Cardiovascular Health and Well-being
a dietetic practice group of the
Academy of Nutrition and Dietetics
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Publication of Cardiovascular Health and Well-being Dietetic Practice Group

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Publication of Cardiovascular Health and Well-being (CV-Well), a dietetic practice group of the Academy of Nutrition and Dietetics

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CPE Opportunities in This Issue

After reading this issue of *Pathways*, current CV-Well DPG members (and nonmembers who purchase this publication) can earn 0.75 hour of continuing education units (CEUs), level 2 approved by the Commission on Dietetic Registration (CDR). Users must complete the post-test and Critical Thinking Tool in the Academy's Learning Management System (LMS) by April 21, 2028. You can begin this activity by logging in here. The certificate of completion is valid when the CPE self-assessment questionnaire is successfully completed, submitted, and recorded by CV-Well DPG/Academy of Nutrition and Dietetics.

CV-Well Said

A Message from the Chair

On Change and Progress

by Parul Kharod, MS, RD, CV-Well Chair

"Progress is impossible without change, and those who cannot change their minds cannot change anything." – George Bernard Shaw

There are many wonderful quotes about change and how it is inevitable. We cannot become better if we never change. Improvement is always necessary, and improving means changing and adapting.

I am starting with this prelude because this is my final *Pathways* column as Chair of CV-WELL. As my term ends this May, it also brings other unforeseen changes. This is not only my last column for *Pathways*, but sadly, this is the last issue of *Pathways*.

Chaos can often precede change, and we are in a bit of a chaotic environment at present. The Academy is in the process of proposing changes to the DPG/MIG structure. As some of you may know, we have had changes to our budget process.

Due to the limited resources and restricted assets at our disposal, it is no longer feasible to fund the *Pathways* newsletter in its current form. I can assure you that this was not an easy decision for the Executive Committee, and we had several meetings before we voted on it.

I understand that this publication is a great member benefit. I can reassure you that we are brainstorming different ways for you to stay abreast of latest research, and are trying to come up with several options for member engagement and other benefits.

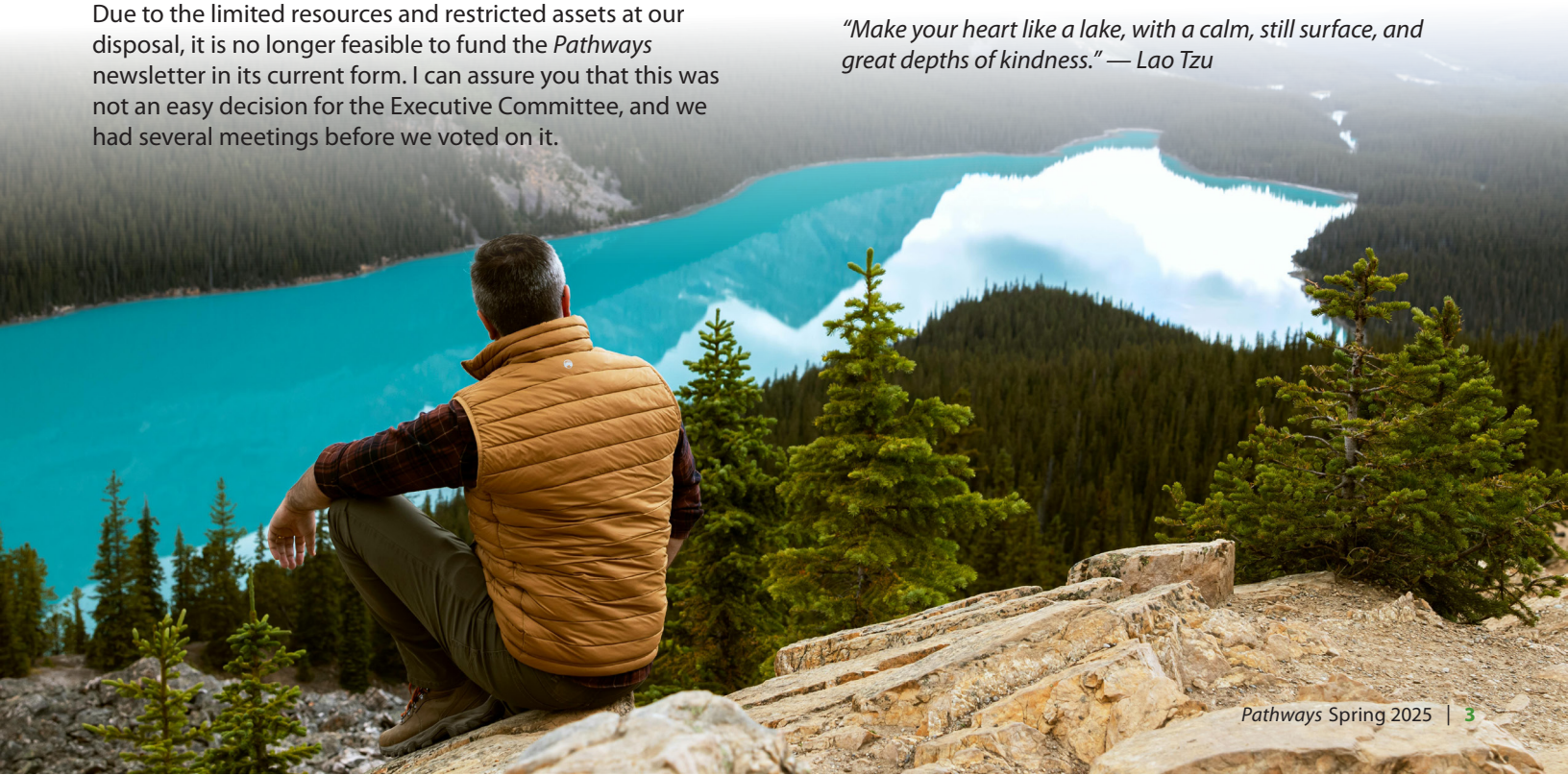
We still have our Mentor Circle, and we will be publishing new fact sheets throughout the year. There are other things in the pipeline as well. Until we announce what else lies ahead, I request you all to be patient and continue to be part of our little community.

