СУЧАСНІ ПРОБЛЕМИ ФІЗИЧНОГО ВИХОВАННЯ І СПОРТУ

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THE USE OF KINESIO TAPE IN SPORTS PRACTICE

There is always a risk of injury in sports due to increasing physical activity. Therefore, providing well-timed qualified assistance, preventing the development of overstrain, and prophylaxis of sports injuries are important issues among athletes. Sports medicine has many methods that can help an athlete get treatment and recover for further athletic achievement.

One of the modern methods of sports medicine is kinesiotaping. This method is to apply a specific elastic adhesive tape to the skin, stimulating it to create conditions for the return of the injured tissue to homeostasis by stimulating various systems in the body. It is significantly increasing its popularity among sports professionals.

Japanese specialist Ken-zo Kase proposed this technique in 1973. Its mass introduction to the practice of sports medicine and international recognition this unique method has received after the 1988 Olympic Games in Seoul (Kasatkin, Achkasov & Dobrovol'skiy, 2015).

Over the past two decades, several research projects have examined the impact of Kinesio Taping on the large number of musculoskeletal functions (Tieh-Cheng Fu, Alice M.K. Wong, Yu-Cheng Pei, Katie P. Wu, Shih-Wei Chou & Yin-Chou Lin, 2008; Aytar, Ozunlu, Surenkok, Blataci, Oztop & Karatas, 2011; Mostafavifar, Wert & Borchers, 2012; Hlynyana & Buts′, 2018).

The purpose of this paper is to find out the effectiveness of the impact of the kinesiotherapy method in sports practice.

Tape is a specific elastic and adhesive strip, which was created to mimic the skin's properties in terms of flexibility, weight and thickness. The skin has great potential for modulating the human body's perception of the locomotor circuit; it has a significant number of exteroception receptors responsible for transmitting afferent information to the central nervous system. Thus, the Kinesio Tapping method was developed to obtain and restore the full range of

motion, and in some cases, according to the developer, even increase in performance.

There are several types of tapes: hard, sporty, kinesiotape. The use of kinesiotherapy, in comparison with others, allows full joint movement of the athlete, promotes lymphatic drainage, relieves edema and hematomas, removes myofascial restrictions. Stretches 140% of the original length. The structure of the tape allows using it from three to ten days not only in dry conditions, but also in water (Kasatkin, Achkasov & Dobrovol'skiy, 2015).

The main physiological effects of kinesiotherapy are considered by specialists (Klyuykov, 2009) to reduce pain and intracellular pressure; muscle maintenance; elimination of stagnation; correction of biomechanics.

In sports medicine kinesiotherapy is used as an independent method and in the complex treatment in the following cases: prevention of sports injuries; post-traumatic pain syndromes of the joints of the upper and lower extremities; bruises of the soft tissues of the trunk, upper and lower extremities; stretching of the joints of the upper and lower extremities (Primeneniye original'nogo kinezioteypirovaniya pri travmakh i zabolevaniyakh (Instruktsiya po primeneniyu, 2010).

Previous clinical studies give grounds to confirm the ability of kinesiotherapy to improve the process of rehabilitation of patients with traumatological, neurological, orthopedic profile, prevent recurrent athletes' injuries (Nagornaya, Nogas & Brega, 2016).

During the research, a number of specialists concluded that kinesiological taping improves microcirculation, maintains myofascial functions and relaxes the tissues. Kinesio Tape exhibits analgesic properties in the retention of muscle pain (Briem, Eythorsdottir, Magnúsdóttir, Pálmarsson, Rúnarsdottir T. & Sveinsson, 2011; Achkasov, Belyayeva, Kasatkin & dr., 2017).

Experts have also proved the expediency of carrying out preventive and therapeutic measures aimed at increasing the outflow of lymph and venous blood by kinesitherapy. Thus, kinesiotherapy allows the body to mobilize personal forces to improve healing through support, stabilization of muscles, joints and ligaments, and increased space for the circulation of intracellular fluid, blood and lymph (Kasatkin, Achkasov & Dobrovol'skiy, 2015).

