

Ross' Precision Health & Fitness Newsletter
Issue #15
Correcting Muscle and Joint Problems

Hello all you newsletter readers. I hope you are having a wonderful summer and have been able to stay consistent with your exercise and healthy eating. This issue of my newsletter will again focus on muscle and joint problems and will finally bring a conclusion to the now 3 part article. The final part of the article will focus on practical information you can use to help relive aching muscles and joints.

However before getting to the article you might want to reread the first 2 parts of the article if you don't remember them, since it may be a while since you have read them. Part 3 assumes that you are familiar with the previous parts and while much of the information in this issue can be understood on its own, the previous newsletters set the groundwork for you to better understand and apply the information in part 3 of the article.

I know some of you may not find this topic incredibly exciting and it contains a lot of information that may take some time to completely read through and digest, but if you are able to apply this information to your own muscles/body, I guarantee you will feel better and have less muscle and joint pain throughout your life. Now with that said, here is the conclusion of the article.

Featured Article
Understanding the Important and Often Misunderstood
Relationship Between Exercise, Stretching, and Muscle/Joint Pain
Part 3

In the first 2 parts of this article I discussed the mechanisms behind chronic muscle problems, the impact that warming up and working out have on developing muscle problems, and the importance of having correct neurological muscle activation patterns. Now I am going to go one step further and explain how you can use that information to correct muscle problems and improve your long-term muscle and joint health.

NOTE: The information contained in this article refers to basic issues of muscle tightness and knotting and is not meant to diagnose or treat specific medical issues. If you have serious muscle and joint pain you should definitely see a qualified professional who specializes in muscle and joint problems.

When you experience muscle or joint pain, the first step is to figure out what is causing the pain. It should be easy to determine where you are feeling pain, but identifying the muscles or general area causing the pain is much more difficult. However I will give you 4 basic guidelines that should make the process a little easier.

First, if a muscle is causing problems, your tendons (or joints) will likely feel pain before the muscle that is actually causing the pain. Therefore if you feel pain in a joint, there is a good chance that at least one of the muscles near the joint has problems that need to be corrected.

Second, if a muscle is hurt, there is a good chance that one of the muscle's synergists is weak. A synergist is a muscle that works with the primary muscle to achieve a certain goal. For example a synergist of the hamstrings is the glutes, so if your hamstring hurts, it may be the result of weak glutes or other synergist muscle. Of course by this time your hamstrings will have developed problems in addition to the weak synergist issues.

Third, as explained in part 1, excessively tight muscles often cause problems in other parts of your body. For example, tight glutes, hamstrings, or hip flexors can cause back pain by increasing the demand on your low back muscles, causing them to become overworked and eventually wear out or become injured.

Fourth, muscular imbalances increase the chance of having a muscle injury and/or causing joint problems. Various muscles such as the quads and hamstrings have to work together to produce force and control movement. Generally one group of muscles provides the force for a movement and other muscles control and decelerate the movement. If relatively strong muscles work with relatively weak muscles, the weak muscles have a higher chance of being strained or injured.

These imbalances can also cause joint pain due to the effect they have on alignment and movement. For example to maintain optimal knee health it is important to keep the hip, knee, and ankle in alignment as much as possible. If your inner quad muscles are significantly stronger than your outer quad muscles, it can cause your knee alignment to change and inflammation and pain will develop over time.

Now that you have some basic guidelines to work with, you may be wondering what to do now. A good place to start is to look for muscles around a pain site that are excessively tight, have knots, or are sensitive to pressure or massage. Stretching muscles all around the uncomfortable area will almost certainly reveal at least one or two muscles that feel tight. If stretching a muscle causes you pain, don't push it, but make a note that you have found a problem you need to work on.

However, it is important to realize that when you find a muscle or muscles that are excessively tight or seem to be causing your problems, it does not necessarily mean those muscles are the original source of the problem. It does mean those muscles will need some corrective intervention for the pain to fully subside, but other muscles or even lifestyle habits, such as sitting for many hours every day or poor posture may actually be the cause of the problem.

So now that you have found at least one muscle that appears to be causing you problems, it's time to start making the muscle feel better. If you are just having minor problems and the muscle feels tight, but does not really hurt, all you may have to do is

work on stretching the muscle so you are able to increase your muscle's resting length and range of motion.

In this situation, stretch the muscle at least 2-3 times for 15 seconds each and repeat this at least twice per day. As with all stretching, be sure your muscles are sufficiently warmed up to maximize the effectiveness of the stretches and minimize the chance of aggravating the muscle or causing injury. You should feel a moderate to strong stretch, but it should not feel painful.

If you have moderate or severe discomfort chances are stretching will not be enough to fully correct your problems, but it will still be part of the solution. These muscle problems are almost always accompanied by myofascial trigger points (knots), which prevent part of the muscle from working correctly.

