Inclusion of a patella marker to improve functional model hip rotation tracking

Introduction

Hip rotation, as measured by 3-dimensional motion capture, has been shown to detect only 50-70% of true hip rotation [1]. Previous studies by Wren and McMulkin have shown that utilizing a patellar marker significantly improves conventional model tracking of hip rotation and reduces errors caused static calibration misalignment [2,3]. No studies have evaluated a similar methodology for models with functionally defined hip and knee axes (functional models).

Research Question

Will integrating a patellar marker into a functional model improve hip rotation tracking?

References

[1] doi:10.1016/0021-9290(92)90486-K

[2] doi:10.1016/j.gaitpost.2007.07.006

[3] doi:10.1016/j.gaitpost.2009.06.010