

A Patient's Guide to **KNEE PAIN**

*Improved Treatment for Common Knee Conditions with
Active Release Treatment*

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GRAYCHIROPRACTIC



Improved Treatment For Knee Pain

Resolving Common Knee Conditions with Active Release Techniques

By Dr Jason Gray BHK DC MSc & Dr Stephanie Gray BSc DC

Do you experience knee pain with walking, exercise, or prolonged sitting. If so you are not alone. In fact knee pain is a very common condition we routinely see in our clinic.

Although many people hope this pain will go away with a few stretches and some rest this is rarely the case. Instead, most of these conditions actually get worse over time.

What makes things even more frustrating is the fact that traditional treatments such as medication, modalities such as e-stim or ultrasound, and even stretches and exercises for knee pain are often slow to provide relief.

But there is some good news.....

A new treatment technique known as Active Release Techniques (ART) is proving to be a very effective method to resolve common knee problems such as tendonitis, IT Band syndrome, and patello-femoral problems.

If you're not familiar with ART treatment don't worry. This is a relatively new treatment method. So in this Knee Pain Guide we will discuss the basics of what you need to know about knee pain, including a review of ART treatment.

Here are the key things I will cover....

- 1 - The underlying cause of virtually every type of knee problem
- 2 - Why traditional treatments are often ineffective or slow to provide relief
- 3 - What ART Treatment is... and how it is so effective in treating knee pain

What Causes Knee Pain?

Whenever patients come into our office we like to make sure they have a basic understanding of their problem..... not just their diagnosis, but also what has happened that has caused their problem in the first place. When patients grasp this it is much easier for them to understand what needs to be done to fix the problem.

While there are many different knee conditions almost every case of knee pain shares a common underlying cause. Of course there will be some differences with respect to which specific muscles or ligaments have become injured, but the mechanism of how those tissues become damaged and irritated is essentially the same with virtually every knee problem.

So lets take a look at how the knee pain develops in the first place.....

Muscle Strain, Muscle Scarring, and Knee Pain

There is an incredible amount of force and stress placed on the knee during even basic activities such as walking, bending, or climbing stairs. This stress is even greater with physically demanding jobs or athletic activities such as running or weight training.

To control and protect the knee joint the body relies on a complex system of muscles and ligaments. In fact there are 9 specific muscles that cross the knee joint, all of which need to be strong, flexible, and balanced to properly control and protect the knee.



The body relies on an intricate system of muscles and ligaments to position, protect, and control the knee. If any of these tissues become tight, weak, or damaged the knee can become compromised and more prone to pain and injury.

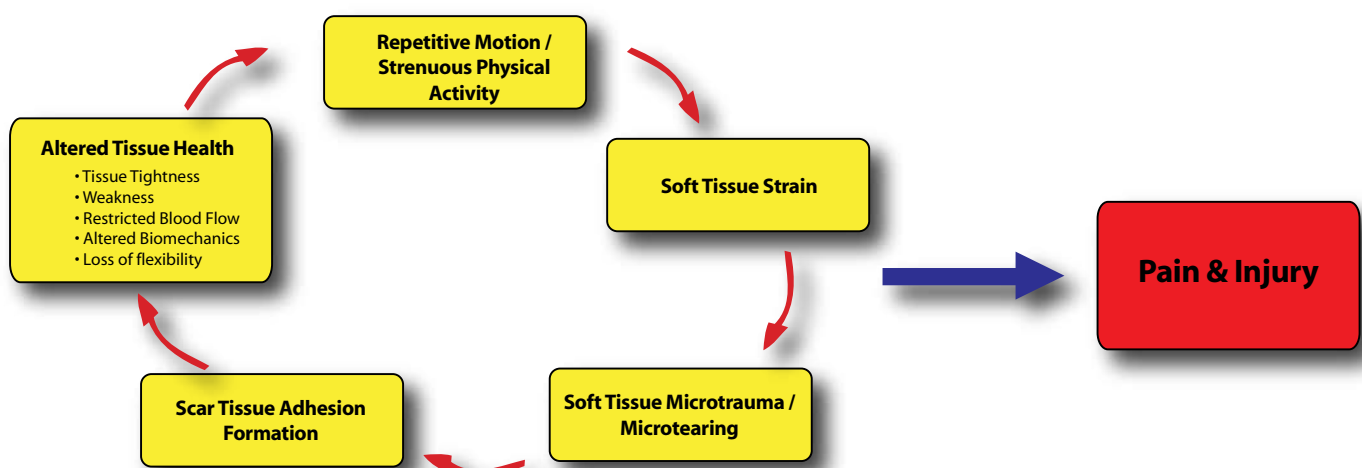
In addition to these specific knee muscles, the muscles and ligaments of the hip and foot also influence the knee indirectly as the alignment of the knee is largely determined by the posture and position of the hip and ankle-foot complex.

