

NutritionNotes

Daily

2017 Scientific Sessions at Experimental Biology



ASN²⁰17 EB

 American Society for Nutrition's Scientific Sessions

 CHICAGO APRIL 22-26

HIGHLIGHTS

TUESDAY

W.O. Atwater Lecture
 1:00pm - 2:00pm
 Room S100BC

Learning Lab: How to Access and Use a Fiber and Health Outcomes Database for Researchers and Policymakers
 10:30am - 12:30pm
 Room S105A

The Integrative Physiology of a Meal
 3:00pm - 5:00pm
 Room S100BC

Beyond BMI: Health implications of weight and muscle mass in aging adults

There's a growing body of research on composition and quality of body tissue in older adults, and how these factors contribute to health and disease. Monday morning, four presenters discussed key issues like body mass index, the implications of surgery in underweight and overweight people, and how muscle mass changes with age.

Connie W. Bales, PhD, RD, Duke University, said at least 28 percent of older adults are obese. But BMI can underestimate body fat in older people. Because age moves fat from the limbs to the trunk, waist circumference can be a good choice for measuring older adult obesity, she said.

Bales said treating obesity in older adults is controversial because 25 percent of total weight loss may be lean mass. Older adults experience sarcopenic or dynapenic obesity that carries a cumulative risk of muscle deterioration plus excess adiposity. And the legacy effect of short-term

weight loss is that subsequent weight gain is almost all fat.

Another consideration is the obesity paradox. Bales said there is quite a bit of research showing that in cases of cancer cachexia, end-stage renal disease, chronic heart failure and stroke, people with a higher BMI survive longer than those with a lower BMI.

For obese older adults, Bales said pharmacologic agents are rarely prescribed, and she knows of no clinical trials on bariatric surgery.

Research does show that exercise alone produces very little body weight loss in obese older adults. Diet alone produces a significant reduction in body weight, but also reduces lean mass. A combination of diet and exercise produces the best outcomes.

However, many obese older adults are physically frail, making aerobic exercise impractical. Bales' pilot trial evaluated higher protein intakes, balanced through the day, as a substitute for exercise.

The trial involved men and women

age 60 or older with class II obesity. Along with a control group, one group was given 0.8 grams of protein per kilogram of body weight, or 1.2 grams of protein per kilo of body weight, daily. After six months, the first group had an average of 7.5 percent weight loss, while the second group had an average of 8.7 percent. There was no difference in lean mass changes in either group.

Overall, Bales said there are few studies on additive effects of diet plus exercise; impact of diet composition; people age 65 or older; men; and patient-centered outcomes like quality of life, cognition and economic impact.

Stephanie Studenski, MD, MPH, National Institute on Aging, discussed the impact of lean and fat mass on health in older adults.

She said research shows that in men, lean mass is strongly associated with strength and is modestly

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ASN's Legacy Continues

Honoring the past and celebrating the present is appropriate as we proudly announce the results of the 2017 election and look forward to the American Society for Nutrition's bright future.

At its annual Business Meeting yesterday, ASN announced new additions to its Board of Directors and Nominating Committee. These positions were elected by their peers. New volunteer leaders include:

Richard Mattes, MPH, PhD, RD
(Vice President Elect)

Dr. Mattes currently serves as Distinguished Professor of Nutrition Science and Director of the University Public Health Graduate Program and the Ingestive Behavior Research Center at Purdue University. Dr. Mattes' work over the last 35 years has focused on human feeding with a particular emphasis on the interface between the chemical senses and nutrition.

Zhaoping Li, MD, PhD (At-Large Board of Directors Member)

Dr. Li currently leads the UCLA Center for Human Nutrition. For



ASN past presidents gather for a photo at the fellows, 50-year member and past presidents luncheon.

nearly three decades, Dr. Li's research interest has focused on translational research in the role of macronutrients and phytochemicals in the prevention and treatment of obesity related chronic diseases.

Diane Birt, PhD (Nominating Committee Member)

Dr. Birt currently serves as Distinguished Professor in the Department

of Food Science and Human Nutrition at Iowa State University. Dr. Birt has a long history of research on diet and cancer prevention. More recently she has been engaged in research on the potential health benefits of botanical supplements.

"We are delighted to work with this line-up of visionary thinkers," said John Courtney, PhD, Chief Executive



Malden Nesheim, PhD, 50-year member.