Depending on the area of application of the kinesiological tape, the usage of the technique and the degree of tension, it is possible to regulate the muscle tone by activating the tendon-muscle organ Golgi and receptor apparatus of muscular spindles and either completely relax the damaged spasmodic muscle, or stimulate the optimal work of muscle spindles (Hlynyana & Buts′, 2018).

Scientists (Murray & Husk, 2014) studied the effect of kinesioplication on proprioception of the ankle. They concluded that kinesioplication for lateral extension of the ankle improves proprioceptive ability in weightless positions in the mid-range of motion of the ankle when the mechanoreceptor ligaments were inactive.

The Kinesio Tape can enhance the athlete's postural control system and facilitate their earlier return to activity (Lephart, Pincivero, Giraldo & Fu, 1997).

Kinesiotherapy technique is useful for reducing postoperative pain, swelling, and improving knee extension in the early postoperative rehabilitation period (Donec & Krisciunas, 2014).

The specifics of the tape overlay is particular. They can be used both in the unstretched form and in the stretched form.

In the first method, before the tapes application, the damaged muscle and skin are stretched. And after applying tapes, the skin, muscles and ligaments return to their original position. Thus, the skin rises above the muscles and ligaments, thereby improving lymphatic drainage. In another way, the teapot is stretched before applying. Due to the elasticity of the tapes after application reduces and maintains the injured area. This creates additional pressure that stimulates the nerve receptors and the pain subsides.

Properly applied kinesiotherapy application does not limit the athlete's movement.

Some experts suppose that, in addition to the amazing popularity of kinesio taping, it does not have a beneficial effect on the clinical conditions of traumatized patients (Mostafavifar, Wert & Borchers, 2012).

In 12 studies involving 495 participants, the efficacy of Kinesio Taping on shoulder pain in two trials, knee pain in three trials, chronic low back pain in two trials, neck pain in three trials, plantar fascia was tested tests, and multiple musculoskeletal disorders in one trial. In general, Kinesio Taping was no better than false tape / placebo (Parreira, Costa, Junior, Lopes & Costa, 2014).

The aim of the study was to determine the effect of kinesioaplication on pain, strength, joint sensation, and equilibrium in patients with patellofemoral pain syndrome (PFPS). In addition to the significant effect on quadriceps strength, this study failed to indicate improvement in pain, balance, and joint sensation. Therefore, the use of kinesiotherapy to reduce pain or enhance the feeling of joint position in PFPS is not an effective treatment method compared with placebo-kinesiotherapy. Therefore, the use of kinesiotherapy by the above scientists does not seem to be an effective method of treatment, a method of both reducing pain and improving the sense of joint position in patients with PFPS (Aytar, Ozunlu, Surenkok, Blataci, Oztop & Karatas, 2011).

The result of the study of the influence of kinesio lifting on muscle strength in quadriceps and hamstrings in healthy young athletes did not show a significant difference in muscle strength under three conditions: without pasting; immediately after gluing; 12 h after taping, which remains in situ.

The conclusion is that kinesio lifting does not enhance or inhibit muscle strength in healthy athletes. This finding contradicts the claim that the ribbon applied under tension in the direction of the muscle fibers facilitates the strength of the underlying muscle (Tieh-Cheng Fu, Alice M.K. Wong, Yu-

Cheng Pei, Katie P. Wu, Shih-Wei Chou & Yin-Chou Lin, 2008).

It should be noted that healthy subjects were used in studies that did not show a positive kinesio taping effect. However, this method was designed to restore tissue homeostasis, not to empower the body. In addition, most studies lack a kinesiotherapy specialist. Therefore, the use of non-professional taping technique can also lead to erroneous results.

