The latency of the peroneus longus in response to an inversion perturbation provides a key component in the prevention of lateral ankle sprains. A previous ankle sprain may reduce the protective mechanism provided by the peroneus longus and ankle taping is commonly applied to assist the peroneus longus to help prevent lateral recurrent ankle sprains. The purpose of this study was to determine the effects a previous lateral ankle sprain and ankle taping have on the latency of the peroneus longus using a mechanism other than the tilt platform to force the ankle into inversion. An outer sole with fulcrum was developed to cause 25° of inversion at the ankle upon landing from a 27 cm step down task. Fourteen participants with a previous lateral ankle sprain of one ankle completed the study. Participants completed testing with and without ankle taping on both the previously injured and non-injured legs. Surface electromyography was used to measure the latency of the peroneus longus after the inversion perturbation. The data was analyzed with a 2 (leg) by 2 (ankle support) repeated measures ANOVA. The results revealed a significant interaction ($p = .039$) between the testing ankle (injured vs. non-injured) and taping condition (ankle tape vs. no ankle tape), where ankle taping reduced the latency of the previously injured ankles but had no effect on the non-injured ankles. The results support the use of ankle taping as a preventative measure against recurrent lateral ankle sprains.