

63 - IMPLEMENTATION OF TECHNICAL SPIRAL TAPING IN REDUCING PAIN IN ATHLETES COMPLAINANTS PARTICIPATING UNIVERSITY CATARINENSE 2008 GAMES

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INTRODUCTION

All athlete participant in a competition if it's a good physical performance to reach the best income, for it must prepare for this moment. Even with good physical preparation, this may end up seized by physiological or traumatic injuries leading to a decline in productive during the event, causing a stressful factor for their own health.

Authors suggest that positive income in a team is directly related to individuals who are part of it. When the time comes for a competition, whatever level that is, the physical condition can guarantee part of the result to be obtained. On the other hand, several are the factors that really can interfere as intrinsic and extrinsic factors.

The mode chosen is a generator of factors that can be correlated with higher incidence of injuries due to complexity of movement involving the locomotor apparatus. If the mode is direct physical contact these factors potentially increase.

You can identify as example a competition of basketball in the blink of an eye, in a movement of preparation or attempt to offset can occur a occlusion alveolar, suggesting the need to use a buccal Protector for athletes.

Muscle Injuries such as fractures, partial or total, sprains, dislocations, neurological trauma, sudden bad and among other complications competitivadas guiding activities.

The goal of this study was to assess subjectively perceived pain resulting from injury of University athlete tissue before and after applying the technique spiral taping before the discomfort. According to Hardy & Grace apud Chiappa (2001, p. 85) "athletes and practicing physical exercises that are attacked by a lesion, follow a process often consists of five phases which include: a) denial, b) anger, c) negotiation, d) depression, and acceptance".

The application of technical spiral taping in individuals that seek income pain relief proposes allowing the athlete feel more comforted, easing the State on discomfort come from, occasioned by contractures, sprains, inflammations musculotendinous junction, among others. Technique does not propose the re establishment of locomotor diseases functions because the pain is reduced but the injury continues with its severity in need of specialized care.

To Douglas (2000, p. 583) pain refers to a mode of sensation produced by tissue damage, as occurs in inflammation or the potentiality of an imminent damage which evokes displeasure: represents a biological phenomenon that usually results in the deletion of the subject of activity that can be participating in, except in situations of overshoot, in this case the inflammatory process can generate an even greater damage.

The spiral taping is a technique that proposes the treatment of injuries from the use of collage of tapes spiral shaped prepared against muscle pains and swellings joint, resulting in a simple and fast recovery from injury and the overall balance of the organism (TANAKA, 2007).

According to Hadda & Bonn (2007, PG. 43) "the sensation of pain is achieved by stimuli of nociceptores (...) and we can reduce them in three instances: 1-2-terminal area, in the passage of his stimulus by column, 3-in the brain".

Another important milestone in the saga of pain control was the discovery that stimulation of sensory fibers large type A β , from tactile receptors can dampen the peripheral, signal painful (GUYTON & HALL, 1997).

Aware that the decrease in pain can benefit both at equilibrium physical as psychological, is present the relationship of perception and pain suppression with really simple tools to well-being.

METHODS

The population was comprised of athletes participating University Catarinense Games 2008 held in the city of Jaraguá do Sul, Santa Catarina, and counted with a sample of 34 individuals of both sexes, aged 18 to 29 years, event participants in different sports, who reported pain mio-articulate irrationality in sport of this sporting event.

The group that participated in the search took as characteristic intentionality, in this case only those individuals who were prepared, and that reported some kind of pain. Group was informed that his participation was subject to the criteria for participation of Resolution 196/96 on survey of living beings.

Before technical procedures with the spiral taping guy was informed about the features of the search and if authorised their participation. Only after savvy, intervention procedures were performed.

The data were obtained, as already mentioned, during the games University Catarinense 2008, between days 1 to 3 may in the city of Jaraguá do Sul-SC. in this case the researchers were moving between sporting environments and had as a source of support technicians and other specialists who reported possible discomforts occurring in their athletes.

The subject was identified by the participant sport practiced, age and sex. After this procedure of identification of the athlete and before applying the technique, was carried out an assessment of pain with muscle testing and employment of perceived pain scale CR-10 (Table 1) proposed by the Borg.