Conclusions. Therefore, having analyzed the scientific and methodological literature on the problem raised, we can draw the following conclusions. The results of studies of the effectiveness of the method of kinesiotherapy are ambiguous. Nevertheless, Kinesio Taping is widely used in a large number of sports. Kinesiotherapy technique is advisable to use as an independent method of medical rehabilitation, as well as supplementation to basic therapy and other treatments for injured athletes. This method, when used reasonably with other treatments, guarantees the best results for use in sports practice. Athletes recognize his favorable influence, contributing to his popularity.

Prospects for further exploration in this direction will be related to the analysis of kinesiotherapy overlay technique.

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Мартинова Н. П. Використання кінезіотейпінгу в спортивній практиці

У статті розглянуто питання щодо ефективності використання методу кінезіотапінгу в практиці спортивної медицини. Цей метод полягає у нанесенні на шкіру конкретної еластичної клейкої стрічки, стимулюючи її до створення умов для повернення травмованої тканини до гомеостазу, стимулюючи різні системи в організмі. Це значно підвищує його популярність серед спортивних професіоналів. Ця методика була запропонована японським фахівцем Кен-зо Кассе в 1973 році. Цей унікальний метод отримав своє широке впровадження в

практику спортивної медицини та міжнародне визнання після Олімпійських ігор 1988 року в Сеулі. З'ясувалося, що за останні два десятиліття декілька дослідницьких проектів вивчали вплив кінезіотейпінгу на величезну кількість опорно-рухових функцій. Основною особливістю кінезіотейпінгу є терапія, спрямована на посилення руху, правильно нанесення кінезіострічки не перешкоджає руху, а в деяких випадках навіть збільшує їх продуктивність. Структура пластиру дозволяє використовувати його протягом декількох днів не тільки в сухих умовах, але і у воді. Дослідження показали, що фізіологічні ефекти кінезіоплівки – це зменшення болю та інтерстиціального тиску, підтримка м'язів; усунення скупчень; корекція біомеханіки. У спортивній медицині кінезіотерапія застосовується як самостійний метод, так і в комплексному лікуванні в таких випадках: профілактика спортивних травм, посттравматичні больові синдроми суглобів верхніх і нижніх кінцівок, травми м'яких тканин тулуба, верхніх та нижніх кінцівок, розтягнення суглобів верхніх і нижніх кінцівок. Вважається, що правильно накладена аплікація кінезіотейпу не обмежує рух спортсмена. Деякі фахівці припускають, що окрім дивовижної популярності кінезіотейпінг не сприятливо впливає на клінічні умови травмованих пацієнтів. Застосування кінезіотейпу для зменшення болю або посилення відчуття положення суглоба при пателлофеморальному больовому синдромі не є ефективним методом лікування в порівнянні з плацебо-кінезіотейпом. Зроблено висновок, що результати досліджень ефективності використання методу кінезіотейпування неоднозначні. Але кінезіотейпінг широко застосовується у значній кількості видів спорту. Цей метод при розумному використанні разом з іншими способами лікування гарантують найкращі результати для використання у спортивній практиці. Спортсмени визнають його сприятливий вплив, сприяючи його популярності.

Ключові слова: кінезіотейпінг, спортивна травма, реабілітація, профілактика травматизму.

Мартынова Н. П. Использование кинезиотейпинга в спортивной практике

В статье рассмотрена эффективность использования метода кинезиотейпинга в практике спортивной медицины. Этот метод заключается в нанесении на кожу конкретной эластичной клейкой ленты, стимулируя ее к созданию условий для возвращения травмированной ткани к гомеостазу, стимулируя различные системы в организме. Это значительно повышает его популярность среди спортивных профессионалов. Эта методика была предложена японским специалистом Кен-со Кассе в 1973 году. Этот уникальный метод получил свое широкое внедрение в практику спортивной медицины и международное признание после Олимпийских игр 1988 года в Сеуле. Выяснилось, что за последние два десятилетия несколько исследовательских проектов

