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Advanced Trigger Point Techniques



Treating Elbow and Wrist Pain

Trigger Point Therapy Course

NAT Pro Series:

Treating Elbow and Wrist Pain Trigger Point Therapy Course

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Welcome

Welcome to the NAT Pro Series. Here we journey together to investigate trigger point theory and practice as it relates to elbow and wrist pain. Trigger points are ubiquitous in these regions, so understanding which muscles to treat and how to treat them offers us a huge advantage.

Myofascial Trigger Points (MTPs) are ubiquitous, and myofascial pain affects as much as 85% of the population at some time in their life (Simons, 1996; Fleckenstein, 2010).^{1,2} There is evidence that myofascial trigger points may be present in babies and children (Davies, 2004).³ They have even been demonstrated in muscle tissue after death. The impact of myofascial pain on health can be severe, as patients not only suffer from pain and loss of function, but also from impaired mood and decreased quality of life (Gerber, 2013).⁴

Wrist and elbow pain can have a significant impact on quality of life. Often protracted, elbow and wrist pain accounts for approximately 2%-5% of all patient visits to doctors for musculoskeletal pain. Trigger points and trigger point therapy have an important role to play in both reducing symptoms and in preventing recurrence. We rely on proper hand and wrist functioning to manipulate our environment, so patients are motivated to seek answers to their pain. It is also important, though, to see trigger points in the context of the body mechanics as a whole, especially the shoulder and the spine.

Trigger points are amazing, and the story of how they were discovered and rationalized is one of legend. We come to trigger points from thousands of hours of clinical practice, and these guides are written by osteopaths, soft tissue therapists, physiotherapists, and medical doctors. We all believe that anyone who touches the body should have a thorough and deep knowledge of trigger points. We also hope to show you the hidden power and magic of trigger points and how they can be used as inputs to tap into the “healing wisdom” of the body.

Trigger point therapy is used by literally thousands of practitioners worldwide every day. The model is compelling, and the results of therapy are outstanding. Since the early days, hundreds of therapists have dedicated themselves to sharing and exploring trigger point therapy and research. We are so pleased to be sharing this information with you.

At the end of this course you will find a reflective learning exam. This is not a “pass or fail” test but a mechanism to see that you have understood the information and can apply it for the good of your patients. Don’t forget that if you have any questions, we are here to support you.

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Types of Elbow Pain

Elbow pain affects 2%-5% of the population at any one time. It can occur for a variety of reasons, from inflammatory, to bony, to soft tissue. In this course, we will cover those conditions that most commonly present to manual therapists. We would like to show you which muscular “trigger points” to consider in these conditions. Don’t forget, a trigger point “lives” somewhere in a tight/taut band of muscle, and treating this tight/taut band is a key part of trigger point therapy. As soft tissue therapists, we often feel tight bands, and soft tissue release techniques are amongst the very best ways to address these. We are **not** suggesting that you change everything you do—far from it—but integrating these trigger points into your daily therapy routines will not only save you time, but it has been demonstrated to improve outcomes time and time again.

Why trigger points?

Trigger points are really common in the elbow and forearm muscles; this may well be connected to our increased sedentary and technology-based lifestyles. Needless to say, as hands-on therapists, we too often get tense and stiff forearm muscles.

Why trigger points? Our body tries to protect us; it wants the trauma to heal and often “switches-off” around “damaged tissues.” Trigger points are a key part of this protect-and-defend mechanism. However, if a problem isn’t managed correctly, it can crescendo and these trigger points become deep-seated, causing the host muscle to be shorter, tighter, and less efficient. They also add to the cycle of increased sensory input to our peripheral and central nervous system (sensitization), which can lower the threshold for pain. In other words, if left untreated, trigger points can feed into the nervous system and prevent full recovery.

Trigger points in context

The body is a dynamic space. The musculoskeletal system is complex and interrelated. There are so many factors in play when a patient comes to us that sometimes it is hard to know where to start. Mechanical issues might be due to a number of underlying factors or might occur acutely from trauma or overload. It is important, therefore, to see trigger points in context. If there is another comorbid or underlying condition, the trigger points we treat might not go away fully or may return.

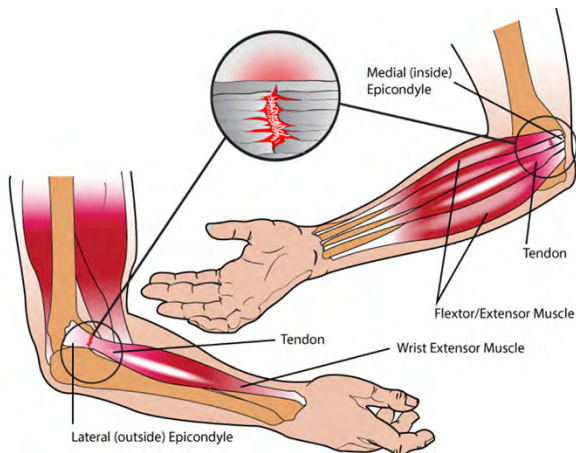
Performed with intent and knowledge, trigger point touch is deliberate and purposeful; it blends “therapeutic pain” with somatic pleasure. Trigger point techniques not only exploit sensory algorithms but also tap deep into the body’s emotional centers and inner healing wisdom.

