The Effects of Foam Rolling vs Dynamic Stretching on Anaerobic Performance

Lawton, J., Pabon, R., Kline, S., Carter, Z., Owens, S., Sanders, J., Robinson, R.
Shippensburg University, Shippensburg, PA

Foam rolling is a growing trend in the fitness industry for all ages and fitness levels. It is commonly used to loosen muscle, alleviate pain, and improve performance, however more research is needed to support these claims. It has been well supported by studies that dynamic stretching has a positive effect on anaerobic performance but to date few investigators have studied the use of foam rolling prior to anaerobic exercise. **PURPOSE:** To examine the impact of pre-performance foam rolling as compared to dynamic stretching on anaerobic performance. **METHODS:** Ten college aged individuals (6 male & 4 females, age 20.8 ± 1.32 yrs), with no prior lower extremity injuries, volunteered for this study. Three tests were used to assess anaerobic power; vertical jump (VJ), broad jump (BJ) and a 20 yard sprint (ST). Prior to the intervention and tests, each subject jogged at a self-selected pace for 5-10 minutes until 60% of age-predicted heart rate maximum was reached. Each subject performed the three tests on each of two intervention days: dynamic stretching and foam rolling as well as a control day for comparison. A day for rest was given between intervention days to prevent fatigue from affecting the data. On a foam roll day, subjects rolled each lower extremity muscle for two sets of 30 s prior to performing the anaerobic test. On dynamic stretching day, subjects performed six different dynamic stretches twice for a distance of 10 yards each. Subjects performed each test three times and the best trial was recorded. **RESULTS:** There were no significant differences ($p > .05$) for either intervention for all three tests of anaerobic power. Data for the control, dynamic stretching and foam rolling for each test are as follow, respectively: VJ height (m) (0.57 ± 0.16; 0.58 ± 0.15; 0.60 ± 0.14; $p = .93$), BJ distance (m) (2.07 ± 0.36, 2.11 ± 0.36, 2.09 ± 0.41; $p = .98$), 10 yard ST time (s) (1.87 ± 0.18, 1.86 ± 0.13, 1.85 ± 0.15; $p = .95$) and 20 yard ST time (s) (3.21 ± 0.309, 3.19 ± 0.22, 3.19 ± 0.27; $p = .98$). **CONCLUSION:** There were no differences in anaerobic performance between each of the pre-performance techniques. Expected differences because of the dynamic warm-up did not occur. The jogging warm-up alone may have been sufficient for optimal performance. Perhaps the dynamic stretching protocol needs to be more controlled and specific for each of the tests.