

## Elastic Therapeutic Taping: Let's Talk Treatment

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Elastic therapeutic taping is a valuable chiropractic tool in treating many different conditions. These include muscle sprain and strain; shoulder tension; headaches; dizziness; thoracic outlet syndrome; herniated disc; sacroiliitis; arthritis in the hip; fractured ribs; whiplash and associated disorders; degenerative joint disease; and a whole range of sports injuries. Taping is utilized in addressing any musculoskeletal pain conditions. Chiropractors adjust the spine and extremities; [therapeutic taping](#) can be a particular asset in treating pain conditions such as neck pain, back pain, leg pain, hand pain, shoulder pain, knee pain – just about any area of the body. It is also used in treating postural, foot and gait issues.

### When to Use Tape

In practical terms, there is a variety of instances in which applying therapeutic tape can improve outcomes. Applying tape prior to adjustment provides a range of benefits. Taping before the adjustment can balance the soft tissue, especially muscles, and thus make the adjustment easier for both the patient and the physician. Applying the tape to the painful site on the spine prior to adjustment can decrease pain and make it more comfortable for patients to receive the adjustment, as well as easier for the doctor to perform the adjustment. The application can also prevent possible further tissue damage to a site that may already have been injured.



When taping for whiplash and related conditions, we would begin at intake. Specific taping strategies may be utilized in combination or as appropriate for a given assessment. In the assessment of sprain or strain in cervical muscles and ligaments, the taping may be quite beneficial. Therapeutic taping provides comfort and support by stimulating mechanoreceptors, while the tape's lifting effect helps create "space" to increase circulation. Therapeutic taping is also used to inhibit hypertonic muscles resulting from a hyperextension or hyperflexion injury. Fascial taping supports injured muscles such as upper trapezius, scalene and SCM.

Applying tape after an adjustment can prolong the effect of the adjustment by balancing the muscle. Applied after the adjustment, therapeutic taping can speed up healing by increasing circulation of bodily fluid at the pain site. Applying tape after the adjustment can also prevent further injury of the site, because it stimulates the patient's awareness of their own alignment and posture. In such instances, after performing manual techniques to improve thoracic mobility and neuromuscular re-education techniques to facilitate postural muscles, the tape may be used to apply a mechanical correction or muscle facilitation technique to help augment what is done in the clinic.

In chiropractic, our major purpose is how best to care for the patient, who may come to us with spinal, neurological or muscular problems, or a combination of all three. Our treatment is associated with many different levels of complaint, especially cranial and spinal. The idea of chiropractic is how to manage [spinal subluxation](#). This is associated with many complicated symptoms. The patient may show several different weak points or one major weak point.



### Pain Is Often an Issue

We do not use and rely on pain medication. Still, many patients complain of pain. It may be hard for the person who is in pain to have the patience to trust or wait for the natural response. Chiropractic treatment is based on the body's natural healing; we know that pain medication can have side effects and complications which may be counterproductive in the healing process. We use manual adjustment and other modalities to manage symptoms, conditions and pain.

Therapeutic taping plays an important role in addressing pain. We work with the body's natural healing process. Pain will make the patient impatient; they start to worry and have trouble following the treatment protocols. It also causes more problems if they have more injury with soft

tissues - or even injury to hard tissues. When there is dramatic pain we need more analgesic treatment; icing, hot pack and other methods may not be enough. Everyone has a pain threshold. At the most painful level, when pain is over the bearable threshold for that person, it may be hard to get a patient to cooperate. Higher-level pain tends to occur on the surface of body, in the dermis and epidermis. As I have often noted, the tape is on the surface of the skin and helps control muscles. On the skin, taping will provide gradually stimulation with a gentle, light stimulus to the epidermis, to the dermis, and to the fascia. This soft reaction provides a fast, effective analgesic effect so that treatment can begin or continue.

An example would be a patient who is in too much pain to be able to receive the adjustment. We would put tape on first. Then they are able to respond to the adjustment. If their pain is not so aggressive, go ahead and treat as indicated, and tape may be applied after the manual adjustment. Pain will cause different positioning of joint and muscle activities. This is why it is important to find out what muscle, ligament, even organs are triggering pain, whether the problem is with the muscular system, tendons, etc.; or whether a special type of treatment is needed. Therapeutic taping helps us to find this out and to adjust for the underlying cause.

