

# Efficacy of Jump Training along with Hip Posterolateral Musculature Strengthening Exercises in Football Players on Improving Anterior Knee Pain and Landing Mechanics-A Pilot Study

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## Abstract

*Introduction:* The movement pattern consisting of the simultaneous movements of adduction and internal rotation of the hip, abduction of the knee, external rotation of the tibia, and eversion of the ankle joint with pronation of the feet is called the dynamic valgus knee. This pilot study investigates and evaluates the effectiveness of a combined treatment approach involving jump training and Hip Posterolateral Musculature Strengthening exercises in improving football players' anterior knee pain and landing mechanics.

*Methods:* A sample of 30 subjects with anterior knee pain and improper landing mechanics was selected through simple random sampling for this study. The participants were recruited from the Saveetha Institute of Medical and Technical Sciences.

*Results:* The drop jump knee valgus angle in Group A was, on average, reduced by 4.3 degrees and in Group B, the reduced value was 6.5 degrees ( $p < 0.0001$ ). The post-treatment mean kujala scale value for Group A was 77.33 units, whereas Group B had a mean value of 61.33 units. These findings indicate a significant difference in outcome measures between the two groups.

*Conclusion:* The study demonstrated that the combined treatment approach of jump training and hip posterior muscle strengthening exercises is an effective intervention for improving pain and landing mechanics in these individuals. The specific benefits of this approach include pain relief and improved functional limitations associated with football players.