CV-Well DPG will be turning 5 years old during our 2025-2026 cycle, and we have tremendous potential—if we all work together—to advocate for heart health and wellness. I hope you will renew your Academy membership and your membership to CV-Well DPG. I also hope that you decide to join our team and volunteer for an appointed or an elected position in the near future.

I will still be part of the Executive Committee as Past-Chair for the next year, so please free to reach out. I hope to stay engaged, and look forward to seeing some of you at the next FNCE.

I will end with another quote . . .

"Make your heart like a lake, with a calm, still surface, and great depths of kindness." — Lao Tzu



CPE Research Article

Mind-Body Exercise Interventions in the Postmenopausal Period: Supporting Physical and Mental Well-Being

by Shannon Herbert, PhD, RDN and Katelyn Senkus, PhD

Learning Objectives

- Define menopause and explain its impact on physical and psychosocial health
- Summarize the recommendations for traditional physical activity and describe how this impacts cardiometabolic and bone health
- Evaluate how mind-body exercises may offer complementary benefits for improving menopausal outcomes

Menopause and Its Impact on General and Physical Health

Menopause occurs naturally in females between ages 45 and 55 years, owing to the gradual reduction of endogenous sex hormones, notably estrogen.[1] This stage of female reproductive aging is coupled with a myriad of vasomotor symptoms (i.e., hot flashes) and psychosocial symptoms (i.e., fatigue), as well as increased health risks, including cardiometabolic disease and osteoporosis.

Hormone replacement therapy (HRT) with estrogen (or estrogen with progestin) is one of the few FDA-approved treatments for menopause-related vasomotor symptoms and osteoporosis risk.[2] Despite these potential benefits, HRT may heighten the risk of cardiovascular disease, cancer, and stroke in postmenopausal women.[3,4] This complex risk-benefit profile has led to a reduction in HRT use from 26.1% in 1999 to 4.7% in 2020,[5] contributing to women seeking alternative complementary lifestyle solutions to address their menopausal symptoms and cardiometabolic and bone health.

Exercise, Physiological, and Psychosocial Health in Postmenopause

Several professional and health organizations such as the World Health Organization and the American Academy of Family Physicians highlight the importance of healthy lifestyles (i.e., nutrition and physical activity) with aging. The American Heart Association recommends individuals engage in ≥150 minutes per week of moderate-intensity aerobic activity (or 75 minutes per week of vigorous aerobic activity) with moderate- to high-intensity muscle-strengthening activity at least 2 days per week.[6] However, results from the Study of Women's Health Across the Nation (SWAN) Study suggest that only 7.2% of midlife women consistently meet these recommendations.[7]

