

Kinesio Taping technique and Kinesio Tex

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Abstract

Kinesio Taping is a method of application of a special tape, adhesive and elastic, which imitates the qualities of the skin. Taping tape is named Kinesio Tex, is made of cotton with acrylic adhesive and it applies directly on skin, on affected muscle length and/or around some joints depending on affection, having the quality of not modifying the biomechanical movement and to facilitate the blood and lymphatic circulation of the respective area. It is easily supported on skin/by skin, reduces the pain and swelling, lets the skin to breathe, can be worn 3 to 5 days continuously, and a roll can be used for 6 to 10 applications. The method can be used for the majority of affections of the locomotion system and not only; can be used by anyone at any age. Development of the technique started at the Olympic Games in Seoul, 1988, being used by athletes. At this moment the tape is recommended and used frequently by the doctors and athletes from Japan, USA, Europe, South America, Australia and other Asian countries. Kinesio Taping technique should be applied under the advice of a practitioner, the efficient results are going to be obtained only by correct appliance in different situations.

Key words: *Kinesio Taping, Kinesio Tex tape*

Rezumat

Kinesio Taping-ul este o metodă de aplicare a unei benzi speciale, adezive și elastice, care imită calitățile pielii. Banda de taping se numește Kinesio Tex, este făcută din bumbac cu adeziv acrilic și se aplică direct pe piele, pe lungimea mușchilor afectați și/sau în jurul unor articulații în funcție de afecțiune, având calitatea de a nu modifica biomecanica mișcărilor și de a facilita circulația sanguină și limfatică în zona respectivă. Este ușor de suportat pe piele, reduce durerea și tumefacția, permite pielii să respire, poate fi purtată 3-5 zile continuu, iar o rolă poate fi folosită pentru 6-10 aplicații. Metoda poate fi folosită pentru majoritatea afecțiunilor sistemului locomotor și nu numai; poate fi folosită de către oricine, la orice vârstă. Dezvoltarea tehnicii a început odată cu Jocurile Olimpice de la Seul din 1988 prin folosirea ei, în special, de către sportivi. La ora actuală, banda este recomandată și folosită frecvent de către medicii și sportivii din Japonia, Statele Unite ale Americii, țări din Europa, America de Sud, Australia și din alte țări asiatice. Tehnica de Kinesio Taping ar trebui aplicată sub ghidarea/sfatul unui practician, rezultate eficiente obținându-se doar prin aplicarea corectă în diferitele situații.

Cuvinte cheie: *Kinesio Taping, banda Kinesio Tex*

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Kinesio Taping technique and Kinesio Tex tape were developed by Dr. Kenzo Kase in Japan, in 1973. Before finding the Kinesio Taping method he realised that the standard method of athletic taping provided muscle and joint support, but it reduced the range of motion and in many cases opposed to the proces of healing of the traumatized tissue. Their use started the same time with the Olympic Games in Seoul, 1988. For a continous increase, Dr. Kase funded the International Association of Kinesio Taping. At the moment there are over 20 associations in the whole world (1).

Kinesio Taping is a method of taping different parts of the human body, with a special designed tape, used to hold the muscles of a limb or joints without restricting the circulation or the movement of that part of the body.

Taping technique is a method which uses a special elastic tape applied on the skin, to keep muscles or joints in a certain posture. It reduces pain and helps the recovery of the segment. Usually is used for athlets, to help recovery of the overused muscles and other injuries.

The role of taping

Is has multiple uses like holding the ligaments and ligaments capsules of the instable joints by limiting the abnormal anatomical movements or the excessive ones. Also improves the feedback proprioceptivity of segments or joints (2).

Kinesio Tex tape is a special tape made for Kinesio Taping technique. It is recognised by beeing the only tape that meets the requirements for the Kinesio Taping technique.

Kinesio Tex tape is made of full cotton very elastic and thin. It has an acrylic adhesive which can be activated by friction and does not contain medication. It can be worn from 3 to 5 days and is warterproof one hour after applying it.

Kinesio taping can be used in many situations like: TMJ Dysfunction, Headaches, Torticollis, Shoulder Impingement/Subluxation, Rotator Cuff Tear, Bicipital Tendonitis, Tennis/Golfers Elbow, Compartment Syndrome, Forward Shoulder, Foot Drop, Herniated Disk, Sciatica, Low Back Sprain/Strain, Sacroiliac Sprain/Strain, Piriformis Syndrome, Quadriceps Strain, Toe Cramps, Sprained Ankle, Meniscus Tear, Osteoarthritis of Knee, Calf Cramps, Plantar Fascitis, Post Operative/Traumatic Oedema, Hamstring Strain, Headaches (Migraine), Frozen Shoulder. (3)

Principles of application

This technique can be applied to relax mucles or to stimulate muscles.

