

EFFECT OF ATHLETIC TAPING AND KINESIO TAPING® ON FUNCTIONAL PERFORMANCE IN CHRONIC SPRAINED ANKLE



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Many athletes from different sports think that taping and bracing is important in acute or chronic phases of an ankle injury. Certainly, many athletes know that ankle support is important for their performance (10). In basketball ankle injuries are very common and they are among the most severe (18-20). An Australian basketball study (19) showed that ankle injuries cause over half (53.7%) of total time missed in basketball.

Goal of the study:

The purpose of this study was to investigate the effects of Kinesio Taping® and Athletic Taping of chronic sprained ankle on functional performance to determine the most effective taping method.

Materials and methods:

15 male basketball players between the ages of 18 and 22 (mean age: 20,33 ± 1,4 yrs) participated in the study.

The inclusion criterion was having recurrent ankle inversion sprain (at least three sprains) while the exclusion criteria were 1) history of ankle fracture, 2) ankle injury within three months of participation, 3) history of anterior cruciate ligament injury, 4) current participation in supervised physical rehabilitation, 5) having functional ankle instability, 6) any neurological deficit. Subjects were screened using a questionnaire which asked for details on demographic variables, equipment using habits and medical history.

Table 1: Participant characteristics.

| | Mean ± SD | Range |
|--------------------------|------------|---------|
| Age (yr) | 20,33±1,4 | 18-22 |
| Height (cm) | 192,33±6,7 | 174-202 |
| Weight (kg) | 85,26±10,6 | 60-102 |
| BMI (kg/m ²) | 22,96±1,74 | 19,8-26 |
| CAIT Score on test ankle | 22,53±1,24 | 20-24 |
| Playing years (yrs) | 8,26±1,48 | 6-11 |

Cumberland Ankle Instability Tool (CAIT). The maximum CAIT score is 30; a score ≤24 indicates functional instability.

Performance tests mentioned below were applied to all subjects with placebo taping, without any taping, athletic taping and kinesioTaping® at one week intervals.

Proprioception assessment: SportKat (Kinesthetic Ability Trainer)

Coordination and balance tests: Hopping Test, Star Excursion Balance Test

Agility: Vertical Jump Test, Single Limb Hurdle Test

Endurance: Standing Heel Rise Test

Results and conclusions:

There was no significant difference between the performance of the athletes with placebo taping and those without taping in any tests. No significant difference was observed among all the trials in SEBT (anterior p=0,121; anteromedial p=0,126; medial p=0,328; posteromedial p=0,675; posterior p=0,879; posterolateral p=0,930; lateral p=0,256; anterolateral p=0,957) and KAT Dynamic tests (p=0,241). KinesioTaping® and athletic taping led to similar results in functional performance tests, except standing heel rise test and vertical jump test. In these two tests, athletic taping had a negative effect. KinesioTaping® did not cause any negative effects in any of the tests.

Table 2: Significant difference between the methods on hopping test

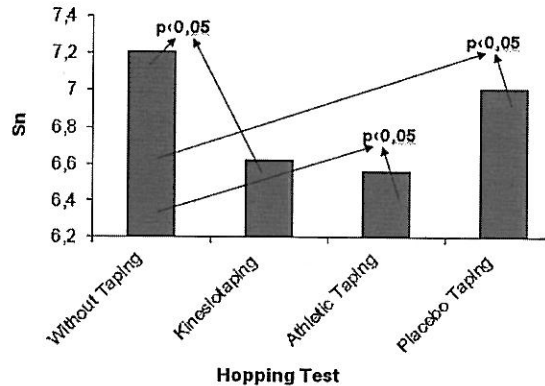


Table 3: Significant difference between the methods on single limb hurdle test

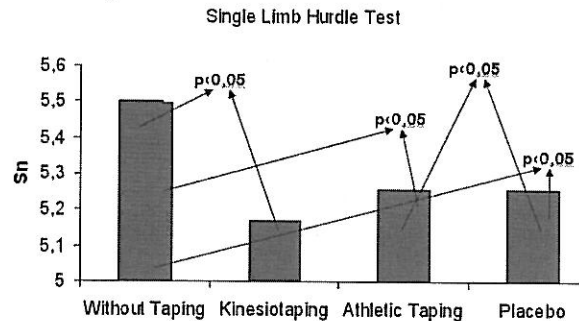
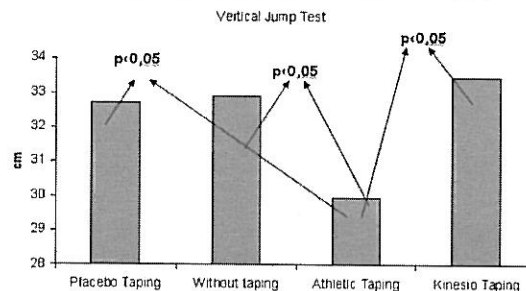


Table 4: Significant difference between the methods on vertical jump test



Our findings showed that athletic taping impaired participants' performance on some of the functional performance tests. Unlike the athletic taping method, KinesioTaping® does not cause any decrease on functional performance. Positive influences were seen in some of the functional performance tests. Future researches should test taping methods with different performance test on different branches.

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