

Women's Health *REPORT*

A QUARTERLY PUBLICATION OF WOMEN'S HEALTH DIETETIC PRACTICE GROUP

WOMEN IN TRANSITION TO MENOPAUSE: Key Nutrition and Health Considerations (Part 1) Dolores Wolongevicz, PhD, RD, LDN



Menopause is the phase in the adult woman's life characterized by the "physiologic or iatrogenic cessation of menses (amenorrhea) due to decreasing ovarian function¹." Amenorrhea for 12 months following the last menstrual period marks the onset of natural menopause². The average age of natural menopause for women in the US has been reported to be 51 years, but varies from woman to woman, with some women reaching menopause as early as 40 and others in their mid to late fifties^{3, 4}. Recent US census data indicate that about 43.5 million women are between the ages of 40 and 59, meaning that more than one quarter of American women, approximately 28%, are at or near menopause⁵. An additional 31.6 million are 60 years or older, translating to about 20% of women who are postmenopausal⁵.

The onset of natural menopause is gradual, with the process beginning several years prior to complete menopause. This transitional period is known as perimenopause and is characterized

by many endocrinological and physiological changes. Since the body is preparing to shift from a reproductive to non-reproductive state, there are marked changes in reproductive hormones during this time, which include reductions in estradiol, sex hormone-binding globulin (SHBG) and inhibin B, and increased levels of follicle-stimulating hormone (FSH), testosterone and other adrenal androgens^{6, 7}. These hormonal alterations are thought to con-

tribute to the changes in disease risk profile observed in peri- and early menopause, and appear to exert their effects independent of age, weight, lifestyle and other factors⁸⁻¹⁸. The hormonal changes of menopause are associated with increases in abdominal fat^{14, 18, 19}, shifts in cardiometabolic risk factors^{20, 21} such as higher total and low-density lipoprotein (LDL) cholesterol and lower high-density lipoprotein (HDL) cholesterol, as well as increased risk of metabolic syndrome (MetS)^{14, 22} and bone loss^{16, 23}.

The menopausal transition is also associated with a variety of physiological symptoms, the most common of which are vasomotor symptoms (VMS) such as hot flashes and night sweats. More than 50% of women report experiencing hot flashes and night sweats, and these often persist well into postmenopause^{4, 24}. A recent cross-sectional study of over 10,000 British women who were on average 10 years postmenopause reported that 54% continued to experience VMS²⁵. Other less common symptoms include vaginal atrophy and dryness, moodiness, irritability, depression, memory loss, insomnia or sleep disturbances, and menstrual irregularities.

Nutritional status, dietary quality, and other lifestyle behaviors, including physical activity, alcohol intake and smoking, are important factors in determining the health risks of women 40 years of age and older as they transition to menopause, and potentially impact the onset and severity of symptoms associated with perimenopause and menopause. This report highlights expert guidelines related to optimizing health and nutritional status of middle aged and older women during perimenopause and menopause. The companion piece examines the conventional treatment of VMS and emerging evidence of diet, physical activity, and other approaches to symptom relief.

HEALTH RISKS

Abdominal Fat: It is well established that the weight gain many women experience during their transition to menopause is age-dependent and not simply the result of hormonal-related changes also occurring at this time²⁶⁻²⁹. The Framingham Nutrition Studies have previously shown that women 20 years and older continue to gain weight into their sixth decade, with an average gain of 8.6 kg (approximately 19 lb) over 26 years of follow-up²⁶. Importantly, weight gain appears to be greatest in early adulthood but continues, albeit with lower velocity, thereafter. The overall Framingham findings are consistent with others reporting an annual weight gain of 0.4 to 0.75 kg (0.9 to 1.7 lb) in middle aged women 42 to 57 years old^{19, 27-29}. Evidence also suggests that changes in body fat distribution during perimenopause are related to hormonal shifts,

in this issue

Women in Transition (Part 1)	1
From the Chair and Editor	2
Evidenced Based Practice Present.	6
Women in Transition (Part 2)	7
Member Spotlight	12
WH DPG Research Brief	13
A New Beginning for Mentoring	14
Move More	15
Yoga for Menopause	16
WH DPG Group Leaders	18

Chair

Barbara E. Millen, DrPH, RD, FADA
whdpgchair@gmail.com

Communications Chair

Miri Rotkowitz, MA, RD
whdpgcommunications@gmail.com

Publications Editor

Heather Goesch, MPH, RDN, LDN
whdpgpublications@gmail.com

Assistant Publications Editor

Amber Payne

Resource Review

Currently Recruiting

Member Spotlight

Stefanie Casillas

Design and Layout

Steve Bonnel

Editorial Board

Miri Rotkowitz, MA, RD
Denise Andersen, MS, RD, LD, CLC
Jamie Mok, MS, RD
Kathleen Pellechia, RD
Maria Pari-Keener, MS, RD, CDN
Barbara Millen, DrPH, RD, FADA
Diana Cullum-Dugan, RD, LDN, RYT



FROM THE CHAIR Barbara E. Millen, DrPH, RD, FADA

I was working with the author of this double issue's two lead articles, Dr. Dolores Wolongevicz, when we were alerted to the bombings at the Boston marathon. We immediately turned on the news and witnessed the moment of the second bomb blast and observed the chaos in the crowds and then the first responders in their valiant efforts to provide assistance to victims, their families, and the police. Boston is our home. We know these streets. The marathon is a highlight of every year. Dr. Wolongevicz trained at Boston Medical Center. I have personally served in many faculty and administrative roles there and currently have many colleagues caring for the marathon victims and their families. This senseless cruelty is shocking. It is time for prayer, resolve and positive responses in as many ways as possible. Boston Strong is inspiring. While the outpourings of support cannot undo the horrific events, they can help those most closely affected and bring the City back to life. When the center of Boston reopened this past week, people thronged there to show their solidarity and support. It was a sight to behold and one that is very reassuring of the best parts of our humanity. It is a reminder too perhaps that to serve others is an important choice and our profession is pivotal in promoting the health and well-being of our nation.

I think you will find this issue of the Women's Health Report to be rich in detail and information on a topic that evades many nutrition textbooks and even expert guidelines – perimenopause and menopause. When we decided as a Dietetic Practice Group to expand our focus to include all life stages of women, we understood that tackling certain topics would be challenging. The ones we address in this issue are particularly complex since there is so much controversy on the role of nutrition in the transition to menopause, especially in the alleviation of its most common symptoms such as 'hot flashes'. Nonetheless, I believe we have addressed it successfully and bring to you two lead articles which highlight the key role of nutrition in both perimenopause and menopause. We also provide complementary features which examine yoga as a method of managing physical and emotional aspects of the transition to menopause, as well as physical activity for women of advancing age. We highlight some of the most recent research on nutrition in perimenopause and menopause, and have an interview with a WH DPG practitioner who is working with women of advanced age. This issue also provides members with information on our relatively new mentoring activities and the webinar series, which has been wildly successful, and is archived in the WH DPG website. We, like Boston, are also strong and getting even stronger as a DPG. Hopefully you will find this rich newsletter a major resource and inspiration.

The Women's Health Report (ISSN-3233) is a quarterly publication of the Women's Health Dietetic Practice Group (WH DPG) of the Academy of Nutrition and Dietetics. The WH Report features articles, as well as information on programs, materials, positions, and products for use of its readers. News of members, book reviews, announcements of future meetings, requests for information, or other items of interest to women and reproductive nutrition dietetics practitioners should be sent to the Newsletter Editor by the next published deadline date.

Subscription information:
Subscriptions are available for those are ineligible for Academy membership for \$32 (domestic); \$35 (international) to the WH Secretary. Back issues of the publication may also be ordered. Members: \$5 each; Non-members: \$10 each.

The statements in this publication do not imply endorsement of the WH DPG or the Academy of Nutrition and Dietetics. © 2013.

We're on the web!

www.womenshealthdpg.org



FROM THE EDITOR Heather A. Goesch, MPH, RDN, LDN

Hello! I am truly honored to come to you as the new Publications Editor for the Women's Health Report. I only recently became a member of the DPG, but have been passionate about women's health for some time. My special interest in perinatal health and nutrition developed during graduate studies at the University of Minnesota, where I completed the Public Health Nutrition MPH program and Dietetic Internship. Today my journey continues as Nutritionist II and Breastfeeding Peer Counselor Program Manager with the Women, Infants and Children program aboard Marine Corps Base Camp Lejeune. I look forward to learning more about all of you in the future!

As your Editor my hope is to continue offering relevant and stimulating pieces on a variety of topics, presented in a way that encourages reading the newsletter cover to cover. To this end, your comments, concerns and questions are always welcome. Many thanks to the DPG leaders, especially Miri Rotkowitz, for their patience and guidance.

In this special double issue of the WHR we explore healthy aging, highlighting a subject relevant particularly to older women – perimenopause and menopause. A comprehensive two-part feature from Dr. Dolores Wolongevicz discusses the transition into menopause, and then examines the evidence-based nutrition and lifestyle treatment recommendations. Pieces on restorative yoga and the current physical activity guidance for aging women expand on lifestyle treatment options; while Jamillah Hoy-Rosas, MPH, RD, CDE speaks to the clinical end of symptom alleviation. Not to be missed are two candid interview pieces: one from the WHR Assistant Editor, Amber Payne with Patty Poe EdD, RD, and another between WH DPG Past Chair, Maria Pari-Keener, MS, RD, CDN and Pat Slinger-Harvey, RD, our Mentoring Coordinator. As you can tell, there is a lot to take in, so grab a refill on your coffee or tea and check out the administrative updates from both the DPG and the Academy.

In one way or another, each of us is touched by the issue of aging — in our workplaces (e.g., long-term or acute care, home care, government agency or private practice) or with our own aging loved ones, including ourselves. As nutrition professionals and members of the WH DPG we are in a unique position to improve the general well-being, vitality and quality of life for this group, acting as passionate proponents of healthy aging, particularly for older women. I hope this jam-packed double issue sparks thoughtful discussion and action, both within the DPG and on larger platforms as well. Enjoy!

primarily FSH, independent of age. For example, Lovejoy et al. followed 103 Caucasian and 55 African American perimenopausal women over four years to assess changes in body fat distribution¹⁸. Women who were postmenopausal at Year 4 had a significant increase in visceral abdominal fat. Changes in visceral fat continued until onset of menopause and then stabilized postmenopausally. Similarly, in the multi-ethnic Study of Women's Health Across the Nation (SWAN) conducted across six states in the US, perimenopausal women gained 5.7 cm (2.2 in) in waist circumference over six years, with this rate slowing once the women reached menopause (i.e. 12-months after their last menstrual period)¹⁹.

Cardiometabolic Risk Factors: Total cholesterol and LDL increase during perimenopause^{15, 20}. A small follow-up study by Cho et al. measured changes in lipids and lipoproteins in 104 perimenopausal Korean women over two to four years¹⁵. During the perimenopausal period, there were increases of 10.9% (19.6 mg/dL) in total cholesterol and 18.6% (18.9 mg/dL) in LDL cholesterol. These elevations were dependent on changes in FSH levels and not related to changes in body weight. Comparably, in 1054 women in the SWAN study who had transitioned to menopause by Year 9 of follow-up, total and LDL cholesterol levels increased significantly from baseline²⁰. Blood samples were collected and analyzed annually. Both levels increased by approximately 10% from age-adjusted mean baseline levels of 191.8 mg/dL and 113.6 mg/dL, respectively. The changes were adjusted for age, ethnicity, study site, weight, smoking, physical activity, blood pressure and other cardiovascular covariates.

Metabolic Syndrome: MetS is a clustering of risk factors that can lead to heart disease, stroke and other cardiovascular diseases, as well as type 2 diabetes. These metabolic risk factors include abdominal obesity, glucose intolerance or insulin resistance, hypertension, hypertriglyceridemia, and low HDL cholesterol. Diagnosis of MetS is determined when three of the five metabolic risk factors present together.

Emerging literature suggests that the menopausal transition is also associated with the development of MetS¹⁴. In a separate analysis of the SWAN data, Janssen et al. reported the prevalence of MetS by the time of last menstrual period to be 32.7%¹⁴. Over nine years of follow-up, women were 45% more likely to develop MetS during perimenopause (95% CI: 1.35-1.56) and 24% more likely to develop MetS after menopause (95% CI: 1.18-1.30) compared to premenopausal women who were free of MetS at baseline. The authors attribute the increase in MetS prevalence to higher testosterone, which was an independent predictor of three of the five MetS components (waist circumference, HDL and glucose levels) after adjustment for age and other cardiovascular risk factors such as smoking and BMI. Of the hormones measured – estradiol, SHBG and testosterone – hormonal changes were dominated by elevations in testosterone levels; FSH was not measured in this study. It is reasonable to assume that FSH levels were higher in response to lower estradiol. Given that research has demonstrated a positive association of FSH in relation to abdominal fat distribution and other cardiometabolic risk factors, it is possible that testosterone is not the only hormone driving development of MetS during the menopausal transition.