These trigger points are essentially places where the muscle continuously contracts, therefore preventing that section of the muscle from relaxing. This also means the entire muscle will be partially shortened and unable to return to its optimal resting length. There are a number of different ways you can go about correcting these types of muscle issues, but they basically all have the same intention, which is to break apart the knots and lengthen the muscle where the knot occurred.

Since knots are caused when part of a muscle remains contracted or tense, the first thing you must do is get the knotted muscle to relax. This is different from simply being relaxed or not using the muscle, because there are additional neuromuscular involved with keeping the muscle tense. Basically the key to getting the knotted muscle to relax is by having your brain send a signal that inhibits further contraction.

This is an oversimplification, but it is almost as if your brain does not realize the knotted portion of your muscle is contracting and you have to do something to tell your brain what is going on. This will involve some sort of stimulus directly at the point of the knot. Depending on the severity of the knot, this may be rather uncomfortable, but the greater the stimulus (up to a point), the faster the knot will relax.

Probably the most well-known way of achieving this is through deep tissue massage, which is where manual pressure is used to apply force to the knot and physically rub it apart. Breaking apart knots can be quite painful, but the muscle usually feels better after the knots have been worked on. However, this is not a permanent fix as continued stretching and further direct work on the knot will be needed to make the knot go away.

Since frequent deep tissue massages are not realistic for most people either because of time, money, or usually both, many tools and techniques have become popular that allow people to work on their knots by themselves. These fall under the general classification of self-myofascial release, which simply means you are doing something to release the knot in your muscles.

The two most common implements for self-myofascial release are “The Stick” and the foam roll. They each work a little differently, but they are both very effective for relieving trigger points and improving muscle health. I know some of you are familiar with these tools and have felt the benefits of using them, but others may not know about them so I will give a little information about what they do and how they should be used.

Foam rolls are exactly what they sound like, large pieces of foam usually 1 or 3 feet long, 6in diameter, and full or half circle in shape. The 3ft full circle roll is the most common and most useful foam roll and it works well with most major muscles, especially in the legs and back. The foam roll can be used both as a diagnostic tool for finding trigger points and a therapeutic tool to encourage the knots to relax.

The premise behind foam rolling is rather simple, just place the roll under a muscle and slowly roll back and forth along the length of the muscle while applying some pressure against the foam. When you roll over a knot or contracted part of a muscle it will feel more uncomfortable than the rest of the muscle. The more severe the knotting, the more uncomfortable the foam roll will feel at that point.

The goal is to find the point of the muscle that is most uncomfortable, therefore most knotted, and keep the foam roll stationary in that position. Then you should breathe deeply and try to relax as much as possible. If you are applying too much pressure or the muscle is too sensitive you may not be able to relax and you may feel your muscle become tighter or more painful. This is a sign to stop, because the foam roll will not work if your muscles are actively fighting the process.

If you are able to keep your muscles from increasing tension, in about 30-60 seconds the knotted muscle will start to relax. The direct pressure from the foam against the knot eventually causes your brain to send a signal back to the muscle telling it to relax. At this point your discomfort should decrease significantly, but this is still just the first step. Now that your muscle is looser it is a good time to stretch it out and work on increasing your range of motion. If done consistently, this should break apart the knot and stop the muscle from hurting.

“The Stick” on the other hand breaks apart knots through active motion as opposed to the passive relaxation of the foam roll. Sticks are made of durable plastic and come in a variety of lengths and stiffness levels, but they all work by rolling back and forth over your muscles. Similar to the foam, you start by rolling the stick slowly over the length of your muscles. When you come to an area with a knot the muscle will feel more sensitive and you may actually even feel a bump as you roll over the knot.

At this point instead of applying direct consistent pressure to the knot, you should keep rolling over the knotted area (30-60 times). If you are trying to break up the knot, the harder you push the better, but again you do not want to press too hard or it can make things worse. It is generally recommended to press as hard as you can tolerate without feeling actual pain. If you press lighter it will still help, but it will take longer to get rid of the knots.

Both foam rolls and sticks work well, however some people prefer the feeling of one over the other. Foam rolls really shine when used on the low back and hip areas, but it can be quite uncomfortable if your muscles have significant problems. “The Stick is exceptional for smaller muscles (upper back, neck, arms, etc.) and they both work great on the leg muscles. The stick is also beneficial, because it is easy to vary the pressure and it can more easily be used on very sensitive muscles.

I am still surprised that products that work so well are known by relatively few people outside the health and fitness industry while crappy infomercial products get so much more attention. Foam rolls are now more commonly found in local specialty stores, such as relax the back or other stores that sell therapeutic merchandise. Sticks can also be found in some specialty stores, such as running stores, but they usually only carry 1 or 2 models when there are many different options available.

