

JAVIER GONZÁLEZ-IGLESIAS, PT¹ • CÉSAR FERNÁNDEZ-DE-LAS-PEÑAS, PT, PhD² • JOSHUA CLELAND, PT, PhD³
 PETER HUIJBREGTS, PT, MSc, DPT, OCS, FAAOMPT, FCAMT⁴ • MARIA DEL ROSARIO GUTIÉRREZ-VEGA, PT¹

Short-Term Effects of Cervical Kinesio Taping on Pain and Cervical Range of Motion in Patients With Acute Whiplash Injury: A Randomized Clinical Trial

Whiplash injuries or whiplash-associated disorders (WADs) often occur with motor vehicle accidents.³ The Quebec Task Force adopted the following definition of whiplash: “Whiplash is an acceleration-deceleration mechanism of energy transfer to the neck. It may result from rear-end or side-impact motor vehicle collisions, but can also occur during diving or other mishaps. The impact may result in bony or soft tissue injuries (whiplash), which in turn may lead to a variety of clinical manifestations (whiplash-associated disorders).”¹⁹ The incidence rate varies across different studies and countries, but it may be as high as 677 per 100 000 habitants.⁴ While it has



- **DESIGN:** Randomized clinical trial.
- **OBJECTIVES:** To determine the short-term effects of Kinesio Taping, applied to the cervical spine, on neck pain and cervical range of motion in individuals with acute whiplash-associated disorders (WADs).
- **BACKGROUND:** Researchers have begun to investigate the effects of Kinesio Taping on different musculoskeletal conditions (eg, shoulder and trunk pain). Considering the demonstrated short-term effectiveness of Kinesio Tape for the management of shoulder pain, it is suggested that Kinesio Tape may also be beneficial in reducing pain associated with WAD.
- **METHODS AND MEASURES:** Forty-one patients (21 females) were randomly assigned to 1 of 2 groups: the experimental group received Kinesio Taping to the cervical spine (applied with tension) and the placebo group received a sham Kinesio Taping application (applied without tension). Both neck pain (11-point numerical pain rating scale) and cervical range-of-motion data were collected at baseline, immediately after the Kinesio Tape application, and at a 24-hour follow-up by an assessor blinded to the treatment allocation of the patients. Mixed-model analyses of variance (ANOVAs) were used to examine the effects of the treatment on each outcome variable, with group as the between-subjects variable and time as the within-subjects variable. The primary analysis was the group-by-time interaction.
- **RESULTS:** The group-by-time interaction for the 2-by-3 mixed-model ANOVA was statistically significant for pain as the dependent variable ($F = 64.8$; $P < .001$), indicating that patients receiving Kinesio Taping experienced a greater decrease in pain immediately postapplication and at the 24-hour follow-up (both, $P < .001$). The group-by-time interaction was also significant for all directions of cervical range of motion: flexion ($F = 50.8$; $P < .001$), extension ($F = 50.7$; $P < .001$), right ($F = 39.5$; $P < .001$) and left ($F = 3.8$, $P < .05$) lateral flexion, and right ($F = 33.9$, $P < .001$) and left ($F = 39.5$, $P < .001$) rotation. Patients in the experimental group obtained a greater improvement in range of motion than those in the control group (all, $P < .001$).
- **CONCLUSIONS:** Patients with acute WAD receiving an application of Kinesio Taping, applied with proper tension, exhibited statistically significant improvements immediately following application of the Kinesio Tape and at a 24-hour follow-up. However, the improvements in pain and cervical range of motion were small and may not be clinically meaningful. Future studies should investigate if Kinesio Taping provides enhanced outcomes when added to physical therapy interventions with proven efficacy or when applied over a longer period.
- **LEVEL OF EVIDENCE:** Therapy, level 1b. *J Orthop Sports Phys Ther* 2009;39(7):515-521. doi:10.2519/jospt.2009.3072
- **KEY WORDS:** cervical spine, neck, taping, WAD

¹Clinical Consultant, Centro de Fisioterapia Integral, Candas, Asturias, Spain. ²Professor, Department of Physical Therapy, Occupational Therapy, Rehabilitation and Physical Medicine, Universidad Rey Juan Carlos, Alcorcón, Madrid, Spain; Clinical Researcher, Esthesiology Laboratory of Universidad Rey Juan Carlos, Alcorcón, Spain. ³Professor, Department of Physical Therapy, Franklin Pierce University, Concord, NH; Physical Therapist, Rehabilitation Services, Concord Hospital, NH; Faculty, Manual Therapy Fellowship Program, Regis University, Denver, CO. ⁴Assistant Professor, Online Education, University of St Augustine for Health Sciences, St Augustine, Florida; Clinical Consultant, Shelbourne Physiotherapy Clinic, Victoria, British Columbia, Canada. The protocol for this study was approved by The Human Research Committee of the Escuela de Osteopatía de Madrid. Address correspondence to César Fernández de las Peñas, Facultad de Ciencias de la Salud, Universidad Rey Juan Carlos, Avenida de Atenas s/n, 28922 Alcorcón, Madrid, Spain. E-mail: cesar.fernandez@urjc.es

been reported that the majority of patients with a whiplash injury return to activities within 1 week of their injury, nearly 30% of patients continue to experience symptoms beyond 3 months, resulting in a considerable financial burden. Persistent pain and disability occur in up to 40% of those patients who experience WAD, and it is this group that incurs substantial costs.¹

Physical therapists often treat individuals with WAD, who most often report symptoms including neck pain and cervicogenic headaches.^{6,7,27} The Cochrane Review Group found that active interventions are more effective than passive interventions in the management of patients who had WAD.²⁵ Despite the conclusions made by the Cochrane Group that active approaches lead to an improved prognosis, many clinicians continue to utilize passive interventions in clinical practice to manage this patient population.²⁵ Limiting clinician treatment choices, some patients with WAD may not tolerate the application of some interventions, such as spinal manipulation or exercises.

One passive intervention used clinically in the management of patients with acute WAD is Kinesio Taping. Kinesio Taping was originally developed in Japan by Kase,¹⁴ and in recent years its use has become increasingly popular.¹⁵ The therapeutic effects of Kinesio Taping remain to be elucidated. However, it has been hypothesized that Kinesio Taping may exert its effects by (1) increasing local circulation, (2) reducing local edema by decreasing exudative substances, (3) improving circulation of blood by facilitating the muscle, (4) providing a positional stimulus to the skin, muscle, or fascial structures, (5) providing proper afferent input to the central nervous system, or (6) limiting range of motion of the affected tissues.¹⁴

Although physical therapists use Kinesio Taping in clinical practice, scientific evidence investigating its effectiveness is limited. A few published case reports provide preliminary evidence that Kinesio

Taping may be beneficial in treating acute patellar dislocations,¹⁸ as well as ankle,¹⁷ shoulder,¹⁰ and trunk pain.²⁸ But the results of a noncontrolled study conducted on healthy subjects showed that Kinesio Taping did not enhance proprioception of the ankle.¹¹ More recently, a randomized clinical trial was published that reported on the response of patients with shoulder pain to a real or sham Kinesio Tape application.²³ In this study, Kinesio Taping immediately improved pain-free active shoulder range of motion but not shoulder pain (visual analogue scale) or disability (Shoulder Pain and Disability Index).²³ However, to date, no studies have evaluated the effects of Kinesio Taping in patients with neck pain. The purpose of this study was to compare the short-term effects of a Kinesio Taping application to the cervical spine versus placebo tape application on both neck pain and cervical range of motion in patients with acute WAD.

METHODS

Participants

CONSECUTIVE PATIENTS REPORTING neck pain as a result of a motor vehicle accident within 40 days of the injury, referred by their primary care physician to a physical therapist between June 2007 and October 2008, were screened for eligibility criteria. Patients were eligible if they met the Quebec Task Force Classification of WAD II—neck pain symptoms and musculoskeletal signs (eg, restriction of range of motion)—but without evidence of conduction loss on clinical neurological examination.¹⁹ Patients were excluded if they experienced a concussion during the motor vehicle accident, loss of consciousness, or head or upper quadrant injury during the accident, had sought treatment prior to their accident for neck pain, reported a previous history of whiplash, neck pain, headaches, psychiatric or psychologic condition, were affected by any neurologic or circulatory disorders, were affected by other somatic condition (eg, fibromyalgia syndrome),

or had a current claim for litigation or compensation. The study protocol was approved by the Escuela de Osteopatía de Madrid local human research committee (EOM 2007/41). All subjects signed an informed consent prior to participation in the study.

Study Protocol

Patients were informed to not take any analgesic or anti-inflammatory drugs for 72 hours prior to the study. Patients completed self-report measures and received a standardized history and physical examination by an experienced therapist. Demographic data, including age, gender, medical history, and location and nature of the symptoms, were collected. Patients also completed the Neck Disability Index (NDI) to measure self-perceived disability.²⁶ The NDI consists of 10 questions addressing functional activities such as personal care, lifting, reading, work, driving, sleeping, and recreational activities, as well as pain intensity, concentration, and headache.²⁶ There are 6 potential responses for each item, ranging from no disability (0) to total disability (5). The NDI is scored from 0 to 50, with higher scores corresponding to greater disability.²⁶ The NDI has been frequently used in studies investigating the disability levels in patients with WAD.²⁰⁻²²

The outcome measures for this study consisted of a numerical pain rating scale (NPRS) and cervical range-of-motion measurements. The NPRS¹² (0, no pain; 10, maximum pain) was used to record the patient's current level of neck pain. Although admittedly determined in patients with low back pain, a 2-point reduction on the 11-point NPRS has been shown to be the minimal clinically important difference.⁸ Cervical range of motion was assessed with the patient sitting comfortably on a chair, with both feet flat on the floor, hips and knees at 90° of flexion, and buttocks positioned against the back of the chair. A cervical range-of-motion (CROM) device was placed on the top of the head, and the patient was asked to move the head as

far as possible without pain in a standard fashion: flexion, extension, right lateral flexion, left lateral flexion, right rotation, and left rotation. Three trials were conducted for each direction of movement, and the mean values of the 3 trials were recorded for analysis. Reliability testing of the CROM device in previous studies indicates intraclass correlation coefficients ranging from 0.66 to 0.94.^{5,9} Both pain and cervical range-of-motion data were collected at baseline, immediately after the Kinesio Tape application, and at a 24-hour follow-up by an assessor blinded to the treatment allocation of the patients. Patients were blinded to the treatment allocation, as they had had no previous treatment with Kinesio Tape. This was confirmed by all patients reporting that they were unaware of their group assignment at the end of the study.