### Supporting Pain Studies

A 2009 study<sup>1</sup> of 41 patients with [whiplash](#) after car accidents was published in the *Journal of Orthopaedic & Sports Physical Therapy (JOSPT)*. Researchers noted immediate pain relief and improvements in range of motion after the application of elastic therapeutic tape. The study concluded, "Patients with acute WAD [whiplash-associated disorders], receiving an application of [elastic therapeutic tape], applied with proper tension, exhibited statistically significant improvements immediately following application of the [tape] and at a 24-hour follow-up."

"It is possible that the tension applied by the real application might have provided neural feedback to the patients during neck movement, thus facilitating their ability to move the neck with a reduced mechanical irritation of the soft tissues," the 2009 study suggested. "The tension in the tape may have also created tension in the soft tissue structures when the patient returned the head to a neutral position. Further, it is also possible that tension in the tape provided afferent stimuli, facilitating pain inhibitory mechanisms (gate control theory), thereby reducing the patients' pain levels. Further, because increased mechanical sensitization is a feature of patients with acute WAD, it is possible that the tape decreased pain by way of inhibitory mechanisms. Finally, because fear of movement is associated with pain intensity in patients with acute WAD, it may be possible that the application of [therapeutic] tape provides a proper sensory feedback to the patients, decreasing fear of movement, thus improving neck pain and range of motion."

In *Physiotherapy Theory and Practice*, a 2004 case study<sup>2</sup> looked at traumatic patella dislocation. Diane J. Osterhues wrote: "A major focus of rehabilitation is improvement in post-dislocation strength, pain, and swelling. Although re-evaluation revealed muscle atrophy and pain with eccentric loading activities, the patient felt her pain, stability, and quadriceps activation were subjectively improved with tape application. [Functional evaluation] suggests [elastic therapeutic tape] application during rehabilitation may enhance strength, balance, coordination, mobility and control necessary for [participation in sports](#) or occupational activities safely and with reduced risk of injury."

"The tape may have had an indirect effect on the damaged retinacular tissue through local edema control as well as mediating pain responses. Elastic tape may also contribute to a reduction in pain resulting in higher functional activity levels," Osterhues concluded.

Another study,<sup>3</sup> published in *JOSPT* in 2008, found that "pain-free abduction ROM in the treatment group immediately improved."

In 1999, at the 15<sup>th</sup> Annual Kinesio Taping Research Symposium, Bruce A. Franke Jr. reported: "As a national lecturer and specialist in the area of spinal rehabilitation, I very often deal with challenging chronic pain patients. The utilization of complementary treatment tools with benefits that can be carried forth beyond the therapy visit is a necessity to gain prompt and lasting changes. [Elastic therapeutic tape] has demonstrated consistent value as a tool to assist the patients' quicker return to self-management and relief from pain and undesirable movement patterns."<sup>4</sup>



These results are no surprise. I originally developed elastic therapeutic taping for use with the chiropractic adjustment, to allow patients to become more active during the course of treatment. It is difficult to address the patient's physical condition when they cannot move the body so fast after a lengthy period of inactivity. In some cases the suddenness of an adjustment can be somewhat shocking to a patient who has been inactive. If they are treated too often or too much at once, ligaments and joints may be hypermobilized. This is why I studied and applied principles of kinesiology, trying to find ways to retain the good, beneficial part of the adjustment, and to minimize the bad, stressful part. We find where muscles are too weak or too strong; if we inhibit or facilitate the too-strong or too-weak muscles, this results in a good spinal adjustment. This is one important role for therapeutic taping.

#### Clinical Taping Guidelines

Here are some chiropractic-specific guidelines for utilizing elastic therapeutic taping.