Treating trigger points can be painful. We refer to this as “**therapeutic pain**,” a “healing” or “good pain” that should never be unbearable. Used correctly, trigger point therapy creates algorithms at the level of the spinal cord via mechanoreceptors, the unmyelinated CT-afferent fiber level, and the psycho-emotional level (limbic system).

Tennis Elbow – Lateral Epicondylalgia (LE)

Lateral elbow pain on gripping can start as an annoying ache but rapidly degenerate into a debilitating problem, with pain on gripping, opening bottles, or even on shaking hands. Unless they have had it, people simply don't understand how bad it can be. The pain from a tennis elbow is often associated with trigger points in the muscles of the lateral epicondyle of the elbow, especially the **Lateral Head of Triceps**, and the **Extensor Carpi Radialis Brevis** tendon 1-2 cm distal to its attachment on the lateral epicondyle.⁵ LE is more common than Medial Epicondylalgia by a ratio of 9:1.

Although mostly referred to as Lateral Epicondylitis, LE is generally **NOT** an inflammatory condition. Microscopic evaluation of the tendons does not show signs of inflammation, but rather angiofibroblastic degeneration and collagen disarray. Light microscopy reveals both an excess of fibroblasts and blood vessels that are consistent with new blood vessels (angiogenesis).⁶ It is most often due to repetitive micro-tears in the zone, especially where the tendon of the muscle meets the bone (musculotendinous junction). This is because the tendons are relatively hypovascular close (proximal) to the tendon insertion.



Golfer's Elbow - Medial Epicondylalgia (ME)

Medial elbow pain on gripping can start as an annoying ache but rapidly degenerate into a debilitating problem, with pain on gripping, opening bottles, or shaking hands. ME may be related to repetitive manual tasks and has also been reported in bowlers, archers, and weight lifters, as well as golfers.⁷

The pain from ME is often associated with trigger points in the wrist flexors of the wrist (especially **Flexor Carpi Ulnaris, Flexor Digitorum Superficialis, Palmaris Longus, and Medial Head of Triceps** muscles). The pathology is similar to a tennis elbow (above) with repetitive micro-tears in the zone where the tendon of the muscle meets the bone.

Golfer's Elbow Fact File

- Men more than women
- Mainly between 35 and 50 years of age
- Common in cooks who chop, cleaners who vacuum, butchers, gardeners, assembly line workers
- Now referred to by authorities as “Medial Epicondylalgia”
- Not inflammation of the bone but micro-tears and traumata with small bleeds
- Can become chronic, so early treatment is advised
- Develops due to overuse of the flexor muscles of the arm and wrist
- Associated with golf due to the stress it places on the muscles, tendons, and joints
- Tendons do not like sudden eccentric loads
- A sudden eccentric load of 3% can tear a tendon
- A sudden eccentric load of 5% can rupture a tendon

- Tendon damage might be considered a muscle fracture (Lewis 2014) and takes six weeks of very low loading to repair. It should be treated as such and any increase in loading should be incremental
- Stretching is key

Medial Overload Syndrome

This covers a range of syndromes related to pain on the inside part of the (medial epicondyle). The most common syndromes are “pitcher’s/thrower’s elbow” and climber’s elbow. These issues usually develop as a result of overuse of the “**flexor**” muscles used for hand gripping or throwing (check **Supinator, Flexor Carpi Ulnaris, Flexor Digitorum Superficialis and Profundus, Palmaris Longus, and the Medial Head of Triceps** muscles). The repetitive actions of throwing and climbing place considerable amounts of mechanical stress on the inside of the elbow joint.

This stress can create micro-traumata that over time can develop into tendon tears and failure. In most cases, the pain develops slowly and gradually over weeks or months; it is less common for the symptoms to occur suddenly. Initially stiffness is felt. This is probably due to the muscular overload and development of trigger points. Pain and tenderness is then felt over the medial aspect of the elbow joint. Finally, patients report pins and needles or numbness in the fourth or fifth fingers. Wrist weakness may also develop. Pain is reported to be especially bad at night, just before sleep, especially in patients who twist their hands into funny positions beneath their pillows. Pain also increases when using tools, shaking hands, turning a doorknob, gripping, lifting, or trying to stabilize or move the wrist. Older climbers, inexperienced climbers, or those with a poor technique are more prone.

