

Acute Effects of Dynamic and Static Stretching During Warm-Up on Balance and Agility for Untrained Adults

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Establishing an effective pre exercise routine is important when taking on physical activity.

Purpose: The purpose of this study is to examine and compare the acute effects of static and dynamic stretching during warm-up on the performance of the participants with respect to balance and agility.

Method: This study was conducted on adult untrained males between the ages of 18 and 30 years. Fifteen subjects (N=15) volunteered to participate in this study. Before onset of test protocol, participants were explained the procedures of testing and training over three sessions, which was performed on three different days within one week. They were instructed to begin with a three minute warm up jog on each day of testing followed by either non stretch routine (session 1), static stretch routine (session2) or complete a dynamic stretch routine (session 3). After completion of warm up routines, individual's balance and agility were tested. To measure balance, subjects were asked to complete a 30 seconds static stability on Bosu while standing single-leg. Agility was measured by timed Nebraska agility drill.

Results: Mean differences across conditions were analyzed using a within subject repeated measure ANOVA. If a significant interaction effect was detected, BONFERONNI POSTHOC testing was used to determine mean differences between conditions. Statistical significance was set at $p \leq 0.05$. Furthermore, COHEN'S D effect sizes were run to determine the size of the effect between conditions. Dynamic stretch and static stretching warm up had a significant effect on agility and balance performance compared to no stretching. However, static stretching had no remarkable effect on balance in comparison to no stretching, but it did influence agility. Dynamic versus static warm-up group performed similarly statistically but based on effect size analysis, the dynamic group had larger effect size than static.

Conclusion: This study reported similar outcomes to those previously published on the effects of stretching on balance and agility that used laboratory equipment. We showed that similar results can be produced by applying low cost field assessment.