

Kinesio Taping®: An Overview of Use With Athletes, Part II

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The purpose of this second report is to provide examples of specific Kinesio Taping (KT) techniques for treatment of active individuals with tissue inflammation, pain, or muscular weakness. Because KT certification programs exist, health care providers are advised to complete a program to obtain knowledge and understanding of the various techniques.

Kinesio Taping Techniques

A variety of techniques may relieve pain. I-shaped KT application is used for small areas, such as the teres minor or rhomboid minor, whereas Y-shaped application is used for large areas, such as pectoralis major or deltoid, and X-shaped application is used for large and long areas, such as the biceps muscle or triceps muscle. Depending on the shape and size of the targeted muscles and desired treatment, alteration in basic application techniques is sometimes appropriate, including the use of multiple strips and/or combined application techniques (see Figures 1 & 2).

For optimal tape adherence, the skin should be dry (without lotion or oil present) and hair should be shaved. KT anchors should be applied at both margins of the targeted treatment area, with 1-inch to 2-inch tape width. The anchors should be applied to the skin without tension, because it has been found to cause skin irritation. The desired level of tape tension should be generated after the base anchor is secured to the skin. Communication with the patient is essential to determine which KT technique is most effective. Commonly used taping techniques will be described

to provide some examples of KT applications, which may be adapted for other body areas and other musculoskeletal injuries.

Decreased Inflammation and Pain

KT is applied without tension from a muscle's insertion to its origin when the purpose to decrease inflammation and pain. The joints spanned by the muscle are displaced in a manner that stretches the muscle while the tape is applied. This KT method creates corrugations in the skin that overlies the muscle when neutral positioning of the joints spanned by the muscle is assumed.¹ An increase in the interstitial space between the skin and underlying connective tissues may promote circulation, lymphatic drainage, and tissue nutrition.² The skin corrugations might also reduce discomfort associated with swelling in the soft tissues beneath the skin. The convolutions of the skin increase the interstitial space by pulling the skin away from the muscular and connective tissues allowing for greater flow of venous and lymphatic fluids (Figure 1).

For example, when an athlete has an acute gastrocnemius strain, KT would be applied with the muscle maintained in a stretched position (dorsiflexion). With the patient in a prone position, the knee flexed to 90°, and full dorsiflexion of the ankle joint, the I-shaped technique is applied first, followed by the Y-shaped technique (Figure 2). A skin corrugation effect will be produced when the gastrocnemius assumes its resting length.

The same technique may also be used for the paraspinal muscles. With the patient in a forward

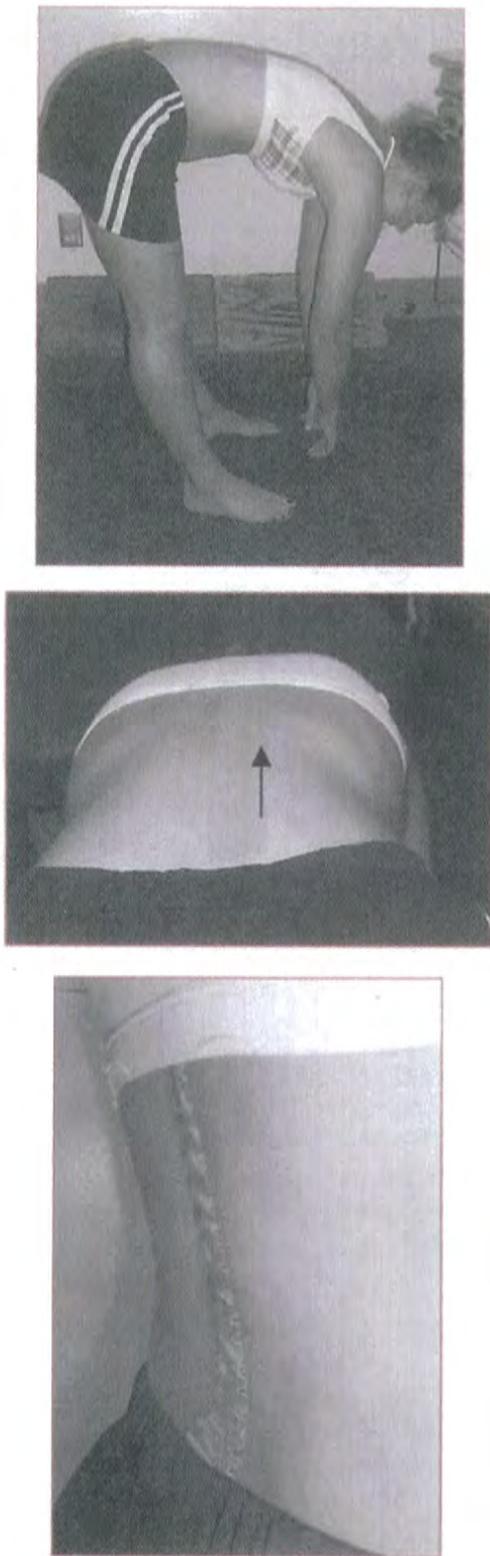


Figure 1 KT technique for creation of skin corrugation.

