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Jacob K. Gardner[a], Gary Klipple[b], Candice Stewart[b], Irfan Asif[c], Songning Zhang[d]

[a]Biola University, La Mirada, CA; [b]University of Tennessee Medical Center, Knoxville, TN; [c]Greenville Health System, University of South Carolina School of Medicine Greenville, Greenville, SC; [d]The University of Tennessee, Knoxville, TN

Corresponding Author:

Songning Zhang
Biomechanics/Sports Medicine Lab
The University of Tennessee
1914 Andy Holt Ave.
Knoxville, TN. 37996
Phone: 865-974-4716
Fax: 865-974-8981
Email: szhang@utk.edu

Abstract

Cycling is commonly prescribed for individuals with knee osteoarthritis (OA) but very little biomechanical research exists on the topic. Individuals with OA may be at greater risk of OA progression or other knee injuries because of their altered knee kinematics. This study investigated the effects of lateral wedges on knee joint biomechanics and pain in patients with medial compartment knee OA during stationary cycling. Thirteen participants with OA and 11 paired healthy participants volunteered for this study. A motion analysis system and a customized instrumented pedal were used to collect 5 pedal cycles of kinematics and kinetics, respectively, during 2 minutes of cycling in 1 neutral and 2 lateral wedge (5° and 10°) conditions. Participants pedaled at 60 RPM and an 80 watt workrate and rated their knee pain on a visual analog scale during each minute of each condition. There was a 22% decrease in the internal knee