

## Message from the State Director

This has been a great year for the Kentucky NSCA. Our Member numbers continue to grow and the latest state conference at Georgetown College on January 21 was an outstanding success. This conference saw an attendance increase of approximately 25% over the previous event, and included a greater number of students and rehabilitation professionals. I would like to thank coaches Bill Cronin and Shan Housekeeper for allowing us to use the athletics weight room at Georgetown College. I would also like to thank everyone at Georgetown College's Conference and Leadership Center for providing wonderful facility assistance and service. Finally, I would like to give a big thanks to all of the presenters and attendees for making this a great event. The presenters, contact information, and presentation topics from this event are listed below.

Dr. Brian Jones, CSCS  
KY State Director  
Brian\_Jones@georgetowncollege.edu  
502-863-7048

## Kentucky State Winter Conference Presenter Contact Information

*The Two Faces of the Placebo Effect*  
Brian Jones, PhD, CSCS  
Brian\_Jones@georgetowncollege.edu

*Durability in Athletics*  
Eric Hammer, MS, CSCS  
Eric.hammer@louisville.edu

*Science and Theory of Elastic Band Training*  
Brian Wallace, MS, CSCS  
Brian.wallace@uky.edu

*Muscle Dystrophy*  
Jean Kiernan, PhD  
Jean\_Kiernan@georgetowncollege.edu

*Youth Sports Specialization*  
Chris Sharrock, DPT, CSCS  
crsharrock@gmail.com

*Reversing Dysfunction through Movement –  
KB Turkish Getup*  
Kris Freeman  
freeman@crossfitmaximus.com

*Proximal Stability and Sports Performance*  
Thomas Palmer, MEd, CSCS  
Tgpalm2@uky.edu

*Teaching/Coaching Olympic Lifts in a Large  
Group Setting*  
John Spurlock, MS, CSCS  
Jespur2@uky.edu

*Dissecting the Split Squat/Lunge*  
Molly Galbraith, MBA  
Mmgalb727@yahoo.com

*Multi-joint Training for High School Soccer*  
Brian Ray, NSCA-CPT  
bray@lexingtonchristian.org



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information.

## Posters Presented at the Kentucky State Winter Conference

### Comparison of Isokinetic Hip Abductor and Adductor Peak Torque and Ratio between Sexes

Dai Sugimoto<sup>a,d</sup>, Carl G. Mattacola<sup>a</sup>, David  
R. Mullineaux<sup>c</sup>, Thomas G. Palmer<sup>a,b</sup> and  
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University of Lincoln, Lincoln, UK

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Human Performance Laboratory, Division of  
Sports Medicine, Cincinnati Children's  
Hospital Medical Center, Cincinnati, Ohio,  
USA

<sup>e</sup>Sports Health and Performance Institute,  
Department of Physiology and Cell Biology,  
Orthopaedic Surgery, Family Medicine, and  
Biomedical Engineering, The Ohio State  
University, Columbus, Ohio, USA

*Introduction:* Recent clinical studies have reported an association between weak hip musculature and altered knee kinematics, which are linked to risk factors for knee pathologies in female population. *Objective:* To evaluate hip abductor and adductor peak torque outputs and compare their ratios between sexes. *Methods:* Bilateral peak hip abductor and adductor torque were measured using an isokinetic dynamometer in 36 collegiate athletes (20 females and 16 males). All subjects performed two sets of five repetitions of concentric hip abduction and adduction in a standing position at 60°/second. Gravity

was determined as a function of joint angle relative to the horizontal plane and was corrected by normalizing the weight of the limb on an individual basis. The three highest peak torques were averaged for each subject. An independent t-test was performed to compare sex differences. *Results:* Males demonstrated significantly greater hip abductor peak torque compared to females (Females,  $1.13 \pm 0.20$  N-m/kg; Males,  $1.29 \pm 0.24$  N-m/kg,  $p=0.03$ ). Neither hip adductor peak torque nor their ratios differed between sexes. *Conclusion:* Sex differences in hip abductor strength were observed. Weaker hip abductor in females may be related to higher risk of knee pathologies. Inconsistency of the ratios in literature may stem from absence of gravity correction.

