

resistance training exercises were completed in the following order for each testing session: Back Squat, Flat Bench Press, Bent Over Row, Overhead Press, Weighted Heel Raise, Upright Row, Skull Crusher, and Bicep Curl. Three sets to failure for each exercise were completed with recovery periods (24, 48, and 72 hrs) counterbalanced between baseline and recovery sessions for all subjects. Total amount of completed repetitions, during the first set, for baseline and respective recovery sessions were analyzed utilizing ANOVA. Results were considered significant at an alpha level of  $p \leq 0.05$ .

**RESULTS:** There was a significant ( $p = 0.001$ ) decrease in performance for most subjects (baseline =  $110.8 \pm 16.7$  reps vs. 24 hrs =  $99.8 \pm 18.4$  reps) after 24 hrs of recovery. No significant difference ( $p = 0.983$ ) occurred for 48 hrs of recovery possibly indicating that most subjects were recovered (baseline =  $112.8 \pm 19.4$  reps vs. 48 hrs =  $112.9 \pm 26.7$  reps). Finally, 72 hrs of recovery suggested significant ( $p = 0.038$ ) improvement for most subjects from the baseline session ( $107.5 \pm 13.3$  reps) vs. the subsequent resistance training session ( $113.2 \pm 14.2$  reps).

**CONCLUSIONS:** Most subjects were not recovered in 24 hrs and had significantly decreased performance whereas 48 hrs was sufficient recovery for most subjects. The optimal recovery period appeared to be 72 hrs, which resulted in greater resistance training performance for most subjects. Future research might evaluate resistance training recovery protocols in elite female athletes.

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## C-34 Free Communication/Poster - Sports Nutrition, Dietary and Fluid Intake

Thursday, May 29, 2014, 7:30 AM - 12:30 PM

**Room:** WB1

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1463 Board #203 May 29, 8:00 AM - 9:30 AM

### **Quality of Science Reports: Analysis of Sports Nutrition 2013 ACSM Annual Meeting Abstracts**

Ana P. Incera, Jorge A. Aburto-Corona, Alejandro Acuña-Espinoza, Catalina Capitán-Jiménez, Rebeca Flores-Salamanca, Pietro Scaglioni-Solano, Luis F. Aragón-Vargas, FACSM. *Universidad de Costa Rica, San Jose, Costa Rica.*  
(No relationships reported)

The objective of the ACSM Annual Meeting is the exchange of scientific information. Authors of free communications must submit abstracts by a specific deadline for evaluation. As the written record of those presentations, the abstracts are expected to be clear, objective, and informative. In addition, abstracts of experimental studies must include data to substantiate the conclusions being drawn. According to the program committee, "it is not satisfactory to simply describe what was found or to only include statistical results". Accepted abstracts are, however, sometimes confusing or misleading.

**PURPOSE:** to assess sports nutrition abstracts according to four specific criteria of clarity and internal consistency.

**METHODS:** all the abstracts ( $n = 93$ ) reporting experimental or quasi-experimental studies, from nine sports nutrition related free communication sessions, were selected for review. Each abstract was evaluated by two independent reviewers, according to four negative criteria; only those free from all four shortcomings were passed: A) The title is misleading (e.g. it reads *The effect of* but there is no effect). B) The results or conclusions are not consistent with the title. C) No data are presented or key results are omitted. D) One or more statements in the conclusions are not supported by the results. Sponsorship by an ACSM Fellow (FACSM) was also tabulated for posterior analysis.

**RESULTS:** Only 36 abstracts (38.7%) passed all four criteria, while many failed more than one criterion: A = 37, B = 35, C = 25, and D = 25. Failed abstracts were more likely to be sponsored by a FACSM (40) than not sponsored (17) ( $2 \times 2 \text{ Chi}^2 = 4.9, p < 0.05$ ).

**CONCLUSION:** This preliminary analysis of abstract quality reveals important shortcomings: more than 60% of the published abstracts failed, while FACSM sponsorship seemed to make a negative, rather than a positive, contribution. The absence of actual data in many abstracts is especially worrisome. This information is respectfully submitted to ACSM as a self-evaluation, an essential ingredient in any scientific undertaking.

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1464 Board #204 May 29, 8:00 AM - 9:30 AM

### **Academy of Nutrition & Dietetics Evidence Analysis Library Update on Nutrition in Athletic Performance**

Matt Beekley, FACSM<sup>1</sup>, Kim Beals<sup>2</sup>, Mujahed Khan<sup>3</sup>. <sup>1</sup>*University of Indianapolis, Indianapolis, IN.* <sup>2</sup>*University of Pittsburgh, Pittsburgh, PA.*  
<sup>3</sup>*Academy of Nutrition and Dietetics, Chicago, IL.*  
(No relationships reported)

**PURPOSE:** Nutrition interventions can positively affect training and competition for amateur and professional athletes. Thus, the Academy of Nutrition & Dietetics Evidence Analysis Library (EAL) is conducting a rigorous systematic review to address pertinent practice based questions regarding Nutrition and Athletic Performance. The findings from this evidence analysis process will be used to update the joint position paper of the Academy of Nutrition and Dietetic, Dietitians of Canada, and the American College of Sports Medicine.

**METHODS:** The Academy's systematic review methodology follows the standards of IOM and Cochrane. The workgroup determines the literature search plan and research questions. Articles which meet this plan are extracted and assessed for Risk of Bias. Following this data extraction and aggregation, the workgroup writes conclusion statements and grades them; this ensures a rigorous, systematic, and evidence-based analysis of nutrition and performance-specific literature interpreted by an experienced and professional body of experts from various related fields.

**RESULTS:** The workgroup was tasked to review the current scientific literature pertaining to 9 specific sports nutrition questions divided into 3 broad categories including energy balance and body composition, training and recovery. Included within energy balance and body composition research regarding negative energy balance on subsequent exercise performance, and timing, energy and macronutrient requirements to gain lean body mass were reviewed. The category nutrition during recovery from exercise includes research regarding carbohydrate and protein (both separately and in conjunction) and their effects on recovery were reviewed. Under nutrition during training, the optimal blend of carbohydrate intake for training, the effects of training with limited carbohydrate availability, and the effect of low and high glycemic index foods on metabolism and exercise performance were reviewed. The specific outcomes of the review will be reported in early 2014.

**CONCLUSIONS:** The Academy of Nutrition & Dietetics Evidence Analysis Library Nutrition and Athletic Performance workgroup has written and posted evidence summaries and conclusion statements for each of the questions on the EAL.

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1465 Board #205 May 29, 8:00 AM - 9:30 AM

### **Examining Primary Sources Of Nutritional Information Among Male And Female Division II Athletes**

Daniel J. Crusoe, Valerie J. Adams, Rebecca A. Schlaff, Jeremy L. Knous. *Saginaw Valley State University, Saginaw, MI.*  
(No relationships reported)

Athletes obtain information about nutrition from a number of sources. However, little is known about how sources of nutritional information vary by gender and among varying levels of competitive collegiate experience.

**PURPOSE:** To examine the influence of years of collegiate experience and gender on primary sources of nutritional information among male and female NCAA Division II athletes.

**METHODS:** The sample consisted of 56 male and 92 female NCAA Division II athletes at Saginaw Valley State University. All data were obtained via an online questionnaire and were self-reported by individual athletes. Participants reported their gender, years of collegiate experience, and were asked to numerically rank the following sources according to where they