



## Comparison of kinematic variables in four methods commonly techniques Jodan May Mawashi - Geri aims with focus on providing optimal method

*Poster Presentation*

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### Abstract

**Introduction:** Mawashi-Geri technique is one of the most kick in karate which is used in the kumite competitions more than any other leg kicks. This study aimed to examine the selected kinematic variables of the four common techniques in karate including Jodan May Mawashi –Geri with focus on providing optimal method.

**Methods:** The population of this study is Iran's national karate team members in adult's age class. Eighteen karate players participated voluntarily in this study. The subjects were asked to strike the opponent three times with their superior foot based on the four common techniques: Jodan May Mawashi –Geri. The best record of all three performances was used for data analysis. The recording was done in three dimensions. The peak velocity of the joints (pelvis, knee, ankle) was evaluated using Skill Spector software; the total transfer acceleration of the foot during the impact was evaluated using the ADXL193 uniaxial accelerometer. The one-way analysis of variance and Bonferroni post hoc test were used to compare the four common techniques. Data were analyzed using SPSS version 22 with a significance level of 0.05.

**Results:** The results showed that there is a significant difference in the joints' peak velocity of pelvis ( $p=0.02$ ), knee ( $p<0.001$ ), Metatarsus ( $p=0.03$ ). There were significant differences for the whole leg transitive acceleration during the performance ( $p<0.001$ ) and knee joint angle velocity ( $p=0.04$ ) between four methods.

**Conclusion:** It seems that performing Jodan May Mawashi –Geri.start by lifting the knee the first method because of the short distance and because the first phase of the technique is identical to Maei-Ger and ura Mawashi-Geri techniques Which makes it difficult for the opponent to recognize the impact, and increases the likelihood of hit and score points.

### Keywords

Kinematic; Mawashi-Geri techniques; Karate

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