do this, the best types of stretches to use active stretching exercises.

Active stretching is performed without any aid or assistance from an external force. This form of stretching involves using only the strength of your opposing muscles to generate a stretch within the targeted muscle group. The contraction of the opposing muscles helps to relax the stretched muscles. A classic example of an active stretch is one where an individual raises one leg straight out in front as high as possible and then maintains that position with out any assistance from a partner or object.

Stretching is one of the most under-utilized techniques for improving athletic performance, preventing sports injury and properly rehabilitating sprain and strain injury. Don't make the mistake of thinking that something as simple as stretching won't be effective.



A MESSAGE EXPERIENCE THAT KEEPS YOU PERFORMING AT YOUR PEAK

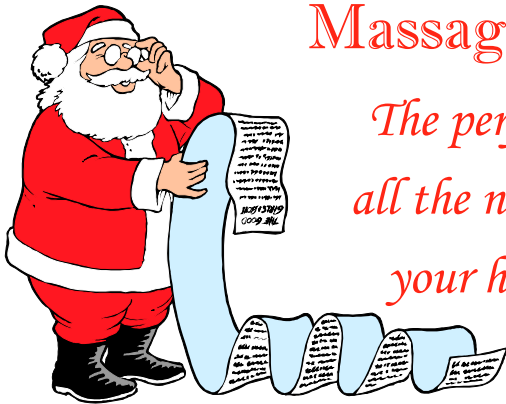
Office Location: 420 S. Jackson St, Jackson, WY 83001

Mail: P.O. Box 214, Jackson, WY 83001

Email: Jen@PeakBodywork.com

Web: www.PeakBodywork.com

Phone: 307.690.8228



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Shoulder Pain?

By Jessica Whidden, RMT

Your shoulders are incredibly flexible joints that allow your arms to move through a large range of motion. They are used in almost every activity and they take a lot of punishment on a daily basis. As a result, they are prone to a wide range of injuries.

The Anatomy Lesson

The shoulder is made up of three bones. The humerus is the long bone in your upper arm. The clavicle (collar bone) attaches to your rib cage at one end and helps keep your shoulder out to the side of your body. The scapula (shoulder blade) is the third bone. Part of the scapula, the acromion, juts out and forms a roof over the top of the joint. Another part of the scapula forms a socket into which the round head of the humerus fits.

The upper arm is held in its socket by loose ligaments and four small rotator cuff muscles that cover the joint like a sleeve. Additional back, chest and upper arm muscles help support and move the shoulder.

There is also a fluid filled sac in the shoulder called a bursa. This bursa is like a cushion that helps

prevent the tendons from rubbing against the bones.

Shoulder Problems

The shoulder is prone to a variety of problems that can give you pain and limit your range of motion. Many of these are simply caused by wear and tear. Through poor posture or overuse, the tendon becomes inflamed and painful. When the bursa becomes inflamed you develop what is known as bursitis. This can be extremely painful.

Trigger points, small knots in the muscles, are very common around the shoulder and can refer pain and tenderness into the muscles or joints. The referred pain can mimic other shoulder problems like tendinitis and frozen shoulder.

Sprains and dislocations typically result from falls. It's natural to reach your arm out to catch yourself when falling, but the impact can strain or tear the shoulder ligaments. If the impact is severe enough, the humerus may be dislocated.

With a severe trauma, the bones may fracture. The collarbone is most likely to break although the humerus can sometimes break as well. When this happens the arm needs to be immobilized.

Whenever you have a shoulder

problem, you tend to limit your movement to minimize the pain. This can lead to frozen shoulder. Your shoulder becomes stiff and you quickly lose mobility. It can soon become extremely painful to lift your arm. If you develop a frozen shoulder, it will take a long time and lots of therapy to regain your normal movement. Sometimes the only option is surgery. The best medicine in this case is prevention. As soon as you develop any pain or discomfort in your shoulder, see your massage therapist immediately for assessment and treatment.

Don't risk getting this serious and debilitating shoulder condition.

Massage Therapy Can Help

Massage therapists can help when shoulder problems occur. More importantly, they can help prevent these kinds of problems from happening in the first place. Massage therapists will evaluate your shoulder through range of motion tests and other assessment procedures. They can then give you recommendations on the best course of treatment.

Their first priority is to make you feel more comfortable by getting rid of your pain. They can do this with specialized massage techniques. They may also use heat or hydrotherapy. To help the process along

and to help prevent further problems your massage therapist can also give you exercises to help strengthen your shoulder and help maintain your mobility.

Many massage therapists are trained to treat trigger points. As mentioned previously, these knots mimic other common shoulder conditions and are often an overlooked source of pain. Your massage therapist will be able to tell you if trigger points may be playing a role in your shoulder problem.

The Shoulder Care Checklist

To prevent shoulder problems from occurring, always practice healthy shoulder habits.

- Maintain good posture
- Avoid excessive and repetitive use of your shoulders
- If you sit at work, take frequent breaks
- Don't put undue stress on the shoulders with heavy knapsacks or bags
- Warm up your arms before exercising
- Consult your massage therapist or doctor if you injure or develop pain in your shoulder, even if it seems minor
- Do any maintenance exercises prescribed by your massage therapist