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*General Editor:*  
Ruth Bowling

*Assistant Editor:*  
Tim Goss  
303-315-9011

## **Dr. James Hill Receives TOPS award at NAASO**

We are pleased to announce that Dr. James Hill received the prestigious TOPS award at this year's North American Association for the Study of Obesity (NAASO) conference. The TOPS Award recognizes singular achievement or contribution to research in the field of obesity. This award is made possible through an annual grant from the Take Off Pounds Sensibly Foundation (TOPS). Recipients receive a \$5,000 cash prize plus a travel grant to the Annual Scientific Meeting. The award is presented during a plenary session at which the recipient is invited to present the TOPS Award Lecture.

## **CNRU Pilot Awards**

The Colorado Clinical Nutrition Research Unit (CNRU), funded by the National Institutes of Diabetes & Digestive & Kidney Diseases (NIDDK), announced pilot project awards for this year. The recipients of these awards are listed below:

**Karen Jonscher, Ph.D.-** Assistant Professor, Department of Anesthesiology, UCDHSC, *Impact of Modulators of Sirtuins on Liver Metabolism in Obesity.*

**Benjamin Miller, Ph.D.-** Assistant Professor, Department of Health and Exercise Science, Colorado State University *Nutritional Strategy for Increased Mitochondrial Biogenesis.*

**Margaret Moriarty, MD, MS-** Clinical Fellow, Pediatric Endocrinology, UCDHSC *Pubertal Insulin Resistance: Effects of Obesity.*

## **CHN Staff Members Present at NAASO**

The 2007 Annual Scientific Meeting of the North American Association for the Study of Obesity (NAASO), also known as The Obesity Society, was convened in New Orleans, October 20<sup>th</sup>-24<sup>th</sup>. Two of our researchers, Vicki Catenacci, MD and Ed Melanson, Ph. D. presented posters at this event.

The following are the abstracts for presentation:

### **A Questionnaire to Measure Enjoyment of Active Leisure Time Pursuits**

Victoria Catenacci, Kelsey Gilmour, Mark Turbin, Susan Johnson, Rena Wing, James Hill, Daniel Bessesen  
University of Colorado at Denver and Health Sciences Center, Denver Health Medical Center and Brown University

**Introduction:** Enjoyment of active leisure time pursuits may be important in a person's decision to be physically active. However, whether a person's self-reported enjoyment of exercise correlates with measured physical activity levels is unknown.

**Objectives:** We designed the Feelings About Leisure-Time Activities (FALTAC) questionnaire to assess attitudes toward active leisure time pursuits. We examined the relationship between a positive effect towards physical activity as assessed by the FALTAC and subjective and objective measures of physical activity.

**Methods:** The FALTAC was administered to 52 adults (age 30-65) who also had weekly physical activity measured by the International Physical Activity Questionnaire (IPAQ) and with accelerometers. Subjects in three groups were evaluated: 1) individuals who maintained a weight loss of  $\geq 30$  lbs for  $\geq$  one year recruited from the National Weight Control Registry (NWCR, n=15); 2) a lean control group matched to the NWCR group's mean post-loss BMI (n=19), and 3) an obese control group matched to the NWCR group's mean pre-loss BMI (n=18). Overall attitude toward physical activity was measured with semantic differential items that asked respondents to report how they would feel after doing light, moderate, and vigorous physical activity for 30 minutes, using a number of adjective pairs. Alpha reliabilities for the six-item scales for light, moderate, and vigorous activity, respectively were high (alpha = .86, .92, and .91 respectively). A two-item measure assessed the importance of physical activity, using semantic differential items (alpha = .73).

**Findings:** The FALTAC measure of importance of physical activity was the best predictor of both subjective ( $r = .54$ ,  $p < .01$ ) and objective ( $r = .44$ ,  $p < .01$ ) activity level, followed by the FALTAC composite measure of enjoyment of moderate and vigorous activities. The NWCR group scored higher than the obese group on measures of

enjoyment of activity and importance of physical activity, as well as the measures of preference for physical over restful activity ( $p < .05$ ).

**Conclusions:** Measures of enjoyment of physical activity and importance of physical activity had acceptable internal consistency and reliability. These measures also showed expected relationships with an established measure of self reported physical activity and with actual level of physical activity, establishing convergent and criterion validity. Perceived importance of physical activity was a stronger predictor of both subjective and objective physical activity level than were measures of enjoyment of physical activity, suggesting the perceived importance of physical activity may play a more significant role than perceived enjoyment in determining habitual levels of activity.

### **Resting metabolic rate following diet-induced weight loss**

Edward L Melanson, Ph.D., Daniel Bessesen, M.D., Marc Cornier, M.D., Paul S. Maclean, Ph.D., Gary K. Grunwald, Ph.D., and James O. Hill, Ph.D.