However, if even subtle problems such as a stiff foot or ankle, a weak hip, or an imbalance between the hamstring and quadriceps muscle occurs it can affect the alignment of the the knee joint or knee cap. This in turn can affect the normal alignment and stability of the knee and lead to excessive stress and overload to the muscles and ligaments of the knee.

Over time this stress can develop into small scale tissue damage known as micro-trauma. Initially this micro-trauma is very small and the amount of damage is not enough be painful. However, this damage still needs to be repaired, which the body does by forming new connective tissue in and around the damaged areas.

This new tissue formation (usually referred to as scar tissue or soft tissue adhesions) itself is not a problem. In fact it is a normal and necessary part of healing. But a big problem does occur when the knee is subjected to the same amount of stress and overload over the course of weeks and months.

When this happens the knee becomes caught in a repetitive strain cycle in which the same muscles and ligaments are damaged and subsequently repaired over and over again. This process is associated with more and more soft tissue adhesion formation around the knee.



Think of these adhesions like rust and grime that can build-up in an car engine. Normally the parts of the engine should be well oiled and move smoothly but when rust and grime are allowed to build-up the car begins to break down.

And just like rust, as these soft tissue adhesions begin to build up around the knee it leads to problems such as tightness, muscle weakness and diminished endurance, restricted knee joint motion, and diminished blood flow.

These adhesions are also very sticky and can cause the various muscles and ligaments of the knee to become stuck together. This will compromise the muscles ability to slide against each other, further compromising flexibility and strength.

As this repetitive strain cycle continues at some point a symptomatic threshold is reached and hip pain will develop. Although the pain and symptoms associated with most cases of knee pain seem to occur out of nowhere or after a routine activity, you can see that the problem has actually been slowly developing over time and the onset of symptoms is often just the straw that broke the camels back.

The Problems with Traditional Knee Pain Treatment

In an attempt to treat knee pain a variety of treatment methods are used. Some of the more common approaches include anti-inflammatory medications, rest, ice and/or heat, ultrasound (US), muscle stimulation (E-Stim), or stretching and strengthening exercises.

Unfortunately, most of these techniques generally require a long period of time before they provide any significant relief and in many cases provide only temporary relief from knee pain....assuming they help at all.

The reason these approaches are often ineffective is they fail to address the underlying scar tissue adhesions that develop within the muscles and surrounding soft tissues. Remember it is these adhesions that are making the muscles and ligaments tight and binding the tissues together.

Passive approaches like rest, ice, medications, and modalities like e-stim primarily focus on symptomatic relief and do nothing to address the muscle restrictions and dysfunction.

More active approaches such as stretching and exercises are often needed for full rehabilitation of the condition and to restore full strength. However, they themselves do not treat the underlying scar tissue adhesions. In fact, without first addressing the scar tissue adhesions stretches and exercises are often less effective and much slower to produce relief or recovery from knee pain.



Improved Treatment for Knee Pain with Active Release Techniques

So if all of these traditional treatments not very successful for knee pain what is the solution?

Well without a doubt we have found that Active Release Techniques (ART) treatment is the most effective, quickest, and most lasting treatment solution for knee pain.

Active Release Treatment (ART) was developed about 20 years ago by a doctor in the United States. This may seem like a long time but as far as treatment techniques go it is actually quite new - but it is making an big impact in healthcare and is becoming the treatment of choice for many musculoskeletal problems.

