



Hussain Khan

2016 Collaborative Scholarship

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Host Institute: University of
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Association between objectively assessed physical activity measures and longitudinal knee structural damage

Summary

The relation of physical activity (PA) to the development of knee osteoarthritis (OA) is an important clinical and public health issue. Clinicians and researchers want to know whether PA, or specific types and characteristics of PA, are protective of knee OA or possibly a risk factor in disease development. PA is a modifiable lifestyle behaviour that can potentially be altered to counter the ever-increasing burden of disease. Exercise regimens and clinical trials are increasingly being designed to potentially prevent or at least delay the onset of OA through weight loss and muscle strengthening around the knee joint. On the flip side, increased loading of the knee joint through vigorous PA can also potentially accelerate the disease process. So a better understanding of the relationship between PA and structural/symptomatic progression of OA is imperative for delaying the onset and better management of the existing disease.

Studies looking at the association between PA and OA structural abnormalities have shown conflicting results.

Aims of this proposed scholarship are to:

- 1. Describe the association between physical activity level assessed using accelerometer and global knee structural changes assessed on radiographs and MRI scans.
- 2. Compare the association between physical activity and knee structural changes between participants with no/early osteoarthritis and advanced osteoarthritis.
- 3. Compare the effect of weight bearing and non-weight bearing physical activity/sports on individual knee structures