Honestly I am still shocked that “The Stick” has not received more national publicity. I do not know how long they have been around, but I have personally used them for over 10 years. In addition, there is no question about how well they work, because they are used by college, professional, and Olympic athletes in all different types of sports. I even saw them on TV during the last Super Bowl. When one of the players had a problem with his calf the trainer pulled out a stick and was using it on the sidelines.

I really did not intend to make a sales pitch for products when I started writing this, but if you are looking for a quality product to make your muscles feel better, I would certainly recommend “The Stick.” Also from a health standpoint it is much better to release muscle tension with a stick or foam roll, than to rely on pills that decrease pain, but do not actually correct the problem. Of course pain relievers do have their place, but they should only be used when necessary.

For more information check out “The Stick” website at:

<http://affiliates.marathonguide.com/redirect.cfm?AID=A129M1&LID=43>

Sorry from that little diversion, but I figure if a relatively low cost product like “The Stick” can help your muscles feel significantly better on a daily basis I might as well make a big deal out of it. Of course there is still the issue that you have to use it regularly for it to be beneficial. Fortunately is actually a good lead in to what I want to talk about next: what to do when your discomfort begins to subside.

By working on your muscles you will eventually loosens up some knots and your pain will certainly decrease and may even go away completely, but that does not mean your job is done. Even though a muscle may feel better, it does not necessarily mean the knot is completely gone or your muscle has returned to its original length. One of the biggest mistakes people make is leaving the muscle alone once it starts feeling better.

You should continue your same recovery routine for at least a couple weeks after it feels better and even then you don’t want to stop completely. You can decrease the

amount of time you spend working on the muscle, but still continue stretching and working to increase your flexibility and range of motion. Otherwise, there is a good chance the knot will reform and the pain will return.

The main issue is the knot was originally caused by something (muscle imbalances, poor posture, stress, lack of exercise, etc.), so if the source of the knot is still present, you may need to work on the muscle indefinitely to keep the knot from reforming. Chances are you won't know the actual cause(s) of your knots, because there are so many factors that affect your muscles over time, but there is still hope.

As explained in part 1 of this article, muscle problems often progress because your body is compensating for something that is, overworked, weak, or injured. The good news is that after the knots are loosened, your body should not have to compensate for the problematic muscle anymore and just loosening the knot may keep it from reforming as long as your body is not still engaged in poor muscular compensation patterns.

Your chances of preventing the knot from coming back go up even more if you are consistently involved in a full body resistance training program that works on all your major muscles as well as your stabilization and postural muscles. This type of program will help strengthen the weak muscles that may have contributed to the development of your knots in the first place.

It is also a good idea to examine your daily routine for activities or behaviors that may be contributing to muscle imbalances. For example if you carry anything over your shoulder, do you always carry it over the same shoulder? If so, switch to the other shoulder or if carrying something heavy use a backpack or bag with straps for both shoulders. Just doing this can decrease future shoulder and low back pain.

It also helps to be aware of your posture, both while you are moving and stationary. When you are standing do you have most of your weight on one leg or evenly distributed between both legs? When you are walking do you lean forward or do you keep your back and shoulder upright? Do you sit in the same position for long periods or do you move around frequently? Do you stand with your legs locked and toes pointed out or do you have a small bend in your knees and keep your toes pointed forward?

Answering these types of questions will help you identify issues that will cause or contribute to muscle problems. By the way if you are not sure, the first option in each question is a negative behavior that should be corrected and the second option is considered healthy. The nice thing is that many of these issues can be fixed just by paying attention to what your body is doing and consciously trying to replace the problematic behavior with a more positive one.

Of course doing this is easier said than done, but if you are willing to put forth the effort required to pay attention to your body position and movements, you will learn a lot about your body and be in a much better position to recognize and correct minor issues before they become major ones.

I hope I have not overwhelmed you with information and instead empowered you to take a more active role in keeping your muscles and joints healthy. Unfortunately there are no quick fixes for muscle problems, but if you are willing to put forth the time and effort to exercise, stretch, and work on your knots you will likely be surprised about how much better you feel and how much you are truly capable of doing.

WRAP UP:

Well that finally brings a conclusion to the longest article I have written. This 3 part article has essentially consumed my last 3 newsletters, which have also been the only 3 newsletters since my year-long hiatus from writing. Anyway, before I stopped writing I wanted to move in the direction of writing shorter newsletters, but that has obviously not happened.

While I believe the topic of understanding and improving muscle and joint problems was certainly worthy of a long 3-part article, I still intend to move to a shorter writing format. In fact I am thinking about starting a blog to use as a source of more frequent small sized bits of information and this should also allow more frequent interaction with my readers. I will probably then write newsletters only on rare occasions when I have a topic that deserves a long article.

In any case there will be new health and fitness information in the future and I will let you know what form or forms it will take when that decision is made. If you have any thoughts or suggestions, please let me know as I want to figure out something that works for me as well as my readers.

So until my next communication, keep eating healthy, working out, stay positive and continue making progress towards your goals. Take care,

Ross