Allocation

Following the baseline examination, patients were randomly assigned to receive Kinesio Taping to the cervical spine (experimental group) or a placebo Kinesio Tape application (sham group). Concealed allocation was performed using a computer-generated randomized table of numbers, created prior to the start of data collection by a researcher not involved in the assessment or treatment of patients. Individual, sequentially numbered index cards with the random assignment were prepared. The index cards were folded and placed in sealed opaque envelopes. A second therapist, blinded to baseline examination findings, opened the envelope and proceeded with treatment according to the group assignment. All patients received the Kinesio Tape application the day after the initial examination by the primary author, a certified Kinesio Tape practitioner, who was blinded to patient information.

Kinesio Tape Application

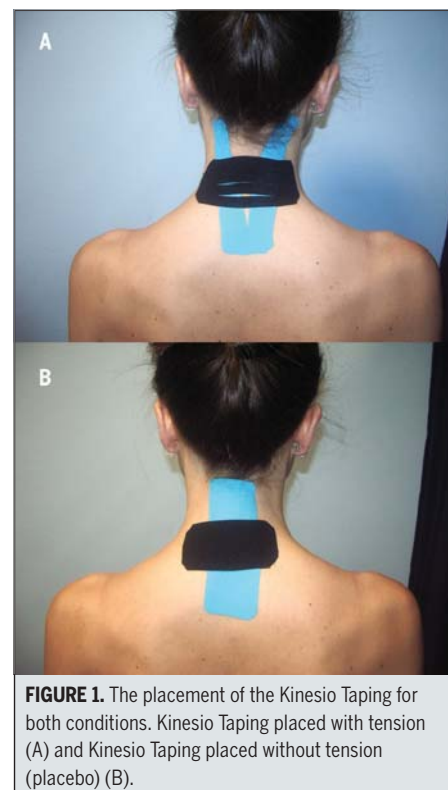
The tape (Kinesio Tex Tape; Kinesio Holding Corporation, Albuquerque, NM) used in this study was waterproof, porous, and

adhesive. Tape with a width of 5 cm and a thickness of 0.5 mm was used in both groups. The experimental group received a standardized therapeutic Kinesio Tape application (**FIGURE 1A, ONLINE VIDEO**). The first layer was a blue Y-strip placed over the posterior cervical extensor muscles and applied from the insertion to origin with paper-off tension. The paper-off tension tape is manufactured and applied to its paper backing with approximately 15% to 25% stretch.^{14,15} Patients were sitting for the application of the Kinesio Tape. Each tail of the first (blue) strip (Y-strip, 2-tailed) was applied with the patients' neck in a position of cervical contralateral side-bending and rotation. The tape was first placed from the dorsal region (T1-T2) to the upper-cervical region (C1-C2). The overlying strip (black) was a space-tape (opening) placed perpendicular to the Y-strip over the midcervical region (C3-C6), with the patients' cervical spine in flexion to apply tension to the posterior neck structures.

The sham group received a placebo Kinesio Tape application (**FIGURE 1B, ONLINE VIDEO**). The placebo taping consisted of 2 I-strips (same material as the real application), applied with no tension. For the placebo taping, the cervical spine of the participants was placed in a neutral position. The first/blue strip was placed over the spinous processes of the cervical and thoracic spine, and the second/black strip was placed perpendicular over the midcervical region. Both tape applications looked very similar, but the placebo group had no tension applied to the cervical structures.

Statistical Analysis

Data were analyzed with SPSS, Version 14.0. Key baseline demographic variables and scores on the self-report measures were compared between groups using independent *t* tests for continuous data and chi-square tests of independence for categorical data. Separate 2-by-3 mixed-model analyses of variance (ANOVAs) were used to examine the effects of treatment pain and cervical



range of motion (flexion, extension, rotation, or lateral-flexion), the dependent variables, with group (experimental or sham) as the between-subject variable and time (baseline, immediate post-treatment, and 24-hour follow-up) as the within-subject variable. The hypothesis of interest was the group-by-time interaction at an a priori alpha level equal to .05. If a significant interaction was identified on a variable, planned pairwise comparisons were performed to examine differences from baseline to each follow-up point between groups, to investigate if any between-group differences in change scores were statistically significant.

RESULTS

FIFTY-TWO CONSECUTIVE PATIENTS were screened for possible eligibility criteria. Forty-one patients (mean \pm SD age, 33 ± 7 years; 52% female) satisfied the eligibility criteria, agreed to participate, and were randomized into the real Kinesio Tape ($n = 21$) or the sham Kinesio Tape ($n = 20$) interven-

[RESEARCH REPORT]

tion. The reasons for ineligibility can be found in **FIGURE 2**, which provides a flow diagram of patient recruitment and retention. Baseline characteristics between

the groups were similar for all variables ($P > .40$) (**TABLE 1**).

The group-by-time interaction for the 2-by-3 mixed-model ANOVAs was statistically significant for neck pain as the dependent variable ($F = 64.8$; $P < .001$). Planned pairwise comparisons indicated that patients receiving the real Kinesio Taping intervention experienced greater reduction in neck pain immediately postapplication and at 24-hour follow-up (both, $P < .001$). The group-by-time interaction for the 2-by-3 mixed-model ANOVA was also statistically significant for all directions of the cervical range of motion: flexion ($F = 50.8$; $P < .001$), extension ($F = 50.7$; $P < .001$), right ($F = 39.5$; $P < .001$) and left ($F = 3.8$, $P < .05$) lateral flexion, and right ($F = 33.9$, $P < .001$) and left ($F = 39.5$, $P < .001$) rotation. Planned pairwise comparisons showed that patients in the experimental group obtained a greater improvement in cervical range of motion than those in the control group (all, $P < .001$). **TABLES 2** and **3** summarize within- and between-group differences, with associated 95% confidence intervals for immediate posttreatment and 24-hour follow-up for both pain and cervical range-of-motion measurements.

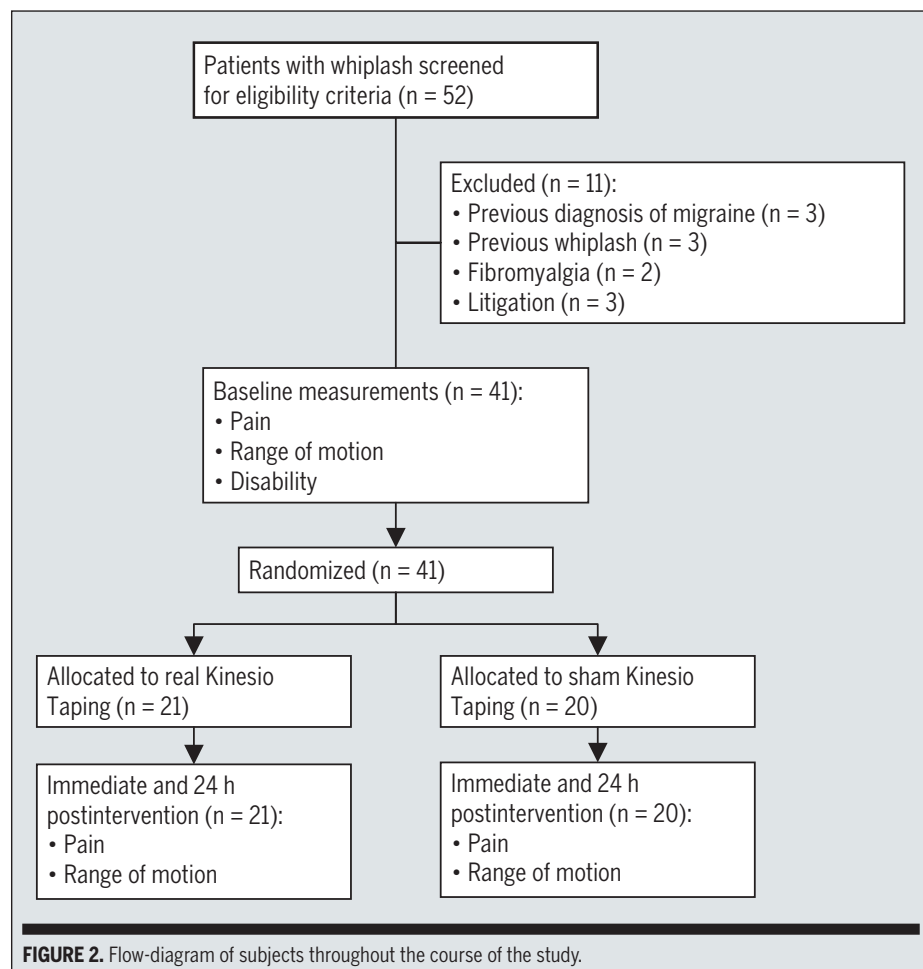


FIGURE 2. Flow-diagram of subjects throughout the course of the study.

DISCUSSION

THE RESULTS OF THE CURRENT STUDY demonstrated that patients with WAD who received Kinesio Taping exhibited statistically significantly greater improvements in neck pain and cervical range of motion both immediately following application of the tape and at a 24-hour follow-up, when compared to a group receiving a placebo nontensioned Kinesio Tape application. But these changes were small and possibly of minimal clinical significance. Our results agree with previous case series that also found a decrease in pain and improvement in range of motion after the application of Kinesio Taping.^{10,17,28} Further, the improvements in cervical range of motion demonstrated in the current study are similar in magnitude to those

TABLE 1

BASELINE DEMOGRAPHICS FOR BOTH GROUPS*

	Control Group	Experimental Group	P Values
Gender (male/female)	10/10	10/11	.912
Age (y)	32 ± 7	33 ± 6	.474
Days from accident (d)	24 ± 8	22 ± 9	.398
Neck pain [†]	4.2 ± 0.7	4.3 ± 0.9	.780
Neck Disability Index [‡]	29.0 ± 4.4	29.8 ± 3.5	.881
Cervical range of motion			
Flexion	56.6° ± 4.9°	55.8° ± 5.7°	.638
Extension	48.8° ± 4.7°	46.7° ± 8.3°	.458
Right lateral flexion	43.3° ± 4.6°	42.3° ± 5.1°	.574
Left lateral flexion	42.9° ± 4.1°	41.8° ± 3.7°	.457
Right rotation	55.2° ± 5.3°	56.1° ± 7.1°	.677
Left rotation	55.5° ± 5.9°	55.7° ± 6.9°	.886

* Data are mean ± SD except for gender. No difference between groups ($P > .40$).

