

## Department of Biomechanics

Master Degree  
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Title	:	Effect of String Vibration Damper of Tennis Racket on Myoelectrical Activity of Wrist Extensors.
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Abstract	:	
<p>The purpose of this study was to investigate the effect of presence or absence of String Vibration Damper on the myoelectrical activity of wrist extensors during the impact phase of backhand stroke technique. The myoelectrical activity of wrist extensors tends to be changed by the effect of racket handle vibration owing to the stationary racket impact. 15 elite tennis players and 15 novice tennis players with an age ranging from 18-25 years volunteered to participate in this study. Only one racket was used and was impacted by a pressurized ball. The ball was projected at a constant velocity. The ball impacts were near to the racket throat area with and without using the string vibration damper. The participants were not allowed to see the ball impacts, as the stand was placed between the participant and the racket. The experiment was repeated three times at the same day with rest periods in-between. The wrist extensors EMG data were collected with and without using the String Vibration Damper. Results revealed that there was no significant effect of using string vibration damper on the mean values of maximum EMG activity of the examined muscles (<math>P &gt; 0.05</math>). But, the insignificant decrease in the myoelectrical activity of tennis beginners indicated that it may be preferable to use the string vibration damper with tennis beginners to protect them against the occurrence of lateral elbow pain. In conclusion, the results of study did not support the concept which refers to the String Vibration Damper reduces the myoelectrical activity of wrist extensor during impact and tends to reduce the incidence of lateral epicondylitis.</p>		
Key words	1.	String Vibration Damper.
	2.	Wrist extensors.
	3.	Myoelectrical activity Tennis.
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