Bone Loss: Estrogen inhibits bone resorption through a number of different mechanisms; hence, decreased estrogen production results in an increased rate of bone resorption^{16, 23, 30, 31}. For example, lower estrogen directly impacts estrogen-dependent mechanisms, whereby intestinal calcium absorption and renal tubular reabsorption are lessened^{16, 23}. Reduced dietary calcium utilization is compounded by age-related decreases in intestinal absorption¹⁶. Bone loss, especially at the spine and hip, begins in perimenopause in response to declining estrogen levels and continues well after menopause¹⁶. Further, perimenopausal women with VMS had higher bone turnover than those without VMS³². Osteoporosis is therefore a chief concern for both peri- and postmenopausal women.

Metabolism: Besides the aforementioned health risks, metabolism also slows prior to and at menopause¹⁸. Twenty-four-hour energy expenditure (24-h EE), as measured by a whole-room calorimeter, significantly decreased among women who became postmenopausal (-9.3%) at Year 4 of follow-up, and also among those who remained perimenopausal (-7%)¹⁸. The difference between the groups was not statistically significant. The clinical significance of these findings is that the reductions in 24-h EE observed by Lovejoy et al. correspond to about 200 calories per day¹⁸. Without changes in energy intake and output, this would potentially lead to an approximate annual weight gain of 9.5 kg (21 lb).

DISEASE PREVENTION AND RISK REDUCTION: Dietary and Lifestyle Strategies

Dietary Strategies: A balanced diet is the cornerstone of health promotion and disease prevention in middle aged and older women. As such, intervention strategies such as preventive medical nutrition therapies and dietary patterns that are consistent with those outlined in the *Dietary Guidelines for Americans* offer sound guidance to help mitigate menopause-related health risks and age-dependent changes in metabolism and weight³³. Further, dietary patterns found to be associated with high diet quality have consistently been shown to lower risk of diseases such as obesity, MetS, type 2 diabetes and cardiovascular disease (CVD)³⁴⁻³⁸. Dietary recommendations, therefore, tend to emphasize daily whole food intake patterns like those of the United States Department of Agriculture (USDA) and the Dietary Approaches to Stop Hypertension (DASH) diet. These food patterns will ensure women's nutrient needs are met given adequate calorie intake. An assessment of all foods and beverages consumed is necessary to determine where and how they are best incorporated into building a healthy eating pattern and controlling calorie intake for weight management. Encouraging increased physical activity will also help women achieve calorie balance to manage body weight. Specific guidelines of the *Dietary Guidelines for Americans* are summarized below.

Foods and Nutrients to Increase

As part of a healthy eating pattern, women in this age range should strive to meet the following recommendations regarding which foods and nutrients to increase while staying within their calorie needs.

Fruits and Vegetables: Increase consumption of fruits and vegetables. Average daily fruit and vegetable intake among women 31 years or older is about 1 and 1.5 one cup equivalents, respectively (excluding peas and dried beans)³⁹. The guidelines also advocate consuming a variety of vegetables, especially dark green, red and orange vegetables, beans and peas. Usual average intake of these types of vegetables among women in this same age range is reported to be 0.3 one cup equivalents³⁹. Incorporating more fruits and vegetables into these women's diets will help provide much needed potassium and fiber, which have been identified as "nutrients of concern" because few Americans consume these in adequate amounts³³.

Whole Grains: Increase whole grain intake. The guidelines recommend that at least half of all grains should be whole grains, which can be accomplished by replacing refined grains with whole grain options such as 100% whole wheat breads and pasta, as well as brown rice. The average daily intake for women 31 years or older is only about 0.7 one ounce equivalents³⁹.

Fat-free and Low-fat Dairy: Increase intake of fat-free or low-fat milk and milk products or fortified soy beverages. US women are falling short of meeting the Institute of Medicine's (IOM) calcium recommendations. The Dietary Reference Intake (DRI) for calcium, established as a Recommended Dietary Allowance (RDA), is 1000 mg for women 19-50 years and 1200 mg for women 51-70 years⁴⁰. Median dietary calcium intake of women 41-50 years who are not taking a supplement is 619 mg, and 601 mg for women 51-60 years⁴¹. Of those taking a supplement, women 41-50 years are consuming a median of 700 mg of dietary calcium and 213 mg from a supplement; whereas 51-60 year old women are obtaining 671 mg of calcium from food and 280 mg from a supplement⁴¹.

Encouraging consumption of calcium-rich foods like fat-free and low-fat yogurt, milk and cheese, as well as dark green leafy vegetables, sardines, legumes, and fortified soy beverages may be helpful in preventing bone loss. Vitamin D is also important to promote calcium absorption. While the definition of what constitutes adequate levels of vitamin D remains controversial, the recommendation set forth by the IOM is 600 IU/day⁴⁰. Dietary sources of vitamin D include fatty fish, fish liver oil, egg yolks, and fortified foods including milk and orange juice. Milk and milk products will also contribute to potassium in women's diets.

Protein Foods: Choose a variety of protein foods that are lower in solid fats and calories, and/or are sources of oils, such as legumes, lean meat and poultry, seafood, eggs, soy products, and unsalted nuts and seeds. The guidelines further recommend consuming about 8 ounces a week of a variety of seafood for prevention of heart disease, which is of particular concern for peri- and postmenopausal women. Seafood with lower and higher amounts of omega-3 fatty acids but lower amounts of mercury are great choices and offer variety. However, it is important to encourage consumption of higher omega-3 fish with lower mercury content, particularly salmon, light tuna, Atlantic and Pacific mackerel, lake trout, anchovies, herring, sardines and Pacific oysters, for cardiovascular protection. Perimenopausal women who are pregnant or breastfeeding should not eat tilefish, shark, swordfish or king mackerel because they are

high in mercury. While it is safe for these women to consume all types of tuna, including white (albacore) and light canned tuna, the white tuna should be limited to 6 ounces per week because of higher mercury content. For postmenopausal women, consuming a variety of seafood in the recommended amounts offers cardiovascular benefit with minimal risk of excess mercury exposure.

Protein foods such as lean red meat, poultry, fish, and eggs are also iron-rich. For perimenopausal women experiencing irregular menses along with heavy bleeding, iron is essential to prevent anemia. Other sources of iron include leafy greens and iron-enriched products such as cereals and grains.

Oils: Use oils to replace solid fats where possible. Oils provide a high proportion of heart-healthy monounsaturated and polyunsaturated fats, which are liquid at room temperature. They help to lower LDL cholesterol – the increase in which is another adverse health effect associated with the menopausal transition. Oils are also naturally found in foods including olives, nuts, avocados, and seafood. Conversely, solid fats contain a high proportion of saturated fats, which increase LDL cholesterol and heart disease risk. Saturated fats, such as butter or shortening, are solid at room temperature.

Foods and Food Components to Reduce

Sodium: Reduce daily sodium intake to less than 2,300 mg (e.g. the amount in 1 teaspoon of table salt). Women who are 51 and older, or are African American, or who have hypertension, diabetes, or chronic kidney disease should reduce their sodium intake to no more than 1500 mg per day. The most recent data show that US adults consume an average of 3,466 mg of sodium per day; however, this is a conservative estimate as it does not include salt added at the table or in food preparation⁴². Processed and restaurant foods may continue to account for approximately 77% of sodium intake, and an estimated 10% comes from table salt and cooking⁴³. In general, as sodium intake increases, so does blood pressure. Women transitioning through to menopause may benefit from lowered sodium intake to prevent hypertension, a component of MetS and a contributor to CVD.

Strategies to help women reduce sodium intake include: 1) consuming more fresh and fewer processed foods; 2) reading Nutrition Facts Labels (foods with 20% or more Daily Value (DV) are considered high in sodium); 3) eating at home more often; 4) using little or no salt or salt-containing seasonings in cooking; 5) avoiding salt at the table (including sea salt or kosher salt); 6) asking that foods be prepared without added salt, MSG, or salt-containing ingredients, such as soy or teriyaki sauces when eating out; and 7) knowing terms that indicate high sodium content (pickled, cured, smoked, soy sauce, broth) when shopping or choosing from menus.

Saturated Fat: Limit saturated fat to less than 10% of daily calories. The current level of saturated fat intake for women in the US 40 years or older is approximately 11%⁴⁴. For peri- and postmenopausal women, replacing saturated fat with monounsaturated and polyunsaturated fats like those found in oils, avocados, nuts, and seeds may lower blood cholesterol levels, and in turn lower risk of CVD.

However, it is important that total fat remain within 20 to 35% of calorie intake. Data from the National Center for Health Statistics indicate that women in this age range are within recommended levels for total fat⁴⁴.

Dietary Cholesterol: Limit dietary cholesterol to less than 300 mg per day to help maintain normal cholesterol levels and thereby reduce heart disease risk. Data indicate that American women are meeting this recommended level, as their average cholesterol intake is 240 mg per day³³. Further cardiovascular benefit may be seen with intake levels less than 200 mg per day. Cholesterol intake can be reduced by consuming fewer animal products, including meat and liver, cream, sour cream, and half and half, as well as eggs and foods that contain eggs, such as custard.

Trans Fats: Keep *trans* fat intake as low as possible. *Trans* fats increase LDL cholesterol levels and the risk for heart disease. It is recommended to limit foods that contain partially hydrogenated oils, which have been processed to be solid at room temperature, as well as other solid fats. The easiest way for middle aged and older women to eliminate *trans* fat is to reduce the amount of processed and refined foods they eat, including crackers, store-bought baked goods, frozen pizza, and microwave popcorn. It is important to note that foods can contain small amounts of *trans* fats, even if the Nutrition Facts Label indicates '0 g Trans Fats.' If the ingredient list includes partially hydrogenated or hydrogenated oils, then *trans* fats are in the food. Also, when *trans* fats are eliminated from food products, they are often replaced with saturated fats; look for products that provide 5% DV or less of saturated fat per serving.

Solid Fats and Added Sugars: Reduce the intake of calories from solid fats and added sugars. On average, solid fats and added sugars account for 35% of Americans' daily calories³³. These food components provide few essential nutrients and little to no dietary fiber. Therefore, the guidelines recommend that no more than 5 to 15% of daily calories should come from solid fats and added sugars. Encouraging reduced consumption of foods contributing the most to solid fats and added sugars in the diet will be essential so that women can meet their nutrient needs while staying within calorie limits. As noted in the guidelines, major food sources of solid fats in the US include grain-based desserts, pizza, whole milk cheese, sausage, hot dogs, bacon, ribs and fried white potatoes³³. Refined grain foods often contain solid fats, added sugars, and sodium; limited consumption of these foods is also advised. Items that are considered to be added sugars include high fructose corn syrup, white sugar, brown sugar, corn syrup, corn syrup solids, raw sugar, malt syrup, maple syrup, pancake syrup, fructose sweetener, liquid fructose, honey, molasses, anhydrous dextrose, and crystal dextrose³³.

Alcohol: If alcohol is consumed, women should limit their intake to one drink per day. Currently, 4% of women consume more than the recommended amount³³. One drink is considered to be a 12-ounce regular beer, a 5-ounce glass of wine or 1 half-ounce serving of 80-proof distilled spirits⁴⁵.

SUMMARY

Collectively, the recommendations set forth in the *Dietary Guidelines for Americans* provide a strong foundation to support healthy middle aged and older women in maintaining health through peri- and postmenopause. Appropriate medical nutrition therapy is warranted for women with existing chronic disease such as heart disease, type 2 diabetes or osteoporosis.

