

**Cardiovascular  
Health and  
Well-being**



a dietetic practice group of the  
**Academy of Nutrition  
and Dietetics**

Formerly a subgroup of Sports, Cardiovascular and Wellness Nutrition (SCAN)

# Pathways

Winter 2024 | Vol. 3, No. 1

**Publication of Cardiovascular Health and Well-being  
Dietetic Practice Group**





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Winter 2024 | Vol. 3, No. 1

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 1 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 December 31, 2026. 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.

## Call for Authors

*Pathways*, the flagship quarterly publication of CV-Well DPG, welcomes the submission of manuscripts to be considered for research-based or practice-based articles. Research articles summarize and discuss recent scientific evidence related to cardiovascular health (prevention and treatment) and/or well-being. Practice articles translate evidence into application for dietitians working in various settings, providing tools and recommendations on topics related to cardiovascular health (prevention and treatment) and/or well-being. Authors may be DPG members or nonmembers. For more details and to complete the **Call for Authors Form**, visit [Pathway's webpage](#). Manuscripts must be prepared and submitted in accordance with *Pathway's Guidelines for Authors*, accessed on the same webpage.

# CV-Well Said

A Message from the Chair

## Connecting with Members at Our Major Events

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

This issue of *Pathways* comes to you in the middle of the cold dark winter season. So cozy up with a mug of hot green tea while reading this first issue of 2024. I hope the holiday season treated you kindly and all is well in your corner of the world.

Let me start by reporting on the 2023 Food & Nutrition Conference & Exhibition® (FNCE®) in October. The weather was kind to us and we enjoyed pleasant days in Denver. For those who were able to join us, we had a wonderful member networking event at Lucky Strike Bowling Alley. Yes, it's ironic that the cardiovascular group met at a place named for a cigarette! Nevertheless, it was great fun, the owners of the place were very accommodating, and members enjoyed playing pool and bowling while comingling and munching on tasty hors d'oeuvres.

We started the next morning bright and early with a "Sunrise & Stretch" breakfast session hosted in collaboration with the Diabetes DPG. CV-Well Secretary Dana White, who is a certified athletic trainer and nutrition and fitness consultant, led a great session using resistance bands donated to us by the Almond Board of California. Attendees also enjoyed a scrumptious healthy breakfast and took home a nice swag bag from the sponsors.

But FNCE® wasn't all play and no work. The Executive Committee also reserved time to meet as a team and talk about CV-Well's plans and goals for the remaining membership year. And, just as important, at the DPG/MIG Showcase we were able to connect with many current and new members.

I hope we can connect with even more of you at our next upcoming event—the first CV-Well Symposium, April 11-14, 2024 in Tucson, AZ. I hope you have already registered and are encouraging more of your colleagues to join! We have an amazing speaker line up, and it is going to be a packed event. We have tried to keep the prices very reasonable so that more people will be able to attend.

Our leadership team is busy working on fact sheets, webinars, and other projects for our members. If you have any concerns, comments, or suggestions, please do not hesitate to reach out to us.





# CPE Research Article

## Soy Foods and Cardiometabolic Health: An Updated Overview

by Katelyn E. Senkus, PhD

### Learning Objectives

- Explain the overall composition of soy foods and their postulated mechanisms to improve cardiometabolic health
- Identify fermented and nonfermented soy food sources
- Examine the role of soy foods on cardiometabolic outcomes, specifically lipid profiles

As the prevalence of cardiometabolic disease and other ailments continue to rise, it is critical to promote the adoption of healthy lifestyle behaviors, namely dietary patterns. Fortunately, the Institute of Food Technologists (IFT) reported an 11% increase in the sale of foods and beverages with an American Heart Association (AHA) heart health claim, nearing \$3.4 billion in 2021.<sup>1</sup> IFT also recognized eating for *condition and connections*—i.e., eating to manage or treat health conditions—as a Top Food Trend in 2022. These behaviors support the adoption of healthy dietary patterns with a focus on functional foods.

Functional foods are generally defined as foods and food components that provide a health benefit beyond basic

nutrition. They have been categorized into three broad groups:<sup>2,3</sup>

- **Conventional foods** – foods that have not been modified (e.g., whole fruits and vegetables)
- **Modified foods** – foods that have undergone enrichment, fortification, or other technological modifications (e.g., omega-3 fatty acid-enriched eggs, fermented foods)
- **Food ingredients** – isolated or synthesized ingredients (e.g., resistant starches)

### Soy as a Functional Food

Soybeans and soy foods have been widely studied over the past few decades and are classified as functional foods, owing to both their nutrient and non-nutrient composition. The major constituents of soy include high-quality protein (~40%), carbohydrates (~35%), and fat (~20%).<sup>4</sup> Beyond their macronutrient composition, soybeans are also a concentrated source of micronutrients (e.g., B vitamins) as well as non-nutritive components, including bioactive peptides, plant sterols and stanols, and phenolic compounds, among others. Collectively, this nutritional composition confers cardioprotective effects.<sup>4,5</sup>

For example, consumption of soy protein is likely paired with the partial replacement of animal protein, meaning an individual will increase their intake of polyunsaturated fatty acids while decreasing their consumption of saturated fatty acids. Plant sterols and stanols are also structurally similar to cholesterol and, accordingly, displace cholesterol from mixed micelles which diminishes intestinal cholesterol absorption.<sup>6</sup> Isoflavones, a class of phenolic compounds present in soy with antioxidant functionality, are also structurally similar to estradiol and, thus, exert estrogen-like effects (i.e., binding to estrogen receptors to influence gene transcription). Although previously mischaracterized as endocrine disruptors, these estrogen-like effects of isoflavones underpin their health benefits, including lipid alterations, bone health, and cognition.<sup>7</sup>

