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### Anaerobic Power of Division-1 Competitive Dancers

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Competitive dance routines are short (<3 min) duration and high-intensity involving repeated jumps and turns which require high-power outputs. Currently, data characterizing the anaerobic power profile of competitive dancers is lacking. **PURPOSE:** To characterize the anaerobic power capabilities of D1 collegiate competitive dancers. **METHODS:** Anaerobic power was determined in 24 D1 competitive dancers. Testing occurred over two visits separated by >48 hours to determine power output (PO) through a variety of performance tests. Day 1: Subjects were assessed for height (cm), body mass (kg), resting heart rate (bpm), and blood pressure (mmHg). Following a standardized warm-up, subjects performed a 30s Wingate Anaerobic Test (resistance: 7.5% of body mass) to measure anaerobic PO. Day 2: Following a standardized warm-up subjects performed 3 maximal countermovement vertical jumps followed by a 3-min all-out cycling test (resistance: 3.5% of body mass) to determine critical power (CP) and anaerobic work capacity ( $W'$ ). CP was estimated by the mean power of the last 30 secs of the 3-min all-out cycling test, while  $W'$  was estimated using the following equation  $W' = 150s (P_{150} - CP)$ , where  $P_{150}$  is the mean power during the first 150secs of the all-out test. Peak PO during vertical jump testing was calculated based on published equations. All data are reported as Mean  $\pm$  SE. **RESULTS:** Height ( $162.5 \pm 0.98$  cm), body mass ( $61.88 \pm 1.63$  kg), resting systolic and diastolic blood pressure ( $118 \pm 2$  mmHg and  $72 \pm 2$  mmHg, respectively), and resting heart rate ( $73 \pm 3$  bpm) were within normal ranges of college-age females. Dancers had a vertical jump height of  $33.97 \pm 0.83$  cm; peak PO calculated from jump height was  $2824.1 \pm 128.6$  W and relative peak PO was  $45.7 \pm 78.9$  W/kg. Absolute peak PO during the Wingate Anaerobic Test was  $629.04 \pm 18.08$  W and relative peak PO was  $10.19 \pm 0.20$  W/kg, with an average absolute PO of  $507.58 \pm 14.21$  W and average relative PO of  $8.21 \pm 0.12$  W/kg. Critical power of the dancers occurred at an absolute PO of  $202.45 \pm 6.87$  W and relative PO of  $3.25 \pm 0.07$  W/kg with a  $W'$  of  $4101.3 \pm 524.2$  kJ. **CONCLUSIONS:** Competitive dancing requires high-power outputs and anaerobic capacity over short durations. Data presented in this study may provide coaches and practitioners valuable information on the anaerobic power characteristics of competitive dancers.