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vibration training machines

Flexibility enhancement with vibration: Acute and long-term.

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INTRODUCTION: The most popular method of stretching is static stretching. Vibration may provide a means of enhancing range of motion beyond that of static stretching alone. **PURPOSE:** This study sought to observe the effects of vibration on static stretching to determine whether vibration-aided static stretching could enhance range of motion acquisition more than static stretching alone in the forward split position. **METHODS:** Ten highly trained male volunteer gymnasts were randomly assigned to experimental (N = 5) and control (N = 5) groups. The test was a forward split with the rear knee flexed to prevent pelvic misalignment. Height of the anterior iliac spine of the pelvis was measured at the lowest split position. Athletes stretched forward and rearward legs to the point of discomfort for 10 s followed by 5 s of rest, repeated four times on each leg and split position (4 min total). The experimental group stretched with the device turned on; the control group stretched with the device turned off. A pretest was followed by an acute phase posttest, then a second posttest measurement was performed following 4 wk of treatment. Difference scores were analyzed. **RESULTS:** The acute phase showed dramatic increases in forward split flexibility for both legs ($P < 0.05$), whereas the long-term test showed a statistically significant increase in range of motion on the right rear leg split only ($P < 0.05$). Effect sizes indicated large effects in all cases. **CONCLUSION:** This study showed that vibration can be a promising means of increasing range of motion beyond that obtained with static stretching in highly trained male gymnasts.

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