Borg (2000) reports that the meaning of pain is given mainly by subjective reactions of each individual, their perceptions sensórias, experiences, emotions, memories and ideas.

After applying the technique spiral taping the same tests were used and the athlete can report the decrease perceived pain or not.

The material used for the technique was to tape bandage type because it is low cost and hipoalérgica. The applications were arranged in the form of cross taping (a grid consisting of three parallel stripes, and four transversal overlapping strips and they will), roll taping (narrow tape with a maximum of 5 mm width) in pain or surrounding areas, in order to reduce the sensation of pain. The skin was prepared through a hygienisation performed with WAD of cotton wool soaked gently with hydrated ethanol 92.8 ° and where necessary will be partial removal of hair with the judicious disposable trimming.

Table 01 – Subjective Scale of pain-Borg

Subjective Scale of pain CR-10		
0	Absolutely nothing	"no pain"
0,3		
0,5	Extremely weak	"only noticeable"
1	Very weak	
1,5		
2	Weak	Lightweight
2,5		
3	Moderate	
4		
5	Strong	Intense
6		
7	Very strong	
8		
9		
10	Extremely strong	"D max"
11		
...		
.	Absolute maximum	The most intense possible

After applying the tape, the athlete received guidance on possible adverse effects of material or technique employed, as well as intolerance to duct tape. Among them we highlight: 1- reactive hyperemia, 2-decrease seedcoat and then increase the pain limit found before application 3-comissuras generating discomfort. For these cases confirmed, the athlete was instructed to withdrawal of tape gently and wash the skin with water and neutral soap.

The data collected were organized into a database in Excel spreadsheet for Windows and after adjusting were treated statistically using the Statistical Package for Social Sciences (SPSS) 16.0 for Windows. We used descriptive statistics with measures of tendency and dispersion as well as the Student t-test for dependent samples, adopting two-sided test and significance level $p < 0.05$.

ANALYSIS OF RESULTS

The study evaluated 34 individuals being 28 (82.4%) males and six 17.6% female. The average age was 21.5 (dp = 3.0) years. All investigated and submitted to the application of the technique we have: handball (44.1%), volleyball (23.5%), futsal (14.7%), basketball (8.8%) and Judo (8.8%).

The average result of perception of pain reported from the scale of pain in pre-and post-test, was thus described: pre-Summit application, the average score that stayed in 4.6 ± 2.12 CR-10 scale. This result was obtained between the reference values which scale is scaled, as appears in tab. 1. For postgraduate application the average score reduced to 1.7 ± 1.68 CR-10 scale. Succeeded the average decline of sensation of pain will 67.4% will search in individuals subjected ($p < 0.05$).

Individual perception by modality (tab. 2), it was possible to realize that pain reaction is obtained regardless of the sport and that one realizes the values obtained. Procedures not provided a number of subject expressive anyway could report result data with significance for this assertion ($p < 0.05$) in the test t student.

Sport handball, where sampling was greater unable to analyze data more smoothly, however, the perception of pain reduction was more significant, being reduced by 68.6% ($p = 0.000038$).

On the incidence of injuries by mode it is possible to say that: the knee in futsal focused by 40% the occurrence of pain, in handball 42%, 67% in judo and volleyball at 29%. But consider these data concerning the number of samples found in the universe searched and not competition.

When analysed by subject who suppressed the pain we got four subject (12%) than reported discomfort after undergoing á application and only one subject (3%) benefited from the technical proposal is the reduction or abolition of pain.

Analyzing the behavior of pain after applying the technique, we can say that its action is founded by the Treaty as the psycho-neurological theory pain or theory of floodgates.

For these findings we can take as a reference the sensory neurons by dividing them into four types: type a ($5a \ 20\mu m$), B ($3\mu m$), C ($0.5 \ 1\mu m$, nociceptores) and D ($1-7\mu m$). How we perceive, nociceptores are the smaller the gauge and, for this the hardest, most sensitive abstraction of stimulus. Taking into consideration that all protocols use placing porous on or near the site of pain, they are worth of this feature. (HADDAD & BONN, 2007).

