



# Impacts of Kinso-taping on low Back Dysfunction among Physical Therapy during Patient Management: A Case control report.

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## *Abstract*

The article discusses a case of a physiotherapist who suffered from severe Back Pain because of lifting, transferring, repetitive movement, and physical load, as well as the effectiveness of (KT) kinsio-tape all over spine as in any management of such work - related LBP.

**Materials and Methods:** KT is been placed across the trunk for three consecutive days, for approximately ten hours per day. KT was performed to internal oblique, latissimus dorsi, rectus abdominis, and all muscles of erector spinae, which are stimulated during the loading process, and the pliability was satisfactory

**Results:** The Oswestry Disability Questionnaire and visual analog scale Scores slowly reduce pain, enhance joint stability, strengthen weak muscles, and assist in postural alignment after KT application.

**Conclusion:** As an outcome, sustained usage of KT all over trunk may be used as an additional therapeutic approach for LBP in acute stage between physiotherapists, allowing for sustained patient transfer without restricting work activities as result of vocational LBP, Moreover, KT may be helpful in clinical management of occupational LBP in many occupations that enhance and improve large loads.



## **Introduction**

The physical therapy exercise requires constant lifting, bending, and transferring of patient, as well as continuous therapeutic exercise approach (1) These factors raise the probability of musculoskeletal problems due to work in physical therapists (2) Acute low back dysfunction is described as a period of pain lasting less than 6 weeks (3). Many Physical therapists work for short periods of time due to complication of orthopedic dysfunction (4). Kinesio taping is just a recent therapeutic intervention that is used for musculoskeletal and neuromuscular issues )5(.

Kinesio taping is just a different therapeutic modality applied by physiotherapists to cure back dysfunction, it is different from conventional taping in that it is flexible that can be extended to 140% of its own initial length before application. (6) In contrast to conventional white athletic tape, it applies a continuous trying to pull pressure to the skin. The fabric is pliable to both air and water, enabling it to be dressed over again. Kinesio tape is presently utilized to treat injuries and during the rehabilitation program (7).As a result, kinesio taping is a new therapeutic technique for quick recovery. Despite the fact that various research has carried out to determine the occurrence of work-related musculoskeletal disorder (WMSDs) between physical therapists ,there was no previous research that determined necessary measures for managing low back pain (LBP), which shows up to be the most commonly cited WMSD in physical therapist.

## ***Case report***

Male physiotherapist with forty year suffers from acute low back dysfunction while carrying a Hemiplegic patient from wheelchair to mat. He had no prior



history of LBP .The low back area received a Visual Analog Scale (VAS) score of 7/10 during the baseline evaluation. 78% on the Oswestry Disability Index (ODI). The flexion of trunk was 11° (average range: 0-80°) according to the back range of motion (ROM) device, which is valid and reliable for measuring lumbar movement [8]. ,[9]9° extension as average range is 0-30°[9], The lateral flexion for both right and left was 7 as normal range is 0-35° [9] , the right and left trunk rotation is 8 degrees as normal range is 0-45 degrees) [9].

**Table 1: Base grade measurements**

Evaluation	Starting	Next First	Next Second	Next Third	Final 1
VAS	7	4	3	2	0
(ODI)Score (%)	78	55	37	25	0
Flexion of trunk	11	30	50	70	80
Extension of trunk	9	15	20	27	29
Trunk flexion to Right	7	15	25	30	34
Trunk flexion to Left	7	15	19	25	35
Trunk rotation to Right	8	30	33	40	50
Trunk rotation to Left	8	25	38	40	

**Methodology** KT is been put across all spine through three consecutive days, about 12 h/day .A (LD) latissimus dorsi muscle, (ES) erector spinea, (RA) rectus abdominis and (IO) internal oblique were lengthened (10) with KT at 130-140% stretch .[11]KT was adapted to the rectus abdominis while a therapist bends his

knees, starting from symphysis pubis towards xiphoid process and also fifth and sixth costal cartilages. )Photo 1A .(

KT has been placed towards IO while the therapist became side-lying, from upper anterior part of pubic crest towards abdominal line (Linea alba). )**Figure 1 Picture B**.(When treating with ES or even LD, KT utilized from sacrum towards humeral lesser tubercle) Photo1 C( starting again at sacral apex and ending at lower border of last five or six ribs. )Figure 1, Picture D ,(as shown. Following application of KT, the therapist treated patients in the same manner as before (12).