[†] Measured with an 11-point numerical pain rating scale (0, no pain; 10, worst pain imaginable).

[‡] Range of score is 0 to 50, with higher scores indicating greater disability.

TABLE 2

BASELINE, IMMEDIATE POSTTREATMENT,
AND CHANGE SCORES FOR NECK PAIN
AND CERVICAL RANGE OF MOTION*

Outcome/Group	Baseline	Immediate Posttreatment	Within-Group Change Scores	Between-Group Difference in Change Scores
Pain (0-10 points)				-0.9 (-1.2, -0.7)
Experimental	4.3 ± 0.9	3.3 ± 0.9	-1.0 (-1.2, -0.8)	
Control	4.2 ± 0.7	4.1 ± 0.8	-0.1 (-0.2, 0.0)	
Cervical flexion (deg)				6.6 (5.3, 7.9)
Experimental	55.8 ± 5.7	60.7 ± 5.6	4.9 (3.9, 5.8)	
Control	56.6 ± 4.9	54.9 ± 4.7	-1.7 (-2.6, -0.7)	
Cervical extension (deg)				8.2 (6.2, 10.2)
Experimental	46.7 ± 8.3	54.9 ± 10.9	8.1 (6.2, 9.9)	
Control	48.8 ± 4.7	48.7 ± 4.4	-0.1 (-1.0, 1.0)	
Cervical right lateral flexion (deg)				5.4 (3.9, 7.0)
Experimental	42.3 ± 5.1	47.2 ± 5.6	4.9 (3.6, 6.1)	
Control	43.3 ± 4.6	42.7 ± 3.9	-0.6 (-1.6, 1.0)	
Cervical left lateral flexion (deg)				3.1 (1.0, 5.5)
Experimental	41.8 ± 3.7	44.5 ± 5.4	2.7 (1.0, 4.6)	
Control	42.9 ± 4.1	42.5 ± 3.5	-0.4 (-1.9, 1.2)	
Cervical right rotation (deg)				5.5 (3.7, 7.4)
Experimental	56.1 ± 7.1	61.1 ± 8.4	5.0 (3.5, 6.3)	
Control	55.2 ± 5.3	54.6 ± 3.4	-0.6 (-1.9, 1.0)	
Cervical left rotation (deg)				5.2 (3.5, 6.9)
Experimental	55.7 ± 6.9	59.9 ± 7.6	4.2 (2.8, 5.6)	
Control	55.5 ± 5.9	54.5 ± 6.4	-1.0 (-2.0, 0.0)	

* Values are expressed as mean ± SD for baseline and immediate posttreatment and as mean (95% confidence interval) for within- and between-group change scores.

less, a few hypotheses will be proposed to form the basis for possible future study into the mechanism of action for this intervention. In the current study, the main difference between interventions was the presence of tension in the Kinesio Tape for the experimental group compared to an absence of tension for those in the sham group. 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.^{14,15} 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.¹⁶ Further, because increased mechanical sensitization is a feature of patients with acute WAD,¹³ 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,²⁴ it may possible that the application of Kinesio Tape provides a proper sensory feedback to the patients, decreasing fear of movement, thus improving neck pain and range of motion. Future studies are needed to further elucidate the clinical effects, as well as mechanisms of action, of Kinesio Taping in patients with WAD.

There are a number of limitations of the current study that should be recognized. We used a sample of convenience from 1 clinic, which may not be representative of the entire population of patients with WAD. We only investigated the short-term results of Kinesio Tape application and, therefore, cannot make inferences relative to long-term effects. We did not include subjects currently in litigation, therefore we cannot generalize our result to a population with WAD that is seeking litigation. Further, therapists often use a multimodal approach to the management of patients with WAD and

found in a recent clinical trial by Thelen et al,²³ which investigated the effectiveness of Kinesio Taping in patients with shoulder pain. In the study by Thelen et al,²³ the Kinesio Tape immediately improved the patients' pain-free shoulder range of motion but had no effect on pain or function.

It should be recognized that although the difference between groups were statistically significant, they did not surpass the minimal clinically important difference for pain, which has been reported to be 2 points on a NPRS.⁸ Additionally, none of the differences between groups for improvements in cervical range of motion surpassed the minimal detectable change for the respective measurements.⁵ Minimum detectable change is defined as the amount of change that must be observed before the change can

be considered to exceed the measurement error.² Hence, despite our statistically significant between-group differences, the clinical effectiveness of Kinesio Taping for reducing pain and improving cervical range of motion may be difficult to establish on individual patients because the average expected change is less than the error attributed to repeated measurements. Nevertheless, the fact that we found a statistically significant reduction in neck pain and an increase in cervical range of motion provides impetus for future research in this area, because we only applied tape once and the follow-up was limited to 24 hours. We might expect greater effectiveness from multiple applications over a longer period.

Determining the mechanisms by which Kinesio Taping works is admittedly beyond the scope of this study. Neverthe-

TABLE 3

**BASILINE, 24-HOUR FOLLOW-UP,
AND CHANGE SCORES FOR NECK PAIN
AND CERVICAL RANGE OF MOTION***

Outcome/Group	Baseline	24-h Follow-up	Within-Group Change Scores	Between-Group Difference in Change Scores
Pain (0-10 points)				-1.1 (-1.5, -0.9)
Experimental	4.3 ± 0.9	3.2 ± 1.0	-1.1 (-1.5, -0.9)	
Control	4.2 ± 0.7	4.2 ± 0.8	0.0 (-0.1, 0.1)	
Cervical flexion (deg)				7.4 (5.3, 9.6)
Experimental	55.8 ± 5.7	60.6 ± 6.1	4.8 (3.2, 6.5)	
Control	56.6 ± 4.9	54.0 ± 4.1	-2.6 (-4.0, -1.1)	
Cervical extension (deg)				8.5 (6.1, 10.9)
Experimental	46.7 ± 8.3	54.9 ± 8.1	8.1 (6.2, 9.9)	
Control	48.8 ± 4.7	48.4 ± 4.2	-0.4 (-2.0, 1.2)	
Cervical right lateral flexion (deg)				5.8 (3.9, 7.6)
Experimental	42.3 ± 5.1	47.1 ± 5.3	4.8 (3.4, 6.2)	
Control	43.3 ± 4.6	42.3 ± 3.6	-1.0 (-2.3, 0.0)	
Cervical left lateral flexion (deg)				2.3 (0.2, 4.8)
Experimental	41.8 ± 3.7	44.1 ± 5.3	2.3 (0.5, 4.1)	
Control	42.9 ± 4.1	42.9 ± 2.6	0.0 (-1.9, 1.9)	
Cervical right rotation (deg)				6.1 (4.0, 8.3)
Experimental	56.1 ± 7.1	60.9 ± 8.0	4.8 (3.2, 6.5)	
Control	55.2 ± 5.3	53.9 ± 4.2	-1.3 (-2.8, 0.0)	
Cervical left rotation (deg)				4.1 (2.4, 5.9)
Experimental	55.7 ± 6.9	58.7 ± 8.8	3.0 (1.7, 4.5)	
Control	55.5 ± 5.9	54.4 ± 5.5	-1.1 (-2.2, 0.0)	

* Values are expressed as mean ± SD for baseline and 24-hour follow-up, and as mean (95% confidence interval) for within- and between-group change scores.

ceiving an application of Kinesio Taping exhibited statistically significant improvements in pain levels and cervical range of motion immediately following application of the Kinesio Tape and at a 24-hour follow-up. However, the improvements were small and may not be clinically meaningful.

IMPLICATIONS: The results of this study provide preliminary evidence for the application of Kinesio Taping in the management of patients with acute WAD.

CAUTION: We used a relatively small sample size and a single application of tape, with follow-up limited to 24 hours. Also, the generalizability of the results should be interpreted with caution as all patients were treated by the same therapist.

REFERENCES

1. Barnsley L, Lord S, Bogduk N. Whiplash injury. *Pain*. 1994;58:283-307.
2. Beaton DE, Bombardier C, Katz JN, et al. Looking for important change/differences in studies of responsiveness. OMERACT MCID Working Group. Outcome Measures in Rheumatology. Minimal Clinically Important Difference. *J Rheumatol*. 2001;28:400-405.
3. Berglund A, Alfredsson L, Jensen I, Bodin L, Nygren A. Occupant- and crash-related factors associated with the risk of whiplash injury. *Ann Epidemiol*. 2003;13:66-72.
4. Cassidy JD, Carroll LJ, Cote P, Frank J. Does multidisciplinary rehabilitation benefit whiplash recovery?: results of a population-based incidence cohort study. *Spine*. 2007;32:126-131. <http://dx.doi.org/10.1097/01.brs.0000249526.76788.e8>
5. Cleland JA, Childs JD, Fritz JM, Whitman JM. Interrater reliability of the history and physical examination in patients with mechanical neck pain. *Arch Phys Med Rehabil*. 2006;87:1388-1395. <http://dx.doi.org/10.1016/j.apmr.2006.06.011>
6. Drottning M, Staff PH, Sjaastad O. Cervicogenic headache (CEH) after whiplash injury. *Cephalalgia*. 2002;22:165-171.
7. Eichberger A, Darok M, Steffan H, Leinzinger PE, Bostrom O, Svensson MY. Pressure measurements in the spinal canal of post-mortem human subjects during rear-end impact and correlation of results to the neck injury criterion. *Accid Anal Prev*. 2000;32:251-260.
8. Farrar JT, Young JP, Jr., LaMoreaux L, Werth JL, Poole RM. Clinical importance of changes in chronic pain intensity measured on an 11-point

would not solely use Kinesio Taping as an isolated intervention. The effects of Kinesio Taping, when used in combination with other interventions, cannot be deduced from the current study. We suggest that future studies investigate if Kinesio Taping enhances outcomes when added to interventions with already proven efficacy, such as active exercise.²⁵ Additionally, the possibility of a placebo effect of the tape must also be considered. Despite the intent of the sham application, the absence of a real control group that did not receive any tape intervention precludes ruling out changes secondary to passage of time or repeated testing. Finally, we used a washout period of only 72 hours for pain medication, which may not be enough time to effectively remove the effects of nonsteroid anti-inflammatory drugs. However, we would expect

that these effects would be consistent across groups.