The knee was the area that will most complained of pain assessment by the athletes (33%) and where there was greater employment of technique, the pre-application will post implementation success in the decline of the sensation of pain was 70% on individuals (tab. 3). The incidence of complaints from knee pain is justified according to the modality, mainly, handball that had the largest participation of volunteers. For being a contact mode, with large volume of offsets, waterfalls unforeseen favored incidence of plaintiffs.

Table 2 – reducing pain perception between the pre-application and graduate application

Modalities	No	Pre-Post difference%	one-tailed	Two-tailed
Basketball	3	90,0	0,0042	0,0085
Futsal	5	71,3	0,0018	0,0037
Handball	12	68,6	0,0000019	0,0000038
Judo	3	56,7	0,02860	0,0572
Volleyball	7	60,8	0,0073	0,0146

Table 3-Area or a member of the human body will application submitted

Area or Member	%	Area or Member	%
Knee	33,3	Fists	5,6
Shoulder	8,3	Elbow	2,8
Ankle	8,3	Forearm	2,8
Thigh	8,3	Triceps Femoral	2,8
Fingers of the Hand	2,8	Lumbar	2,8
Calves	5,6		

According to Hall (2000, page 183) the location of knee between the long bones of the lower extremity, along with its role of support makes it more susceptible to injuries in contact sports.

The application tape next or on the painful region seems to generate this stimulus to neurons nociceptores inhibiting the sensation of pain. Evidencing the theory Melzack & Wall apud Teixeira (2006, pag. 4), which reports about activation of interneuron gelatinous substances by large fibers caliber blocks the transfer of information from the primary afferent neurons to the back of the body of spinal grey (CPME), as well as the influences of afferent hyperpolarizing caliber thin.

Case by the decrease in pain with the technique, we can cite Kinoplich (2003) referring to the theory of floodgates as two important data on it: 1-pain can be controlled in various situations, by stimulating broad fibers obtained by massage or by electrical stimulation and acupuncture touch, warmth, etc.; 2-the pain can be modified by the central factors of development of control through specific training, e.g. through behavior modification suggestion, distraction, etc.

CONCLUSION

From data obtained and executed between pre and post implementation, it was possible to determine the employability of the technique with a satisfactory level of significance ($p < 0.05$). The technique spiral taping proved to be an effective method in intervention and management of reduction and removal of the sensation of pain in athletes attacked by injuries that occurred in the sport, this is noted by results, being that the pain was suppressed 67.4% of cases where complainants athletes. Justified the use of a resource applicable technical and low-cost, particularly in situations like the investigated.

It should be emphasized that the technique does not allows the athlete return activity sports but serves as a tool of relief to painful stricken event. Also you need to take into consideration that the degree of injury has to enable the use of the technique and that once used, the athlete must be forwarded to a specialist to arrange medical therapies.

BIBLIOGRAPHICAL REFERENCES

- BORG, G. **Escala de Borg para dor e esforço percebido**. São Paulo: Manole, 2000.
 CHIAPPA, G.R. **Fisioterapia nas lesões do voleibol: abordagem das principais lesões, seus tipos, fatores biomecânicos**. São Paulo: Robe, 2001.
 DOUGLAS, C.R. **Pato-fisiologia geral: mecanismo da doença**. São Paulo: Robe, 2000.
 GUYTON, A. C. & HALL, J. E. **Tratado de fisiologia médica**. 9. ed. Rio de Janeiro: Guanabara Koogan, 1997.
 HADDAD, C.R.S & BONA, M.G. **Terapia do esparadrapo**. 1. ed. Rio de Janeiro: Ibtet, 2007.
 HALL, S.J. **Biomecânica básica**. 3. ed. Rio de Janeiro, Guanabara Koogan, 1997.
 KNOPLICH, J. **Enfermidades da coluna vertebral: uma visão clínica e fisioterápica**. Robe, 3 ed, São Paulo, 2003.
 TANAKA, N. **O que é o spiral taping**. 4. ed. São Paulo: Spiral Taping do Brasil, 2007.
 TEIXEIRA, M.J. **Dor: Manual para o clínico**. São Paulo: Atheneu, 2006.