Although these guidelines are not specific to the postmenopausal period, research supports the physiological benefits of exercise in the context of bone and cardiometabolic health. A recent meta-analysis (N=80 studies, 5581 participants) reported that exercise positively impacted bone mineral density (BMD) in postmenopausal women, irrespective of menopausal stage and osteoporosis diagnosis compared with control groups.[8] Additionally, another meta-analysis (N=53 studies, 3821 participants) found that aerobic exercise significantly improved cardiometabolic outcomes such as lowering systolic blood pressure, body adiposity, and waist circumference in postmenopausal women.[9]

In addition to physical health, the transition into menopause also influences vasomotor symptoms and psychosocial health, which are both closely linked to quality of life.[10] Among other complaints postmenopausal women have reported higher levels of anxiety, sleep disruptions, and reduced quality of life compared with their pre- and perimenopausal counterparts,

further exacerbated by retrospective menopause symptom severity.[11] It is well-established that traditional exercise programs provide cardiometabolic and bone benefits during this phase of life—*but is there an opportunity to incorporate more mind-body exercise interventions that may also target psychosocial symptoms?*

Mind-body exercise interventions tend to combine both physical movements and mental focus to enhance the connection between the mind and body while also promoting physical and mental benefits. This review explores the impact of various mind-body therapies on physiological biomarkers and outcomes directly tied to quality of life during the postmenopausal period.

Mind-Body Exercise Interventions in the Postmenopausal Period

Movement approaches that focus on the connection between mind and body have gained in popularity in recent years.[12] These approaches differ from more traditional exercise approaches through their focus on movement, breathing control, and attention regulation.[13] Mind-body exercises may include practices such as yoga, Tai Chi, Qigong, and Pilates. Estimates suggest approximately 51% of women use complementary and alternative medicine, including mind-body practices, and more than 60% of women perceive it to be helpful for menopausal symptoms.[14,15] Several mind-body exercises have been studied for their possible benefits during the menopause transition.

Yoga

Yoga is an ancient practice that originated in India with the aim of connecting mind and body. Yoga integrates physical postures (referred to as asana), breathing techniques, pranayama, and other meditative and spiritual practices; these are collectively referred to as the eight limbs of yoga. Several studies have examined yoga as a potential practice for promoting well-being in women undergoing the menopause transition. Some possible reasons for yoga's benefits in menopause may include its integration of mind and body approaches that can both help reduce stress and enhance physical fitness. Yoga may also promote mindfulness, which may contribute to alleviating anxiety in women in the menopause transition.

A 2025 systematic review and meta-analysis examined the effectiveness of yoga on menopausal symptoms including hot flashes, depression, anxiety, sleep quality, body mass index (BMI), systolic blood pressure (SBP), diastolic blood pressure (DBP), and quality of life.[16] The meta-analysis included 24 studies and the duration of the yoga interventions ranged from 4 weeks to 1 year. The majority of the interventions had participants practicing yoga two to three times per week, with sessions lasting 60 to 90 minutes. The control groups received usual care, which consisted of walking, educational classes, sleep hygiene, and stretching.

Results revealed significant differences in total menopausal symptoms (SMD=-1.18, 95% CI: -1.62 to -0.73, $p<.00001$) between the yoga and control groups. Of these symptoms, there were significant improvements in psychological menopausal symptoms score (SMD=-1.27, 95% CI: -1.87 to -0.68, $p<.0001$); sleep quality (SMD = -1.30, 95% CI: -1.97 to -0.62, $p=.0002$); and depressive symptoms (SMD= – 1.55, 95 % CI: – 2.36 to –0.74, $p=.0002$, $I^2 = 96\%$) in the yoga group versus the control group. Furthermore, there were significant decreases in somatic menopausal symptom scores (SMD=-0.88, 95% CI: -1.37 to -0.39, $p=.0004$); anxiety (SMD=-0.92, 95% CI: -1.82 $p=.09$, $p=.03$); BMI (MD=–1.35, 95% CI: –1.61 to –1.08, $p<.00001$, $I^2=75\%$); SBP (MD=–6.52, 95 % CI: –7.71 to –5.33, $p=<.00001$, $I^2=98$ %); DBP (MD=–5.10, 95 % CI: -5.96 to -4.24, $p<.00001$, $I^2 = 98\%$) in the yoga group versus the control group. No significant improvements in hot flashes or quality of life were observed in the yoga group compared with the control group.

While this systematic review and meta-analysis demonstrates the role of yoga in helping to improve menopausal-related outcomes, only five of the studies were conducted in the United States, thus generalization to a U.S. population may be limited.