Sources

- Porter RS, ed. *The Merck Manual* - 19th edition. New Jersey: Merck Sharp and Dohme Corp; 2011.
- Soules MR, Sherman S, Parrott E, et al. Executive summary: stages of reproductive aging workshop (STRAW). *Menopause*. 2001;8:402-407.
- National Institute on Aging, NIH and US Dept Health and Human Services. *Menopause Time for a Change*. 2010. Publication No. 08-6143;
- Nelson HD, Haney E, Humphrey L, et al. Management of Menopause-Related Symptoms. Evidence Report/Technology Assessment. Number 120. Agency for Healthcare Research and Quality; 2005. AHRQ Pub. No. 05-E016-1.
- US Census Bureau. Age and Sex Composition: 2010. 2010 Census Briefs; 2011.
- Santoro N, Randolph JF. Reproductive hormones and the menopause transition. *Obstet Gynecol Clin North Am*. 2011;38:455-466.
- Lasley BL, Crawford S, McConnell DS. Adrenal androgens and the menopausal transition. *Obstet Gynecol Clin North Am*. 2011;38:467-475.
- Deecher DC. Physiology of thermoregulatory dysfunction and current approaches to the treatment of vasomotor symptoms. *Expert Opin Investig Drugs*. 2005;14:343-448.
- Freedman RR. Pathophysiology and treatment of menopausal hot flashes. *Semin Reprod Med*. 2005;23:117-125.
- Kingsberg SA, Kellogg S, Krychman M. Treating dyspareunia caused by vaginal atrophy: a review of treatment options using vaginal estrogen therapy. *Int J Womens Health*. 2009;1:105-111.
- Kravitz HM, Joffe H. Sleep during the perimenopause: a SWAN story. *Obstet Gynecol Clin North Am*. 2011;38:567-586.
- Bromberger JT, Kravitz HM. Mood and menopause: findings from the Study of Women's Health Across the Nation (SWAN) over ten years. *Obstet Gynecol Clin North Am*. 2011;38:609-625.
- Greendale GA, Huang MH, Wight RG, et al. Effects of the menopause transition and hormone use on cognitive performance in midlife women. *Neurology*. 2009;72:1850-1857.
- Janssen I, Powell LH, Crawford S, et al. Menopause and the metabolic syndrome: the Study of Women's Health Across the Nation. *Arch Intern Med*. 2008;168:1568-1575.
- Cho EJ, Min YJ, Oh MS, et al. Effects of the transition from premenopause to postmenopause on lipids and lipoproteins: quantification and related parameters. *Korean J Intern Med*. 2011;26:47-53.
- The North American Menopause Society. The role of calcium in peri- and postmenopausal women: 2006 position statement of The North American Menopause Society. *Menopause*. 2006;13:862-877.
- Davis SR, Castelo-Branco C, Chedrani P, et al. Understanding weight gain at menopause. *Climacteric*. 2012;15:419-429.
- Lovejoy JC, Champagne CM, de Jonge L, et al. Increased visceral fat and decreased energy expenditure during the menopausal transition. *Int J Obes*. 2008;32:949-958.
- Sowers M, Zheng H, Tomey K, et al. Changes in body composition in women over 6 years at midlife: ovarian and chronological aging. *J Clin Endocrinol Metab*. 2007;92:895-901.
- Matthews KA, Crawford SL, Chae CU, et al. Are changes in cardiovascular disease risk factors in midlife women due to chronological aging or to the menopausal transition? *J Am Coll Cardiol*. 2009;54:2366-2373.
- Collins P, Rosano G, Casey C, et al. Management of cardiovascular risk in the peri-menopausal woman: a consensus statement of European cardiologists and gynaecologists. *Eur Heart J*. 2007;28:2028-2040.
- Torrens JI, Sutton-Tyrell K, Zhao X, et al. Relative androgen excess during the menopausal transition predicts incident metabolic syndrome in midlife women: Study of Women's Health across the Nation. *Menopause*. 2009;16:257-264.
- Nordin BE, Wishart JM, Clifton PM, et al. A longitudinal study of bone-related biochemical changes at the menopause. *Clin Endocrinol*. 2004;61:123-130.
- Gold EB, Colvin A, Avis N, et al. Longitudinal analysis of the association between vasomotor symptoms and race/ethnicity across the menopausal transition: Study of Women's Health Across the Nation. *Am J Public Health*. 2006;96:1226-1235.
- Hunter MS, Gentry-Maharaj A, Ryan A, et al. Prevalence, frequency and problem rating of hot flushes persist in older postmenopausal women: impact of age, body mass index, hysterectomy, hormone therapy use, lifestyle and mood in a cross-sectional cohort study of 10 418 British women aged 54-65. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2012;119:40-50.
- Kimokoti RW, Newby PK, Gona P, et al. Patterns of weight change and progression to overweight and obesity differ in men and women: implications for research and interventions. *Public Health Nutr*. 2006. Available on CJO doi:10.1017/S1368980012003801
- Sternfeld B, Wang H, Quesenberry OP, et al. Physical activity and changes in weight and waist circumference in midlife women: findings from the Study of Women's Health across the Nation. *Am J Epidemiol*. 2004;160:912-922.
- Guthrie JR, Dennerstein L, Dudley EC. Weight gain and the menopause: a 5-year prospective study. *Climacteric*. 1999;2:205-11.

What are these?

Evidence Based Practice Presentations are the EAL guidelines in PowerPoint format. They are perfect for the busy practitioner looking for user-friendly slides to assist them in implementing the Academy's Evidence-Based Nutrition Practice Guidelines. Evidence-based practice utilizes systematically developed information for practical decisions about specific clinical circumstances. The presentations are ideal for use in meetings, in-service presentations and classes! These presentations are geared towards healthcare professionals. To view the presentations log-into the EAL and click on the store tab.

Presentation Benefits:

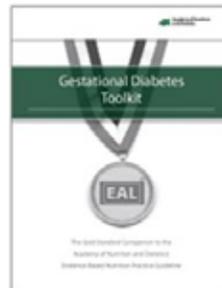
- Low cost of only \$12.00/presentation for members, \$24.00/presentation for non-members
- Over 23 presentations on various topics
- You can use the whole presentation or copy/paste pertinent information

Each Presentation Includes:

- Overall Project Guideline Objective
- Target Population
- Guideline Overview
- Statement of Intent
- Explanation of the Guideline Rating System
- Executive Summary of Guidelines, and more!

NEW! EVIDENCE-BASED PRACTICE NUTRITION TOOLKIT

The Gold Standard Companion to the Academy of Nutrition and Dietetics' Evidence-Based Nutrition Practice Guidelines



Implement evidence-based practice with this comprehensive toolkit. This hands-on companion material was created to help apply the Academy's Evidence-Based Nutrition Practice Guidelines for:

Gestational Diabetes Mellitus

The Toolkit Includes:

- ✓ Disease/Condition Overview
- ✓ Medical Nutrition Therapy Protocol Forms
- ✓ Documentation Forms
- ✓ Outcomes Management Forms
- Outcomes Monitoring and Evaluation
- Outcomes Management Graphs
- ✓ List of Client Education and Professional Resources
- ✓ and much more!
- Flowchart of Encounters
- Encounter Process
- Initial and Follow-Up Progress Notes
- Sample Referral Form
- Case Studies

The Gestational Diabetes Toolkit is now available for purchase at the [Evidence Analysis Library Store](#). Electronic and Print versions. Member and Non-member pricing available.

WOMEN IN TRANSITION TO MENOPAUSE (PART 1) Continued from page 5

Sources

29. Wing PR, Matthews KA, Kuller LH, et al. Weight gain at the time of the menopause. *Arch Intern Med.* 1991;151:97-102.
30. Kameda, T, Mano H, Yuasa T, et al. Estrogen inhibits bone resorption by directly inducing apoptosis of the bone-resorbing osteoclasts. *J Exp Med.* 1997;186:489-495.
31. Riggs BL. The mechanisms of estrogen regulation of bone resorption. *J Clin Invest.* 2000;106:1203-1204.
32. Crandall CJ, Tseng CH, Crawford SL, et al. Association of menopausal vasomotor symptoms with increased bone turnover during the menopausal transition. *J Bone Min Res.* 2011;26:840-849.
33. US Department of Health and Human Services and the US Department of Agriculture. *Dietary Guidelines for Americans, 2005.* Washington, DC: US Government Printing Office; 2005.
34. Wolongevicz DM, Zhu L, Pencina MJ, et al. Diet quality and obesity in women: the Framingham Nutrition Studies. *Br J Nutr.* 2009;103:1223-1229.
35. Millen BE, Pencina MJ, Kimokoti RW, et al. Nutritional risk and the metabolic syndrome in women: opportunities for preventive intervention from the Framingham Nutrition Study. *Am J Clin Nutr.* 2006;84:434-441.
36. Fung TT, McCullough M, van Dam RM, Hu FB. A prospective study of overall diet quality and risk of type 2 diabetes in women. *Diabetes Care.* 2007;30:1753-1757.
37. McNaughton SA, Dunstan DW, Ball B, et al. Dietary quality is associated with diabetes and cardio-metabolic risk factors. *J Nutr.* 2009;139:734-742.
38. Belin RJ, Greenland P, Allison M, et al. Diet quality and the risk of cardiovascular disease: the Women's Health Initiative (WHI). *Am J Clin Nutr.* 2011; 94:49-57.
39. National Cancer Institute. Risk Factor Monitoring and Methods Branch Web site. Applied Research Program. Usual Dietary Intakes: Food Intakes, US Population, 2001-04. <http://riskfactor.cancer.gov/diet/usualintakes/pop/>. Updated December 21, 2010. Accessed April 27, 2013.
40. Institute of Medicine (IOM). *Dietary Reference Intakes for Calcium and Vitamin D.* Washington DC: National Academies Press; 2010.
41. Mangano KM, Walsh SJ, Insogna KL, et al. Calcium intake in the United States from dietary and supplemental sources across adult age groups: new estimates from the National Health and Nutrition Examination Survey 2003-2006. *J Am Diet Assoc.* 2011;111:687-695.
42. Gunn JP, Kuklina EV, Keenan NL, Labarthe DR. Sodium Intake Among Adults --- United States, 2005-2006. *MMWR Morb Mortal Wkly Rep.* 2010;59:746-749.
43. Mattes RD, Donnelly D. Relative contributions of dietary sodium sources. *J Am Coll Nutr.* 1991;10:383-93.
44. National Center for Health Statistics. Health, United States, 2011: *With Special Feature on Socioeconomic Status and Health.* Hyattsville, MD; 2012.
45. US Department of Health and Human Services, National Institutes of Health and National Institute on Alcohol Abuse and Alcoholism. *Helping patients who drink too much: a clinician's guide;* 2007. NIH Publication No. 07-3769.

WOMEN IN TRANSITION TO MENOPAUSE: Key Nutrition and Health Considerations (Part 2) Dolores Wolongevicz, PhD, RD, LDN



In the previous section, health risks associated with the transition through menopause and beyond, as well as appropriate preventive nutrition and lifestyle strategies to facilitate health maintenance and risk reduction, were discussed. The perimenopausal period also marks the beginning of menopause-related symptoms, of which vasomotor symptoms (VMS) are the most prevalent and bothersome. Thus, a review of conventional and alternative treatment methods for VMS relief is presented herein.

VMS RELIEF: CONVENTIONAL TREATMENT

Perimenopause can last from months to years. Depending on the frequency and severity of VMS, women may seek medical treatment for relief. Low-dose oral contraceptives appear to be a viable option for women in perimenopause for several reasons. First, even though fertility decreases during this time, pregnancy may still occur. Therefore, effective contraception methods, including hormonal contraceptives, are often recommended during the perimenopausal years to prevent unplanned pregnancy¹. Second, the estrogen and progestin doses in oral contraceptives help alleviate VMS and control irregular menses². They have also been shown in recent review articles to have a positive effect on bone mineral density in this population of women^{3, 4}. However, oral contraceptives are not recommended for perimenopausal women who smoke or are obese, hypertensive, or diabetic because of the risk of myocardial infarction (MI), venous thromboembolism and stroke². Traditional postmenopausal hormone therapy is not usually considered for perimenopausal women because doses are too low to inhibit ovulation and do not offer contraceptive benefit^{1, 2}.

Hormone therapy (estrogen alone or in combination with progestin) remains the most effective method for managing VMS and preventing osteoporosis despite many unanswered questions regarding long-term risks and benefits for postmenopausal women^{5, 6}. Estrogen-only hormone therapy is for use in women who have had a hysterectomy. For women with an intact uterus, combined estrogen plus progestin therapy is necessary to prevent endometrial cancer⁵.

Controversy surrounding hormone therapy flared in the late 1990s and early 2000s amidst results from two prominent randomized controlled trials: the Heart and Estrogen/Progestin Replacement

Study (HERS) and the Women's Health Initiative (WHI)^{7, 8}. The HERS trial examined the effect of hormone therapy on risk of coronary heart disease (CHD) events in 2,763 US postmenopausal women with known CHD. During its first year there was a 50% increase in CHD events, defined as nonfatal MI or CHD mortality in the hormone group compared to the placebo group⁹. However, after two years there were fewer events in the hormone therapy group than in the placebo group. At the end of the four-year trial there were no significant differences in CHD events between the two groups (relative hazard [RH] 0.99; 95% CI: 0.80-1.22). There was a significant increase in blood clots (RH 2.89; 95% CI: 1.50-5.58) and a borderline significant increase in gallbladder disease (RH 1.38; 95% CI: 1.00-1.92) in women taking active hormones. The major finding of the HERS trial demonstrated no overall cardiovascular benefit of hormone therapy to prevent future CHD events in women with established heart disease. The reduction in risk of CHD events observed after Year 1 in the hormone group did not persist with longer term treatment¹⁰.