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TECHNICAL IMPLEMENTATION OF SPIRAL TAPING IN REDUCING PAIN IN ATHLETES COMPLAINANTS PARTICIPATING CATARINENSE UNIVERSITY GAMES 2008

ABSTRACT :

Sport when practiced through competitive exposes its individuals the threshold between yield and injury. In many cases the sport generates so singular, that are considered harmful effects to the expected yield. Search by techniques that minimize these grievances can be useful for the application in sports. The spiral taping is a technique of collage of tapes with therapeutic indeed in reducing pain, inflammatory processes, muscle relaxation and energy balance of the organism (TANAKA, 2007). The goal of this study was to assess subjectively perceived pain resulting from injury of athlete tissue before and after applying the technique spiral taping before the discomfort. The sample was comprised of 34 (28-82.4% male and female 06-17.6%) with an average age of athletes 21.5 ± 3.0 years, participants of the University of Santa Catarina Games 2008, which reported pain mio-articulate and agreed to participate in the study as the resolution 196/96. Was conducted an assessment of pain pre and post implementation with muscle testing through employment of perceived pain scale CR-10 proposed by Borg (2000). As results unable to determine that: in the application, the average score that stayed in 4.6 ± 2.12 and postgraduate application the average cut for 1.7 ± 1.68 CR-10 scale. Succeeded the average decline of sensation of pain will 67.4% in individuals. Conclusions: the technique spiral taping proved to be an effective method in intervention and management of reduction and removal of pain in athletes attacked by injuries in sport, being that the pain was suppressed in more than half of the athlete's complainants ($p < 0.05$). Thus keeping a conduct applicable and low cost in order to improve the health status of complainants. Noted that this is a stopgap measure requiring specialized interference.

KEY WORDS: Pain, Spiral Taping, College Athletes

MISE EN ŒUVRE DES TECHNIQUES SPIRAL TAPING EN RÉDUISANT LA DOULEUR DANS ATHLÈTES PARTICIPANT JEUX REQUERANT CATARINEBSE UNIVERSITÉ 2008**RÉSUMÉ:**

La recherche de techniques qui minimisent ces blessures peuvent être utiles pour une application dans le sport. Le bandage en spirale est une technique de collage de rubans adhésifs à des fins médicales, avec effet dans la réduction de la douleur, l'inflammation, la relaxation musculaire et l'équilibre énergétique du corps (Tanaka, 2007). L'objectif de cette étude était d'évaluer la perception subjective de la douleur résultant d'une lésion des tissus de l'athlète avant et après l'application de la technique du ruban adhésif en spirale de l'inconfort. L'échantillon se composait de 34 (de 28 à 82,4% de 06 à 17,6% féminin et masculin) les athlètes ayant un âge moyen de $21,5 \pm 3,0$ années, les participants au Santa Catarina Jeux de 2008 de l'Université, qui ont signalé des douleurs myo-articulaire et accepté de participer à l'étude conformément à la Résolution 196/96. Une évaluation de la douleur et de post-traitement avec des tests musculaires grâce à l'utilisation de la échelle CR-10 de douleur perçue proposé par Borg (2000). En conséquence, il a été déterminé que: la pré-candidature, le score moyen qui était à $4,6 \pm 2,12$ et moyenne de l'après-mise en œuvre a diminué à $1,68 \pm 1,7$ dans l'échelle CR-10. Il a succédé à la diminution moyenne de la sensation de douleur sera de 67,4% chez les individus. Conclusions: La technique enregistrement spirale s'est avéré être une intervention efficace et la gestion de la dépression et la suppression de la douleur chez les athlètes souffrant de blessures sportives, et la douleur a été réduite de plus de la moitié des athlètes plaignants ($p < 0,05$). Ainsi, le maintien d'une bonne conduite applicables et abordables afin d'améliorer l'état de santé des plaignants. Il convient de noter qu'il s'agit d'une mesure d'urgence nécessitant une intervention spécialisée.

MOTS-CLÉS: Douleur, Bandage en Spirale, Athlètes de Niveau Collégial.