Other Mind-Body Exercises

A 2024 systematic review and meta-analysis explored mind-body interventions (tai chi, yoga, Pilates, qigong, baduanjin, and mindfulness-based stress reduction) in perimenopausal and postmenopausal groups (N=11 randomized controlled trials,1005 participants).[17] The authors combined all of the interventions for their meta-analysis and found that mind-body exercise significantly enhanced sleep quality (SMD=0.48, 95% CI -0.78 to -0.17, $p=.002$), anxiety (SMD=-0.80, 95% CI: -1.23 to -0.38 , $p=.0002$), depression (SMD= -0.80, 95% CI -1.17 to -0.44, $p<.001$), and fatigue (SMD=-0.67, 95% CI -0.97 to -0.37, $p<.001$). Although these are positive findings, mind-body approaches differ from one another in many ways and their combination into a single group for this analysis makes it challenging to determine which practices may be more or less effective and which to possibly recommend.

In this same study, authors also combined Pilates and tai chi interventions into a group and evaluated their effect on BMD only. These two practices significantly improved BMD in perimenopausal and postmenopausal

women (SMD, 0.41; 95% CI, 0.17 to 0.66; p=.001).[17] This could be due to the weight-bearing nature of these activities, which increases muscle mass, places mechanical stress on the skeleton, and increases osteoblast activity, all of which contribute to maintaining BMD.[18] A separate meta-analysis reported that yoga or Pilates-based interventions did not have a significant effect on BMD compared with the control group, but maintenance of BMD in the intervention group was observed. As menopause is a time in which bone loss is common, maintenance of BMD can also be beneficial.[19]

Conclusions and Next Steps

Overall, the literature suggests promising results for the use of mind-body exercise approaches to manage menopausal symptoms, but there is also large heterogeneity in the interventions studied. This heterogeneity makes it challenging to reach any conclusions as to the most effective approaches for physiological and psychosocial health in the postmenopausal period.

To date, yoga seems to have the most research supporting its efficacy in this target population, yet even among yoga interventions there is variety in both the intervention and the outcomes assessed. Additional randomized controlled trials are needed to better understand the impact of other mind-body exercise interventions on the outcomes discussed in this review, especially in the United States. In the long term, this would enable meta-analyses focused on a single intervention and/or subgroup analyses to support more specific mind-body exercise recommendations. Nevertheless, none of these mind-body exercises appear to be harmful. Individuals would likely benefit from incorporating them in conjunction with other approaches to fitness, such as traditional strength training and aerobic exercise, to maintain or improve the physiological and psychosocial effects of menopause.

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CPE Practice Article

Menopause: Estrogen and Its Direct Relationship to Insulin Resistance

by Laura Cipullo, RD, CDCES, CEDS-S

Learning Objectives

- Describe the hormonal changes that occur during the menopause transition
- Summarize the relationship between menopause and insulin resistance
- Identify nutritional strategies to improve insulin resistance during menopause

The inevitable happens when women hit their mid-40s to mid-50s. Hot flashes begin and menstrual cycles can become heavy, long, and sporadic. This all comes to a "climax" when women cease menstruation altogether, with both progesterone and estrogen levels plummeting indefinitely. What does the menopause transition mean for women and their health, most specifically, their metabolic health and blood sugar management?

Menopause and Its Relationship with Estrogen

The National Institute on Aging defines menopause as the time stamp marking 12 months after a women's last menstrual cycle.[1] The years before and after are also affected by hormonal changes. These years are often referred to as the menopausal transition or perimenopause.[1] The menopausal transition can bring about various symptoms, including hot flashes, night sweats, insomnia, irritability, anxiety, and weight gain. Perimenopause, menopause, and postmenopause are all consistent with "low circulating levels of estrogen due to a decrease in ovarian function."[2]

Consequently, this time in life is associated with bone, metabolic, and cardiovascular comorbidities.[3] Estrogen plays a critical role in bone health, promoting bone formation and inhibiting bone breakdown.[4] When estrogen levels decline during menopause, individuals can experience significant bone loss and increased risk of osteoporosis. Additionally, estrogen has cardioprotective benefits that are lost with declining levels of the hormone.[5] Menopause is also associated with a decrease in lean body mass and an increase in fat mass.[3] Declining hormones levels, specifically the decrease in estrogen, contributes to insulin resistance in individuals in the menopause transition.[6,7]

