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**Effect of fatigue on fascicle behavior of human biceps femoris
in eccentric knee flexions in vivo**Chihiro Fukutome¹, Toru Fukubayashi²¹Graduate school of Sports Sciences, Waseda University²Faculty of Sport Sciences, Waseda University

The purpose of this study was to measure the effect of fatigue on in vivo fascicle behavior of the biceps femoris (BF) muscle in eccentric contraction. Five healthy males performed maximal eccentric knee flexions before and after the fatigue task in the prone position. The fatigue task was consisted of 10 sets of 5 maximal isokinetic concentric and eccentric knee flexions at the velocity of 60 deg/s with 30 second rest between the sets. The range of motion was set from 0° (knee fully extended) to 100° for both of the maximal eccentric contractions and the fatigue task. The BF fascicle lengths at every

10° knee angle in the range from 10° to 80° were obtained from the ultrasonography. The BF fascicle lengths were found not to be significantly different between pre and post the fatigue task ($p > 0.05$).

The BF fascicle lengths between 10° and 80° were significantly different both pre and post the fatigue task ($p < 0.05$).

Maximal eccentric knee flexor torque between pre and post the fatigue task were not significantly different ($p > 0.05$). This might be the main reason for the BF fascicle lengths didn't change pre and post the fatigue task.