TÉCNICAS DE APLICACIÓN QUE GRABA EN LA REDUCCION DE LA ESPIRAL DEL DOLOR EN DEPORTISTAS PRATICANTES DENUCIANTE JUEGOS UNIVERSITARIOS CATARINESE 2008**RESUMEN:**

La búsqueda de técnicas que reduzcan al mínimo este tipo de lesiones puede ser útil para su aplicación en los deportes. La grabación de caracol es una técnica de cintas adhesivas para uso médico vinculación con efecto en la reducción del dolor, la inflamación, la relajación muscular y el equilibrio de energía del cuerpo (Tanaka, 2007). El objetivo de este estudio fue evaluar la percepción subjetiva del dolor como resultado de lesión de los tejidos de los atletas antes y después de la aplicación de la técnica de grabación en espiral de la incomodidad. La muestra consistió de 34 (28 a 82,4% 06 a 17,6% mujeres y hombres) atletas con una edad media de $21,5 \pm 3,0$ años, los participantes en los Juegos de 2008 Santa Catarina Universidad, que informaron dolor mio-articulares y aceptaron participar en el estudio de acuerdo a la Resolución 196/96. Una evaluación del dolor y después de la aplicación con la prueba muscular mediante el uso de la escala CR-10 de dolor percibido propuesto por Borg (2000). Como resultado se determinó que: la pre-solicitud, la puntuación media que fue de $4,6 \pm 2,12$ y la media posterior a la ejecución disminuyó a $1,68 \pm 1,7$ en la escala CR-10. Se logró la disminución promedio en la sensación del dolor será un 67,4% en los individuos. Conclusiones: La técnica de grabación espiral demostrado ser una intervención eficaz y el manejo de la depresión y la supresión del dolor en los atletas que sufren de lesiones deportivas, y el dolor fue suprimida por más de la mitad de los atletas querellantes ($p < 0,05$). Por lo tanto el mantenimiento de una conducta aplicables y aseguibles con el fin de mejorar la situación sanitaria de los denunciantes. Cabe señalar que se trata de una medida provisional que requiere intervención especializada.

PALABRAS CLAVE: Dolor, Graba en Espiral, Atletas Universitarios

APLICAÇÃO DA TÉCNICA SPIRAL TAPING NA DIMINUIÇÃO DA DOR EM ATLETAS QUEIXOSOS PARTICIPANTES DOS JOGOS UNIVERSITÁRIO CATARINENSE 2008**RESUMO:**

O esporte quando praticado por meio competitivo expõe os seus indivíduos ao limiar entre o rendimento e a lesão. Em muitos casos o esporte gera, de forma singular, efeitos que são considerados nocivos ao rendimento esperado. A busca por técnicas que minimizam esses agravos podem ser uteis para a aplicação no meio esportivo. O spiral taping é uma técnica de colagem de fitas adesivas com fins terapêuticos com efeito na diminuição da dor, processos inflamatórios, relaxamento muscular e equilíbrio energético do organismo (TANAKA, 2007). O objetivo desse estudo foi avaliar subjetivamente a percepção da dor resultante de uma lesão tissular do atleta antes e após a aplicação da técnica de spiral taping diante do desconforto. A amostra foi composta de 34 (28-82,4% masculino e 06-17,6% feminino) atletas com idade média de $21,5 \pm 3,0$ anos, participantes dos Jogos Universitários Catarinense 2008, que relataram dor mio-articular e concordaram em participar do estudo conforme a Resolução 196/96. Foi realizada uma avaliação da dor pré e pós-aplicação com testes musculares por meio do emprego da escala de dor percebida CR-10 proposta por Borg (2000). Como resultados foi possível determinar que: na pré-aplicação, a média de escore referido ficou em $4,6 \pm 2,12$ e pós-aplicação a média reduziu para $1,7 \pm 1,68$ na escala CR-10. Conseguiu-se a diminuição média da sensação de dor á 67,4% nos indivíduos. Conclusões: A técnica spiral taping mostrou-se um método eficaz na intervenção e manejo da diminuição e supressão da dor em atletas acometidos por lesões no esporte, sendo que a dor foi suprimida em mais da metade dos atletas queixosos ($p < 0,05$). Mantendo assim uma conduta aplicável e de baixo custo no intuito de melhorar o estado de saúde dos queixosos. Salienta-se que esta é uma medida paliativa necessitando da interferência especializada.

PALAVRAS CHAVE: Dor, Spiral Taping, Atletas Universitários