CONCLUSION

PATIENTS WITH ACUTE WAD RECEIVING an application of Kinesio Taping exhibited statistically significant improvements in pain levels and cervical range of motion immediately following application of the Kinesio Tape and at a 24-hour follow-up. However, the improvements were small and may not be clinically meaningful. Future studies should investigate if Kinesio Taping provides enhanced outcomes when added to physical therapy interventions with proven efficacy. ●

KEY POINTS

FINDINGS: Patients with acute WAD re-

numerical pain rating scale. *Pain*. 2001;94:149-158.

9. Fletcher JP, Bandy WD. Intrarater reliability of CROM measurement of cervical spine active range of motion in persons with and without neck pain. *J Orthop Sports Phys Ther*. 2008;38:640-645. <http://dx.doi.org/10.2519/jospt.2008.2680>
10. Frazier S, Whitman J, Smith M. Utilization of Kinesio Tex Tape in patients with shoulder pain or dysfunction: a case series. *Advanced Healing*. 2006;Summer:18-20.
11. Halseth T, McChesney JW, DeBeliso M, Vaughn R, Lien J. The effects of kinesio taping on proprioception at the ankle. *J Sports Sci Med*. 2004;3:1-7.
12. Jensen MP, Turner JA, Romano JM, Fisher LD. Comparative reliability and validity of chronic pain intensity measures. *Pain*. 1999;83:157-162.
13. Kasch H, Qerama E, Kongsted A, Bach FW, Bendix T, Jensen TS. Deep muscle pain, tender points and recovery in acute whiplash patients: a 1-year follow-up study. *Pain*. 2008;140:65-73. <http://dx.doi.org/10.1016/j.pain.2008.07.008>
14. Kase K, Wallis J. The latest kinesio taping method. *Ski-Journal (Tokyo)*. 2002;
15. Kase K, Wallis J, Kase T. *Clinical Therapeutic Applications of the Kinesio Taping Method*. Tokyo, Japan: Ken Ikai Co Ltd; 2003.
16. Kneeshaw D. Shoulder taping in the clinical setting. *J Bodywork Movement Ther*. 2002;6:2-8.
17. Murray H, Husk L. Effect of kiestotaping on proprioception in the ankle [abstract]. *J Orthop Sports Phys Ther*. 2001;31:A37.
18. Osterhues DJ. The use of Kinesio Taping® in the management of traumatic patella dislocation. A case study. *Physiother Theor Pract*. 2004;20:267-270.
19. Spitzer WO, Skovron ML, Salmi LR, et al. Scientific monograph of the Quebec Task Force on Whiplash-Associated Disorders: redefining "whiplash" and its management. *Spine*. 1995;20:1S-73S.
20. Sterling M, Hodkinson E, Pettiford C, Souvlis T, Curatolo M. Psychologic factors are related to some sensory pain thresholds but not nociceptive flexion reflex threshold in chronic whiplash. *Clin J Pain*. 2008;24:124-130. <http://dx.doi.org/10.1097/AJP.0b013e31815ca293>
21. Sterling M, Jull G, Kenardy J. Physical and psychological factors maintain long-term predictive capacity post-whiplash injury. *Pain*. 2006;122:102-108. <http://dx.doi.org/10.1016/j.pain.2006.01.014>
22. Stewart M, Maher CG, Refshauge KM, Bogduk N, Nicholas M. Responsiveness of pain and disability measures for chronic whiplash. *Spine*. 2007;32:580-585. <http://dx.doi.org/10.1097/01.brs.0000256380.71056.6d>
23. Thelen MD, Dauber JA, Stoneman PD. The clinical efficacy of kinesio tape for shoulder pain: a randomized, double-blinded, clinical trial. *J Orthop Sports Phys Ther*. 2008;38:389-395. <http://dx.doi.org/10.2519/jospt.2008.2791>

24. Vangronsveld KL, Peters M, Goossens M, Vlaeyen J. The influence of fear of movement and pain catastrophizing on daily pain and disability in individuals with acute whiplash injury: a daily diary study. *Pain*. 2008;139:449-457. <http://dx.doi.org/10.1016/j.pain.2008.05.019>
25. Verhagen AP, Scholten-Peeters GG, van Wijngaarden S, de Bie RA, Bierma-Zeinstra SM. Conservative treatments for whiplash. *Cochrane Database Syst Rev*. 2007;CD003338. <http://dx.doi.org/10.1002/14651858.CD003338.pub3>
26. Vernon H, Mior S. The Neck Disability Index: a study of reliability and validity. *J Manipulative Physiol Ther*. 1991;14:409-415.
27. Walz FH, Muser MH. Biomechanical assessment of soft tissue cervical spine disorders and expert opinion in low speed collisions. *Accid Anal Prev*. 2000;32:161-165.
28. Yoshida A, Kahanov L. The effect of kinesio taping on lower trunk range of motions. *Res Sports Med*. 2007;15:103-112. <http://dx.doi.org/10.1080/15438620701405206>



MORE INFORMATION
WWW.JOSPT.ORG

PUBLISH Your Manuscript in a Journal With International Reach

JOSPT offers authors of accepted papers an **international audience**. The *Journal* is currently distributed to the members of APTA's Orthopaedic and Sports Physical Therapy Sections and **14 orthopaedics, manual therapy, and sports groups in 13 countries** who provide online access as a member benefit. As a result, the *Journal* is now distributed monthly to more than **30 000 individuals around the world** who specialize in musculoskeletal and sports-related rehabilitation, health, and wellness. In addition, *JOSPT* reaches students and faculty, physical therapists and physicians at more than **1,400 institutions in 55 countries**. Please review our Information for and Instructions to Authors at www.jospt.org and submit your manuscript for peer review at <http://mc.manuscriptcentral.com/jospt>.

This article has been cited by:

1. Francisco Selva, Alberto Pardo, Xavier Aguado, Ignacio Montava, Luis Gil-Santos, Carlos Barrios. 2019. A study of reproducibility of kinesiology tape applications: review, reliability and validity. *BMC Musculoskeletal Disorders* 20:1. . [[Crossref](#)]
2. Mustafa Savaş Torlak, Bayram Sönmez Ünüvar, Osman Tüfekçi. 2019. ARTMIŞ TORASİK KİFOZU BULUNAN HASTALARDA KİNEZYU BANT UYGULAMASININ AĞRI VE YAŞAM KALİTESİ ÜZERİNE ETKİLERİ: RANDOMİZE KONTROLLÜ BİR ÇALIŞMA. *Türk Fizyoterapi ve Rehabilitasyon Dergisi* . [[Crossref](#)]
3. Yuejie Li, Ying Yin, Gongwei Jia, Hong Chen, Lehua Yu, Dandong Wu. 2019. Effects of kinesiotape on pain and disability in individuals with chronic low back pain: a systematic review and meta-analysis of randomized controlled trials. *Clinical Rehabilitation* 33:4, 596-606. [[Crossref](#)]
4. Daniela Ribeiro, Anabela G. Silva. 2019. A single session of visual feedback improves range of motion in patients with chronic idiopathic neck pain: A randomized and controlled study. *Musculoskeletal Care* 17:1, 72-78. [[Crossref](#)]
5. Marcin Grzes'kowiak, Zbigniew Krawiecki, Wojciech Łabe'dz', Jacek Kaczmarczyk, Jacek Lewandowski, Dawid Łochyn'ski. 2018. Short-Term Effects of Kinesio Taping® on Electromyographic Characteristics of Paraspinal Muscles, Pain, and Disability in Patients With Lumbar Disk Herniation. *Journal of Sport Rehabilitation* 1-11. [[Crossref](#)]
6. Anna Lina Rahlf, Klaus-Michael Braumann, Astrid Zech. 2018. Kinesio Taping Improves Perceptions of Pain and Function of Patients With Knee Osteoarthritis: A Randomized, Controlled Trial. *Journal of Sport Rehabilitation* 1-7. [[Crossref](#)]
7. Lin Yang, Jingyi Yang, Chengqi He. 2018. The Effect of Kinesiology Taping on the Hemiplegic Shoulder Pain: A Randomized Controlled Trial. *Journal of Healthcare Engineering* 2018, 1-7. [[Crossref](#)]
8. Gemma V. Espí-López, Marta Inglés, Andrea Cuello Ferrando, Pilar Serra-Año. 2018. Effect of Kinesio taping on clinical symptoms in people with fibromyalgia: A randomized clinical trial. *Journal of Back and Musculoskeletal Rehabilitation* 18, 1-7. [[Crossref](#)]
9. Inmaculada Conejo, Bella Pajares, Emilio Alba, Antonio Ignacio Cuesta-Vargas. 2018. Effect of neuromuscular taping on musculoskeletal disorders secondary to the use of aromatase inhibitors in breast cancer survivors: a pragmatic randomised clinical trial. *BMC Complementary and Alternative Medicine* 18:1. . [[Crossref](#)]
10. Yen-Ting Cho, Wen-Yen Hsu, Li-Fong Lin, Yen-Nung Lin. 2018. Kinesio taping reduces elbow pain during resisted wrist extension in patients with chronic lateral epicondylitis: a randomized, double-blinded, cross-over study. *BMC Musculoskeletal Disorders* 19:1. . [[Crossref](#)]
11. Francesca Borzi, Marta Szychlinska, Michelino Di Rosa, Giuseppe Musumeci. 2018. A Short Overview of the Effects of Kinesio Taping for Postural Spine Curvature Disorders. *Journal of Functional Morphology and Kinesiology* 3:4, 59. [[Crossref](#)]
12. Emre Ata, Murat Kösem, Emre Adiguzel. 2018. Does kinesiotaping increase the efficacy of lidocaine injection in myofascial pain syndrome treatment? A randomized controlled study. *Journal of Back and Musculoskeletal Rehabilitation* 151, 1-7. [[Crossref](#)]
13. Mohammad R. Pourahmadi, Rasool Bagheri, Elham Jannati, Ismail Ebrahimi Takamjani, Javad Sarrafzadeh, Holakoo Mohsenifar. 2018. Effect of Elastic Therapeutic Taping on Abdominal Muscle Endurance in Patients With Chronic Nonspecific Low Back Pain: A Randomized, Controlled, Single-Blind, Crossover Trial. *Journal of Manipulative and Physiological Therapeutics* 41:7, 609-620. [[Crossref](#)]
14. Andréa Baraldi Cunha, Carolina Daniel de Lima-Alvarez, Ana Carolinne Portela Rocha, Eloisa Tudella. 2018. Effects of elastic therapeutic taping on motor function in children with motor impairments: a systematic review. *Disability and Rehabilitation* 40:14, 1609-1617. [[Crossref](#)]
15. Thiago Vilela Lemos, José Roberto de Souza Júnior, Maikon Gleibyson Rodrigues dos Santos, Marlon Maia Noronha Rosa, Luiz Guilherme Cardoso da Silva, João Paulo Chieregato Matheus. 2018. Kinesio Taping effects with different directions and tensions on strength and range of movement of the knee: a randomized controlled trial. *Brazilian Journal of Physical Therapy* 22:4, 283-290. [[Crossref](#)]
16. Rodrigo Sousa Nilo de Araújo Aguiar, Silvia Regina Matos da Silva Boschi, Leandro Lazzareschi, Alessandro Pereira da Silva, Terigi Augusto Scardovelli, Eduardo Filoni, Ana Lúcia Manrique, Annie France Frère. 2018. The late effect of Kinesio Taping® on handgrip strength. *Journal of Bodywork and Movement Therapies* 22:3, 598-604. [[Crossref](#)]
17. M. Shah, P.O.O. Julu, J.A. Monroe, J. Coutinho, C. Ijeh, B.K. Puri. 2018. Neuromuscular taping reduces blood pressure in systemic arterial hypertension. *Medical Hypotheses* 116, 30-32. [[Crossref](#)]
18. María Carmen Puerma-Castillo, María Carmen García-Ríos, Marta Eloisa Pérez-Gómez, María Encarnación Aguilar-Ferrándiz, María Isabel Peralta-Ramírez. 2018. Effectiveness of kinesio taping in addition to conventional rehabilitation treatment on pain, cervical range of motion and quality of life in patients with neck pain: A randomized controlled trial. *Journal of Back and Musculoskeletal Rehabilitation* 31:3, 453-464. [[Crossref](#)]

