

159 **TWO DIMENSIONAL MOTION ANALYSIS ON ANGLE OF KNEE JOINT BEND DURING LONG JUMP TAKE-OFF**

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Biomechanics is the sport science field that applies the laws of mechanics and physics to human performance, in order to gain a greater understanding of performance in athletic events through modelling, simulation and measurement. It is also necessary to have a good understanding of the application of physics to sport, as physical principles such as motion, resistance, momentum and friction play a part in most sporting events. Most long jumpers use check marks as a guide in the run up. Check marks can be used in training for the control and adjustments of the acceleration phase as well as the preparation phase of the take-off. Check marks have no value in competition, as the athlete's concentration should be fixed on the take-off board. The purpose of this study was to investigate the angle of the knee joint bend during long jump take off. The take off was examined by a two dimensional motion analysis system. The average angle of the knee joint bend during long jump take off is 192.2 ± 22.4 and the average angle of the knee joint bend during long jump take off of high performers of the group is 166.33 ± 3.26 and the rest of them were 202.12 ± 12.5 . The findings of the study opined that one should try to reduce the angle of the knee joint bend during long jump take off for gaining mere performance.