Figure :1 When the therapist was prone, KT was placed from the sacrum's medial crest to last 6 or 7 ribs at lower border, as well as from sacrum's spinous process towards the humerus's lesser tubercle. (Photo 1C)

## Results

As shown in Table 1, after three days of KT application, the ODI and VAS total score slowly declined while trunk active motions improved .Also in second evaluation, the collected points of VAS have already dropped to zero ,the total points of ODI have dropped to zero level ,and flexion ROM of trunk has elevated to 80°, extension ROM to 29 degrees, lateral flexion of left side to 35 degrees while



right side to 34 degrees, but rotation of left side to 50 degrees while 50 ° to right side .The physiotherapy is just no longer worried about LBP and can work with patients without pain.

## Discussion

Health professionals, particularly those who have direct interaction with patients, are among the specialties occupations through the largest frequency of effort connected to musculoskeletal disorders (WMSDs) (5), Physios are among them .The primary hazard variables for effort back dysfunction was trying to transfer, daily tasks, pulling, awkward and constant body position, direct weights, handling a large number of participants each day, and maintaining a job even as hurt. 1)3 (

The prevalence of LBP between many physiotherapists has been determined to vary between 68 percent and 58 percent with UK )1(4. WMSDs seem to be popular among Saudi physiotherapists, with causing neck pain and even cervical compression is the most frequent clinical body areas .Professional background and an understanding of ergonomics can aid in the prevention of WMSDs in physiotherapist) 15(. physical therapists work with work-related musculoskeletal disorders 95%, which deeply impact spine and back muscles.(2) A incidence rate of effort LBD between many physiotherapists in Edmonton were higher than those reported for overall population in Canada (27%), the United States (26%), and the United Kingdom (29%). )16 (



The incidence of work-related musculoskeletal disorders is boosted by handling the patient activities ,including transferring ,and lifting aslarge tension and compression and shear forces can be generated by lifting. 1)7 (Patient transferring, twisting, stooping, pulling, carrying, pushing were the most frequently described tasks that caused injuries .The intensity of back pain was severe enough to force 137% of therapists to quit. Even with their pain, 35.3 percent of LBP sufferers remained at work. Over 50 per cent (55%) of participants with existing work-related LBP illustrated very little or no impairment. (16(

Unbalanced lifting is accompanied with a raised possibility of low back pain, slight variations from the sagittal plane in movement can increase the risk of low back dysfunction .But since LBP impairment is more commonly caused by poor ergonomics, it is prudent to consider them as part of an avoidance strategy .LBP is more common in workers who possess less power than is required for their occupations, so it stands to reason to strengthen these workers' trunks(18) . The KT usage around at trunk diminished chronic LBP and improved trunk range of motion in this case.KT may help with pain control, joint mobility, muscular strength, and postural alignment. )5 (Through afferent stimuli to large diameter sensory nerve fibres, the flexibility of KT increases tension during active trunk motion, and rising tension may enhance pain inhibitory mechanisms (gate control theory) 1)9 (KT's flexibility promotes muscle activity by strengthening weak muscles. )7 (Kinesio tape approach seeks to improve mobility and blood flow, with the objective of reducing pain and improving performance) .20 (

Several publications have claimed that Kinesio tape can be utilized to modulate and modify muscle activation. (21 (The elevated pressure of intra-abdominal aggravated



by KT throughout RA tone helps to stabilize to lumbar vertebra and bends the spine during lifting, The contractility of the IO generates shield impact on lumbodorsal area, unilateral contraction of ES produces lateral trunk flexion. LD aids in the move of axial loads from upper limb to trunk, as well as in lower back rotation and extension. )11 (

### **Conclusion:**

As a result, repeated applications of therapeutic KT all across trunk might be a combined therapy regimen for LBP in acute stage between physiotherapists, allowing for prolonged manual care without needing to miss jobs as a result of LBP. Furthermore, KT may be beneficial in the detection and control of work - related LBP in several jobs, particularly those that require lifting large loads.



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