Officer. "The Society is positioned for great success in the coming years."



nutrition.org/blog

Thriving rather than just surviving: Becoming a happy and effective scientist

Just prior to the kickoff event for the new ASN NutriLink and MentorLink, a Sunday afternoon session focused on skills that are essential for leveraging a scientific career.

Phyllis L.F. Rippey, PhD, University of Ottawa, began the session with a discussion of imposter syndrome.

Rippey said this syndrome, in which people feel like their successes are undeserved, ironically tends to be unique to successful people. In fact, Rippey cited surveys showing that as much as 93 percent of successful people feel this way.

Imposter syndrome is not about low self-esteem, Rippey said. Instead, it's a pattern of explaining away your accomplishments. Phrases like "I was just in the right place at the right time" or "I had help" or "they felt sorry for me," are all examples of imposter syndrome. People with imposter syndrome also see each new success as increasing the pressure to succeed in a way they can never repeat.

Imposter syndrome could be the result of upbringing—either by being excessively shamed or never learning it's OK to fail, Rippey said. Academia, with its emphasis on challenging everyone's work and publications, is particularly prone to imposter syndrome. It's also common in creative fields, where public tastes are varying and fleeting. And it's frequently seen in women, people of color or those who are minorities in a professional group, Rippey said.

The key to defeating imposter syndrome is to recognize that it's not unique to you. "It emerges from a culture that unfairly ranks people, and microaggressions that undermine women and people of color contribute to it," Rippey said.

Rippey suggested three ways to deal with imposter syndrome:

- Recognize that help is a good thing. Come to terms with the help you've received throughout your career, and recognize that just because people have helped you doesn't mean you haven't worked for what you have achieved.

- Loosen your standards. You don't have to be perfect, Rippey said. Instead, the goal should be competence. It's also OK to pretend you know more than you do, because you probably actually have enough knowledge that you can speak with accomplishment, she said.

- Do an accomplishment inventory. Hopefully you'll begin to see connections between your accomplishments, and realize you do deserve them.

Ellen B. Fung, PhD, RD, UCSF Benioff Children's Hospital, discussed what to look for in a mentor. The key, she said, is to not focus on a single "guru" mentor. You need mentors for professional development, scientific method and project-input development, emotional support, and networking, and it's difficult for one person to be good at each of these things.

Fung did a survey of mentors, most of whom were academic faculty, and presented the answers to the following questions:

Who mentored you? The majority were mentored by academic faculty, but 25 percent were mentored by peers and colleagues.

How were you introduced to your mentors? The majority met their mentors through faculty advisors. But some also met mentors at professional conferences.

What's the ideal approach for mentor introductions? Email first, then ask for face-to-face contact. When you meet your mentor, it's important to describe your goals and what you want out of the relationship. A lot of

people don't realize the mentee rather than the mentor drives the relationship, Fung said.

How do you choose the best mentors? They need to be knowledgeable or passionate about your field. They should have ties with graduate students, faculty members or post docs who may also be available to you. They should also be able to communicate with you in a way that makes you feel comfortable. Consider a mentor who has a similar personal background as you, Fung said. And avoid people who don't allow you to develop independently.

Michelle Braun, PhD, DuPont Nutrition and Health, offered tips on how to network. She said a majority of people identify themselves as shy or introverted, which makes them feel unprepared to network. So why not prepare for the worst, Braun said. Plan to be uncomfortable, and give yourself time to recover from a networking endeavor.

You can also take simple steps to

improve your networking strategies:

- Have an opening line ready when you meet someone.
- Be ready to share about yourself—have an elevator speech ready.
- Have another question ready to spurn conversation if needed. Don't forget networking is an exchange.
- Embrace your 1995 style and collect business cards, which is a physical reminder to follow up. Then set a deadline for when you'll complete the follow-up.
- Aim for daily social media engagement, including liking or sharing others' posts.
- Connect with people from related but different disciplines.
- Talk to everyone about what you do—you never know where opportunity is going to come from.