Division of Endocrinology, Metabolism, and Diabetes<sup>1</sup>, and Center for Human Nutrition, University of Colorado at Denver Health Sciences Center

**Background** – It has been hypothesized that resting metabolic rate (RMR) is disproportionately reduced immediately following diet-induced weight loss, and requires a long period of time to stabilize at a new steady state. Whether RMR remains reduced during weight loss maintenance is highly controversial. The aim of this study was to measure RMR through a period of weight stabilization following diet-induced weight loss while controlling energy intake at the new weight maintenance levels.

**Subjects** – Seven sedentary, obese men and women (baseline BMI =  $35.0 \pm 5.1$  kg/m<sup>2</sup>).

**Methods** – RMR was measured prior to and during a 3 month period of sustained diet-induced weight loss (-400 kcal/day). For the first two weeks after the weight loss period, subjects consumed a weight-maintenance diet provided by the GCRC, and RMR was measured every 3 days. Follow-up measurements were also obtained at 1, 2, and 3 months while subjects maintained their weight loss (within -0.9 to +1.2 kg), and 1 year later. A weight maintenance diet was consumed for 3 days prior to each follow-up measurement. Subjects remained sedentary during the first 3 months of follow-up, but after this time were free to increase their physical activity levels. A fasting blood sample was obtained at each RMR measurement. Paired t-tests were used to estimate changes in RMR from pre-weight loss to post-weight loss and to compare changes during the ten post-weight loss measurements.

**Results** – Average weight loss was  $10.3 \pm 3.1$  kg (5.9% – 12.4%), and at 1 year follow-up was  $12.4 \pm 7.8$  kg lbs (6.6% - 22.6%). Compared with pre-weight loss baseline, RMR was decreased by  $179 \pm 31$  kcal/d on the first day of measurement following weight loss (Figure 1). This decrease remained stable over the following 3 months, ranging from 110-178 kcal/d for the nine subsequent measurements. No significant differences were noted among the ten post-weight loss measurements ( $p > 0.07$  for all). In addition, most blood measurements (e.g. fasting glucose, insulin, leptin, lipids) showed remarkable stability during the period of weight maintenance.

**Conclusion** – Following weight loss, when energy intake is held at constant weight maintenance levels, RMR reaches a new steady-state within 3 days and there is no evidence of variation in RMR for up to 3 months following diet-induced weight loss. Thus, these data suggest that variations in RMR after diet-induced weight loss are due to other factors, natural variation, or measurement variability.

## America on the Move Update

### Lifestyle Challenge

America On the Move is participating with Kaiser Permanente, Pfizer, the Center for African American Health, The Metro Denver Health and Wellness Commission and the American Diabetes Association in the Lifestyle Challenge Program coordinated by The Galloway Group.



The Family portion of the program had its official kickoff on Friday, October 5 with a healthy meal, taping of the initial segment of the families' docudrama and a program overview provided by each participating partner. Families completed their home food environment and physical activity audits and are now participating in their first AOM six week challenge. Monthly tip sheets and follow up support by "coaches" at AOM are planned for these families until June 2008.

Six businesses have also committed to taking part in the Lifestyle Challenge program using the Worksite Toolkit as their guide. One business was highlighted on the NBC morning show, Colorado and Company. During the six minute segment, Monica Krygowski, Program Coordinator for AOM, discussed the small change approach, which is the core message of the Lifestyle Challenge.

### AOM Walking Map for Anschutz Campus

America On the Move, along with much help from architect Noel Copeland, is in the process of creating a walking map of the new Anschutz Medical Campus. This map contains three walking tours, which include a Visitors'/First Timers' Tour, an Employee/Staff Tour, and a History Tour. Each tour is complete with stops along the way, allowing a person to learn lots of fun facts about the new campus. For example, did you know that President Eisenhower spent seven weeks there recovering from a heart attack in 1955? This map will be available soon on the UCHSC website, so keep your eye out to learn more fun facts about the Anschutz Medical Campus.

## Employee News

### New at CHN

**Monica Krygowski, MS, RD** began working as a Program Coordinator for America On the Move at The Center for Human Nutrition in May, 2007. Monica is a registered dietitian and holds her Master of Science Degree in Nutrition and Dietetics from Texas Woman's University in Denton TX. She has practiced dietetics in both the clinical and community settings and spent the last eleven years providing community wellness programs, classes and counseling in the State of Texas. This includes working for over seven years as Health Education Coordinator for Nutrition at the University of Texas at Austin. Monica is the current Chair and past Treasurer of the Weight Management Dietetic Practice Group for the American Dietetic Association and past President of the Austin Dietetic Association, Austin, Texas.

**Kristen Bing, RD** is a Professional Research Assistant for Carrie Brill and will be working primarily on the Carb study and the upcoming Energy Gap study. Kristen joined the CHN staff in March of this year. Kristen has been a registered dietitian since 2001. She holds a BS in Psychology and a BA in Communications Studies from Virginia Polytechnic Institute and State University. She completed her dietetic internship from the Medical College of Virginia in Richmond, VA in 2000. She has research experience from two different positions at General Clinical Research Centers and was also a clinical dietitian at The University of Virginia Health System for one year. Kristen, her husband, Doug, and their two dogs recently moved back to Colorado and are looking forward to a snowy winter!