### Effect of Training Surface on Performance Measures in Female Athletes

Matt Lewis, JW Yates, Jody Clasey, Patrick McKeon, Mark Abel

University of Kentucky, Lexington, Kentucky

*Purpose:* Evaluate the effect of training surface on muscular strength, speed, agility, and anaerobic power and endurance in female collegiate athletes. *Methods:* Seventeen female collegiate athletes volunteered to participate in this study (Age:  $19.59 \pm 0.80$  yr, Height:  $1.68 \pm 0.04$  m, Mass:  $66.74 \pm 12.06$  kg). Subjects were randomly assigned to train on hardcourt or sand. Subjects were pre-tested on two occasions, one week apart. Data were collected on vertical jump, broad jump, 40-yard sprint, 300-yard shuttle, t-test, and parallel squat. The intervention focused on plyometric and anaerobic exercises and was identical between the groups. After nine training sessions, all subjects completed a post-test. Repeated measures analysis of variance was used to compare the pre-

and post-test values for each performance variable. Reliability was calculated for each performance variable between the two pre-test values. *Results:* The broad jump demonstrated a significant interaction between time and group assignment ( $p=0.047$ ). The broad jump ( $p=0.015$ ), shuttle ( $p=0.039$ ), and parallel squat ( $p=0.002$ ) all demonstrated a significant effect for time. *Conclusions:* Training on sand did not negatively affect performance and improved broad jump performance. In both groups the training protocol induced positive changes in muscular strength (parallel squat), anaerobic endurance (300-yard shuttle), and muscular power (broad jump).

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### Sex and Heat Stress Effects of Pacing in Marathon Running

Nick Trubee

University of Kentucky, Lexington, Kentucky

*Purpose:* Recent research suggests that women tend to exhibit less of a precipitous decline in run velocity during the latter stages of a marathon than men when the covariates of age and run time are

controlled for. The purpose of this study was to examine this sex effect with the added covariate of heat stress on pacing, defined as the mean velocity of the last 12.2 kilometers divided by the mean velocity of the first 30 kilometers. *Methods:* Subjects included 22,990 men and 13,233 women runners from the 2007 and 2009 Chicago marathons for which the mean ambient temperatures were  $26.67$  °C and  $2.77$  °C, respectively. Each 5-kilometer split time was measured via an electronic chip worn on the participants' shoe. *Results:* Multiple regression analysis indicated that age, sex, heat stress, and overall finish time ( $p<0.01$  for each) were simultaneous independent elements of pacing. *Conclusion:* Women were consistently better pacers than men in both marathons and this sex difference was magnified from cold to warm race temperatures.

### Recent Events and News

Coach Justin Ford's Power Clean Clinic (11/5) – Focused Energy Studio in Lexington, KY was approved for CEUs through the NSCA.

USAW Level 1 Sports Coaching Certification (12/10-11) – Hosted by Brian Ray at Lexington Christian Academy.

Dr. Brian Jones has been named faculty and fellow of International Journal of Martial Arts and Sciences.

The NSCA is now a corporate sponsor of the Kentucky Physical Therapy Association (KPTA) and CEUs will be awarded by them for Kentucky physical therapists who attend NSCA events. Please pass this information along to your colleagues.

### Recent Publications and Presentations by Kentucky NSCA Members

Abel, MG, Mortara, AJ, and Pettitt, RW. Evaluation of circuit-training intensity for firefighters. *J Strength Cond Res* 25(10):

2895–2901, 2011.

Jones, B. Blood-borne pathogens in the grappling arts. *IMAS Quarterly* 1(1): 65-72, 2011.

Jones, B. Staph infections and lifters. *MILO* 19(3): 37–38, 2011.

### Upcoming Events

NSCA Kentucky State Summer Conference – August 2012 – Location and date: TBA

### Education Recognition Program

The NSCA recognizes academic programs which meet specific criteria in three different categories; Personal Training,

Strength and Conditioning, and Graduate Studies. Recognized programs gain the prestige of NSCA recognition which will improve student recruitment. Details are available at, <http://www.nasca-lift.org/ERP/>.

### The NSCA and Your Event

Continuing education is important for professional development and maintaining certification. If you are planning an in-state educational event that involves personal training, fitness, strength and conditioning, athletic rehabilitation, or another area served by the NSCA consider applying for NSCA CEUs. Recognized events will be publicized to all state members and be

posted on the national website. Contact the State Director for more information on getting your event recognized.

### Call for Content

If you have something of interest to Kentucky NSCA Members send them to the State Director for inclusion in the newsletter.

### Call for Speakers

If you are interested in speaking at upcoming events please contact the State Director with your resume/CV and proposed topic. Please indicate whether you would prefer a hands-on or lecture format.



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## NSCA State Newsletter

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