flexed position, tape is applied in a distal to proximal direction without tape tension (Figure 1). Once the patient assumes an upright posture, skin corrugation

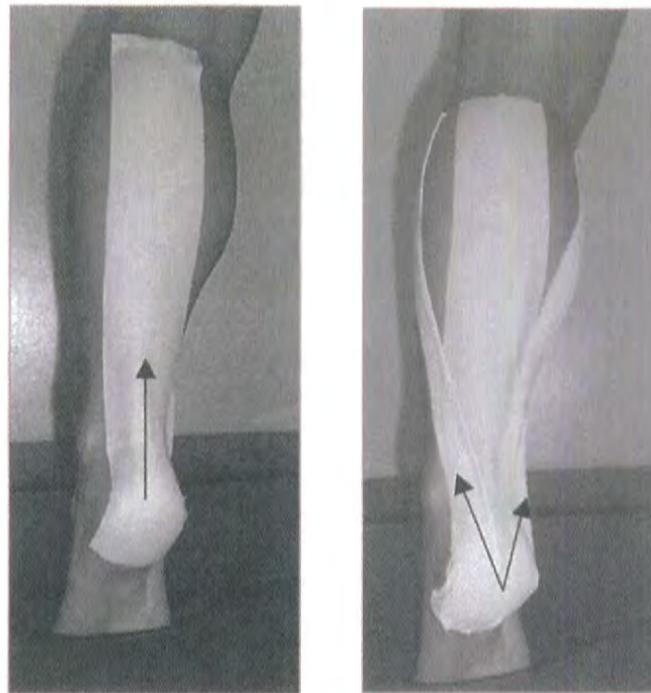


Figure 2 KT for gastrocnemius strain.

is created. Communication with the patient during tape application is essential, so that adjustments can be made on the basis of the patient's feedback.

Muscular Support

In the presence of muscle weakness, especially when joints or ligaments are injured, KT should be applied with medium to maximum tape tension, while maintaining a functional joint position during tape application. This KT application technique can also limit excessive muscle elongation that contributes to pain.³ For example, an unstable scapula can be supported through the application of KT to the coracobrachialis or biceps (short head), thereby normalizing glenohumeral motion.⁴ Scapular repositioning and stabilization may reduce a number of symptoms, such as pain, headache, numbness, difficulty with head rotation, and fatigue of the eyes.¹

KT applied with slight tension from the origin to the insertion of a muscle (approximately 15% stretch of the tape) is believed to enhance joint range of motion in the presence of muscle weakness.⁵ For example, a strain at the origin of the anterior deltoid muscle might be treated by anchoring the tape at the deltoid, splitting the tape around the muscle with the Y technique while applying approximately 15% tension and then

anchoring the tape again at the muscle insertion (Figure 3). This light-tension KT technique may facilitate contraction of the injured muscle.



Figure 3 KT for hamstring weakness

Another possible clinical application of KT is its potential for facilitation of muscle strengthening. The Y technique should be used for rehabilitation of a hamstring strain (muscle belly of the short head of the biceps femoris). The tape should be applied from the origin to the insertion of the hamstring muscle, splitting the tape at the knee joint. Light tension (15%) should be applied to the tape between the anchors while the hamstring is maintained in a slightly stretched position (Figure 3). Following application, the tape contracts, thus providing support to the weakened musculature during movements of the joints that it spans.

Rehabilitation

Kinesio Taping is considered a safe technique that has minimal side effects,¹ which may facilitate musculoskeletal rehabilitation by reducing discomfort. Furthermore, KT can provide support to musculoskeletal structures.

KT is a unique and noninvasive approach to treatment of musculoskeletal injuries. The various KT techniques must be practiced to develop the skills necessary for its effective utilization. Prior to utilizing KT techniques, an athletic trainer or therapist should complete a KT certification program. ■

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