In contrast, the Hormone Therapy Trials of the WHI investigated the effects of estrogen alone and estrogen plus progestin (E + P) on preventing CHD and osteoporosis-related fractures, and on risk of breast cancer in more than 27,000 healthy, postmenopausal women across 24 US states and the District of Columbia. The E + P trial (n = 16,608) was stopped approximately 3 years early due to safety concerns¹¹. Data safety review showed E + P was associated with increased breast cancer risk, along with some increase in cardiovascular disease risk (CHD, stroke and pulmonary embolism) over an average follow-up period of 5.2 years. The Estrogen-Alone trial (n = 10,739) was stopped approximately 1.5 years early because there was evidence of an increased risk of stroke with no apparent benefit for CHD, which was the primary study outcome over an average follow-up period of 7 years¹².

The findings from HERS and WHI led to a remarkable decrease in hormone therapy use, spurring the need for alternative treatments. In fact, Hersh et al. estimated that prescriptions for hormone therapy declined from 91 million in 2001 to approximately 57 million in 2003 following publication of these trial results in 2002¹³. For women seeking nonhormonal medical alternatives, antidepressants in the classes of selective serotonin reuptake inhibitors (SSRIs) and selective norepinephrine reuptake inhibitors (SNRIs) have demonstrated promising results for VMS relief. But it must be noted that studies of antidepressants and hot flashes are mainly in postmenopausal women. When compared to a placebo, SSRIs (fluoxetine, citalopram, paroxetine) and SNRIs (venlafaxine, desvenlafaxine) have been more effective in reducing hot flashes¹⁴. In particular, fluoxetine and venlafaxine have been shown to reduce the incidence of hot flashes by as much as 50 to 60% in postmenopausal women^{15, 16}. More recently, in the January 2013 issue of *Menopause*, it was reported that desvenlafaxine reduced hot flashes by 60 to 65% compared to placebo in a multi-center randomized trial of 365 postmenopausal women averaging 50 hot flashes per week¹⁷.

Continued on page 8

Despite the potential of antidepressants as a remedy for menopause-related hot flashes in postmenopausal women, the Food and Drug Administration (FDA) has not approved any antidepressant for the treatment of hot flashes. Prescribing antidepressants for this purpose is considered an off-label use of these drugs.

Gabapentin, an antiepileptic, is another drug that has been shown in randomized, placebo-controlled trials to lessen the frequency and severity of VMS in postmenopausal women by as much as 45% and 54%, respectively^{14, 18}. However, on March 4, 2013, the FDA Advisory Committee for Reproductive Health Drugs voted against the use of the drug for treating hot flashes amidst concerns of limited efficacy combined with side effects such as dizziness¹⁹. Of note is that these studies, like those in the antidepressant literature, were done in postmenopausal women.

It appears that symptom relief in perimenopausal women is best achieved with low-dose oral contraceptives, which carry very little health risk in women for whom they are not contraindicated. Conversely, in postmenopausal women, the decision to initiate hormone therapy involves careful consideration by women and their providers of whether the possible benefits outweigh the potential risks.

VMS RELIEF: DIET AND LIFESTYLE STRATEGIES AND HERBAL THERAPIES

Beyond drugs, there are lifestyle strategies and herbal therapies available that may help some peri- and postmenopausal women manage VMS. None of these options, however, are as effective as hormonal treatment.

DIET AND LIFESTYLE STRATEGIES

Diet: Recent evidence suggests that dietary patterns characterized as either a “fruit” or “Mediterranean-style” diet may alleviate night sweats and hot flashes in menopausal women²⁰. Among 6,040 women with natural menopause enrolled in the Australian Longitudinal Study on Women’s Health, six dietary patterns were identified using factor analysis: cooked vegetables, fruit, Mediterranean-style, meat and processed meat, dairy, and high-fat and high-sugar. At Year 9 of follow-up the women were 50 to 55 years old and 93.7% reported experiencing VMS. Those with VMS were more likely to have lifestyle factors that have been linked to these symptoms, including smoking, alcohol and obesity, compared to women without symptoms. In multivariate analysis, the fruit and Mediterranean-style patterns were inversely associated with VMS comparing the highest and lowest quintiles (odds ratio [OR]: 0.81; 95% CI: 0.71-0.93 and OR: 0.80; 95% CI: 0.69-0.92, respectively). The high-fat and high-sugar dietary pattern, in contrast, was positively associated with VMS (OR: 1.23; 95% CI: 1.05-1.44). The ORs were adjusted for many confounders such as body mass index (BMI), smoking, alcohol use, hormone therapy, oral contraceptives, marital status, etc. While these results are inconsistent with others who have reported no association between individual nutrients and VMS, this may be because examining overall diet exposure (e.g. food/dietary patterns) provides a better measure to assess the role of diet as it relates to VMS, as it captures the com-

plex synergy and colinearity among nutrients^{21, 22}. These findings, therefore, lend support to the nutrition recommendations outlined in the *Dietary Guidelines for Americans*²³ as being well-suited for middle aged women in the menopausal transition.

Trigger Foods: The literature often cites hot and spicy foods and caffeine as triggers for hot flashes²⁴⁻²⁶. However, there is no clinical trial evidence to support limiting these for VMS management. The basis for their role in menopause-associated hot flashes may relate to mechanisms involved in regulating core body temperature^{27, 28}. For example, in a small randomized cross-over trial of healthy, lean men and women, core body temperature was greater after test loads of 1 g of red pepper compared to no red pepper²⁹. Small elevations in core body temperature appear to be one of the underlying triggering mechanisms by which hot flashes are induced²⁷.

Alcohol: Alcohol may be associated with different risk patterns depending on menopausal transition status³⁰⁻³². For instance, in perimenopausal women consuming one to five drinks per week, alcohol was inversely associated with hot flashes (OR: 0.52; 95% CI: 0.31-0.86) compared to nondrinkers, after adjusting for age, ethnicity, hormone therapy, oral contraceptives and depression in cross-sectional analysis³⁰. The women (n = 468) were participants in a randomized controlled trial of a menopause risk management program recruited from a health maintenance organization in Massachusetts. Alcohol consumption was also associated with lower risk of hot flashes in perimenopausal women aged 45 to 54 years of the Mid-Life Health Study³¹. Cross-sectional analysis of women enrolled in this study of women living in metropolitan Baltimore, Maryland found that current alcohol use was associated with a statistically significant reduced risk of hot flashes (relative risk [RR]: 0.80; 95% CI: 0.71-0.91) compared to nondrinkers, controlling for age and smoking. The authors did not adjust for BMI even though the cases (362 mid-life women who ever experienced a hot flash) were more likely to have a higher BMI than controls (264 mid-life women never reporting a hot flash). On the other hand, postmenopausal women who drank alcohol had a 30% higher risk of hot flashes compared to nondrinkers, after adjustment; results were not statistically significant³². The mechanism whereby alcohol exerts an effect on risk of hot flashes in peri- and postmenopausal women has not been elucidated.

Isoflavones: Isoflavones are a category of phytoestrogens – plant-derived estrogens – which have a weak estrogenic effect. Genistein and daidzein are the most potent isoflavones and are found in soybeans, soy products, red clover and alfalfa³³⁻³⁵. Many well-controlled studies support the use of soy foods for alleviation of hot flashes^{34, 36, 37}. Notably the 2011 Isoflavones Report from the North American Menopause Society supports soy-based isoflavones for modest relief of VMS in postmenopausal women³⁴. Isoflavones from red clover also appear to offer some benefit in controlling mild to moderate VMS³⁸⁻⁴⁰. The role of dietary and supplemental isoflavones in the etiology of VMS as well as their safety and efficacy in different ethnic groups, or among women with estrogen-dependent cancers, remains to be established. Moreover, isoflavone interactions with prescription and over-the-counter medication require further study.

[Continued on page 9](#)

Vitamin E: Studies of vitamin E for the treatment of VMS specifically in peri- and postmenopausal women is limited⁴¹⁻⁴². In one placebo-controlled double-blind cross-over trial, 51 postmenopausal women took a placebo identical in appearance to a vitamin E softgel capsule daily for four weeks⁴¹. This was followed by a one-week wash out period and then four weeks of daily 400 IU vitamin E. There was a statistically significant difference ($p < 0.0001$) in hot flash severity score (2.37 ± 0.74 vs. 1.80 ± 0.87) as well as in daily hot flash frequency (5.00 ± 3.34 vs. 3.19 ± 2.74) between the placebo and vitamin E treatments. Likewise, Barton et al. conducted a randomized placebo-controlled cross-over trial in 120 breast cancer survivors⁴². Women received four weeks of 800 IU of vitamin E daily, followed by four weeks of an identical-looking placebo, or vice versa. Vitamin E was associated with one less hot flash per day compared with the placebo ($p < 0.05$). While the results of these trials were statistically significant they are of very little clinical significance as the differences in hot flash frequency between the vitamin E and placebo groups were quite small (i.e. 1 to 2 less hot flashes per day). Vitamin E supplementation does not appear to be warranted at this time for the management of VMS during or after the menopausal transition. However, food sources of vitamin E should be encouraged as part of a healthy eating pattern as recommended in the Dietary Guidelines for Americans²³. Good sources of vitamin E include oils, nuts, seeds, dark leafy greens, whole grains and wheat germ.

Smoking: There is a consistent positive association with cigarette smoking and menopause-related VMS^{21,43-45}. For example, Gold et al. followed 2,784 women in the Study of Women's Health Across the Nation (SWAN) study and found that current smokers had a 63% increased likelihood of reporting VMS compared to nonsmokers over a six-year follow-up after adjustment for relevant covariates⁴⁵. As noted in Part 1, the SWAN study is a longitudinal, observational cohort study representing five ethnic groups (Black or African American, non-Hispanic White, Chinese or Chinese American, Japanese or Japanese American, or Hispanic) across seven clinical research centers in the US. The study examines the changes that middle aged women experience, including endocrinological, physical, biological, psychological, behavioral and social changes, and how these changes affect health and well-being during the transition through menopause⁴⁶.

Consistent with Gold et al., among 1,087 perimenopausal women participating in the Mid-Life Health Study, there was an almost two-fold greater risk of hot flashes in current smokers compared to non-smokers, after controlling for confounders such as age, menopausal status, BMI, ethnicity and hormone use (OR: 1.93; 95% CI: 1.29-2.88)^{45, 47}. Smoking cessation is advocated for all women regardless of age or menopausal status.

BMI: Thurston et al. explains that there are two competing theories as to the relationship between BMI and hot flashes⁴⁸. First is the thermoregulatory model, which asserts that the insulating capacity of adipose tissue inhibits heat dissipation, through which VMS episodes are triggered in order to release heat and maintain core body temperature^{27, 49}. Evidence supports the thermoregulatory model as a mechanism to explain the role of BMI in the etiology of hot

flashes^{21, 43, 47, 48, 50-52}. The Mid-Life Health study found obesity (BMI > 30 kg/m²), like smoking, was associated with a two-fold greater risk of hot flashes compared to a BMI of < 24 kg/m² among perimenopausal women (adjusted OR: 2.11; 95% CI: 1.47-3.03)⁴⁷. Increased odds of hot flashes associated with body fat were also reported in an analysis of 1,659 middle aged women enrolled in the SWAN study⁵⁰. Specifically, women who gained body fat, measured by bioelectrical impedance analysis (BIA), were 23% more likely to report hot flashes compared to those whose body fat remained stable over a four-year period (OR: 1.23; 95% CI: 1.02-1.48), after adjustment for age, site, ethnicity, education, smoking, parity, anxiety and menopausal status. The findings remained significant in estradiol- and follicle-stimulating hormone-adjusted models (OR: 1.26; 95% CI: 1.03-1.53 and OR: 1.25; 95% CI: 1.02-1.25, respectively).

The second theory of how BMI is related to VMS is known as the "thin hypothesis." The underlying premise is that women with lower amounts of body fat have lower estrogen concentrations, in general, compared to women with greater amounts of body fat, which may lead to VMS events⁴⁸. Because they have less body fat, leaner women are able to make less supplemental estrogen from the aromatization of androstenedione in adipose tissue compared to women with more body fat⁴⁸. Lower estrogen levels have been linked to VMS etiology^{5, 6}; however, there is limited evidence to support this theory⁵³.