To relax tired or overused mucles the tape will be applied from the insertion of the muscle to origin.

Scientific explanation of Kinesio Tex tape uses the:

Principle of taping: Consists in use of the healing mechanisms inside the human body which can influence pozitive the efficiency of the method by removing the postinjury barriers. Taping is based on manipulation of the soft tissue to improve the benefit of the manual therapy administrated in a physical therapy center or in the athletic training room. The results were increased fluidity into the affected area, a better control of the muscle contraction, reduced pain and faster healing. This effect is given and coordinated by the nervous system by stimulating especialy the sensory motor system.



Figure 1. Kinesiotaping materials (1)

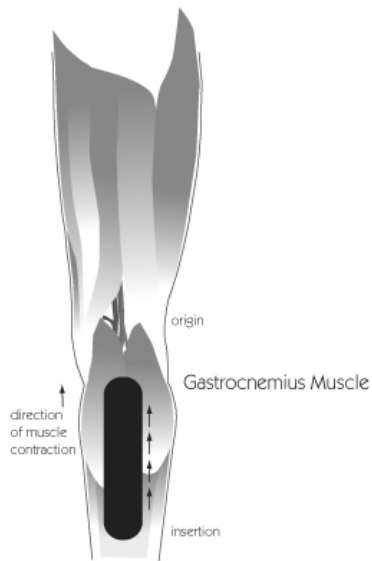


Figure 2. For muscle relaxation the Kinesio Tex tape must be applied from insertion of the muscle to origin (4)



Figure 3. To stimulate weak or underused muscles the tape will be applied from origin to insertion of the muscle (4)

We present in the following figures some of the most common techniques used in kinesiotaping:

- Carpel Tunnel Syndrome (5)



- Cervical Stiffness-Support (6)



- Low Back Pain (7)



- Shoulder Instability (8)



- Patella Pain Syndrome (9)



Indications

It is indicated to reduce the pain by the effect had on the sensitive receptors in skin that are stimulated specifically in movement. By applying the tapes is activated the spinal inhibitory system and the descending inhibitory system to reduce the pain. This theory supports the fact that proprioceptive peripheral nerve fibers are a fast way of conducting information into the spinal nerves by gelatinous substance. Results that the pain control might be given by another sensitive receiver.

Circulatory and lymph systems

Lymphatic drainage system contains both superficially and deeply vessels which can be filled in as a response of the local inflammation. The advantage of taping is that it makes the mechanical connection of the anchoring filaments and the endothelial cells. Thanks to the elastic qualities of the tapes, the lymphatic channels can be "opened" creating characteristic convolutions on the tape. Also the elastic propriety of the tapes provides a gentle massage when the body is in movement.

Application allows lymph a better circulation lowering the pression created locally.

The pressure is modified and the movement of the skin opens and closes the lymphatic vessels by their filament attachments. Application of the tapes stimulates the movement of edema from the level of the lymphatic superficial vessels and reduces the heat, improving circulation and regaining the normal sensation.

The elastic tapes, once applied correctly, help to minimize contraction of the fascia in case of an injury of the soft tissue or helps reorganize the fascia during chronic injury.

The elastic properties of the tapes copy and stimulate the fiber function of the muscle and tendon. Golgi tendon organ is specialised in mechanical receptors that appear at the muscle tendon junctions. Stimulating Golgi organ from tendon by direct pressure has an effect on the muscular contraction being also responsible for the muscular tension control in movement. Because of this process the correct application of the tapes can lead to the neuronal control of body movement. The joint function can be improved by proprioceptive stimulation from joint by application of the tape over the ligaments. Proprioceptors from ligaments and capsular joint give information to the nervous system, which allows the musculoskeletal system to provide a movement as complete as possible of the injured joint. (10)

Kinesio Taping is not limited to the Olympic Games. Its popularity grew up after 50.000 rolls were donated and it was seen in 2008 Beijing Summer Games. Few of the athletes that used this technique are Serena Williams, David Beckham, Keri Walsh, Lance Armstrong.

Kinesio Tex tape is very different from the traditional athletic tape or McConnell tape. Traditional athletic

tape is rigid, is used for acute and preventive injuries, it is applied before starting an activity and is removed after that activity. It can cause joint, muscle and skin compression, or skin irritation. McConnell Taping is a strapping method using a rigid adhesive cotton tape, used for shoulder subluxation, lumbar, foot, and hip impingement, patellofemoral syndrome. It is applied for less than 15 hours because of the skin reaction and its suffocating and constricting feel. Both methods affect biomechanical movement and restrict the range of motion.

Kinesio Taping method gives full motion and does not affect the biomechanical movement, it is safe to skin and can be used at all ages. It can be worn from 3 to 5 days and is water resistant one hour after application and it can be used almost for all clinical conditions. (11)

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