Christina Sherry, PhD, RD, Abbott Nutrition, discussed how to transition from mentee to mentor. Key concepts include being willing to listen, but also

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Postdoctoral position in Iron Metabolism and Erythropoiesis

UW-Madison-Nutritional Sciences

Applicants are sought for studies on how dysregulation IRP1-HIF-2 α axis contributes to diseases of erythropoiesis and iron metabolism (Cell Metabolism 17:282). We study the iron- and oxygen regulated RNA binding protein IRP1 that coordinates the fate of mRNA controlling iron metabolism with those involved in erythropoiesis. A central focus is how IRP1 links alterations in cellular iron and oxygen status to changes in the translational of the mRNA encoding the transcription factor HIF-2 α and the ensuing transcriptional output it dictates. Goals of our studies include new paradigms through which integrated control of HIF-2 α synthesis and action in physiological and pathophysiological scenarios influences human health. Contact: Prof. Rick Eisenstein, UW-Madison-Nutritional Sciences; (Eisenstein@nutrisci.wisc.edu).

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Postdoctoral Position in Nanomedicine and Obesity

University of Illinois at Urbana-Champaign

An NIH-funded postdoctoral position focused on nanomedicine and obesity is available in the laboratory of Dr. Kelly Swanson at the University of Illinois at Urbana-Champaign (<https://nutrsci.illinois.edu/directory/ksswanso>).

The funded research aims to develop and test nanomaterial-based prodrugs that efficiently target adipose tissue macrophages to reduce inflammation, diabetic phenotype, and off-target side effects (ACS Nano; 2016; 10:6952-6962). Ideal candidates will have a PhD with a background in rodent model experimentation and molecular techniques.

To apply, send a cover letter and CV including the names of 3 references to Kelly Swanson (ksswanso@illinois.edu).

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Product Development Manager

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We are seeking an experienced nutrition product development manager to join our Research and Development team. Beachbody is a rapidly growing, \$1 billion company that's revolutionizing the future of fitness. The position centers on managing a technologist and/or technician-level team in development of new and improved dietary supplements, from concept to commercialization – including representing R&D in cross-functional meetings and planning/executing plant trials and start-ups. Requirements: BS degree in Food Science, Engineering, Chemistry or Equivalent, with a strong preference for a higher degree and 4-7 years of product development experience.

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Obesity and Aging

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associated with gait speed, attenuated with BMI adjustment. But in women, lean mass is associated with strength but inversely with gait speed, attenuated with BMI adjustment.

“There are huge differences by sex about the relationship with body composition, health and function,” she said.

Studenski said research reveals other sex differences related to body composition. After accounting for age, height and fat mass, there is no effect on gait speed in men, and a marginal effect in the oldest women. But fat mass is strongly related to gait speed in both men and women. In men, higher lean mass and fat mass reduces the risk of death after accounting for age and BMI, but in

Bales said there are few studies on additive effects of diet plus exercise; impact of diet composition; people age 65 or older; men; and patient-centered outcomes like quality of life, cognition and economic impact.

women, neither type of mass contributes independently to mortality.

One study found that the sex difference in physical function is explained by a combination of fat in multiple locations in and around muscle, as well as lean mass. Muscle quality declines linearly with time in both sexes, but occurs more quickly in women than men.

There are debates about how muscle mass and quality should be measured. Studenski’s research shows grip strength/ASM/BMI explains muscle performance just as well as isokinetic dynamometry and thigh CT scans.

Studenski also cited studies showing that people with chronic heart failure have higher weight and absolute lean mass, but lower percent of lean mass. In COPD, prevalence of low mass with weakness increases with age. Low lean mass alone predicts survival in advanced peripheral artery disease. And both wasting and adiposity affect outcomes in colon cancer.

Kathryn P. Starr, PhD, RD, LDN, Duke University Medical Center, discussed the effect of weight and body composition in older adults undergoing elective surgery.

Starr cited research showing that undernutrition can contribute to slow wound healing, longer hospital stays, higher readmission rates and increased mortality. On the other

end of the spectrum, research on hospital mortality for cardiac surgery shows risk is associated mainly with class III obesity rather than class I or II. There’s actually a reduced risk in class I and II obesity compared with normal weight.

For people undergoing general surgery, Starr cited research showing that underweight people have the highest morbidity risk. Overall, Starr said BMI less than 18.5 significantly increases risk of in-hospital mortality and post-operative outcomes, so older adults who are underweight or maybe even normal weight may need preoperative nutrition support.

Conversely, there was a reduced risk in people who were overweight and obese, compared with people of normal weight. However, there were significantly higher post-operative complications in people who were overweight or obese compared with those who were underweight or normal weight.

