

## **Core Muscle Activation Increases Range of Motion in Dancers Performing Developé**

Kolbe M. Rubin, Rebecca Kudrna.

DeSales University, Center Valley, PA

Dancers use core activation in much of their work; however, it has yet to be proven that conscious core activation can actually improve the range of motion (ROM) of a dancer. **PURPOSE:** The purpose of this study is to determine if increased core activation would be associated with an increased ROM in dancers performing the developé, a common ballet skill. **METHODS:** Thirteen collegiate dancers with at least 5 years of dance training volunteered to participate in this study. High speed video analysis was used to measure the maximum leg height in three different ways, (active developé, passive developé, and developé with a simultaneous core activation technique). **RESULTS:** As expected a repeated measures ANOVA ( $F=9.967$ ,  $p=0.01$ ) and post hoc comparisons demonstrated significantly higher leg height in the passive developé than in either other condition ( $F=7018$ ,  $P=0.02$ ). The developé with a simultaneous core activation technique was also significantly greater than the standard, active performance of the developé ( $F=6.527$ ,  $P=0.025$ ). **CONCLUSION:** Based upon this study it appears that dancers would be able to significantly increase their maximal leg extension in developé position if they were able to strongly activate the core musculature. The core activation technique used in this study could not be performed by dancers in the midst of choreography. Future research should seek ways to activate the core without interfering with the aesthetic quality.