

Abstract:

Defining muscular weakness and gait alterations in chronic patellofemoral instability.

Patella instability is a common and yet understudied condition that affects primarily younger active individuals. A diagnosis of patella instability earlier in life is considered a significant risk factor for the early development of patellofemoral osteoarthritis. Unlike those with patellofemoral pain the gait and strength deficits in this cohort of patients has not been studied. Defining the impairments that make up specific cohorts of those with patellofemoral pain is essential to the development of effective evidence based interventions. The purpose of this study is to determine the gait and strength deficits between those with chronic patellofemoral instability, healthy control subjects as well as those with patellofemoral pain and no instability. 60 subjects (20 with patellofemoral instability, 20 with patellofemoral pain, and 20 healthy control subjects) will be recruited for this study. The patellofemoral instability group must meet specific clinical and radiographic criteria. The subjects in the patella instability group will be age and gender matched to the patients in the patellofemoral pain group as well as the control group. Subjects will undergo an instrumented gait analysis and their hip and knee strength will be measured. Additionally, we will measure the patients self reported pain and function. The results from this study will provide the field with some of the first evidence if a unique pattern of weakness and gait exists within a sub-population of those with patellofemoral pain. Furthermore, these results will direct future studies developing interventions that specifically target these impairments. Ultimately, this may help reduce the risk for future joint degeneration, disability and chronic pain in this population.