

Plantar Force Measurement: Plantar force was measured bilaterally using force sensing insoles during the landing tasks . Knee Kinematics Measurement: Frontal and sagittal-plane knee kinematics were measured using two tablets, six reflective markers, and automated point tracking software . Outcome Measures: Plantar Force Impulse Normalized Symmetry Index (NSI): Used to assess symmetry in plantar force impulse during bilateral landing . Knee Frontal Plane Projection Angle (FPPA) Range of Motion: Assessed during bilateral landing to evaluate knee joint movement patterns . Knee Flexion Range of Motion NSI: Evaluated during unilateral landing to determine symmetry in knee flexion range of motion . Analysis: Independent samples t-tests were conducted to compare the landing biomechanics variables between ACLR patients and healthy controls . By utilizing force sensing insoles and simple motion tracking methods in a non-laboratory setting, the study was able to assess landing biomechanics effectively and compare differences between ACLR patients and uninjured controls. These methods provide a practical and accessible way to evaluate biomechanical deficits in clinical settings.