19. Feng-Hua Tsai, I-Hua Chu, Chun-Hao Huang, Jing-Min Liang, Jia-Hroung Wu, Wen-Lan Wu. 2018. Effects of Taping on Achilles Tendon Protection and Kendo Performance. *Journal of Sport Rehabilitation* 27:2, 157-164. [[Crossref](#)]
20. Eman A. Mohamed, Fayiz F. El-Shamy, Hany Hamed. 2018. Efficacy of kinesiotape on functional disability of women with postnatal back pain: A randomized controlled trial. *Journal of Back and Musculoskeletal Rehabilitation* 31:1, 205-210. [[Crossref](#)]
21. Jin-Han Ouyang, Kwang-Hwa Chang, Wen-Yen Hsu, Yen-Ting Cho, Tsan-Hon Liou, Yen-Nung Lin. 2018. Non-elastic taping, but not elastic taping, provides benefits for patients with knee osteoarthritis: systemic review and meta-analysis. *Clinical Rehabilitation* 32:1, 3-17. [[Crossref](#)]
22. Yue Zhou, Eldon Loh, James P Dickey, David M Walton, Ana Luisa Trejos. 2018. Development of the circumduction metric for identification of cervical motion impairment. *Journal of Rehabilitation and Assistive Technologies Engineering* 5, 205566831877798. [[Crossref](#)]
23. Belinda Herde, Kathleen A. Stroia. Wrist and Hand Rehabilitation 327-357. [[Crossref](#)]
24. Olga Velasco-Roldán, Inmaculada Riquelme, Alejandro Ferragut-Garcías, Alberto Marcos Heredia-Rizo, Cleofás Rodríguez-Blanco, Ángel Oliva-Pascual-Vaca. 2018. Immediate and Short-Term Effects of Kinesio Taping Tightness in Mechanical Low Back Pain: A Randomized Controlled Trial. *PM&R* 10:1, 28-35. [[Crossref](#)]
25. Ivan P.H. Au, Pak Che Patricia Fan, Wang Yiu Lee, Man Wai Leong, Oi Yin Tang, Winko W. An, Roy T. Cheung. 2017. Effects of Kinesio tape in individuals with lateral epicondylitis: A deceptive crossover trial. *Physiotherapy Theory and Practice* 33:12, 914-919. [[Crossref](#)]
26. Antonia Zellner, Barbara Bockstahler, Christian Peham. 2017. The effects of Kinesio Taping on the trajectory of the forelimb and the muscle activity of the Musculus brachiocephalicus and the Musculus extensor carpi radialis in horses. *PLOS ONE* 12:11, e0186371. [[Crossref](#)]
27. Hsu-Sheng Shih, Shu-Shi Chen, Su-Chun Cheng, Hsun-Wen Chang, Pei-Rong Wu, Jin-Shiou Yang, Yi-Shuang Lee, Jui-Yi Tsou. 2017. Effects of Kinesio taping and exercise on forward head posture. *Journal of Back and Musculoskeletal Rehabilitation* 30:4, 725-733. [[Crossref](#)]
28. Heidi Preece, Peter White. 2017. Does kinesiology tape increase trunk forward flexion?. *Journal of Bodywork and Movement Therapies* 21:3, 618-625. [[Crossref](#)]
29. C.H. Gajardo Contreras, P.M. Caballero Moyano, C.A. Caparrós Manosalva, G.X. Correa Beltrán, C.A. Castro Salazar, I.A. Cabrera Aguilera. 2017. Comportamiento de la fuerza isométrica máxima durante la aplicación de vendaje neuromuscular en acortamiento de isquiotibiales: un ensayo clínico aleatorizado. *Fisioterapia* 39:3, 122-129. [[Crossref](#)]
30. Stefan Funk, Roy Finke, Stefan Zeh, Tobias Siebert, Christian Puta. 2017. Effects of a paraspinal-lumbar tape application during 7 days on the perceived area of tape contact. *Physical Therapy in Sport* 25, 89-93. [[Crossref](#)]
31. Aliaa Elabd, Abeer Ibrahim, Haytham Elhafez. 2017. Kinesio taping versus postural correction exercises on mechanically triggered neck dysfunction. *International Journal of Therapy and Rehabilitation* 24:4, 155-162. [[Crossref](#)]
32. Tae-Gyu Kim, Eun-Kuk Kim, Jong-Chul Park. 2017. Immediate Effects of Sports Taping Applied on the Lead Knee of Low- and High-Handicapped Golfers During Golf Swing. *Journal of Strength and Conditioning Research* 31:4, 981-989. [[Crossref](#)]
33. Amin Kordi Yoosefinejad, Alireza Motealleh, Shekoofeh Abbasalipur, Mahan Shahroei, Sobhan Sobhani. 2017. Can inhibitory and facilitatory kinesiotaping techniques affect motor neuron excitability? A randomized cross-over trial. *Journal of Bodywork and Movement Therapies* 21:2, 234-239. [[Crossref](#)]
34. Aliaa M. El-Abd, Abeer R. Ibrahim, Haytham M. El-Hafez. 2017. Efficacy of kinesiology tape versus postural correction exercises on neck disability and axioscapular muscles fatigue in mechanical neck dysfunction: A randomized blinded clinical trial. *Journal of Bodywork and Movement Therapies* 21:2, 314-321. [[Crossref](#)]
35. Joao Paulo Chieragato Matheus, Rafael Ribeiro Zille, Liana Barbaresco Gomide Matheus, Thiago Vilela Lemos, Rodrigo Luiz Carregaro, Antônio Carlos Shimano. 2017. Comparison of the mechanical properties of therapeutic elastic tapes used in sports and clinical practice. *Physical Therapy in Sport* 24, 74-78. [[Crossref](#)]
36. Karen A. Keenan, Jonathan S. Akins, Michelle Varnell, John Abt, Mita Lovalekar, Scott Lephart, Timothy C. Sell. 2017. Kinesiology taping does not alter shoulder strength, shoulder proprioception, or scapular kinematics in healthy, physically active subjects and subjects with Subacromial Impingement Syndrome. *Physical Therapy in Sport* 24, 60-66. [[Crossref](#)]
37. Kyung-Min Kim, Brandon Davis, Jay Hertel, Joseph Hart. 2017. Effects of Kinesio taping in patients with quadriceps inhibition: A randomized, single-blinded study. *Physical Therapy in Sport* 24, 67-73. [[Crossref](#)]
38. M.Á. Capó-Juan, A. Grávalos-Gasull, M. Bennasar-Veny, A. Aguiló-Pons, A. Gamundí-Gamundí, J.E. De Pedro-Gómez. 2017. Short term effectiveness of Pressure Release and Kinesiotaping in Cervical Myofascial Pain caused by sternocleidomastoid muscle: A randomized clinical trial. *Fisioterapia* 39:2, 68-74. [[Crossref](#)]

