Mid Atlantic Regional Chapter
of the
American College of Sports Medicine

Annual Scientific Meeting, November 1st – 2nd, 2019
Conference Proceedings
International Journal of Exercise Science, Volume 9, Issue 8

Effects of a Novel Ground-Based Movement Training Program on Functional Movement, Flexibility, Strength and Endurance

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Ground-based movement training (GMBT) is a unique form of bodyweight training that incorporates various animal poses, transitions, and crawling patterns to reportedly improve fitness and performance. GBMT is growing in popularity and being used in numerous settings including general fitness, strength and conditioning for sport, and physical rehabilitation. Unfortunately, little evidence exists to validate claims made by commercial GBMT programs and to guide practitioners in the best use of GBMT. **PURPOSE:** To assess the impact of 8 weeks of a commercially available GBMT program on functional movement, dynamic balance, active joint range of motion, and upper body muscular strength and endurance. **METHODS:** Forty-two (males = 19; females 23) physically active college-age (19.76 ± 2.10 years) subjects were randomly assigned to a GBMT or control (CON) group. The GBMT group performed 60-minutes of GBMT twice a week for 8 weeks in addition to their normal physical activity, while the CON group maintained their normal physical activity throughout the intervention period. Two-way mixed ANOVA with repeated measures was used to assess differences between groups. **RESULTS:** The GBMT group showed significantly greater improvements than the CON group in overall functional movement screen composite score (mean ± SD:1.62 ± 1.53 vs. 0.33 ± 1.15 points, $p = 0.004$), functional movement patterns (0.81 ± 0.87 vs. 0.00 ± 0.71 points, $p = 0.002$) and fundamental stability patterns scores (0.57 ± 0.75 vs. 0.05 ± 0.50 points, $p = 0.011$). Additionally, the GBMT group showed significantly greater improvements than the CON group for hip flexion (right 9.10 ± 4.46 vs. 2.88 ± 7.27 degrees, $p = 0.002$; left 7.06 ± 5.91 vs. 1.10 ± 6.51 degrees, $p = 0.004$), hip lateral rotation (right 6.27 ± 7.28 vs. -0.10 ± 5.24 degrees, $p = 0.002$; left 5.09 ± 7.25 vs. -0.31 ± 6.97 degrees, $p = 0.018$) and shoulder extension (right 4.16 ± 9.10 vs. -4.23 ± 8.72 degrees, $p = 0.004$; left 7.08 ± 11.37 vs. -2.12 ± 9.89 degrees, $p = 0.008$). **CONCLUSION:** Our results indicate that GBMT can improve functional movement patterns and various active joint ranges of motion.

Supported by Grove City College Jewell, Moore, & McKenzie Fund