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Effect on flexibility and vertical jump in children through warm up protocol

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■ **ABSTRACT**

This study assessed the acute impact of warm up protocol on children's flexibility and vertical jump performance. Forty, year 6 children (Mean age, stature and mass ± S. D. = 10.75 ± 0.4 years, 1.46 ± 0.7m and 37.1 ± 7.2 kg, respectively) participated in the study and participated in 3 experimental conditions: no warm up, static warm up and dynamic warm up in a randomized order. Low back and hamstring flexibility was assessed using the sit and reach test and vertical jump height was assessed using a digital jump mat following each condition. Results indicated no significant differences in sit and reach scores across conditions ($P>0.05$). Significant differences were evident in vertical jump scores across conditions ($P<0.01$). Sit and reach scores (m) were 0.189 ± 0.05, 0.186 ± 0.05 and 0.193 ± 0.05 following no warm up, static warm up and dynamic warm up, respectively. Vertical jump height was significantly higher following the dynamic warm up protocol compared to the static warm up protocol. Vertical jump scores (m) were 0.276 ± 0.04, 0.254 ± 0.03 and 0.284 ± 0.04 following no warm up, static warm up and dynamic warm up, respectively. These results indicate that an acute dynamic warm up can enhance children's fitness performance in activities that require a high power output whilst maintaining joint range of motion. However, participation in an acute static warm up is detrimental to performance of activities where high power output is needed.

■ **KEY WORDS :** Performance, Stretching, Dynamic, Vertical jump, Sit, Reach

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