39. Saime Ay, Hatice Ecem Konak, Deniz Evcik, Sibel Kibar. 2017. Efetividade do kinesio taping na dor e incapacidade na síndrome dolorosa miofascial cervical. *Revista Brasileira de Reumatologia* 57:2, 93-99. [[Crossref](#)]
40. Saime Ay, Hatice Ecem Konak, Deniz Evcik, Sibel Kibar. 2017. The effectiveness of Kinesio Taping on pain and disability in cervical myofascial pain syndrome. *Revista Brasileira de Reumatologia (English Edition)* 57:2, 93-99. [[Crossref](#)]
41. Michael S. Gart, Thomas A. Wiedrich. 2017. Therapy and Rehabilitation for Upper Extremity Injuries in Athletes. *Hand Clinics* 33:1, 207-220. [[Crossref](#)]
42. Mathieu de Seze. 2017. Masso-kinésithérapie et ergothérapie des cervicalgies communes. *Revue du Rhumatisme Monographies* 84:1, 25-28. [[Crossref](#)]
43. Athos Trecroci, Damiano Formenti, Alessio Rossi, Fabio Esposito, Giampietro Alberti. 2017. Acute effects of kinesio taping on a 6 s maximal cycling sprint performance. *Research in Sports Medicine* 25:1, 48-57. [[Crossref](#)]
44. Naoko Aminaka, Kari Emineth, Scott Doberstein, Reggie Ronning. 2017. The Effects of Kinesiology Tape on Shoulder Pain and Throwing Kinematics. *Athletic Training & Sports Health Care* 9:1, 24-32. [[Crossref](#)]
45. Tarik Ozmen, Gokce Yagmur Gunes, Hanife Dogan, Ilyas Ucar, Mark Willems. 2017. The effect of kinesio taping versus stretching techniques on muscle soreness, and flexibility during recovery from nordic hamstring exercise. *Journal of Bodywork and Movement Therapies* 21:1, 41-47. [[Crossref](#)]
46. C. Costantino, O. Licari. Neuromuscular Taping and Multiple Sclerosis 137-142. [[Crossref](#)]
47. Ahmad Zeinali, Abolghasem Rahimdel, Arezoo Shahidzadeh, Azadeh Shahidzadeh, Ali Mellat. 2017. Comparison of the Effects of Kinesio Taping to Local Injection of Methyl Prednisolone in Treating Brachial Biceps Tendonitis. *International Journal of Clinical Medicine* 08:06, 395-401. [[Crossref](#)]
48. Canan Copurgensli, Gozde Gur, Volga Bayrakçı Tunay. 2016. A comparison of the effects of Mulligan's mobilization and Kinesio taping on pain, range of motion, muscle strength, and neck disability in patients with Cervical Spondylosis: A randomized controlled study. *Journal of Back and Musculoskeletal Rehabilitation* 30:1, 51-62. [[Crossref](#)]
49. Vahid Sobhani, Alireza Shamsoddini, Amideddin Khatibi-Aghda, Vahid Mazloum, Hamid Hesari Kia, Mohammad Kazem Emami Meybodi. 2016. Effectiveness of Dry Needling, Manual Therapy, and Kinesio Taping® for Patients with Chronic Myofascial Neck Pain: A Single-Blind Clinical Trial. *Trauma Monthly* 22:6. . [[Crossref](#)]
50. Sarah Roberts, Serela Ramklass, Robin Joubert. 2016. Kinesio Taping® of the metacarpophalangeal joints and its effect on pain and hand function in individuals with rheumatoid arthritis. *South African Journal of Physiotherapy* 72:1. . [[Crossref](#)]
51. Jooyoung Kim, Seunghwan Kim, Joohyung Lee. 2016. Longer application of kinesio taping would be beneficial for exercise-induced muscle damage. *Journal of Exercise Rehabilitation* 12:5, 456-462. [[Crossref](#)]
52. Fahimeh Hashemirad, Nouredin Karimi, Roshanak Keshavarz. 2016. The effect of Kinesio taping technique on trigger points of the piriformis muscle. *Journal of Bodywork and Movement Therapies* 20:4, 807-814. [[Crossref](#)]
53. Shihfan Jack Tu, Roger C. Woledge, Dylan Morrissey. 2016. Does 'Kinesio tape' alter thoracolumbar fascia movement during lumbar flexion? An observational laboratory study. *Journal of Bodywork and Movement Therapies* 20:4, 898-905. [[Crossref](#)]
54. Leonid Kalichman, Silvi Frenkel-Toledo, Elisha Vered, Iris Sender, Tal Galinka, Deborah Alperovitch-Najenson, Motti Ratmansky, Iuly Tregger. 2016. Effect of kinesio tape application on hemiplegic shoulder pain and motor ability. *International Journal of Rehabilitation Research* 39:3, 272-276. [[Crossref](#)]
55. Nihan Ozunlu Pekiavas, Gul Baltaci. 2016. Short-term effects of high-intensity laser therapy, manual therapy, and Kinesio taping in patients with subacromial impingement syndrome. *Lasers in Medical Science* 31:6, 1133-1141. [[Crossref](#)]
56. Matthew Maddocks, Roger Kerry, Andrew Turner, Jeremy Howick. 2016. Problematic placebos in physical therapy trials. *Journal of Evaluation in Clinical Practice* 22:4, 598-602. [[Crossref](#)]
57. Amal T. Al-Shareef, Mohammed T.A. Omar, Amal H.M. Ibrahim. 2016. Effect of Kinesio Taping on Pain and Functional Disability in Chronic Nonspecific Low Back Pain. *SPINE* 41:14, E821-E828. [[Crossref](#)]
58. J.O. Toxqui Estrada, R. Díaz González Santibáñez, J.I. Reyes Torres. 2016. Efecto inmediato del vendaje neuromuscular aplicado en tronco para disminuir la espasticidad en extremidades superiores e inferiores en niños con parálisis cerebral nivel V conforme al sistema de clasificación de la función motora gruesa. *Fisioterapia* 38:4, 189-195. [[Crossref](#)]
59. Ilke Coskun Benlidayi, Fariz Salimov, Mehmet Kurkcü, Rengin Guzel. 2016. Kinesio Taping for temporomandibular disorders: Single-blind, randomized, controlled trial of effectiveness. *Journal of Back and Musculoskeletal Rehabilitation* 29:2, 373-380. [[Crossref](#)]
60. Volkan Subaşı, Tuncay Çakır, Zuhul Arıca, Rahime Nur Sarier, Meral Bilgilişoy Filiz, Şebnem Koldaş Doğan, Naciye Füsün Toraman. 2016. Comparison of efficacy of kinesiological taping and subacromial injection therapy in subacromial impingement syndrome. *Clinical Rheumatology* 35:3, 741-746. [[Crossref](#)]

61. U. Tozzi, M. Santagata, A. Sellitto, G. P. Tartaro. 2016. Influence of Kinesiology Tape on Post-operative Swelling After Orthognathic Surgery. *Journal of Maxillofacial and Oral Surgery* **15**:1, 52-58. [[Crossref](#)]
62. C. Cai, I.P.H. Au, W. An, R.T.H. Cheung. 2016. Facilitatory and inhibitory effects of Kinesio tape: Fact or fad?. *Journal of Science and Medicine in Sport* **19**:2, 109-112. [[Crossref](#)]
63. R.T.H. Cheung, Q.K.C. Yau, K. Wong, P. Lau, A. So, N. Chan, C. Kwok, K.Y. Poon, P.S.H. Yung. 2016. Kinesiology tape does not promote vertical jumping performance: A deceptive crossover trial. *Manual Therapy* **21**, 89-93. [[Crossref](#)]
64. Cosimo Costantino, Martina Francesca Pedrini, Oriana Licari. 2016. Neuromuscular taping versus sham therapy on muscular strength and motor performance in multiple sclerosis patients. *Disability and Rehabilitation* **38**:3, 277-281. [[Crossref](#)]
65. Moira Devereaux, Kinny Quan Velanoski, Amanda Pennings, Amr Elmaraghy. 2016. Short-Term Effectiveness of Precut Kinesiology Tape Versus an NSAID as Adjuvant Treatment to Exercise for Subacromial Impingement. *Clinical Journal of Sport Medicine* **26**:1, 24-32. [[Crossref](#)]
66. Sayed A Tantawy, Dalia M Kamel. 2016. The effect of kinesio taping with exercise compared with exercise alone on pain, range of motion, and disability of the shoulder in postmastectomy females: a randomized control trial. *Journal of Physical Therapy Science* **28**:12, 3300-3305. [[Crossref](#)]
67. Hasan Erkan Kiliç, Gülcan Harput, Gül Baltacı. 2015. Additional effects of kinesiotaping to mobilization techniques in chronic mechanical neck pain. *Türk Fizyoterapi ve Rehabilitasyon Dergisi/Turkish Journal of Physiotherapy and Rehabilitation* **26**:3. . [[Crossref](#)]
68. Edwin Choon Wyn Lim, Mathew Guo Xiang Tay. 2015. Kinesio taping in musculoskeletal pain and disability that lasts for more than 4 weeks: is it time to peel off the tape and throw it out with the sweat? A systematic review with meta-analysis focused on pain and also methods of tape application. *British Journal of Sports Medicine* **49**:24, 1558-1566. [[Crossref](#)]
69. Peyman Momtazfar, Farshad Ghazalian, Hojatolah Nikbakht. 2015. Effect of kinesio taping on hand muscles strength of Karatekaman man. *Sport Sciences for Health* **11**:3, 257-261. [[Crossref](#)]
70. Uluç Pamuk, Can A. Yucesoy. 2015. MRI analyses show that kinesio taping affects much more than just the targeted superficial tissues and causes heterogeneous deformations within the whole limb. *Journal of Biomechanics* **48**:16, 4262-4270. [[Crossref](#)]
71. Rasa Bacevičienė, Laura Janušonienė, Milda Gintilienė. 2015. Vyrų ir moterų nugaros skausmo ir stuburo paslankumo kitimas taikant kinezivyturavimą. *Sveikatos mokslai* **25**:5, 152-156. [[Crossref](#)]
72. Nihan Kafa, Seyit Citaker, Suna Omeroglu, Tuncay Peker, Neslihan Coskun, Seyda Diker. 2015. Effects of kinesiology taping on epidermal-dermal distance, pain, edema and inflammation after experimentally induced soft tissue trauma. *Physiotherapy Theory and Practice* **31**:8, 556-561. [[Crossref](#)]
73. Aarti Sareen, Piyush Jain, Venus Pagare. 2015. IMMEDIATE EFFECT OF KINESIOLOGY TAPING IN TREATING UNDISPLACED RIB FRACTURE PAIN. *Journal of Musculoskeletal Research* 1550010. [[Crossref](#)]
74. Özge ÇıNAR MEDENİ, Gül BALTACI, Güler DOĞAN VAYVAY. 2015. Acute effect of kinesiotape muscle technique on hamstring flexibility and pain during stretching. *Türk Fizyoterapi ve Rehabilitasyon Dergisi/Turkish Journal of Physiotherapy and Rehabilitation* **26**:2. . [[Crossref](#)]
75. P. Bauvir, J.F. Kaux, L. Pondant, D. Colman, V. Couffignal, F. Delvaux, J.M. Crielaard, J.L. Croisier. 2015. Influence du Kinésiotape® sur les performances musculaires des ischio-jambiers. *Journal de Traumatologie du Sport* **32**:3, 110-115. [[Crossref](#)]
76. Raewyn L Wegener, Ted Brown, Lisa O'Brien. 2015. The use of elastic therapeutic tape and eccentric exercises for lateral elbow tendinosis: a case series. *Hand Therapy* **20**:2, 56-63. [[Crossref](#)]
77. Sarfaraz Alam, Deepak Malhotra, Jitender Munjal, Ashima Chachra. 2015. Immediate effect of Kinesio taping on shoulder muscle strength and range of motion in healthy individuals: A randomised trial. *Hong Kong Physiotherapy Journal* . [[Crossref](#)]
78. Jakub Taradaj. 2015. Kinesiology Taping does not Modify Electromyographic Activity or Muscle Flexibility of Quadriceps Femoris Muscle: A Randomized, Placebo-Controlled Pilot Study in Healthy Volleyball Players. *Medical Science Monitor* **21**, 2232-2239. [[Crossref](#)]
79. Michael Masaracchio, Heidi Ojha, Cameron W. MacDonald. 2015. Thoracic Spine Manual Therapy for Aging and Older Individuals. *Topics in Geriatric Rehabilitation* **31**:3, 188-198. [[Crossref](#)]
80. Wen-Dien Chang, Fu-Chen Chen, Chia-Lun Lee, Hung-Yu Lin, Ping-Tung Lai. 2015. Effects of Kinesio Taping versus McConnell Taping for Patellofemoral Pain Syndrome: A Systematic Review and Meta-Analysis. *Evidence-Based Complementary and Alternative Medicine* **2015**, 1-11. [[Crossref](#)]
81. Wei-Ting Wu, Chang-Zern Hong, Li-Wei Chou. 2015. The Kinesio Taping Method for Myofascial Pain Control. *Evidence-Based Complementary and Alternative Medicine* **2015**, 1-9. [[Crossref](#)]