##### 1. *Whiplash*

- a. Intake to rule out severe trauma (e.g., fracture, herniated disc); take X-ray.
- b. Assessment: sprain/strain cervical muscles and ligaments; application of elastic therapeutic tape is beneficial.
  - i. Provides comfort and support by stimulating mechanoreceptors.
  - ii. Lifting effect that helps create "space" to increase circulation.
- c. Specific taping strategies - in combination or as appropriate given assessment.
  - i. Acute: lymphatic taping to minimize swelling secondary to inflammatory cascade. Supports action of paraspinal muscles to cue spine to hold optimal posture (or provide cervical collar as needed).
  - ii. Inhibit hypertonic muscles resulting from hyperextension/hyperflexion injury: fascial taping supports injured muscles: upper trapezius, scalenes, SCM. Also allows patient to relax, facilitating a better adjustment.
  - iii. Ligament taping to stabilize joint or spinal segments: apply tape before adjustment to give extra support and hold the adjustment longer.

## 2. Lower Back

- a. Sedentary lifestyle weakens core muscles; manipulation of restriction in lumbar spine releases stress on facet joint.
- b. Elastic therapeutic tape supports weak abdominal muscles and inhibits hypertonic erector spinae muscles to ease compression of facet joints.
- c. Provides somatic education for patient and reminds patient to stretch the hypertonic muscle; helps adjustment last longer.

## 3. Patellofemoral Syndrome

- a. Look at entire body structure during assessment, including spine, extremities and myofascial system.
- b. Addressing myofascial system with elastic therapeutic tape helps create optimal biomechanics of the patellofemoral joint.
  - i. Inhibits hypertonic IT band from tracking the patella laterally.
  - ii. Supports weak vastus medialis oblique to prevent tracking laterally.
- c. Important to treat the extremity and myofascial system to provide a solid foundation for the pelvis and spine to function optimally.

## Who Can Benefit?

The contemporary DC is apt to see patients from the very old to the very young who come in with complaints ranging from post-surgery rehabilitation to high-level sports injuries. Peter Zid, DC, CKTP, DACBSP, CSCS, commented on his recent work at the Olympic Training Center in Colorado Springs, where he has been working in the Performance Sports Medicine Center.

"We treat high-caliber Olympic athletes from around the world. [Elastic therapeutic tape] plays an important part in rehabilitation of the athletes coming to the center for treatment. One of my patients is a trap shooter who injured his right shoulder and thoracic spine during training. This athlete shoots a 12-gauge shotgun and shoots over 250 rounds per day. The recoil takes a toll on the shoulder and spine. I treat him with CMT, myofascial release, IFC and [therapeutic taping.] The tape helps hold the adjustments and the myofascial work while this athlete trains.

"By the way, these athletes do not take much time off unless there is a severe traumatic injury. This individual continues to train daily while being treated and will leave for nationals this coming week. [Elastic therapeutic tape] has played an integral part in his treatment and rehab."

In his 1999 study,<sup>4</sup> Franke noted, "In my practice I frequently deal with cervical mediated headaches. I also see many thoracic outlet patients or post-whiplash patients. The restoration of optimal circulation and normalizing muscle tone is an important component treating these patients. The cervical region of the body is typically highly sensitive and plays a large role in the patient's sense of emotional and physical 'well-being.' The tape is an effective and efficient tool to create a sense of support and stability to this often hyper-mobile and chronically guarded region. Postural sense is an important part of the rehabilitation of this region as well. Half the postural receptors are located in the upper cervical segments. The use of taping to alter postural control and muscle firing has in recent years become more readily appreciated. The inter relationship between skin receptors and the deeper muscle and joint receptors is an important relationship to consider as one chooses treatment strategies for any region in the body. Tape lasts well beyond the 45-minute treatment session and can continually calm and support the traumatized and nociceptively bombarded region of dysfunction.

"[Taping] has also been extremely helpful in restoring postural sense and [scapular control](#) for the upper quarter in the neck or shoulder patients. The ability to assist thoracic extension and scapular retraction and depression is significant in these patients. Additional tape placed on the long cervical extensions (applied in lengthened position) assists to relax these often hypersonic and compressive muscles. This has especially been beneficial in the post-whiplash patients where the myofascia and discs are disrupted or strained and therefore perpetuate muscle guarding and reversal of the normal cervical lordosis."

## References

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