The Young Athlete

The elbow area is the last epiphyseal center to close, so injuries can occur. “Young bones” and soft tissues can be particularly vulnerable to repetitive overload and injury. Over the past few decades, the number of organized sports for children has grown significantly, with millions of children participating in organized athletics each year. The level of competition has also increased, along with the lure of “big bucks” funded by a media circus. It is not uncommon for young athletes to have year-round training with higher intensities at ever-younger ages. An estimated 4.8 million children aged 5-14 years participate in baseball and softball. The incidence of all baseball-related overuse injuries is 2%-8% per year. The incidence of overuse injuries in the 9- to 12-year-old range for baseball is 20%-40%, and in the adolescent age group is 30-50%. The most common injury is Little Leaguer’s Elbow (LLE), but this group also includes traction Apophysitis of the Medial Epicondyle, Panner disease, and Osteochondritis Dissecans.

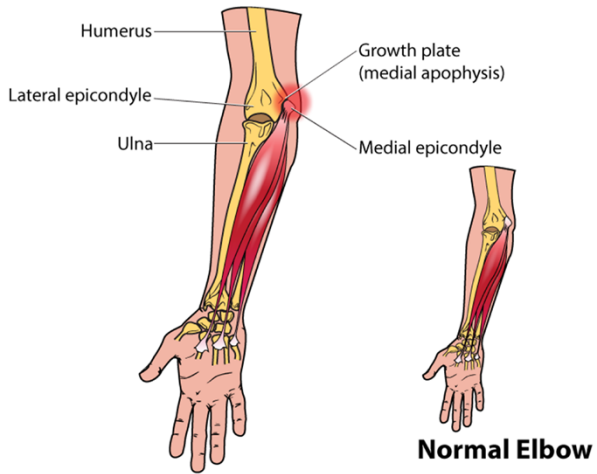
Little League Elbow (LLE)

LLE is an overload syndrome resulting from the repetitive action of softball/baseball and results in elbow pain. LLE occurs more frequently in pitchers. It can result in various fractures or bone growths.

During the throwing motion, inwards (valgus) stress is placed on the elbow. This valgus stress results in tension on the medial structures (e.g., medial epicondyle, medial epicondylar apophysis, medial collateral ligament complex) and compression of the lateral structures (e.g., radial head and capitulum). Overuse occurs when the level of tissue breakdown is larger than repair. Recurrent microtrauma of the elbow joint can lead to Little League Elbow, a syndrome that includes:

- (1) delayed or accelerated growth of the medial epicondyle (medial epicondylar apophysitis)

- (2) traction apophysitis (medial epicondylar fragmentation), and
- (3) medial epicondylitis.



Trigger point therapy to the **wrist flexors** is non-invasive and can be uniquely effective as part of a stretching and self-help regimen.

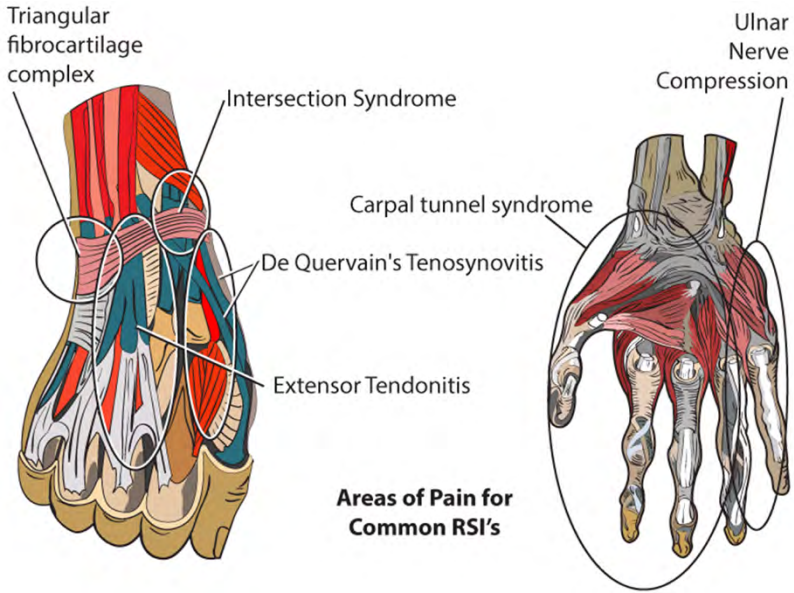
NB. When treating children, you should always obtain parental consent and offer the option of a chaperone.