82. Filippo Camerota, Manuela Galli, Veronica Cimolin, Claudia Celletti, Andrea Ancillao, David Blow, Giorgio Albertini. 2014. Neuromuscular taping for the upper limb in Cerebral Palsy: A case study in a patient with hemiplegia. *Developmental Neurorehabilitation* 17:6, 384-387. [[Crossref](#)]
83. Wanessa Furtado Caneschi, Claudia Cristina Alves Neves de Paiva, Renata Ladeira Frade, Andréa Rodrigues Motta. 2014. Uso da bandagem elástica associada ao tratamento fonoaudiológico no controle da sialorréia. *Revista CEFAC* 16:5, 1558-1566. [[Crossref](#)]
84. Oliver Ristow, Christoph Pautke, Victoria Kehl, Steffen Koerdt, Lilian Hahnefeld, Bettina Hohlweg-Majert. 2014. Kinesiologic taping reduces morbidity after oral and maxillofacial surgery: a pooled analysis. *Physiotherapy Theory and Practice* 30:6, 390-398. [[Crossref](#)]
85. K.Y. Poon, S.M. Li, M.G. Roper, M.K.M. Wong, O. Wong, R.T.H. Cheung. 2014. Kinesiology tape does not facilitate muscle performance: A deceptive controlled trial. *Manual Therapy* . [[Crossref](#)]
86. Sudarshan Anandkumar, Shobhalakshmi Sudarshan, Pratima Nagpal. 2014. Efficacy of kinesio taping on isokinetic quadriceps torque in knee osteoarthritis: a double blinded randomized controlled study. *Physiotherapy Theory and Practice* 30:6, 375-383. [[Crossref](#)]
87. Alberto Gusella, Marcello Bettuolo, Francesco Contiero, Giovanni Volpe. 2014. Kinesiologic taping and muscular activity: A myofascial hypothesis and a randomised, blinded trial on healthy individuals. *Journal of Bodywork and Movement Therapies* 18:3, 405-411. [[Crossref](#)]
88. Raewyn L. Taylor, Lisa O'Brien, Ted Brown. 2014. A scoping review of the use of elastic therapeutic tape for neck or upper extremity conditions. *Journal of Hand Therapy* 27:3, 235-246. [[Crossref](#)]
89. Scott R. Freedman, Lori Thein Brody, Michael Rosenthal, Justin C. Wise. 2014. Short-Term Effects of Patellar Kinesio Taping on Pain and Hop Function in Patients With Patellofemoral Pain Syndrome. *Sports Health: A Multidisciplinary Approach* 6:4, 294-300. [[Crossref](#)]
90. Alicia M. Montalvo, Ed Le Cara, Gregory D. Myer. 2014. Effect of Kinesiology Taping on Pain in Individuals With Musculoskeletal Injuries: Systematic Review and Meta-Analysis. *The Physician and Sportsmedicine* 42:2, 48-57. [[Crossref](#)]
91. Julio Gómez-Soriano, Javier Abián-Vicén, Carlos Aparicio-García, Pilar Ruiz-Lázaro, Cristina Simón-Martínez, Elisabeth Bravo-Esteban, José Manuel Fernández-Rodríguez. 2014. The effects of Kinesio taping on muscle tone in healthy subjects: A double-blind, placebo-controlled crossover trial. *Manual Therapy* 19:2, 131-136. [[Crossref](#)]
92. Martial Delaire. 2014. Les bandages adhésifs de couleur : un nouveau concept. *Kinésithérapie, la Revue* 14:147, 17-21. [[Crossref](#)]
93. Alejandro Luque-Suarez, Gabriel Gijon-Nogueron, Francisco Javier Baron-Lopez, Maria Teresa Labajos-Manzanares, Julia Hush, Mark Jonathan Hancock. 2014. Effects of kinesiotaping on foot posture in participants with pronated foot: A quasi-randomised, double-blind study. *Physiotherapy* 100:1, 36-40. [[Crossref](#)]
94. Cordun Mariana, Tecuceanu Carmen-Oana. 2014. Massage versus Kinesio Taping. Possibilities to Enhance the Kinetic Program in Mechanically Triggered Neck Pain. *Procedia - Social and Behavioral Sciences* 117, 639-645. [[Crossref](#)]
95. Patrícia do Carmo Silva Parreira, Lucíola da Cunha Menezes Costa, Luiz Carlos Hespanhol Junior, Alexandre Dias Lopes, Leonardo Oliveira Pena Costa. 2014. Current evidence does not support the use of Kinesio Taping in clinical practice: a systematic review. *Journal of Physiotherapy* 60:1, 31-39. [[Crossref](#)]
96. Dérick Patrick Artioli, Gladson Ricardo Flor Bertolini. 2014. Kinesio taping: application and results on pain: systematic review. *Fisioterapia e Pesquisa* 21:1, 94-99. [[Crossref](#)]
97. Rafael Merino-Marban, Emilio Fernandez-Rodriguez, Daniel Mayorga-Vega. 2014. The Effect of Kinesio Taping on Calf Pain and Extensibility Immediately After Its Application and After a Duathlon Competition. *Research in Sports Medicine* 22:1, 1-11. [[Crossref](#)]
98. M. Martínez-Wong, Y.C. Recalde-Alzugaray, E.E. Hein, R.M. Pitana, L.G. Andrini, F.J. Pacheco. 2014. La eficacia clínica del taping neuromuscular para el dolor de espalda alta y cuello: una prueba controlada aleatorizada. *Fisioterapia* 36:1, 25-33. [[Crossref](#)]
99. Sudarshan Anandkumar, Murugavel Manivasagam. 2014. Multimodal physical therapy management of a 48-year-old female with post-stroke complex regional pain syndrome. *Physiotherapy Theory and Practice* 30:1, 38-48. [[Crossref](#)]
100. María Encarnación Aguilar-Ferrándiz, Adelaida María Castro-Sánchez, Guillermo A. Matarán-Peñarrocha, Francisco Garcia-Muro, Theys Serge, Carmen Moreno-Lorenzo. 2013. Effects of Kinesio Taping on Venous Symptoms, Bioelectrical Activity of the Gastrocnemius Muscle, Range of Ankle Motion, and Quality of Life in Postmenopausal Women With Chronic Venous Insufficiency: A Randomized Controlled Trial. *Archives of Physical Medicine and Rehabilitation* 94:12, 2315-2328. [[Crossref](#)]
101. D. W. Smith, G. D. Myer, D. W. Currie, R. D. Comstock, J. F. Clark, J. E. Bailes. 2013. Altitude Modulates Concussion Incidence: Implications for Optimizing Brain Compliance to Prevent Brain Injury in Athletes. *Orthopaedic Journal of Sports Medicine* 1:6. . [[Crossref](#)]