The mode of action of how body fat may induce VMS has not been identified. However, a recent study by Kroenke et al. demonstrated that weight loss eliminated VMS in postmenopausal women of the WHI⁵⁴. The multivariate-adjusted analysis included 17,473 women aged 50 to 79 at baseline who were enrolled in the WHI Dietary Modification trial and not on hormone therapy. Women with VMS at baseline who lost 10 pounds or more between baseline and Year 1 were 23% more likely to report that their VMS had resolved compared to those who maintained their weight (OR: 1.23; 95% CI: 1.05-1.46). Additionally, women who lost 10% or more of their baseline weight were 56% more likely to report resolved VMS compared to weight maintainers (OR: 1.56; 95% CI: 1.21-2.02). These results not only provide further support of the thermoregulatory model and risk of menopause-related VMS, but also the importance of calorie balance as highlighted in the *Dietary Guidelines for Americans*, achieved by encouraging the key recommendations for healthy eating patterns²³.

Physical Activity: The role of physical activity in the prevention or treatment of VMS in peri- and postmenopause remains uncertain^{45, 55-60}. The literature to date is inconsistent, which may be due to competing mechanisms in the VMS pathway. Physical activity raises core body temperature and therefore potentially increases the risk of VMS⁶¹. On the other hand, it also plays a role in calorie balance and weight management, improved mood and reduction of stress, all of which may decrease risk of VMS among menopausal women^{55, 62}. Sternfeld and Dugan provide an excellent review of the literature surrounding physical activity in the menopausal transition⁵⁵. Despite the inconclusive evidence of an association between physical activity and VMS occurrence, the health benefits of physical

activity cannot be ignored. In perimenopausal women, physical activity may improve overall quality of life, mood, joint pain, sleep and headaches^{55, 56}. Physical activity is also recognized for its role in disease prevention (e.g. heart disease, type 2 diabetes, hypertension, dyslipidemia, osteoporosis, and weight management)⁶³. Therefore, recommended levels of physical activity should continue to be encouraged for women's overall health. The *Physical Activity Guidelines for Americans* recommend at least 150 minutes a week of moderate-intensity, or 75 minutes a week of vigorous-intensity aerobic activity, or an equivalent combination of the two intensities⁶³. Ideally, aerobic activity should be performed for 10 or more consecutive minutes spread out over the course of the week. Strengthening activities that are moderate- or high-intensity are also recommended on two or more days of the week. These activities should use all major muscle groups. For older women who cannot perform aerobic or strengthening activities in the recommended amounts, it is advised that they continue to be as physically active as their abilities and health conditions will allow.

Mental attitude: Practicing yoga and reducing stress and tension throughout the menopausal transition may also help alleviate hot flashes⁶⁴⁻⁶⁶. For more on the health benefits of yoga please refer to Diana Cullum-Dugan's "Yoga for Menopause - Change Your Mental Attitude with Yoga" found later in this issue.

Black cohosh (*Cimicifuga racemosa*): Black cohosh is the most studied and reviewed herbal therapy for VMS management and the results are mixed⁶⁷⁻⁷⁰. Leach et al. conducted a systematic review to examine the evidence-base for the effectiveness and safety of black cohosh for menopausal symptom relief⁶⁸. The authors identified sixteen randomized controlled trials with a total of 2,027 peri- and postmenopausal women followed over an average of 23 weeks. All studies evaluated black cohosh alone and not in combination with other treatments. The median oral daily dose was 40 mg. In three placebo-controlled trials (n = 393), there were no significant differences in hot flash frequency between the black cohosh and placebo groups (mean difference: 0.07 hot flashes per day; 95% CI: -0.43 to 0.56; p = 0.79). Black cohosh was also not as effective as hormone therapy for the treatment of hot flashes in three trials⁶⁸. For example, Newton et al. randomly assigned 351 peri- or postmenopausal women to black cohosh, estrogen (alone or with progesterone), or placebo in the Herbal Alternatives for Menopause Trial (HALT)⁷¹. At 12 months, there were no statistically significant differences in hot flashes or night sweats per day between black cohosh and placebo (mean difference: -0.18; 95% CI: -1.30 to 0.93; p = 0.25). In contrast, there were statistically significant differences in hot flashes or night sweats per day between estrogen (alone or with progesterone) and placebo (mean difference: -3.76; 95% CI: -5.76 to -1.76; p < 0.001). The authors did not conduct statistical comparisons between the black cohosh and estrogen treatment arms.

The review by Laakmann et al. also showed no effect of black cohosh on VMS when compared to placebo⁶⁹. However, two other reviews of randomized controlled trials demonstrated an improvement in VMS with black cohosh compared to placebo^{67, 70}. Heterogeneity between the trials in these review papers is a likely explanation for

the inconsistent results. For example, there are differences in sample size, study duration, study population, singular vs. combination preparations of black cohosh, dosing and outcome measurement tools. More standardization and rigorously controlled trials are needed to determine the benefit of black cohosh as an alternative therapy for menopausal VMS management.

Other herbal therapies: There is little data to support the use of other herbal remedies including evening primrose oil, dong quai and ginseng at this time⁷²⁻⁷⁶.

SUMMARY

Hormone therapy is the most effective option to help women manage VMS in peri- and postmenopause. Given the potential risks of hormone therapy, including CHD, stroke and breast cancer, alternative treatments are of interest to women and healthcare providers. However, effective nonhormonal treatments for menopause-related hot flashes and night sweats have yet to be identified. Diet and lifestyle modifications may be helpful to treat mild VMS in addition to helping maintain optimal health throughout the menopausal transition.

Sources

1. Kauntz AM. Oral contraceptive use in perimenopause. *Am J Obstet Gynecol*. 2001;185:S32-37.
2. Martin KA, Manson JE. Approach to the patient with menopausal symptoms. *J Clin Endocrinol Metab*. 2008;93:4567-4575.
3. Liu SL, Lebrun CM. Effect of oral contraceptives and hormone replacement therapy on bone mineral density in premenopausal and perimenopausal women: a systematic review. *Br J Sports Med*. 2006;40:11-24.
4. Isley MM, Kauntz AM. Update on hormonal contraception and bone density. *Rev Endocr Metab Disord*. 2011;12:93-106.
5. Sturdee DW, Pines A. Updated IMS recommendations on postmenopausal hormone therapy and preventive strategies for midlife health. *Climacteric*. 2011;14:302-320.
6. Schmidt P. The 2012 Hormone Therapy Position Statement of North American Menopause Society. *Menopause*. 2012;19:257-271.
7. Grady D, Applegate W, Bush T, et al. Heart and Estrogen/Progestin Replacement Study (HERS): design, methods and baseline characteristics. *Control Clin Trials*. 1998;19:314-335.
8. Prentice R, Rossouw J, Furberg C, et al. Design of the WHI clinical trial and observational study. *Control Clin Trials*. 1998;19:61-109.
9. Hulley S, Grady D, Bush T. Randomized trial of estrogen plus progestin for secondary prevention of coronary heart disease in postmenopausal women. *JAMA*. 1998;280:605-613.
10. Grady D, Herrington D, Bittner V, et al. Cardiovascular disease outcomes during 6.8 years of hormone therapy: Heart and Estrogen/Progestin Replacement Study Follow-up (HERS II). *JAMA*. 2002;288:49-57.
11. Writing Group for the Women's Health Initiative Investigators. Risks and benefits of estrogen plus progestin in healthy postmenopausal women: principal results from the Women's Health Initiative randomized controlled trial. *JAMA*. 2002;288:321-333.
12. The Women's Health Initiative Steering Committee. Effects of conjugated equine estrogen in postmenopausal women with hysterectomy: the Women's Health Initiative randomized controlled trial. *JAMA*. 2004;291:1701-1712.
13. Hersh AL, Stefanick ML, Stafford RS. National use of postmenopausal hormone therapy: annual trends and response to recent evidence. *JAMA*. 2004;291:47-53.
14. Jassim GA. Strategies for managing hot flashes. *J Fam Pract*. 2011;60:333-339.
15. Loprinzi CL, Sloan JA, Perez EA, et al. Phase III evaluation of fluoxetine for treatment of hot flashes. *J Clin Oncol*. 2002;20:1578-1583.
16. Loprinzi CL, Kugler JW, Sloan JA, et al. Venlafaxine in management of hot flashes in survivors of breast cancer: a randomized controlled trial. *Lancet*. 2000;356:2059-2063.
17. Pinkerton JV, Constantine G, Hwang E, et al. Desvenlafaxine compared with placebo for treatment of menopausal vasomotor symptoms: a 12-week, multicenter, parallel-group, randomized, double-blind, placebo-controlled efficacy trial. *Menopause*. 2013;20:28-37.
18. Guttuso T Jr, Kurlan R, McDermott MP, et al. Gabapentin's effects on hot flashes in postmenopausal women: a randomized controlled trial. *Obstet Gynecol*. 2003;101:337-345.
19. Lowry F. FDA Panel Nixes 2 Nonhormonal Drugs for Hot Flashes. *Medscape News*. Mar 04, 2013. Accessed April 22, 2013. Available at <http://www.medscape.com/viewarticle/780260>.
20. Herber-Gast GCM, Mishra GD. Fruit, Mediterranean-style, and high-fat and -sugar diets are associated with the risk of night sweats and hot flashes in midlife: results from a prospective cohort study. *Am J Clin Nutr*. 2013;97:1092-1099.

Sources

21. Gold EB, Block G, Crawford S, et al. Lifestyle and demographic factors in relation to vasomotor symptoms: baseline results from the Study of Women's Health Across the Nation. *Am J Epidemiol*. 2004;159:1189–1199.
22. Denney C, Tsourounis C. A review of select vitamins and minerals used by postmenopausal women. *Maturitas*. 2010;66:370-380.
23. US Department of Health and Human Services and the US Department of Agriculture. *Dietary Guidelines for Americans*, 2005. Washington, DC: US Government Printing Office; 2005.
24. Kronenberg F. Hot flashes: phenomenology, quality of life, and search for treatment options. *Exp Gerontol*. 1994;29:319-336.
25. Philp HA. Hot Flashes – A review of the literature on alternative and complementary treatment approaches. *Altern Med Review*. 2003;8:284-302.
26. Gannon L, Hansel S, Goodwin J. Correlates of menopausal hot flashes. *J Behav Med*. 1987;10:277-285.
27. Freedman RR. Pathophysiology and treatment of menopausal hot flashes. *Semin Reprod Med*. 2005;23:117-125.
28. Casper RF, Yen SS. Neuroendocrinology of menopausal flushes: an hypothesis of flush mechanism. *Clin Endocrinol*. 1985; 22:293-312.
29. Ludy MJ, Mattes RD. The effects of hedonically acceptable red pepper doses on thermogenesis and appetite. *Physiol Behav*. 2011;102:251-258.
30. Hyde Riley E, Inui TS, Kleinman K, Connelly MT. Differential association of modifiable health behaviors with hot flashes in perimenopausal and postmenopausal women. *J Gen Intern Med*. 2004;19:740-746.
31. Schilling C, Gallicchio L, Miller SR, et al. Current alcohol use is associated with a reduced risk of hot flashes in midlife women. *Alcohol*. 2005;40:563-568.
32. Schwingl P J, Hulka BS, Harlow SD. Risk factors for menopausal hot flashes. *Obstet Gynecol*. 1994;84:29–34.
33. Wylie-Rosett J. Menopause, micronutrients, and hormone therapy. *Am J Clin Nutr*. 2005;81(suppl):1223S-1231S.
34. North American Menopause Society. The role of soy isoflavones in menopausal health: report of The North American Menopause Society/Wulff H. Utian Translational Science Symposium in Chicago, IL (October 2010). *Menopause*. 2011;18:732-753.
35. Pittersaul H, Jefferson W. The pros and cons of phytoestrogens. *Front Neuroendocrinol*. 2010;31:400-419.
36. Messina M, Hughes C. Efficacy of soyfoods and soybean isoflavone supplements for alleviating menopausal symptoms is positively related to initial hot flush frequency. *J Med Food*. 2003;6:1-11.
37. Taku, K, Melby MK, Kronenberg F, et al. Extracted or synthesized soybean isoflavones reduce menopausal hot flash frequency and severity: systematic review and meta-analysis of randomized controlled trials. *Menopause*. 2012;19:776-790.
38. Howes LG, Howes JB, Knight DC. Isoflavone therapy for menopausal flushes: a systematic review and meta-analysis. *Maturitas*. 2006;55:203-211.
39. Van de Weijer PHM, Barentsen R. Isoflavones from red clover (Promensil®) significantly reduce menopausal hot flush symptoms compared to placebo. *Maturitas*. 2002;42:187-193.
40. Lipovac M, Chedraui P, Gruenhut C, et al. The effect of red clover isoflavone supplementation over vasomotor and menopausal symptoms in postmenopausal women. *Gynecol Endocrinol*. 2012;28:203-207.
41. Ziaei S, Kazemnejad A, Zareai M. The effect of vitamin E on hot flashes in menopausal women. *Gynecol Obstet Invest*. 1998;16:495-500.
42. Barton DL, Loprinzi CL, Quella SK, et al. Prospective evaluation of vitamin E for hot flashes in breast cancer survivors. *J Clin Oncology*. 1998;16:495-500.
43. Ford K, Sowers MF, Crutchfield M, et al. A longitudinal study of the predictors of prevalence and severity of symptoms commonly associated with menopause. *Menopause*. 2005;12:308-317.
44. Sievert LL, Obermeyer CM, Price K. Determinants of hot flashes and night sweats. *Ann Hum Biol*. 2006;33:4-16.
45. Gold EB, Colvin A, Avis N, et al. Longitudinal analysis of the association between vasomotor symptoms and race/ethnicity across the menopausal transition: Study of Women's Health Across the Nation. *Am J Public Health*. 2006;96:1226-1235.
46. Sowers MR, Crawford SL, Sternfeld B, et al. SWAN: a multicenter, multiethnic, community-based cohort study of women and the menopausal transition. Eds. Lobo RA, Kelsey J, Marcus R. In: *Menopause Biology and Pathobiology*. San Diego, CA: Academic Press; 2000:175-188.
47. Whiteman MK, Staropoli CA, Langenberg PW, et al. Smoking, body mass, and hot flashes in midlife women. *Obstet Gynecol*. 2003;101:264-272.
48. Thurston RC, Sowers MR, Sutton-Tyrell K, et al. Abdominal adiposity and hot flashes among midlife women. *Menopause*. 2008;15:429-434.
49. Anderson GS. Human morphology and temperature regulation. *Int J Biometeorol*. 1999; 43:99-109.
50. Thurston RC, Sowers MR, Sternfeld B, et al. Gains in body fat and vasomotor symptoms reporting over the menopausal transition. *Am J Epidemiol*. 2009;170:766-774.
51. Freeman EW, Sammel MD, Grisso JA, et al. Hot flashes in the late reproductive years: risk factors for African American and Caucasian women. *J Womens Health Genet Based Med*. 2001;10:67-76.
52. Gallicchio L, Visvanathan K, Miller SR, et al. Body mass, estrogen levels, and hot flashes in midlife women. *Am J Obstet Gynecol*. 2005;193:1353-1360.
53. Hitchcock CL, Elliott TG, Norman EG, et al. Hot flashes and night sweats differ in associations with cardiovascular markers in healthy early postmenopausal women. *Menopause*. 2012;19:1208-1214.
54. Kroenke CH, Caan BJ, Stefanick ML, et al. Effects of a dietary intervention and weight change on vasomotor symptoms in the Women's Health Initiative. *Menopause*. 2012;19:980-988.
55. Sternfeld B, Dugan S. Physical activity and health during the menopausal transition. *Obstet Gynecol Clin North Am*. 2011;38:537-566.
56. Daley AJ, Stokes-Lampard HJ, Macarthur C. Exercise to reduce vasomotor and other menopausal symptoms: a review. *Maturitas*. 2009;63:176-180.
57. Daley A, MacArthur C, Mutrie N, Stokes-Lampard H. Exercise for vasomotor menopausal symptoms. *Cochrane Database Syst Rev*. 2007;17:CD006108.
58. Nelson DB, Sammel MD, Freeman EW, et al. Effect of physical activity on menopausal symptoms among urban women. *Med Sci Sports Exerc*. 2008;40:50-58.