Insulin Resistance and Menopause

As mentioned, during the menopausal transition, there are lower circulating levels of estrogen. Estrogen appears to be metabolically protective. Compared with premenopausal women, postmenopausal women present with greater insulin resistance.[6] A lower level of circulating estrogen decreases the glucose uptake by muscles, resulting in higher blood sugar and a decreased ability of the liver to respond to insulin.[8] These factors contribute to the development of insulin resistance. Insulin resistance is defined as the inability of the cells to recognize the hormone insulin, which would normally regulate uptake of glucose from circulation into insulin-sensitive tissues and organs. Insulin resistance is also partly responsible for the decreased ability of skeletal muscle to create protein and or build muscle. The net effect of low estrogen is less muscle mass, slower metabolism, increased resistance to insulin, and higher blood glucose levels. Thus, having a diet higher in protein and practicing resistance exercise may be among several strategies to allow for more muscle synthesis and possibly a more efficient metabolism throughout this life stage.[9]

How to Eat for Menopause

The loss of bone and lean body mass, along with the increase in fat mass commonly seen in the menopause transition,[3] can all be balanced with dietary changes. The

decrease in muscle mass automatically decreases basal metabolic rate, so women in the menopausal transition should adjust for this change by decreasing overall dietary intake to better reflect their current basal metabolic rate. Discussing portion regulation and encouraging smaller, more frequent meals throughout the day can be used to help manage hunger and maintain lean body mass.

It is recommended to increase dietary protein foods to further counter the loss of lean body mass. A higher protein intake is associated with higher lean body mass in postmenopausal women.[3] A protein intake between 1.2 to 1.6 g/kg body weight along with resistance exercise has been associated with lower risk of frailty, better physical function, and higher skeletal muscle mass in postmenopausal women.[3]

Furthermore, increasing intake of anti-inflammatory plant foods may help combat the cardiovascular risks associated with a decrease in estrogen.[10] Following a plant-based Mediterranean diet, consisting of vegetables, whole grains, fruits, and plant fats and oils, during the postmenopausal time is also associated with the prevention of bone loss.[3] Omega-3 fatty acids sources, such as fatty fish, flaxseeds, chia seeds, and walnuts should be incorporated due to their ability to help with mood and cardiovascular health.[11–13]

Lastly, due to the relationship between menopause and insulin resistance, individuals in the menopause transition should be counseled on how to balance blood glucose levels. Discussion around balancing meals and snacks with protein, plant fats and oils, and complex, fiber-rich carbohydrates is important. While exercising after meals[14] and modifying the order in which food components are eaten[15] have been shown to be effective at moderating postprandial blood glucose levels, and likely are strategies to incorporate, more personalized approaches to care now exist. Wearable technologies, such as continuous glucose monitors, are becoming more widely available and can be useful tools to incorporate when working with patients and clients.

Menopause and Continuous Glucose Monitoring

If menopause puts women into a prediabetes-like state, would they benefit from moderating their blood sugar with the use of a continuous glucose monitor (CGM)? For many years registered dietitians specializing in diabetes have been using CGMs to help individuals with type 1 and type 2 diabetes manage their blood glucose. In the past few years, CGM use has expanded and is now more commonly used by individuals with insulin resistance and prediabetes. Some manufacturers now make CGMs that can be purchased over the counter, without the need for a prescription. Women who are perimenopausal, have reached menopause, or are now postmenopausal fall into the insulin resistance category and could potentially benefit from CGM use.

The ZOE PREDICT 1 study used continuous glucose monitors to study the postprandial blood glucose levels of women in postmenopause.[16] For all meals, the postmenopausal women had a higher blood sugar response regardless of their macronutrient distribution.[16] In another study of 24 healthy volunteers, continuous glucose monitoring revealed that meals higher in fiber, protein, and fat better helped to manage insulin resistance. These particular meals resulted in a slower and lower overall rise in blood sugar after eating the meal.[17]

For patients and clients who use CGMs, part of the RD's role is to teach them how to interpret their data. They should discuss with patients and clients that blood glucose levels will fluctuate throughout the day, especially after eating, and then develop target ranges for fasting and postprandial blood glucose levels. Fasting blood glucose between 70 mg/dL and 99 mg/dL and a 2-hour postprandial blood glucose level of <140 mg/dL are typically recommended.[18]

Through CGM data, individuals along the menopause transition can learn how they respond to certain foods as well as to specific food combinations. Additionally, they can see how different lifestyle factors, such as sleep, stress, physical activity, and alcohol use, affect their blood glucose readings. CGM data may offer invaluable insight for individuals who are interested in learning how their body uniquely responds to food and lifestyle interventions. CGM may be one tool in the RD's toolbox to offer patients and clients who are undergoing menopause and are interested in managing their insulin resistance and overall health.