In fact, virtually every professional sports team has an ART doctor on staff to help keep athletes healthy and performing at top level. And many major employers have also begun to keep ART doctors on staff to reduce workplace injury.

So let's take a look at exactly what ART treatment is and why it is so effective if treating knee pain....

What is ART

Active Release is a hands-on treatment method to address problems in the soft tissues of the body, including the muscles, ligaments, fascia, and nerves. What makes ART different from other treatments is that it is specifically designed to identify and treat scar tissue adhesions that build up and compromise tissue health.

By locating and treating the soft-tissue adhesions with ART it allows the doctor to to 1) break-up restrictive scar tissue adhesions, 2) restore normal movement and sliding of the muscles and nerves, and 3) more completely restore strength and flexibility of the muscles which protect and control the knee.

When performing an ART treatment the doctor will first shorten the muscle, tendon, or ligament and then apply a very specific pressure with their hands along that structure. To assess the area the doctor will then stretch and lengthen the tissue underneath their hand contact.

As the tissue slides underneath the contact we are able to assess the texture and tension of the tissue to determine if it is healthy or contains scar tissue adhesions. When scar tissue adhesions are felt the amount and direction of tension can be modified to break-up the scar tissue and free the problematic area.

ART takes a long time to master and after years of practice ART docs are able to develop a very acute sense of touch and feel. This not only helps us to know exactly which muscles or ligaments have become restricted and damaged, but also helps improve treatment results by allowing us to be very specific with treatment.

This is something that cannot be done with other treatment methods or with stretching or exercises which target the knee muscles in a more generalized fashion.

An additional benefit of ART is that it allows us to further assess and correct problems not only at the knee but also in other areas of the kinetic chain - for example at the hip, ankle, or foot.

As mentioned above, even if these areas have not yet become painful they can impact the alignment and movements of the knee. Therefore, clearing problems at these areas will often play a critical role in getting the knee pain to resolve, especially with stubborn or recurrent knee pain.

How Long Does It Take to Resolve Knee Pain?

One of the best things about ART is how quickly results are felt. In our experience the majority of knee pain cases respond very well to ART treatment, especially when combined with the appropriate home stretching and strengthening exercises. Although each case is unique and there are several factors that will determine the length of time it will require to fully resolve a condition, we usually find a significant improvement can be gained in just 3-4 treatments.

Get Relief From Knee Pain

To learn more, or to book an initial appointment to see if ART may be able to help with your knee pain simply call our office at (905) 685-7227 - or book an appointment through our online calendar.

For general questions you can call our office or send us an email at info@graychiropractic.ca - one of our ART certified doctors will be happy to answer any questions you may have.

Dr Jason Gray BHK DC MSc



Dr. Gray is an honours graduate (Cum Laude) of Logan College of Chiropractic in St. Louis, Missouri (2004), and holds a Bachelor of Human Kinetics (Honours, Movement Science) from the University of Windsor. Most recently, he received a Master of Science degree in Kinesiology from Dalhousie University (2011), with a focus on running biomechanics and clinical assessment.

Dr. Gray has been a full-body certified Active Release Techniques provider since 2004, and has advanced training in musculoskeletal rehabilitation, strength training and conditioning, and biomechanics. He has published several articles in chiropractic trade journals and has written about and taught sport performance & injury prevention programs for a number of sports, including golf, running, swimming, and triathlon.

Dr Stephanie Gray BSc DC



Dr. Stephanie Gray is a Doctor of Chiropractic and is co-owner of Gray Chiropractic Spine & Joint Clinic. Dr. Stephanie was born and raised in St. Catharines. She completed her Doctor of Chiropractic degree from Logan College of Chiropractic, St. Louis, Missouri in 2004. She also holds a Bachelor of Science (Honours Kinesiology, Co-op) from the University of Waterloo.

Dr. Stephanie owned and operated a practice in Fall River, Nova Scotia for 9 years before returning to her roots in 2014. While in Nova Scotia, she also served as secretary to the Council of the Nova Scotia College of Chiropractors for 4 years. Dr. Stephanie is a member of the College of Chiropractors of Ontario, Ontario Chiropractic Association, Canadian Chiropractic Association. She has been a full-body certified Active Release Techniques provider since 2004.



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