59. Lindh-Astrand L, Nedstrand E, Wyon Y, et al. Vasomotor symptoms and quality of life in previously sedentary postmenopausal women randomized to physical activity or estrogen therapy. *Maturitas*. 2004;48:97-105.
60. Ueda M. A 12-week structured education and exercise program improved climacteric symptoms in middle-aged women. *J Physiol Anthropol Appl Human Sci*. 2004;23:143-148.
61. Lim CL, Byrne C, Lee J. Human thermoregulation and measurement of body temperature in exercise and clinical settings. *Ann Acad Med Singapore*. 2008;37:347-353.
62. Sternfeld B, Wang H, Quesenberry CP. Physical activity and changes in weight and waist circumference in midlife women: findings from the Study of Women's Health Across the Nation. *Am J Epidemiol* 2004;160:912–922.
63. Physical Activity Guidelines Advisory Committee. *Physical Activity Guidelines Advisory Committee Report*, 2008. Washington, DC: U.S. Department of Health and Human Services; 2008.
64. Carson JW, Carson KM, Porter LS, et al. Yoga of Awareness program for menopausal symptoms in breast cancer survivors: results from a randomized trial. *Support Care Cancer*. 2009;17:1301-1309.
65. Lee MS, Kim JI, Ha JY, et al. Yoga for menopausal symptoms: a systematic review. *Menopause*. 2009;16:602-608.
66. Tremblay A, Sheeran L, Aranda SK. Psychoeducational interventions to alleviate hot flashes: a systematic review. *Menopause*. 2008;15:193-202.
67. Shams T, Setia MS, Hemmings R, et al. Efficacy of black cohosh-containing preparations on menopausal symptoms: a meta-analysis. *Altern Ther Health Med*. 2010;16:36-44.
68. Leach MJ, Moore V. Black cohosh (*Cimicifuga* spp.) for menopausal symptoms. *Cochrane Database Syst Rev*. 2012;9:CD007244.
69. Laakmann E, Grajecki D, Doege K, et al. Efficacy of *Cimicifuga racemosa*, *Hypericum perforatum* and *Agnus castus* in the treatment of climacteric complaints: a systematic review. *Gynecol Endocrinol*. 2012;28:703-709.
70. Cheema D, Coomarasamy A, El-Toukhy T. Non-hormonal therapy of post-menopausal vasomotor symptoms: a structured evidence-based review. *Arch Gynecol Obstet*. 2007;276:463-469.
71. Newton KM, Reed SD, LaCroix AZ, et al. Treatment of vasomotor symptoms of menopause with black cohosh, multibotanicals, soy, hormone therapy, or placebo: a randomized trial. *Ann Intern Med*. 2006;145:869-879.
72. Farzaneh F, Fatehi S, Sohrabi MR, Alizadeh K. The effect of oral evening primrose oil on menopausal hot flashes: a randomized clinical trial. *Arch Gynecol and Obstet*. 2013. 1-5.
73. Chenoy R, Hussain S, Tayob Y, et al. Effect of oral gamolenic acid from evening primrose oil on menopausal flushing. *BMJ*. 1994;308:501-503.
74. Hirata JD, Swiersz LM, Zell B, et al. Does dong quai have estrogenic effects in postmenopausal women? A double-blind, placebo-controlled trial. *Fertil Steril*. 1997;68:981–986.
75. Wiklund IK, Mattsson LA, Lindgren R, Limoni C. Effects of a standardized ginseng extract on quality of life and physiological parameters in symptomatic postmenopausal women: a double-blind, placebo-controlled trial. Swedish Alternative Medicine Group. *Int J Clin Pharmacol Res*. 1999;19:89-99.
76. Kim SY, Seo SK, Choi YM, et al. Effects of red ginseng supplementation on menopausal symptoms and cardiovascular risk factors in postmenopausal women: a double-blind randomized controlled trial. *Menopause*. 2012;19:461–466.

Membership Update Free Webinars

The WH DPG recently concluded its 2013 webinar series. This series of free webinars for members provides a low-cost, convenient way to share knowledge and information. The webinar topics for this year were: mindless eating, interstitial cystitis, nutrition and fertility and pre-natal nutrition. The live webinars are 1 hour in length and offer 1 CEU. The archived recordings are available in the member section of the Web site. We have already started to plan the 2013-2014 webinar series. If you have ideas for webinar topics or are interested in being a presenter, please email whdpgmembership@gmail.com.

MEMBER SPOTLIGHT By Amber Payne



Patty T. Poe EdD., RD

In this newsletter we are featuring Patty Poe, Director of Dietetic Internship at National Health Care Corporation and Adjunct Instructor at Middle Tennessee State University.

Tell me about your background and your career path. I received my Bachelor's degree in Nutrition and Food Science with a Dietetics Concentration from Middle Tennessee State University and I completed my dietetic internship at University of Kentucky Medical Center, which has a clinical concentration. I earned my Master's degree from Middle Tennessee State University (MTSU) in Curriculum and Instruction while working at Middle Tennessee Medical Center as a clinical dietitian and as a preceptor for MTSU's dietetic practicum. From there I went to Dialysis Clinic Incorporated, where I worked for five years. During that time I was a preceptor for NHC's dietetic interns, which developed my love of working with students and allowed me to establish a great working relationship with NHC. I became the Assistant Director of NHC's internship, and I held that position for eight years before advancing to the Director position, where I've been for 16 years. I have taught Nutrition in Aging courses at MTSU since 2004. I earned my Doctorate of Education in Leadership and Professional Practice in 2008 from Trevecca University.

From your perspective, what skills or background does a dietitian need to work with an aging population? A clinical base with knowledge of medical nutrition therapy, labs, diseases, and medications is a must. Often, when working in a long term care facility, the dietitian has to have compassion and be willing to accept a more liberalized approach with patients, respecting where the patient is in life and what he or she has been through, rather than lecturing them or giving them too many restrictions. You have to use a bit different approach than you would for patients in a program for general wellness. Your goals in long term care are to keep the patient eating and to prevent unintentional weight loss, so you have to make accommodations for patient preferences while teaching them how to be healthy and have a good quality of life.

What do you consider to be the biggest challenges and rewards in working with the elderly? The challenges are getting patients to eat enough, dealing with polypharmacy, encouraging patients to stay active, and helping them avoid susceptibility to fad diets and supplements that advertise quick fixes. However, the rewards are so beneficial. As a dietitian in a long term care setting, you get to establish a relationship with your patients often not possible in an acute care setting. The patients are receptive to new relationships and value the act of having a meal, and it is extremely gratifying to help them work through problems and see a patient's improvement after strokes, pressure ulcers, broken hips, etc.

What special considerations should dietitians keep in mind when working with the elderly population? Osteoporosis, sarcopenia, weight loss that includes loss of muscle and not fat, pressure ulcers, unintentional

weight loss, diabetes, and hypertension are all concerns and issues that are common hurdles in long term care. There must be an emphasis on physical activity, strength training, and adequate lean protein to overcome some of those issues. It's about finding the balance between a diet that is palatable and one that is beneficial for health.

What do you envision for the future of dietetics? There will be more of a focus on healthy aging, staying in the home longer, an emphasis on healthy programs for older adults, and interdisciplinary approaches to care that include dietitians, pharmacists, and therapists. The Baby Boomers have different eating patterns than our current long term care residents, so the differences in their lifetime activity levels and eating patterns will have to be considered when planning care for them. Our internship has a focus on geriatric nutrition, so we try to prepare future dietitians for these realities.

The Women's Health DPG is starting a mentoring program. Have you ever had a mentor? Yes, I've been lucky enough to have two. The first was the late Dr. Dellmar Walker from MTSU, who was chair of the Nutrition and Food Sciences department. She had vast knowledge in the clinical arena, and she was an amazing educator and friend. I miss her dearly. The second is Dr. Tish Erdmann, who served as a positive role model for me in college and hired me for my current position with NHC. She is one of the most intelligent and creative people I know, as well as an excellent educator and advocate for students.

Are there any questions you'd like to see researchers address in the field of nutrition? So many long term care facilities only employ an RD for limited hours every month. My dissertation was entitled "Dietitian Hours and Nutrition-Related Quality Indicators in Long Term Care Patients," which examined whether there was a correlation between the number of RD hours at a long term care facility and lower unintentional weight loss, pressure ulcers, and fewer survey tags. There were several limitations to the study. Although there were no significant correlations discovered, there did appear to be an inverse relationship between the number of RD hours in the long term care setting and the number of federal survey tags. I would like to see a cost-benefit study done to see if having more dietitian hours in long term care, home care, assisted living, and community centers would lead to fewer falls, better nourishment, and better overall health for the elderly. If a direct correlation could be found, it would not only confirm what we know to be true about the value of the RD, but it may also assist us in receiving reimbursement for RD services.

We've talked a lot about your career – what do you like to do during your time off? I love visiting neat grocery stores, traveling, and spending time with my friends and family. I recently learned to quilt, so my new favorite thing to do is visit thrift stores to look for vintage sheets that I can use for quilts!

Citation: Sprague BL, Trentham-Dietz A, Cronin KA. A sustained decline in postmenopausal hormone use: results from the National Health and Nutrition Examination Survey (NHANES), 1999-2010. *Obstetrics and Gynecology* 2012;120:595-603.