изучали влияние Kineso Taping на огромное количество опорно-двигательных функций. Основной особенностью кинезиотапинга является терапия, направленная на усиление движения, правильное нанесение ленты не препятствует движению, а в некоторых случаях даже увеличивает их производительность. Структура пластыря позволяет использовать его в течение нескольких дней не только в сухих условиях, но и в воде. Исследования показали, что физиологические эффекты кинезиотейпов – это уменьшение боли и интерстициального давления, поддержка мышц; устранения скоплений; коррекция биомеханики. В спортивной медицине кинезиотерапия применяется как самостоятельный метод, так и в комплексном лечении в следующих случаях: профилактика спортивных травм, посттравматические болевые синдромы суставов верхних и нижних конечностей, травмы мягких тканей туловища, верхних и нижних конечностей, растяжение суставов верхних и нижних конечностей. Считается, что правильно наложенная аппликация кинезиотейпа не ограничивает движение спортсмена. Некоторые специалисты предполагают, что кроме удивительной популярности кинезиитейпинг не благоприятно влияет на клинические условия травмированных пациентов. Применение кинезиотейпирования для уменьшения боли или усиление чувства положения сустава при пателлофеморальному болевом синдроме не является эффективным методом лечения по сравнению с плацебо-кинезиотейпом. Сделан вывод, что результаты исследований эффективности использования метода кинезиотейпирования неоднозначны. Но кинезиотейпинг широко применяется в значительном количестве видов спорта. Этот метод при разумном использовании вместе с другими способами лечения гарантируют наилучшие результаты для использования в спортивной практике. Спортсмены признают его благоприятное воздействие, способствуя его популярности.

Ключевые слова: кинезиотейпинг, спортивная травма, реабилитация, профилактика травматизма.

Martynova N. The use of Kinesio Tape in Sports Practice

The effectiveness of the use of Kinesio Tape method in the practice of sports medicine are discussed in the article. This method consists in applying a specific elastic adhesive tape to the skin, stimulating it to create conditions for the return of injured tissue to homeostasis by stimulating various systems in the body. It significantly increases its popularity among sports professionals. This technique was proposed by the Japanese specialist Ken-zo Kasse in 1973. This unique method received its widespread introduction into sports medicine practice and international recognition after the Olympic Games in 1988 in Seoul. It turned out that over the past two decades, several research projects have studied the effect of Kineso Taping on a huge number of musculoskeletal functions. The main feature of kinesiotaping is therapy, aimed at increasing movement, correctly applied kinesio tape application does not hinder

movement, and in some cases even increases their performance. The structure of the patch allows you to use it for several days, not only in dry conditions, but also in water. Studies have shown that the physiological effects of kinesio tape are reduction of pain and interstitial pressure, muscle maintenance; elimination of congestion; correction of biomechanics. In sports medicine, kinesiotherapy is used both as an independent method and in complex treatment in the following cases: prevention of sports injuries, post-traumatic pain syndromes of the joints of the upper and lower extremities, soft tissue injuries of the trunk, upper and lower extremities, sprain of the joints of the upper and lower extremities. It is believed that properly applied kinesiotherapy application does not restrict the athlete's movement. Some experts suggest that, in addition to the amazing popularity of kinesiotherapy, it does not have a beneficial effect on the clinical conditions of injured patients. The use of kinesiotherapy to reduce pain or enhance the feeling of joint position in patellofemoral pain syndrome is not an effective treatment compared to placebo-kinesiotherapy. It is concluded that the results of studies on the effectiveness of using the kinesiotaping method are ambiguous. However, the kinesio tape technique is widely used in sports medicine. Athletes recognize its beneficial effects, contributing to its popularity. Using this method wisely together with other methods of treatment, guarantee the best results for use in sports practice.

Key words: Kinesio Taping, sports injury, rehabilitation, injury prevention.

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