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The Effects of a Novel Muscle Activation Technique on Performance Parameters in Collegiate Football Players

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Self-administered neuromuscular activation techniques (NMAT) implemented during athletic warm-up routines is a novel concept proposed to improve athletic performance, such as flexibility, agility, strength, power, and speed. At present, a paucity of research exists to support such claims. **Purpose:** To analyze the impact of NMAT on athletic performance measures when used in addition to a standardized dynamic warm-up. **Methods:** Fourteen Division III male collegiate football players (age 19.4 $\pm$ 1.0 years, mass 93.9 $\pm$ 24.6 kg.) completed a randomized crossover study consisting of three performance testing sessions following a control condition (dynamic warm-up + 5-minute brisk walk at a 4.8 km/hr. pace (CON)), and two experimental conditions including a dynamic warm-up + NMAT (NMAT) and dynamic warm-up + sham (SHAM). Performance testing consisted of sit & reach, pro-shuttle, handgrip strength, vertical jump, and 40-yard dash. **Results:** There were no significant differences between the CON, NMAT and SHAM for the sit & reach (23.0 ± 7.7, 24.0 ± 9.0, 24.3 ± 8.6 cm; $p = 0.310$), pro-shuttle (4.87 ± 0.27, 4.89 ± 0.31, 4.84 ± 0.31 sec; $p = 0.821$), right handgrip (53.93 ± 8.20, 54.71 ± 8.84, 55.29 ± 9.19 kg; $p = 0.504$), left handgrip (52.43 ± 8.62, 51.29 ± 8.95, 53.21 ± 9.67 kg; $p = 0.239$), vertical jump (48.9 ± 6.3, 49.2 ± 6.2, 49.7 ± 5.8 cm; $p = 0.508$), and 40-yard dash (5.41 ± 0.29, 5.44 ± 0.33, 5.40, ± 0.30 sec; $p = 0.500$). **Conclusion:** NMAT appears to be a technique that is easy to learn, safe and quick to administer, however, there were no acute benefits of adding NMAT to a standard dynamic warm-up for the purposes of enhancing acute flexibility, speed, agility, strength, and power. Many questions remain concerning NMAT (e.g., appropriate dosing, timing, and sequencing, etc.) and further research is needed to draw stronger conclusions regarding potential benefits.