Background: Hormone replacement therapy (HRT) was a wildly popular therapeutic regimen in the last three decades of the twentieth century. It was used primarily to address symptoms of menopause in women such as hot flashes, night sweats and vaginal dryness. HRT was also believed to decrease women's risk of fractures and heart disease both of which increased with the onset of menopause. Over 90 million prescriptions for estrogen and/or estrogen/progestin pills were dispensed to 15 million women in 1999¹. This trend changed dramatically after 2002 when the results of the Women's Health Initiative (WHI), a large randomized control trial, were published. Researchers from that trial halted the estrogen/progestin part early because they decided that the benefits of the hormone therapy (fewer fractures and less colorectal cancer risk) did not outweigh the risks (increased incidence of strokes, blood clots, heart attacks and breast cancer). HRT popularity fell rapidly. Health care providers were far less likely to prescribe these hormones, and prescriptions fell more than 66% the following year². Initial NHANES data comparing postmenopausal hormone use among women aged 45-74 showed a 50% drop from the study years of 1999-2002 to 2003-2004³. The Sprague et al. research discussed here looks at long-term use of HRT after the WHI trial results were published.

Methods: In this study, researchers from the University of Vermont used cross-sectional data from 10,107 women > age 40, participating in NHANES from 1999-2010, to document a long-term population-wide decrease in the use of oral post-menopausal hormones.

Results: Researchers found that oral postmenopausal hormone use fell from 22.4% (95% CI: 19.0-25.8) in 1999-2000 to 11.9% (95% CI: 9.6-14.2) in 2003-2004. Researchers note that this decline was first seen only among Caucasian women. The use of these hormones did not decline among Black and Latino women until 2005-2006. Over the years hormone use continued to decline among women of all ages, races, income and education levels. Most recent data from 2009-2010 suggests that fewer than 5% of women -- 4.7% overall (95% CI: 3.3-6.1) -- continue to use postmenopausal hormones.

Discussion: The study is limited by the fact that it did not examine the use of hormone-based patches, creams, suppositories and injections, as this data was not available for the entire time period studied by the authors. These alternative methods are more popular and widely available currently than they were in 2002, so an analysis of usage trends would be very interesting. Other studies have suggested that after the WHI data was released, treatment regimens shifted from traditional oral hormone therapies to vaginal and lower-dose oral formulations⁴. In addition, the WHI is criticized for having low adherence, high attrition and inadequate power to detect risks for some outcomes⁵. Currently, there is some thought that HRT initiated for a short duration in the early years of menopause may give relief to menopausal symptoms without carrying a substantial risk for adverse cardiovascular events⁶. Although HRT remains unpopular

following the results of the WHI, the discussion about how, when, for how long and to whom HRT should be administered remains controversial.

References

1. Hersh AL, Stefanick ML, Stafford RS. National use of postmenopausal hormone therapy: annual trends and response to recent evidence. *JAMA*. 2004 Jan 7;291(1):47-53.
2. Ibid.
3. Hsu A, Card A, Lin SX, Mota S, Carrasquillo O, Moran A. Changes in postmenopausal hormone replacement therapy use among women with high cardiovascular risk. *Am J Public Health*. 2009 Dec;99(12):2184-7.
4. Steinkellner AR, Denison SE, Eldridge SL, Lenzi LL, Chen W, Bowlin SJ. A decade of postmenopausal hormone therapy prescribing in the United States: long-term effects of the Women's Health Initiative. *Menopause*. 2012 Jun;19(6):616-21.
5. Nelson HD, Walker M, Zakher B, Mitchell J. Menopausal hormone therapy for the primary prevention of chronic conditions: a systematic review to update the U.S. Preventive Services Task Force recommendations. *Ann Intern Med*. 2012 Jul 17;157(2):104-13.
6. Valdiviezo C, Lawson S, Ouyang P. An update on menopausal hormone replacement therapy in women and cardiovascular disease. *Menopause*. 2013 Mar;20(3):342-53.

RDN Credential

The Academy's Board of Directors and the Commission on Dietetic Registration (CDR) have taken a big step: Registered dietitians now have the option to use the credential "registered dietitian nutritionist (RDN)."

Why did they take this action? In short, because members asked for it. In 2010, the Academy began exploring the option of offering the registered dietitian nutritionist credential. It was supported by participants in the 2011 Future Connections Summit and most recently by the Council on Future Practice in its 2012 Visioning Report. The recommendation was shared and discussed in the House of Delegates at the fall 2012 meeting. The 2013 joint meeting of the major organizational units (Commission on Dietetic Registration, Accreditation Council for Education in Nutrition and Dietetics, Council on Future Practice, Education Committee, and Nutrition and Dietetics Educators and Preceptors DPG) supported moving forward.

We know that all registered dietitians are nutritionists but not all nutritionists are registered dietitians. The new RDN credential positions and promotes you front and center with consumers, increasing recognition and public understanding of both terms: "dietitian" and "nutritionist." This action will more accurately reflect who we are and what we do.

More information about the new credential is available at www.eatright.org/RDN.



Maria: One of my duties as Past Chair is to oversee the Mentoring program of the Women's Health DPG. The program is just gaining ground, and was born out of our board's commitment to support students and emerging leaders. We couldn't imagine a better way to do this than to help connect them to our more experienced members for guidance. In general we've had more requests from students and dietitians new to the women's health area than we have had from potential mentors. But we envision developing the program into a great member benefit, and hope to enlist your help!

This year I hope to bring a renewed energy and focus to the program. I plan to review the existing participants and reach out to them. I also want to communicate additional appeals to members, encouraging both new as well as established ones to join in. Further, I want to set up detailed records and guidelines to aid the program's growth.

The Editorial Board of the Women's Health Newsletter has been very supportive and plans to feature mentoring participants in a regular section of the newsletter. In addition, we plan to work with the Membership Committee to create a resource list of members and their particular expertise, akin to a Speaker's Bureau. This will help both the mentoring program and our leaders when asked to provide experts in certain areas for position papers or guideline creation.

The mentoring program is a special initiative for me because I, too, have been a mentor to many inquisitive students in my area. There is immense satisfaction and joy for the mentor in helping someone navigate a new career. Mentoring is also valuable to the mentee, as no textbook can offer insight into how to do things the way a practitioner can. In fact, I'm proud to report that I have just gotten involved as the program's first mentor, advising a member seeking someone with both private practice and clinical experience in women's health in the New York City area – a perfect match! I am so excited to offer my knowledge and guidance to her. Perhaps you'll hear more about this in the coming issues.

Pat Slinger-Harvey, our first mentoring coordinator, hopes to continue her role for another term, as things are just getting started. Pat plans to use this renewed focus to complete her first term's goals, especially

designing a workable way to manage the program as she brings her many years of experience as a Clinical Nutrition Manager to the table.

Pat: For me, as a new addition to the Women's Health DPG, the last year has been about finding my place and exploring what members would want from this organization. A mentor takes on many roles: counselor, teacher, motivator and friend. With that in mind, I will be working with Maria to not only develop a knowledge base of professionals who are experts in their areas, but who can also provide guidance in professional conduct and diversity management, and serve as motivators to those new to the profession.

I believe my path was set a long time ago, and in the last few months, as Maria and I have been working on this initiative, my workplace, New York Methodist Hospital (NYM), has partnered with Spirit of Women (www.spiritofwomen.com) to become a "Spirit Hospital." The unique program is free to participants, and as NYM explains, is designed "to connect people, health care providers, and communities to achieve the best possible health for women and their families." In the next few weeks we will be hosting a "Spirit of Women Day" with health promotion, education and relaxation techniques, such as yoga and dance, and simply recognizing women's importance. We know that women are the gatekeepers of family health, and so one of the goals of this mentoring program is to provide guidance to women on nutrition and health issues that may resonate outward to all family members.

I look forward to building on and making those connections, providing guidance, and helping to expand the reach of the Women's Health DPG, and its role in health management.

If you are a member seeking expert guidance, or are an experienced member who wants to be involved in this rewarding relationship, please contact: whdpgmentoring@gmail.com and/or whdpgpastchair@gmail.com.

Got Case Studies?

The *Women's Health Report* is looking for contributing authors to share case studies for our future publications. Please contact Editor Heather Goesch at whdpgpublications@gmail.com if you'd like to contribute.

our mission

"Empowering members to be the most valued source of nutrition expertise in women's health throughout the lifespan."

Encouraging patients and clients to engage in regular physical activity as they age is key to healthy aging over time. According to the 2008 Physical Activity Guidelines for Americans, to achieve substantial health benefits, adults 18-64 “should do at least 150 minutes (2 hours and 30 minutes) a week of moderate-intensity, or 75 minutes (1 hour and 15 minutes) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. Aerobic activity should be performed in episodes of at least 10 minutes, and preferably, it should be spread throughout the week.” These recommendations are the same for adults over 65 who are fit and have no limiting medical conditions. However older adults should adhere to the following important reminders:

- When older adults cannot do 150 minutes of moderate-intensity aerobic activity a week because of chronic conditions, they should be as physically active as their abilities and conditions allow.
- Older adults should do exercises that maintain or improve balance if they are at risk of falling.
- Older adults should determine their level of effort for physical activity relative to their level of fitness.
- Older adults with chronic conditions should understand whether and how their conditions affect their ability to do regular physical activity safely.



Exercise to Improve Your Balance

Having good balance is important for many everyday activities, such as going up and down the stairs. It also helps you walk safely and avoid tripping and falling over objects in your way.

Each year, more than 2 million older Americans go to the emergency room because of fall-related injuries. A simple fall can cause a serious fracture of the arm, hand, ankle, or hip.

Balance exercises can help you prevent falls and avoid the disability that may result from falling. You can do balance exercises almost anytime, anywhere, and as often as you like as long as you have something sturdy nearby to hold on to for support.

Try these balance exercises: stand on one foot, walk heel to toe, and walk in a straight line with one foot in front of the other. A number of lower-body exercises – especially those that strengthen your legs and ankles – also can help improve your balance. These include the back leg raise, side leg raise, knee curl, and toe stand exercises, which can be found on the Go4Life website.

As you progress in your exercise routine, try adding the following challenges to help your balance even more:

- Start by holding on to a sturdy chair with both hands for support.
- When you are able, try holding on to the chair with only one hand.
- With time, hold on with only one finger, then with no hands at all.
- If you are really steady on your feet, try doing the balance exercises with your eyes closed.

Quick Tip
In the beginning, using a chair or the wall for support will help you work on your balance safely.

VISIT
www.nia.nih.gov/Go4Life

- Read more tips for adding physical activity to your day.
- Print useful tools.
- Share your exercise story.



National Institute on Aging
National Institutes of Health
U.S. Department of Health & Human Services
Go4Life is a registered trademark of the U.S. Department of Health and Human Services.

Heart Health

Just like an engine makes a car go, your heart keeps your body running. As you grow older, some changes in the heart and blood vessels are normal, but others are caused by disease.

Choices you might make every day can contribute to heart disease. Do you smile? Are you overweight? Do you spend the day sitting at a desk or in front of the TV? Do you avoid doing exercise? Do you drink a lot of alcohol? If you answered yes to one or more of these questions, making healthy lifestyle changes might help you prevent or delay heart disease.

Take the following steps to keep your heart healthy:

Be more physically active. Aim for 30 minutes of moderate-intensity activity on most or all days of the week. Every day is best. It doesn't have to be done all at once – 10-minute periods will do. Start by doing activities you enjoy – such as walking, dancing, swimming, bicycling, or playing basketball or tennis.

If you smoke, quit. It's never too late to get some benefit from quitting smoking.

Follow a heart healthy diet. Choose low-fat foods and those that are low in salt. Eat plenty of fruits and vegetables, and foods high in fiber. Following a healthy eating plan and being physically active might help you.

Keep a healthy weight. Your healthcare provider can check your weight and height to learn your BMI (body mass index). A BMI of 25 or higher means you are at risk for heart disease, as well as diabetes and other health conditions. Following a healthy eating plan and being physically active might help you.

Quick Tip
For information on heart-healthy eating plans, visit the National Heart, Lung, and Blood Institute at [nia website](http://www.nhlbi.nih.gov) at www.nhlbi.nih.gov

VISIT
www.nia.nih.gov/Go4Life

- Read more tips for adding physical activity to your day.
- Print useful tools.
- Share your exercise story.



National Institute on Aging
National Institutes of Health
U.S. Department of Health & Human Services
Go4Life is a registered trademark of the U.S. Department of Health and Human Services.

While these recommendations exist and health care providers are encouraging physical activity, the Health United States, 2011 Chartbook reported in 2010, that only 15.9% of adults 55-64 and 13.6% of adults 65-74 met both aerobic activity and muscle strengthening guidelines. How can we help adults meet the physical activity guidelines or at least make strides towards meeting them?

