

## 45. SWACSM Abstract

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### Effects Of Various Self-Myofascial Release Devices On 60-Meter Sprint Performance

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#### ABSTRACT

Over the past decade, self-myofascial release (SMR) has become a common tool amongst athletes as it is highly regarded in its ability to increase range of motion (ROM), athletic performance, and post-exercise recovery. **PURPOSE:** The purpose of this study was to compare 60-meter sprint performances with and without two technologically advanced SMR devices - the percussive massager and clamp roller. Based on the available literature, it was hypothesized that sprint time metrics and stride biomechanics would be improved after the use of either of these advanced SMR devices compared to not using an SMR device. **METHODS:** The study consisted of 1 healthy young adult (25 years old) male. Prior to the COVID-19 pandemic, the study was intended to examine the effects of SMR devices on high schoolaged athletes. Due to the closure of public schools across the country, the study pivoted into a pilot study. The study implemented a randomized, cross over design over three study days, with 24 hours between trials. Three different intervention conditions -- percussive massager (PM), clamp roller (CR), and no roller (NR) -- were implemented. During the sprint, Sixty-meter time (60-m), Thirty-meter Time (30-m), Flying thirty-meter Time (30-60m), Foot Strikes, time differential from Sprint #1 & #2, Stride Length (meters), and Stride Rate (steps per second) were recorded and analyzed. Since this was a pilot study involving one participant, inferential statistics could not be performed on the data. Descriptive statistics (means, standard deviations) were calculated from the recorded variables and examined to determine any noticeable differences between interventions. **RESULTS:** PM improved sprint performance while CR showed no improvements on sprint performance but had improvements on stride length. PM was also better at reducing fatigue from sprint-1 and sprint-2 compared to CR and NR. **CONCLUSION:** Results show potential performance benefits of using percussive massagers as a way of improving sprint performance. While this study looked at the performance of a short sprint following an acute bout of SMR, future research should focus on benefits within the vertical and horizontal jump events in track & field as both of those require speed and range of motion on the approach to elicit strong performances.