Repetitive Strain Disorder

The term RSI (Repetitive Strain Injury) is generally considered an umbrella term for a number of upper limb disorders. There has been a massive increase in RSI over the past few decades, most likely due to an increase in intense static activities. More people are using computers, workplace stress is increasing, mobile communications are increasing, and use of games and iPods is increasing. However, there is little agreement as to the diagnosis of conditions. There are a plethora of medical terms used to describe RSI, resulting in confusion and frustration for the patient and practitioner alike.

There are two significant groups of RSI conditions, often known as **Type 1 RSI** and **Type 2 RSI**. Type 1 RSI conditions have a tangible pathology (i.e., measurable evidence in the form of swelling, deformation, dysfunction, etc.). Type 2 RSI conditions do not have clear pathology, and consequently some medical professionals do not recognize them. Type 2 RSI is also known as “Work Related Upper Limb Disorders” (WRULD). Other terms used for Type 2 RSI conditions include “diffuse RSI,” “cumulative trauma disorder,” “occupational overuse syndrome,” “non-specific pain syndrome,” “non-specific arm pain,” and “myofascial pain syndrome.” RSI is associated with trigger points in both wrist **flexors and/or extensor** (especially **Extensor Carpi Radialis Brevis**) muscles.

Early recognition and effective action has a significant impact on recovery time. The longer it has been there, the harder it is to treat. Added to this, the rest of the body is forced to compromise or adapt, often leading to secondary and tertiary mechanical issues. Recovery in some cases can be achieved in a few months, but it is often measured in years. Recovery can also come in stages, allowing a gradual return to normal activity. Note – Full recovery is not always possible.



Types of Wrist Pain

With so many bones, ligaments, tendons, and joints keeping hands and wrists working, there is ample opportunity for injury. In fact, injuries to the hands and wrists are some of the most common ailments, especially in athletes. If managed properly, however, most injuries heal without any significant long-term disability.

Wrist injuries can be classified into two main categories: traumatic (acute) and overuse (chronic).

Some common traumatic injuries include joint dislocations, sprains, muscle strains, broken bones, tendon inflammation, and ligament tears.

Overuse injuries are stress-induced and include tendon inflammation and dislocation, nerve injury, and overuse stress fractures. Long-term disability is less likely to occur from overuse injuries than from traumatic injuries. Surgical treatment may be required if an injury persists.

Carpal tunnel syndrome is a common cause of wrist pain. It is often experienced as aching, burning, numbness, or tingling in the palm, wrist, thumb, or fingers. The thumb muscle can become weak, making it difficult to grip, and pain may extend up to the elbow.

Arthritis is another common cause of wrist pain, swelling, and stiffness. There are many types of arthritis. Osteoarthritis occurs with age and overuse. Rheumatoid arthritis generally affects both wrists. Psoriatic arthritis accompanies psoriasis.

Trigger points are common in both carpal tunnel syndrome and O/A thumb. Don't forget that a trigger point "lives" somewhere in a tight/taut band of muscle, and treating this tight/taut band is a key part of trigger point therapy. Integrating these trigger points into your daily therapy routines can be an excellent way to speed up recovery.

Carpal Tunnel Syndrome (CTS)

CTS is a condition that occurs when the median nerve is restricted. The carpal tunnel is located on the palm side of the wrist and it protects the median nerve, the main nerve that enables finger flexion.

People who suffer from CTS experience numbness or tingling of the thumb and fingers, particularly the index and middle fingers, as they receive sensation from the median nerve. If pain is felt in all fingers except the little finger, it could be an indicator of CTS. It is known for these sensations to develop gradually but worsen at night. This is often from sleeping with the wrists flexed or sleeping on one side. In severe cases, patients might experience a weakness in the hand and be prone to drop objects. Some people may suffer from a dull ache in their hand and elbow as a result of this condition.

Generally, any pressure on the median nerve which makes the carpal tunnel smaller is the primary cause for this condition. Contributing factors to CTS include underlying health problems: diabetes, obesity, hypothyroidism, rheumatoid arthritis, and pregnancy. In other cases, the cause is a result of the anatomy of the wrist, a narrow-diameter carpal tunnel. Another common cause is an injury to the hand that causes internal scarring or misaligned wrist bones. Often, overuse of the hand and arm has been connected to CTS. This refers to heavy manual work with vibrating tools, highly repetitive tasks (even if they involve low-force motions), and work in cold temperatures. People at risk include: those who work repeatedly on a computer, such as typists and customer service representatives who deal with key entry; and those whose work entails gripping with their wrist bent, such as grocery line workers, packers in the meat and fish industry, musicians, and mechanics. For the same reason, hobbies such as gardening, needlework, golfing, and canoeing may cause CTS. Pregnancy is another comorbid factor. Smoking has also been found to contribute to CTS as it limits the blood flow to the median nerve.