One way might be to provide examples of exercises with instructions, as well as visuals that show adults engaging in the exercises. The National Institute on Aging of the National Institutes of Health created Go4Life, an evidence-based health education and outreach campaign designed to help adults 50 and older fit exercise and physical activity into their daily lives. The Go4Life campaign includes an evidence-based exercise guide in both English and Spanish, an exercise video, an interactive website, and a national outreach campaign. Health care professionals can find tip sheets, posters and other outreach tools to help implement the campaign.

As health care professionals, registered dietitians can incorporate these resources into discussions with older adults about the importance of nutrition and physical activity for healthy aging. In addition to the exercise tip sheets, Go4Life offers nutrition tip sheets on such topics as choosing healthy restaurant meals, the importance of drinking water, healthy snacking, and managing portion sizes. More information can be found at <http://go4life.nia.nih.gov/>.



Mind body practices that include yoga may help reduce severity of menopausal symptoms¹. The use of yoga, tai chi and meditation-based programs may be helpful in reducing stress, frequency and intensity of hot flashes, sleep and mood disturbances, and muscle and joint pain according to a 2010 review of 21 papers that assessed this issue².

There is plentiful evidence of health-related benefits

of yoga in women. A review at www.ClinicalTrials.gov revealed a multitude of completed studies using yoga for treatment in insomnia, arthritis, breast cancer and chemo-induced fatigue from breast cancer, Parkinson's, low back pain, anxiety and depression, stress and burnout, multiple sclerosis, cystic fibrosis, irritable bowel syndrome, HIV and gastroesophageal reflux disorder to name a few. These trials focus on the broader health effects of yoga in women for many disease processes. There is hope that future research will examine the unmet research need of the specific effects of perimenopause and menopause, especially given the advanced age of our population, known as Baby Boomers.

To date, however, one study showed that a specific sequence of yoga poses yielded significantly lower post-treatment scores for insomnia and climacteric symptoms (tachycardia, feeling tense or anxious, panic attacks, crying spells, irritability, headaches, muscle and joint pain, numbness or dizziness) and higher scores for quality of life and stress³. Another evaluated the effect of yoga on 120 women who practiced yoga therapy in an integrated method that consisted of sun salutations plus 12 yoga postures, breathing techniques, and cyclic meditation. Results of this study indicated a significant difference ($p < 0.05$) between the control and yoga groups in vasomotor symptoms (hot flashes and night sweats) and a marginally significant difference ($p = 0.06$) in psychological factors⁴. Perceived stress and neuroticism also decreased due to the yoga program.

Hot flashes seem to be the primary complaint among post-menopausal women, although these intense and heated waves can begin in perimenopause. A controlled trial set out to determine feasibility and acceptability of a restorative yoga intervention for hot flashes in post-menopausal women. Of the 93% who completed the intervention, 75% continued to practice yoga three months beyond the trial, and concluded that yoga is certainly an intervention to be considered⁵.

To show the willingness of women in New York City to use complementary and alternative medicine (CAM) for pregnancy, menstruation and menopause, a study explored women's use of CAM via random digit-dialing and computer-assisted telephone interviewing. Yoga, meditation and spiritual practices were among CAM modalities chosen by the women. More than half the sample had used a CAM treatment and 40% had visited a CAM practitioner⁶.

A 2012 review of the literature found moderate evidence for short-term effectiveness of yoga for psychological symptoms in menopause⁷. The most important news from all the research is that no adverse events were associated with the clinical trials. This seems to indicate that even in the absence of trials devoted specifically to yoga for relief from menopausal symptoms, yoga can be a safe and alternative approach to current treatment modalities. Another review concluded that "yoga, a free-of-cost, non-invasive method, is fairly effective and strongly recommended to all women of menopausal age. Yoga [has] the potential to provide physical, mental and emotional health benefits to those who practice it with proper guidance⁸."

The years that span the menopausal process can be quite lengthy for some women, creating an endurance event of often significant and challenging symptoms. How well a woman adjusts to the changes her body and mental status experience determines her comfort level. Yoga is an age-old method for creating a calm and serene environment amid unpleasant sensations. It can be practiced in a multitude of ways: from an active daily physical yoga posture practice that relieves tightness and tension in the body through stretching; to breathing exercises that create more space in and quiet the mind; to meditation that restores a sense of calm amidst chaotic symptoms like anxiety; to restorative yoga poses that may regulate menstrual flow in women with an erratic or heavy flow.

A continuous yoga practice before the transition into menopause may smooth the passage. However, women with a committed and strong practice might find that continuing vigorous yoga that includes inversions (shoulder stand, head stand, hand stand) can instigate more hot flashes. Conversion of these poses into restorative practice may still provide the benefits of inversions (instilling the feelings of being grounded and connected, reducing anxiety and irritability, increasing energy), but may also minimize symptoms.

Internationally recognized yoga teacher Patricia Walden knows firsthand that yoga can be a compelling tool to ease suffering that goes along with the hormonal shifts of menopause. She especially promotes restorative poses, as she personally experienced the diminutive effects of yoga during her own transition. What follows are cooling pose choices often recommended by yoga therapists like Patricia Walden to help address menopausal symptoms⁹.

Sources

1. Get the Facts: Menopausal Symptoms and Complementary Health Practice. NIH NCCAM statement. Jan 2008
2. Ibid.
3. Afonso RF, Hachul H, Kozasa EH. Yoga decreases insomnia in postmenopausal women: A randomized clinical trial. *Menopause* 2011.
4. Chattha R, Raghuram N, Venkatram P, Hongasandra NR. Treating the climacteric symptoms in Indian women with an integrated approach to yoga therapy: A randomized control study. *Menopause* 2008.
5. Cohen BE, Kanaya AM, Macer JL, Shen H, Chang AA, Grady D. Feasibility and acceptability of restorative yoga for treatment of hot flushes: A pilot trial. *Maturitas* 2007.
6. Factor-Litvak P, Cushman LF, Kronenberg F, Wade C, Kalmuss D. Use of complementary and alternative medicine among women in New York City: A pilot study. *Journal of Alternative Complementary Medicine* 2001.
7. Cramer H, Lauche R, Langhorst J, Dobos G. Effectiveness of yoga for menopausal symptoms: A systematic review and meta-analysis of randomized controlled trials. *Evidence Based Complementary and Alternative Medicine* 2012.
- 8,9. Sparrowe L, Walden P. *The Woman's Book of Yoga and Health: A Lifelong Guide to Wellness*. Shambhala Publications, Inc. Boston MA. 2002

YOGA PRACTICE FOR REDUCTION OF MENOPAUSAL SYMPTOMS

Standing Forward Bend / Wide-Legged Standing Forward Bend: Depending on which pose you start with, stand with feet either hip distance or three feet apart. Fold forward at the hip creases, softening your knees as needed, and rest your head on a bolster or chair stacked with blankets. These inward-folding poses calm the mind and reduce stress and mental tension.



Downward-Facing Dog: Place your hands and knees on the mat in a tabletop position. Tuck your toes, lift your knees and stretch your hips toward the wall behind you. Breathe deeply and fully as you stretch your shoulders toward the floor, softening and widening your collarbone and relaxing your upper back. At the same time, lengthen your spine and let your breath expand your ribcage. Lengthen the backs of your legs toward the floor. Enjoy improved circulation, and a soothed yet gently alert mind.



Reclined Cobbler's Pose: You'll need a few props for this but it's worth every one for this "queen of restorative poses." If you do not have a yoga bolster, gather several blankets and pillows. If you do have a bolster, place a block underneath it so that the bolster will support you at a reclined angle; or roll 1-2 blankets into a full, soft roll and lay it vertically on your mat. Sit close to the bolster/blanket and lie back onto it so your sacrum and low back area are supported and encouraged to find the natural inward curve. Place the soles of your feet together, your knees opening out to each side. Place a folded blanket or pillow under each thigh to reduce the inner thigh stretch and hip joint tension, as well as under your elbows so your arms and shoulder joints feel no resistance. Cover yourself with another blanket or wear warm clothes, as your body will cool in restorative

poses. A small folded cloth over your eyes is the final touch to reduce light. Rest as long as is comfortable, up to 20-30 minutes (you might fall asleep). Benefits include reduced tension, improved sleep and feelings of calm.



Supported Backbend: With your hips on the floor, lie back over a bolster or rolled up blanket that's placed horizontally on your mat so that your shoulder blades feel supported. Rest your head on a pillow behind you. Breathe deeply and fully to expand your lungs, which increases circulation to improve mood and foggy thinking.



Legs Up the Wall Pose: Lie on your side and scoot your buttocks toward the wall until touching, then roll onto your back and swing your legs up the wall. If your hamstrings or low back feel too tense and tight, lift your hips to place a block or folded blanket underneath. You'll find this pose provides a reduction in anxiety and irritability.



2012-2013 WOMEN'S HEALTH DIETETIC PRACTICE GROUP LEADERS

WH DPG Incoming Elected Members

Chair-Elect: Lisa Akers, MS, RD, CDN has been working in the field of public health and human lactation for over 12 years, and currently serves as the State Breastfeeding Coordinator for the Commonwealth of Virginia. Along with being a Master's-prepared RD, Lisa is also an International Board Certified Lactation Consultant (IBCLC). **Treasurer:** Gail Frank, DrPH, RD, CHES is a writer/speaker who served 19 years as a media spokesperson for the Academy of Nutrition & Dietetics. A Certified Health Education Specialist (CHES) and chronic disease Epidemiologist, Dr. Frank is a Professor of Nutrition and the director of an Accredited Internship Program in Dietetics at California State University – Long Beach, graduating over 250 RDs into the profession to date. **Nominating Committee (Chair-Elect):** Dina Lipkind MS, RD, CDN is Director of Nutrition Services for Yeled V'Yalda's Early Childhood Center in Brooklyn, New York.

Executive Committee

Chair

Barbara E. Millen, DrPH, RD, FADA
whdpgchair@gmail.com

Chair-Elect

Kathleen Pellechia, RD
whdpgchairelect@gmail.com

Past Chair

Maria Pari-Keener, MS, RD, CDN
whdpgpastchair@gmail.com

Treasurer

Rebecca Gerl, MS, RD
whdpgtreasurer@gmail.com

Chairs/Coordinators

Communications Chair

Miri Rotkovitz, MA, RD
whdpgcommunications@gmail.com

Membership Chair

Maria Bournas, MS, RD, LDN
whdpgmembership@gmail.com

Manager, DPG/MIG/Affiliate Relations

Susan DuPraw, MPH, RD
sdupraw@eatright.org

Nominating Committee Chair

Elisa Zied, MS, RD, CDN
whdpgnominations@gmail.com

Committee Coordinators

Web Site Coordinator

Kathleen Pellechia, RD
whdpgchairelect@gmail.com

Electronic Mailing List (EML) Coordinator

Lisa Hamlett Akers, MS, RD, IBCLC, RLC
wh_list@yahoo.com

Publications Editor

Heather Goesch, MPH, RDN, LDN
whdpgpublications@gmail.com

Assistant Publications Editor

Amber Payne
ambermpayne79@gmail.com

Legislative Coordinator

Dawn Ballo Singh, MPA, RD, LMNT
dballo Singh@oneworldomaha.org

HOD Delegate

Denise Andersen, MS, RD, LD, CLC
dandersster@gmail.com

Public Policy Coordinator

Currently Recruiting

Membership Retention Coordinator

Ginger Carney, MPH, RD, LDN, IBCLC, RLC, FILCA
ginger.carney@stjude.org

Membership Volunteer Coordinator

Robin Hooge
rhooge@gmail.com

Reimbursement Coordinator

Currently Recruiting

Research Coordinator

Jamillah Hoy-Rosas
jhoyrosas@gmail.com

Nominating Committee/Awards Chair

Judy Simon, MS, RD, CD, CHES
whdpgawards@gmail.com

Nominating Committee

Maya Feller, MS, RD
mayafeller@me.com

Mentoring Coordinator

Patricia Slinger-Harvey
whdpgmentoring@gmail.com

Network or Alliance Representatives

USBC: Jeanne Blankenship, MS, RD, CLE

Editorial Review Board

Barbara Millen, DrPH, RD, FADA

Maria Pari-Keener, MS, RD, CDN

Kathleen Pellechia, RD

Miri Rotkovitz, MA, RD

Jamie Mok, MS, RD

Denise Andersen, MS, RD, LD, CLC

Diana Cullum-Dugan, RD, LDN, RYT

Amber Payne

 Academy of Nutrition and Dietetics

New Name, New Benefit

In addition to expanding your professional network, you can now earn FREE CPE by participating in the new eMentoring program.

The Academy's new name underscores the educational values our organization is committed to, and now we're proving it.

CPE is available for both mentees and mentors!

Academy eMentoring—where experience and enthusiasm merge.



Take advantage of this benefit by visiting the Mentoring Resources page at www.eatright.org