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**EXTENDED
ABSTRACT**

The Effect of Kinesio Tape on Post-Injury Performance Among Young Athletes With Chronic Ankle Injury

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I. INTRODUCTION

Chronic ankle injuries impair young athletes' performance and increase re-injury risk. Though kinesio tape is widely used, its effectiveness remains inconclusive [1]. This study examines whether kinesio tape improves post-injury performance, specifically range of motion, balance, and stability in young athletes with chronic ankle instability, and compares outcomes between taped and non-taped groups to clarify its rehabilitative value.

II. METHODS

Thirty-four male athletes aged 7–18 with chronic ankle instability were screened and split into control and experimental groups. Both groups completed pre-tests (ROM, side hop, single leg stance, star excursion). Kinesio tape was applied to the experimental group, followed by a two-hour wait. Post-tests were then conducted. Performance changes were measured using standard procedures and stopwatch timing. Results were recorded and analyzed statistically.

III. RESULTS AND DISCUSSION

A. Effects of Kinesio Tape on Individual Post-Injury Performance Metrics

Athletes reported improved confidence with Kinesio tape. ROM improved in all directions except eversion [3]. Side hop and star excursion balance tests showed notable performance gains in the taped group [2]. However, single-leg stance balance time decreased, suggesting kinesio tape may not enhance static balance or postural endurance consistently.

TABLE I
MEAN AND STANDARD DEVIATION VALUES

Variables	Mean	Median	SD
ROM with Ktape	17.18	17.31	1.82
ROM without Ktape	22.78	22.38	2.55
Single Leg Stance with Ktape	14.79	15	2.76
Single Leg Stance without Ktape	21.65	21.5	0.91
Side Hop with Ktape	36.6	36.5	2.8
Side Hope without Ktape	42.7	42	5.85
Star Excursion with Ktape	56.05	56.34	3.81
Star Excursion without Ktape	53.41	50.73	19.88

B. Comparison Between Taped and Non-Taped Groups on Functional Recovery

The kinesio tape group outperformed the control group in all tests except single-leg stance. Most differences were statistically significant. Findings support kinesio tape's role in improving ROM, dynamic balance, and functional movement likely due to enhanced proprioception, muscle activation, and joint stability mechanisms during rehabilitation [4].

TABLE II
T-TEST OUTPUT

Variables			
ROM with Ktape*	-1.043	-1.1	0.245
ROM without Ktape	-0.184	0.05	0.311
Single Leg Stance with Ktape*	-2.235	-2.5	0.407
Single Leg Stance without Ktape	0.882	1.0	0.612
Side Hop with Ktape*	-1.866	2.0	0.366
Side Hope without Ktape	0.276	0.5	0.306
Star Excursion with Ktape*	-2.671	-2.805	0.523
Star Excursion without Ktape	-1.195	-0.05	0.569

* $p < 0.05$ is significantly different from the post-test

IV. CONCLUSIONS

Kinesio tape enhances functional performance, dynamic balance, and range of motion in young athletes with chronic ankle injuries. While its effect on static balance is limited, overall results support its rehabilitative role. Taping may aid recovery by boosting proprioception and joint stability, offering a non-invasive performance enhancement strategy.

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