

**Dr. Orion Katayama**

**Dr. Samuel Howarth**

**Dr. Tyson Beach**

**Dr. Mohsen Kazemi**

**Research Funding Grant - Is there an association between measurements of passive hip rotation range of motion in young active participants in three different postures?**

**Abstract**

Adequate hip rotation mobility is essential for athletes participating in rotation-based sports, where passive hip range of motion is a pre-requisite of hip mobility. There are three common positions for assessing hip rotation range of motion (supine, prone, seated). However, studies have demonstrated that measurements in each position can be significantly different from one another. To our knowledge there have not been any studies that evaluated participants for consistency among all three positions for hip rotation range of motion. The objective of this study is to determine if there is an association with passive hip rotation range of motion obtained from different positions of assessment.

This will be a cross sectional measurement study. We will recruit 96 young and active participants. Measurements of passive hip rotation range of motion will be obtained from each participant in each of the 3 positions in a single session. Each participant will be randomly assigned to one of 12 possible orders for the 3 positions. Blocking will be used to ensure that 8 participants (counter-balanced to 4 male and 4 female) are assigned to each of the 12 orders. Five trials of internal rotation, external rotation, and total arc of rotation will be measured with a goniometer in each of the 3 positions (supine, prone, seated). A trimmed mean of the 5 measurements (average of 3 middle measurements) for each position and direction will be determined. Data collected will be displayed in a scatter plot. Six Pearson correlations between pairs of measurements (dominant leg supine vs. dominant leg prone, non-dominant leg supine vs. non-dominant leg prone, etc.) will be performed to assess for systematic differences between positions.

*Dr. Orion Katayama is a second year Sports Sciences Resident at the Canadian Memorial Chiropractic College (CMCC). He graduated with honours from the University of Toronto with a Bachelors of Kinesiology in 2015. He graduated with Magna Cum Laude at CMCC with a Doctor of Chiropractic in 2019 before being accepted into the residency program the same year. His proposed thesis project for the Sports Sciences Residency Program is titled: "Is there an association between measurements of passive hip rotation range of motion in young active participants in three different postures?". His co-investigators are Drs. Tyson Beach, Mohsen Kazemi, and Samuel Howarth. The objective of this study is to determine if there is an association with passive hip rotation range of motion obtained from different positions of assessment. The results from this study will provide more evidence and rationale behind deciding which position to assess hip rotation range of motion both clinically and in future research.*



*Unfortunately, because of the concerns related to the COVID-19 pandemic he will be unable to proceed with this thesis project this year and will pursue a new thesis project that is still undetermined at this time.*