102. Guilherme S. Nunes, Marcos de Noronha, Helder S. Cunha, Caroline Ruschel, Noé G. Borges. 2013. Effect of Kinesio Taping on Jumping and Balance in Athletes. *Journal of Strength and Conditioning Research* 27:11, 3183-3189. [[Crossref](#)]
103. Dedi Lumbroso, Elad Ziv, Elisha Vered, Leonid Kalichman. 2013. The effect of kinesio tape application on hamstring and gastrocnemius muscles in healthy young adults. *Journal of Bodywork and Movement Therapies* . [[Crossref](#)]
104. Elisa Pelosin, Laura Avanzino, Roberta Marchese, Paola Stramesi, Martina Bilanci, Carlo Trompetto, Giovanni Abbruzzese. 2013. KinesioTaping Reduces Pain and Modulates Sensory Function in Patients With Focal Dystonia. *Neurorehabilitation and Neural Repair* 27:8, 722-731. [[Crossref](#)]
105. Anita R. Gross, Faith Kaplan, Stacey Huang, Mahweesh Khan, P. Lina Santaguida, Lisa C. Carlesso, Joy C. MacDermid, David M. Walton, Justin Kenardy, Anne Söderlund, Arianne Verhagen, Jan Hartvigsen. 2013. Psychological Care, Patient Education, Orthotics, Ergonomics and Prevention Strategies for Neck Pain: An Systematic Overview Update as Part of the ICON§ Project. *The Open Orthopaedics Journal* 7:1, 530-561. [[Crossref](#)]
106. Oliver Ristow, Bettina Hohlweg-Majert, Stephen R. Stürzenbaum, Victoria Kehl, Steffen Koerdt, Lilian Hahnefeld, Christoph Pautke. 2013. Therapeutic elastic tape reduces morbidity after wisdom teeth removal—a clinical trial. *Clinical Oral Investigations* . [[Crossref](#)]
107. Oliver Ristow, Bettina Hohlweg-Majert, Victoria Kehl, Steffen Koerdt, Lilian Hahnefeld, Christoph Pautke. 2013. Does Elastic Therapeutic Tape Reduce Postoperative Swelling, Pain, and Trismus After Open Reduction and Internal Fixation of Mandibular Fractures?. *Journal of Oral and Maxillofacial Surgery* 71:8, 1387-1396. [[Crossref](#)]
108. D. Morris, D. Jones, H. Ryan, C. G. Ryan. 2013. The clinical effects of Kinesio® Tex taping: A systematic review. *Physiotherapy Theory and Practice* 29:4, 259-270. [[Crossref](#)]
109. Giancarlo Fratocchi, Francesco Di Mattia, Renato Rossi, Massimiliano Mangone, Valter Santilli, Marco Paoloni. 2013. Influence of Kinesio Taping applied over biceps brachii on isokinetic elbow peak torque. A placebo controlled study in a population of young healthy subjects. *Journal of Science and Medicine in Sport* 16:3, 245-249. [[Crossref](#)]
110. Joseph Miller, Richard Westrick, Angela Diebal, Christopher Marks, J. Parry Gerber. 2013. Immediate Effects of Lumbopelvic Manipulation and Lateral Gluteal Kinesio Taping on Unilateral Patellofemoral Pain Syndrome. *Sports Health: A Multidisciplinary Approach* 5:3, 214-219. [[Crossref](#)]
111. Sudarshan Anandkumar. 2013. Kinesio tape management for superficial radial nerve entrapment: A case report. *Physiotherapy Theory and Practice* 29:3, 232-241. [[Crossref](#)]
112. Ai Ujino, Lindsey E. Eberman, Leamor Kahanov, Chelsea Renner, Timothy Demchak. 2013. The Effects of Kinesio Tape and Stretching on Shoulder ROM. *International Journal of Athletic Therapy and Training* 18:2, 24-28. [[Crossref](#)]
113. Aurélie Morichon. 2013. Le K-Taping : à l'épreuve des faits ?. *Kinésithérapie, la Revue* 13:134, 20. [[Crossref](#)]
114. Bahar Kavlak, Yeşim Bakar, Zübeyir Sari. 2012. Investigation of the Efficacy of Different Physiotherapy Methods for Neck Pain. *Journal of Musculoskeletal Pain* 20:4, 284-291. [[Crossref](#)]
115. Mehran Mostafavifar, Jess Wertz, James Borchers. 2012. A Systematic Review of the Effectiveness of Kinesio Taping for Musculoskeletal Injury. *The Physician and Sportsmedicine* 40:4, 33-40. [[Crossref](#)]
116. Oscar M.H. Wong, Roy T.H. Cheung, Raymond C.T. Li. 2012. Isokinetic knee function in healthy subjects with and without Kinesio taping. *Physical Therapy in Sport* 13:4, 255-258. [[Crossref](#)]
117. Shu-Mei Chen, Ron Alexander, Sing Kai Lo, Jill Cook. 2012. Effects of Functional Fascial Taping on pain and function in patients with non-specific low back pain: a pilot randomized controlled trial. *Clinical Rehabilitation* 26:10, 924-933. [[Crossref](#)]
118. L. García Llopis, M. Campos Aranda. 2012. Intervención fisioterápica con vendaje neuromuscular en pacientes con cervicalgia mecánica. Un estudio piloto. *Fisioterapia* 34:5, 189-195. [[Crossref](#)]
119. Mi-A Ko, Ji-A Lee. 2012. Effect of Balance Taping Therapy on Neck Pain in High School Students. *Korean Journal of Adult Nursing* 24:4, 417-427. [[Crossref](#)]
120. Manuel Saavedra-Hernández, Adelaida M. Castro-Sánchez, Manuel Arroyo-Morales, Joshua A. Cleland, Inmaculada C. Lara-Palomo, César Fernández-de-las-Peñas. 2012. Short-Term Effects of Kinesio Taping Versus Cervical Thrust Manipulation in Patients With Mechanical Neck Pain: A Randomized Clinical Trial. *Journal of Orthopaedic & Sports Physical Therapy* 42:8, 724-730. [[Abstract](#)] [[Full Text](#)] [[PDF](#)] [[PDF Plus](#)]
121. Hsiao-Yun Chang, Chun-Hou Wang, Kun-Yu Chou, Shih-Chung Cheng. 2012. Could Forearm Kinesio Taping Improve Strength, Force Sense, and Pain in Baseball Pitchers With Medial Epicondylitis?. *Clinical Journal of Sport Medicine* 22:4, 327-333. [[Crossref](#)]

122. Stefano Vercelli, Francesco Sartorio, Calogero Foti, Lorenzo Colletto, Domenico Virton, Gianpaolo Ronconi, Giorgio Ferriero. 2012. Immediate Effects of Kinesiotaping on Quadriceps Muscle Strength. *Clinical Journal of Sport Medicine* **22**:4, 319-326. [[Crossref](#)]
123. Anna M. Öhman. 2012. The Immediate Effect of Kinesiology Taping on Muscular Imbalance for Infants With Congenital Muscular Torticollis. *PM&R* **4**:7, 504-508. [[Crossref](#)]
124. Jung-hoon Lee, Won-gyu Yoo. 2012. Treatment of chronic Achilles tendon pain by Kinesio taping in an amateur badminton player. *Physical Therapy in Sport* **13**:2, 115-119. [[Crossref](#)]
125. Sean Williams, Chris Whatman, Patria A. Hume, Kelly Sheerin. 2012. Kinesio Taping in Treatment and Prevention of Sports Injuries. *Sports Medicine* **42**:2, 153-164. [[Crossref](#)]
126. Marcin Krajczyk, Katarzyna Bogacz, Jacek Luniewski, Jan Szczegielniak. 2012. The Influence of Kinesio Taping on the Effects of Physiotherapy in Patients after Laparoscopic Cholecystectomy. *The Scientific World Journal* **2012**, 1-5. [[Crossref](#)]
127. M. Fernández Román, A. Castro Méndez, M. Albornoz Cabello. 2012. Efectos del tratamiento con Kinesio tape en el pie plano. *Fisioterapia* **34**:1, 11-15. [[Crossref](#)]
128. Javier González-Iglesias, Joshua A. Cleland, Maria del Rosario Gutierrez-Vega, Cesar Fernández-de-las-Peñas. 2011. Multimodal Management of Lateral Epicondylalgia in Rock Climbers: A Prospective Case Series. *Journal of Manipulative and Physiological Therapeutics* **34**:9, 635-642. [[Crossref](#)]
129. Gak Hwang-Bo, Jung-Hoon Lee. 2011. Effects of kinesio taping in a physical therapist with acute low back pain due to patient handling: A case report. *International Journal of Occupational Medicine and Environmental Health* **24**:3, 320-323. [[Crossref](#)]
130. Shouta Kaneko, Hiroshi Takasaki. 2011. Forearm Pain, Diagnosed as Intersection Syndrome, Managed by Taping: A Case Series. *Journal of Orthopaedic & Sports Physical Therapy* **41**:7, 514-519. [[Abstract](#)] [[Full Text](#)] [[PDF](#)] [[PDF Plus](#)]
131. Daniel O'Sullivan, Stephen P. Bird. 2011. Utilization of Kinesio Taping for Fascia Unloading. *International Journal of Athletic Therapy and Training* **16**:4, 21-27. [[Crossref](#)]
132. Kristin Briem, Hrefna Eythörðsdóttir, Ragnheidur G. Magnúsdóttir, Rúnar Pálmarrsson, Tinna Rúnarsdóttir, Thorarinn Sveinsson. 2011. Effects of Kinesio Tape Compared With Nonelastic Sports Tape and the Untaped Ankle During a Sudden Inversion Perturbation in Male Athletes. *Journal of Orthopaedic & Sports Physical Therapy* **41**:5, 328-335. [[Abstract](#)] [[Full Text](#)] [[PDF](#)] [[PDF Plus](#)] [[Supplemental Material](#)]
133. L. Espejo, M.D. Apolo. 2011. Revisión bibliográfica de la efectividad del kinesiotaping. *Rehabilitación* **45**:2, 148-158. [[Crossref](#)]
134. Tülay Tarsuslu ŞŞimşşek, Bahriye Türkücüoğğlu, Nilay Çokal, Gonca Üstünbaşş, İbrahim Engin ŞŞimşşek. 2011. The effects of Kinesio® taping on sitting posture, functional independence and gross motor function in children with cerebral palsy. *Disability and Rehabilitation* **33**:21-22, 2058-2063. [[Crossref](#)]
135. J. Martínez-Gramage, M. Ibáñez Segarra, A. López Ridaura, M. Merelló Peñalver, F.J. Tolsá Gil. 2011. Efecto inmediato del kinesio tape sobre la respuesta refleja del vasto interno ante la utilización de dos técnicas diferentes de aplicación: facilitación e inhibición muscular. *Fisioterapia* **33**:1, 13-18. [[Crossref](#)]
136. Bridget L Firth, Paul Dingley, Elizabeth R Davies, Jeremy S Lewis, Caroline M Alexander. 2010. The Effect of Kinesiotape on Function, Pain, and Motoneuronal Excitability in Healthy People and People With Achilles Tendinopathy. *Clinical Journal of Sport Medicine* **20**:6, 416-421. [[Crossref](#)]
137. Kerkour Khelaf. 2010. Rôle et place des bandages adhésifs (tape) actifs de couleurs. *Kinésithérapie, la Revue* **10**:104-105, 29-33. [[Crossref](#)]
138. Leonid Kalichman, Elisha Vered, Lior Volchek. 2010. Relieving Symptoms of Meralgia Paresthetica Using Kinesio Taping: A Pilot Study. *Archives of Physical Medicine and Rehabilitation* **91**:7, 1137-1139. [[Crossref](#)]
139. Meredith L. Pope, Andrew Baker, Terry L. Grindstaff. 2010. Kinesio Taping Technique for Patellar Tendinopathy. *Athletic Training & Sports Health Care* **2**:3, 98-99. [[Crossref](#)]