**Nicole Edwards, BSc** is a Professional Research Assistant working on the SHIFT (Study of Health in Families in Transition to ...) project. Nicole moved to Denver with her family in March 2007 from Western Australia. In Australia she worked for the Combined Universities Centre for Rural Health, University of Western Australia as a research officer. Her work in Australia mainly focused on the promotion of physical activity and the influence of the environment on people's physical activity habits. She has a Bachelor of Science degree with a major in Health Promotion and is currently completing a Masters by research at the University of Western Australia using GIS to explore the effect of distance and the environment on the physical activity levels of 12-15 year olds in Geraldton, WA. She is looking forward to spending a white Christmas in the mountains with her family before heading back to the coast of Western Australia sometime in 2008.

**Jessica Kohring, BS** started in June of this year as a study coordinator in Clinical Trials. Jessica is originally from outside of Cleveland, Ohio and graduated from Wake Forest University in North Carolina in May with a Bachelor's degree in Health and Exercise Science. She enjoys working out, running and hiking with her twin sister and dog. She plans to attend medical school in the near future.

**Chrissy Schaefer, BS** is a Professional Research Assistant with America On the Move, and will be focusing primarily on the issues of childhood overweight and obesity. Chrissy officially joined the CHN staff on November 1<sup>st</sup>. She completed her Bachelor of Science degree in both Health and Exercise Science with a concentration in Health Promotion, as well as in Languages, Literatures and Cultures with a concentration in Spanish at Colorado State University. She completed a 600 hour internship with America On the Move this summer, and is very much looking forward to officially becoming part of the America On the Move team. She recently moved back to Denver from Fort Collins, and is apartment hunting with her yellow lab, Romo.

**Sarah Carrigan, BSN** just joined our staff and will work with Clinical Trials and on other projects. She graduated from Regis University with a Bachelor of Science in Nursing in 2005. She worked in the Operating Room at University of Colorado Hospital prior to joining the Center for Human Nutrition. Sarah also has a Bachelor of Arts from University of Colorado Boulder (1995) and worked for the Colorado Office of Economic Development and the British Consulate in Denver. She has lived in Costa Rica, Spain and Bolivia.

### Other Employee News

**Ray Browning, Ph. D.** recently received funding as co-investigator on SBIR grant entitled "New accelerometry methods for energy expenditure and fitness assessment devices." The goal of this research is to validate and test a new physical activity monitor device. Outcome measures are walking and running speed and estimated energy expenditure. He also recently received funding from the Big Green Company for a project that estimated energy expenditure in children who were dancing to songs from a new PBS television program called "The Big Green Rabbit".

**Vicki Catenacci, MD** and **Holly Wyatt, MD** recently had their article entitled "The role of physical activity in producing and maintaining weight loss" published in the July 2007 issue of *Endocrinology and Metabolism*

**Andra Price** and **Lauren Nelson** recently completed the "Courage Classic" to support the Children's Hospital of Denver. They raised over \$650.00 for the organization. They rode 154 miles through the glorious Colorado Rockies over three days, all for the children.



**Betsy Hubbard, MPH** participated in the 2<sup>nd</sup> annual Denver half marathon with over 7,000 participants on October 14. She participated and trained with the Leukemia and Lymphoma Society's Team in Training and raised over \$1800 for the organization. She battled temperatures in the low 30's, wind, and rain for 13.1 miles. That did not bother Betsy, she enjoyed every minute!

**Lisa Zucker** and her husband, Jonathan Stein welcomed their baby girl, Ruby Kaya, into the world yesterday! She was born at 12:05 a.m. weighing 6 lbs. 3 oz. and measuring 18 ½ inches long. Mother and baby are now at home and doing well.

**Vicki Catenacci**, her husband, Paul Lopach, and big sister Chiara welcomed Chelsea Kathryn, who officially joined their family early Halloween morning. She weighed in at 6 pounds, 3 ounces, 19 inches. Chelsea and her mother are doing well.

**The Director's Corner**  
**James O. Hill, PhD**

The year has rushed by so quickly! That's because we have been busy growing! We have added staff and research projects, and we have reached out to the community in so many ways. I am very pleased with our progress this year and want to thank our staff for a great year of work and progress.

We also are currently working on a new concept for a health and wellness center that will provide new programs for the University of Colorado Denver, the Denver metro area, and beyond. This is still in the vision and planning stage, but has a very promising possibility of fulfillment. I will keep you informed of the progress we make in this exciting endeavor.

As we end 2007, let me wish you a happy holiday season and a prosperous New Year. I deeply appreciate the great support we receive from our staff and friends.

*With warmest regards,*  
*Jim*