A recent meta-analysis on sarcopenia and mortality in abdominal surgery showed sarcopenia doubled the risk of in-hospital mortality within 30 days post-surgery. There was also elevated risk as late as one year post-surgery. For colorectal surgery, sarcopenia resulted in a 74 percent risk of complications. Another study showed sarcopenia was associated with longer postoperative length of stay and increased risk of infection in people with colorectal cancer.

There are few studies on sarcopenic obesity and surgery, and findings tend to be conflicting. “We’re really in need of better measurements and identifying people who are more at risk,” Starr said.

Melissa Benton, PhD, RN, University of Colorado—Colorado Springs, discussed a small study she and a colleague conducted on the effect of lean mass on postural blood pressure in older women.

Older adults tend to drink less and become dehydrated. Muscle can counteract this effect, but does loss of muscle influence blood volume and pressure? That was the question behind Benton’s study.

Results showed that in older women with normal free fat mass index, postural blood pressure is stable. Overnight, they lose muscle water and strength, but not as much as women with lower muscle. Lean mass is protective in older women for overnight changes in hydration, postural blood pressure and maybe strength.

This can have implications for falls and fractures, Benton said. Falls tend to be more frequent at home in the morning when hydration is diminished, so loss of muscle and associated loss of body fluid stores may contribute to falls.

2017 SPONSORED SATELLITE PROGRAMS

Onsite registration is available. Arrive early to guarantee your spot. Seating is limited.

TODAY

Unraveling the Complexities of Food Allergy: Implications to the Nutritionist, Consumer, and Food Industry

12:45pm - 2:45pm • Room S105BCD

Organized and Sponsored by the Egg Nutrition Center and the National Dairy Council

The National Academies of Medicine recently released a report to address what is known about the prevalence, diagnosis, and management of food allergies, as well as research gaps. This session will review this report and share emerging research around the topics of timing for introduction of food allergens and a new approach to labeling allergens in packaged foods using a risk assessment framework.

Interventions that Impact Respiratory Viral Infections: Clinical Trials Demonstrate a Role for Probiotics in an Evolving Microbiome

1:45pm - 3:45pm • Room S106

Sponsored by DuPont Nutrition & Health

This session will review the latest study results that suggest the ingestion of specific strains of probiotics may modify the innate immune system and the inflammatory response in the nose following rhinovirus infection, the virus most commonly responsible for the development of the common cold.

Thriving

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being willing to reveal information about yourself. Sharing a relatable story can be more effective than preaching or telling someone what to do, Sherry said.

“You’ll have both formal and informal mentorship opportunities,” Sherry said. Informal mentorships include hallway chats at conferences, or coffee with a colleague. Formal mentorships should establish a time period, determine who schedules the meetings, provide objectives for meetings, and capitalize on formal training programs or other resources.

“Don’t think you need to put on a front that you know what you’re talking about. Being open and vulnerable about mistakes you have made can make you a better mentor,” she said. Understand that you and your mentee may have different personalities and ways of doing things.

Don’t let titles hold you back from helping someone, and don’t forget to continue your own self-development, Sherry said.

Barbara O. Schneeman, PhD, University of California, Davis, discussed how to build leadership skills for team management.

As a team leader, the focus shifts away from “what’s in it for me?” to “what’s in it for the team?” Schneeman said. Good leaders manage different personalities and work styles in diverse groups, enable problem solving, motivate and inspire the team, and manage the product timeline.

Another key skill is strategic planning and creating a vision. Schneeman said this includes formulating a purpose, principles and values; and keeping people from getting bogged down in issues.

Certain competencies are associated with leadership but are hard to achieve, Schneeman said, including dealing with ambiguity but still making de-

“Being open and vulnerable about mistakes you have made can make you a better mentor.”
—Christina Sherry, PhD, RD

isions, active listening, negotiating without making people feel demeaned, political savvy and priority setting.

Michelle McGuire, PhD, Washington State University, disclosed her secrets of knowing when to say “yes” or “no” to requests.

Happy, effective people put time and energy into things that support their core values and important roles, she said. So start by figuring out what you really value—what you truly need to help you grow in life—and write it down, McGuire said. Then define effectiveness—attending to all of your important roles and responsibilities, which can change over time—while honoring your core values. This is not the same as efficiency. “Efficiency is doing something well; effectiveness is doing the right thing well,” she said.

In conclusion, “saying no is overrated,” McGuire said. “Learning when to say yes is a crucial key to being a happy and effective scientist.”