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7. Is kinesio-tape a useful injury prevention and treatment tool? A study using both instrumental and clinical assessment techniques

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Kinesio tape (KT) was first developed in the 1970's and has since become a widely used physiotherapeutic tool to aid musculoskeletal injury prevention and treatment. It was designed to mimic healthy muscle elasticity helping to aid tissue healing following injury and create stabilisation and support without restricting normal range of movement. KT is a seemingly worthwhile and accessible tool for all (from physical therapists and elite athletes to amateur sports players) based on the ease of application and numerous claimed benefits. If KT application can aid injury prevention and treatment, there is scope for its use to help address the higher injury incidence amongst amateur athletes compared to elite athletes. The current study aimed to examine the effects that KT had on proprioception and joint movement during a bodyweight squat. Kinetic and kinematic variables were compared to any effects identified using a clinical assessment technique. With institutional ethical approval, twelve physically active participants completed three varying testing conditions (no KT application, correct KT application and incorrect KT application). Following a standardised warm-up, the participants were instructed on the correct squat technique and given time to familiarise themselves with the movement. The correct KT application condition involved KT application to the quadriceps using the method outlined by the manufacturer with a 75% stretch placed on the tape (Kenzo, Wallis & Tsuyoshi, 2003, *Clinical Therapeutic Applications of the Kinesio Taping Method*, 2nd Tokyo: Ken Ikai Co Ltd.). The incorrect KT application followed the same application as the correct application, however only a 25% stretch was placed on the tape to create a placebo. All squats were performed on an AMTI force platform to record changes in centre of pressure. Video cameras recorded in both the frontal and sagittal plane to measure joint angles at the ankle, knee, hip and trunk. The physical therapist assessed the movement using a functional movement screening scoring system (often used as part of a clinical assessment). The participants repeated the squat three times in each condition with a washout period between the KT applications. The data will be analysed to identify if any differences exist between different taping conditions and the physical therapist's assessment. The results of this study are pending however, it is expected the incorrect application will have no effect on the squat and the correct application will improve joint position and movement quality regardless of the assessment technique.