Summary

Menopause brings about many hormonal changes. Insulin resistance is experienced by women as a postmenopausal consequence of decreased estrogen. While there are dietary changes to combat decreases in bone and lean body mass and increases in fat mass, it may benefit women to use a continuous glucose monitor to better learn how their metabolism responds to meals and manage their blood sugar in a tighter range. Overall, the RD can play a substantial role in helping patients and clients manage insulin resistance in postmenopause.

Laura Cipullo, RD, CDCES, CEDS-S, *is a four-time author with over 25 years of experience as a RD specializing in the*

prevention and treatment of eating disorders. Laura has been using her expertise as a Certified Diabetes Care and Education Specialist (CDCES) and Certified Eating Disorder Specialist and Supervisor (CEDS) to integrate and advance treatment for women with endocrine complexities such as breast cancer, menopause, and polycystic ovary syndrome (PCOS).

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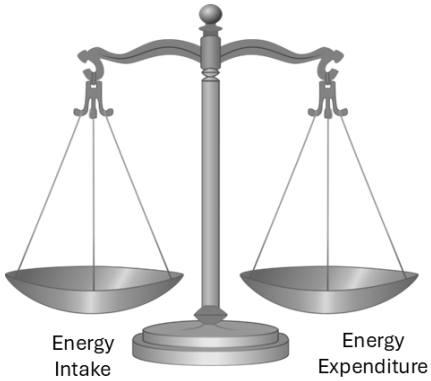
CV-Well Equipped

New Products, Tools, and Trends

Tipping the Energy Balance to Increase Energy Expenditure: The New Frontier in Weight Management

by Lauri O. Byerley, PhD, RDN, FAND and Jennifer Burris, PhD, CSSD, CDES

Body weight depends on the equilibrium between food intake and energy expenditure. If one exceeds the other, there is no longer a balance, and weight gain or loss occurs. We all know this and learned about this relationship in our first nutrition courses.



Scale from: https://commons.wikimedia.org/wiki/File:Balance_scales_drawing.png

Over the past 50 years, body weight in the form of fat mass has been increasing[1]; the cause has not been clearly elucidated, but unquestionably, consuming an overabundance of food contributes to an increase in adipose tissue. Do you remember the restrictive diets or the increased physical activity we suggested to clients? These are still used today, but most weight loss diets don't work in the long term. We know this because less than 17% of people who lost 10% of their body weight successfully sustain their weight loss for over a year.[2]

Traditional Focus on Food Intake

Historically, weight loss treatments have focused on the food intake side of the energy equation. Unfortunately, most of these programs have a modest effect of producing weight loss and offer poor efficacy at maintaining weight loss.[3] But there's good news! We now have medications that are more effective at curbing food intake and producing substantial weight loss: the GLP-1 receptor agonists.[4]

Much has been published about these pharmaceutical agents in the scientific and medical literature. How many webinars on this topic have you attended? How many times have you heard a conversation about these drugs in a local coffee shop or seen a pop-up ad on your social media? There is lots of excitement, but this group of drugs is not without problems,[5] including loss of muscle mass or potential for sarcopenic obesity[6] and weight regain after they are discontinued.[7] While this is certainly an interesting conversation, GLP-1 receptor agonists are not the main focus of this column.

A Look at the Energy Side

On the energy expenditure side of the equation, there are three components: basal metabolic rate (BMR), thermic effect of food, and physical activity thermogenesis. The basal metabolic rate makes up most of the calories burned daily, unless an individual is extremely active or critically ill (e.g., burn patients). Research shows that you cannot adequately increase or sustain physical activity to promote significant weight loss, although physical activity is a key component for maintaining weight loss and overall health. The thermic effect of food is approximately 10% of our energy intake, so it is not a good target to promote weight loss and sustain it. Consequently, researchers are focusing on BMR as a target. The crux is BMR decreases with weight loss, so keeping it elevated would be useful. Also, with weight loss comes loss of muscle mass, contributing to a decrease in BMR but not necessarily a decrease in food intake.[8]

Drug Targets on the Energy Side

There are many drugs in the pipeline focusing on energy expenditure, and we don't know which ones will make it across the finish line to receive FDA approval. Following is an overview of the targets for these drugs:

Researchers have targeted several potential pathways, most of which are associated with BMR, the amount of energy we need to maintain bodily functions at rest. Thus far, scientists' success is limited, but we may see something in the next decade. ATP is a cell's main energy source, which is produced in a coupled process as protons cross the electron

transport chain within a cell's mitochondria. Heat is also produced. This process can also be uncoupled, and as such, less ATP is produced, protons leak back across the electron transport chain, and heat is dissipated. Hence, energy production is uncoupled from its normal process. This is what happens with non-shivering thermogenesis. One strategy is to target uncoupling in mitochondria; this may be one way to increase energy expenditure and promote weight loss. There are several drugs in the pipeline focused on ways to increase energy expenditure. Since these target ATP, they appear to have no effect on lean muscle mass, so unlike the GLP-1 agonists, this group of drugs could preserve lean muscle mass.[8]

Thyroid hormone is another target, and mimetics are being investigated but their success may be limited. Thyroid hormones, primarily thyroxine (T4) and triiodothyronine (T3), are critical metabolism and energy expenditure regulators. They exert profound effects on nearly every tissue in the body, influencing basal metabolic rate, thermogenesis, lipid and carbohydrate metabolism, and protein synthesis. It makes sense to target these pathways using thyroid hormone mimetics to increase energy expenditure. Although these compounds are designed to replicate the metabolic effects of thyroid hormones, they may have adverse effects on the heart and bone.[9]

Brown adipose tissue (BAT) is known for its ability to burn calories through thermogenesis. Unlike white adipose tissue, which stores energy, BAT dissipates energy via uncoupling as heat. Recent studies have identified several compounds that activate BAT, thereby increasing energy expenditure. Capsaicin, the active component of chili peppers, has been shown to increase energy expenditure by activating BAT. An example of compounds that are being investigated are the capsinoids, non-pungent analogs of capsaicin.[10]

Fibroblast growth factor 21 (FGF21) is a hormone secreted by the liver that increases energy expenditure in animals. FGF21 analogs have been engineered, but in human trials they had no effect on energy expenditure.[11]

Beta-adrenergic receptors, when stimulated, promote brown fat cells to burn energy and generate heat. In rodents they show great promise, but in humans they have unwanted cardiovascular side effects. However, beta-2 adrenergic receptors seem to be the only relevant beta-adrenergic receptors in human brown adipose tissue, making this receptor a potential target if agonists selective for brown adipose tissue could be developed.[12]

This summarizes the drug targets on the energy expenditure side of the energy balance equation. Like GLP-1 receptor agonists, these drugs will most likely not be the cure for obesity or overweight. However, they could be useful tools to help patients/clients reduce their excess adipose tissue. Of course, once the desired weight is reached they will still need follow lifestyle changes, including diet and activity, to maintain their weight loss.

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CV-Well Done

Members in the Spotlight

Interviewed by Manju Karkare, MS, RDN, CLT, FAND

This issue highlights Geeta Sikand, MA, RDN, FAND, CLS, FNLA, an accomplished cardiovascular dietitian and longtime activist for the nutrition profession.

Geeta Sikand has been tirelessly involved in improving the cardiovascular health of Americans and advancing the nutrition profession over the years. She cofounded the University of California-Irving Preventive Cardiology Program in 2011 and served as director of nutrition there until 2024. Currently she is associate clinical professor of medicine (cardiology) at UCI. Geeta has also held leadership positions in the profession. She was a co-founder of CV Well DPG, as well as its policy and advocacy leader and cardiovascular nutrition expert. She also served as director of the SCAN Cardiovascular, chair of the Academy's MNT Outcomes Workgroup, president of the Pacific Lipid Association, and currently serves as an at-large board member of the National Lipid Association.

When did you decide to pursue a career in nutrition and dietetics?

My father died of a heart attack at the age of 56. Trauma and grief from my loss became my inspiration to pursue a career in dietetics to prevent heart disease. In 1973, when my first child was 6 months old, I went back to school and majored in dietetics, followed by a master's degree in nutrition.

What's the most enjoyable part of your work?

Seeing the positive clinical outcomes in my patients and their joyous responses to their success. I also feel so proud of my 75 scientific publications in peer reviewed journals.

What advice do you have for newcomers to our field?

Be willing to volunteer and take on leadership roles in CV-Well DPG and in related multidisciplinary organizations. Without mentors you cannot succeed. You can't go overboard when it comes to thanking your mentors.

What is a career highlight for you?

In the 1990s when managed care took over health care, dietitians were losing jobs. They were writing to Dr. Elaine Monsen, Editor-in-Chief of the *Journal of the American Dietetic Association* for MNT outcomes data as proof that RDs are effective. I had excellent outcomes data as a lipid research dietitian. Many thanks to my mentors who guided me to publish my MNT outcomes data. My outcomes paper in the year 2000 was selected for the *Journal's* Mary Huddleson Award because my outcomes research article made the highest contribution to the dietetics profession that year.

What are your keys to well-being?

Enjoying my eight grandchildren. To keep fit, I work out at my neighborhood gym. Since 1995, I have been engaged in activism for our dietetics profession; we got the Diabetes MNT legislation passed in 1998.

How did you get involved in CV-Well?

Prior to CV Well's founding about four years ago, I was the director of the CV Subunit of SCAN and became a founder of the CV Well DPG. Our leadership team created the goals of the new CV Well DPG along with its vision and mission.

What's next for you?

We are diligently working on getting the Academy's expanded MNT legislation bill to pass. The Academy needs economic cost savings data from MNT. Currently, I am collaborating with the University of Michigan cardiology team to bring it to fruition. Fingers crossed…

CV-Well Seasoned

Recipes from Your Colleagues

Seasonal Spotlight: Carrots

by Claire Tibboles, MFN, RD

Carrots are among the most commonly consumed vegetables in the United States, valued for their versatility and affordability, and especially acclaimed for their vitamin A content. While carrots are often viewed as the vegetable that supports healthy vision, they offer many more benefits beyond those related to the eyes.

An Impressive Nutrition Profile

Not only do carrots provide vitamin A, but they also contain vitamin C, vitamin K, several B vitamins, calcium, magnesium, iron, and potassium.[1] Potassium plays an important role in cardiovascular health helping to maintain healthy blood pressure.[2] Additionally, carrots are a source of dietary fiber, particularly soluble fiber, which helps to regulate digestion, blood sugar levels, and cholesterol absorption in the body. Soluble fiber binds to cholesterol in the GI tract, which promotes the excretion of cholesterol, minimizing absorption. These benefits are associated with improved health overall and lower risk of chronic disease.

Relevant Nutrient Composition in 1 Cup (128g) of Carrots (raw, chopped)[1,3]

Beta carotene	Fiber	Magnesium	Potassium	Vitamin A	Folate
5302.5mcg	3.6g	15mg	410mg	1069mcg	24mcg

Carrots are an excellent source of antioxidants and other phytochemicals, which are known to protect cells from oxidative damage caused by free radicals in the body.[4] A diet rich in antioxidants is associated with improved cardiovascular health. Carrots are grown in a variety of colors, such as purple, red, yellow, orange, and white, with each color offering various types and amounts of phytochemicals. Orange and yellow carrots are particularly high in carotenoids (specifically beta-carotene), while purple and red carrots are high in anthocyanins. Both components have beneficial antioxidant properties. Evidence also shows that the antioxidant content in carrots may have anticarcinogenic effects, as some studies suggested that an increase in carrot consumption may be linked to a decrease in the incidence/risk of certain types of cancer.[5] The overall nutrition profile of carrots makes them an optimal ingredient to consistently include in your diet.

A Variety of Preparation Methods

Carrots are in season during early spring, but they are available year-round. Their versatility allows them to be either a hearty or refreshing ingredient, depending on how they're prepared. While you may be familiar with carrots and how to prepare them, or you like to keep them simple and enjoy them raw, their use is ever-growing. They can be the highlight of a dish or act as a complementary ingredient. Due to their mild flavor, carrots can take on the flavors of many herbs, spices, and/or sauces, and they are widely used in a variety of cuisines.

The preparation methods for carrots are endless as they can be enjoyed fresh, pickled, sauteed, baked, roasted, grilled, boiled, steamed, or even air fried. They are also great for dipping into hummus, guacamole, Greek yogurt dips, and many other savory (or sweet!) dips. They can be enjoyed in salads/slaws, juices/smoothies, soups/stews, roasts, or even in muffins, cakes, or oatmeal. Just a bit of experimentation with carrots may provide you with a new go-to recipe!

While the roots of carrots are familiar to many, the greens are often overlooked. If you grow carrots at home or purchase them whole, you may resort to tossing the carrot greens. However, the greens are entirely edible and can be enjoyed in a variety of dishes as well. The taste is described as slightly bitter and earthy, making them a flavorful salad green or a substitute for parsley. You can also use them in homemade pesto, soup, or pasta dishes. While the nutrient composition of the greens will be different from the roots, the entire carrot provides ideal nutritional benefits.

Summary

Regular consumption of carrots can provide a multitude of health and nutritional benefits, from supporting vision health to lowering risk of chronic disease. They are highly versatile and can be enjoyed in many dishes, and including the carrot greens in your diet provides you with even more flavors and nutritional benefits.

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