### Relationship Between Soy Foods and Heart Health

The U.S. Food and Drug Administration (FDA) approved a health claim for the protective relationship between

soy product consumption and heart disease risk in 1999,<sup>8</sup> stating: “25 grams of soy protein a day, as part of a diet low in saturated fat and cholesterol, may reduce the risk of heart disease. A serving of [name of food] supplies [amount] grams of soy protein.” Although this claim has been met with uncertainty in recent years due to inconsistent findings across the literature (i.e., beneficial vs. neutral effects), it still highlights how American diets fall short when it comes to functional foods such that the U.S. daily per capita soy protein intake hovers around ~2.0 g.<sup>9</sup> Accordingly, the U.S. daily per capita intake of isoflavones is also low at ~2.5 mg.

A recent longitudinal analysis of three prospective cohort studies in the United States (4,826,122 person-years of follow-up; Nurses’ Health Study: n=74241 females; Nurses’ Health Study II: n=94233 females; Health Professionals Follow-Up Study: n=42226 males) reported that isoflavone intake was inversely associated with coronary heart disease (CHD) when comparing the highest intake quintile with the lowest intake quintile in a multi-variable adjusted analysis (pooled HR: 0.87 [95% CI: 0.81, 0.94],  $P=.008$ ).<sup>10</sup> When analyzing from a food-first approach (tofu and soy milk), only tofu consumption was inversely associated with incident CHD (comparison:  $\geq 1$  serving/wk to  $< 1$  serving/mo; pooled HR: 0.82 [95% CI: 0.70, 0.95],  $P=.005$ ).

Menopausal status and hormone therapy modulated this relationship such that younger premenopausal women and postmenopausal women without hormone use had more favorable associations. Although these significant relationships were observed, it is important to note that the median intake of the highest quintile of isoflavone intake ranged from 1.43 to 2.31 mg/day. To put this into perspective, one serving of a traditional soy food like tofu (100 g) or soy milk (250 mL) generally provides approximately 25 mg isoflavones.

## Different Forms of Soy for Consumption

A unique characteristic of this functional food is that it can be consumed in a variety of forms<sup>5</sup>:

- Fermented (e.g., miso, tempeh) or unfermented (e.g., soy milk, tofu) soy foods
- Whole soy foods (e.g., tofu, soybeans)
- Processed forms (e.g., soy protein powders, soy-based veggie patties)
- Supplements (e.g., isoflavone or soy protein)

While all of these may contain isoflavones to an extent, the level of processing and/or incorporation of additional ingredients may influence the bioavailability or physiological

impact on cardiometabolic outcomes. Thus, the long-studied relationship between soy protein consumption and cardiometabolic health is constantly evolving along with the world of functional foods and warrants continued investigation.

## Recent Research

A recent meta-analysis investigating soy protein and soy isoflavone extracts on lipid profiles among predominantly healthy postmenopausal women determined that soy interventions beneficially impacted lipid profiles across 29 randomized controlled trials.<sup>11</sup> Overall, a significant improvement in total cholesterol (TC) levels was observed ( $-0.12$  mmol/L [95% CI:  $-0.21$ ,  $-0.03$ ],  $P=.01$ ) and the remaining positive alterations in low-density lipoprotein cholesterol (LDL-C), high-density lipoprotein cholesterol (HDL-C), and triglycerides (TG) levels approached significance ( $P=.08$ ,  $P=.05$ ,  $P=.06$ , respectively). Interestingly, subgroup analysis by type of soy intervention (soy protein vs. isoflavone extract) revealed that a soy protein-based intervention significantly impacted three of four lipid measures (TC, LDL-C, HDL-C), whereas results were nonsignificant for extract-based interventions. A similar pattern of significance was observed for the subgroup analysis by intervention duration ( $< 6$  mo vs.  $\geq 6$  mo) such that interventions  $< 6$  mo in duration significantly altered three of four lipid measures.

Since the publication of this meta-analysis, Tischmann et al. conducted a randomized controlled crossover trial to investigate the impact of a daily soy nut intervention (25.5 g soy protein/d, 174 mg isoflavones/d) on cardiometabolic outcomes among healthy adults over a 16-week intervention period (n=23,  $64.3 \pm 3.1$  y, 52.2% female).<sup>12</sup> A significant intervention effect was reported for serum LDL-C (0.17 mmol/L lower [95% CI: 0.02, 0.32],  $P=.027$ ) and TC (0.17 mmol/L lower [95% CI: 0.00, 0.33],  $P=.048$ ), yet nonsignificant changes were observed for HDL-C and TG.

Jung et al. also conducted a randomized controlled crossover trial to investigate the impact of a nonprobiotic fermented soy product (9.4 g soy protein/d, 36.3 mg isoflavones/d) on cardiometabolic outcomes of adults with at least two cardiovascular disease risk factors over a 12-week intervention period (n=27,  $51.6 \pm 13.5$  y, 77.8% female).<sup>13</sup> Significant reductions of LDL-C and TC were observed in the intervention group compared with the control group.

Lastly, Van de Belt et al. conducted a randomized controlled crossover trial to investigate the impact of a daily soy Kori-tofu intervention (27.6 g soy protein/d, isoflavone dose not reported) on cardiometabolic outcomes of adults with elevated cholesterol over a 4-week intervention period (n=45, 59 y [44–69 y], 57.8% female).<sup>14</sup> Although significant within-

group improvements of lipid profiles were observed for the intervention group, these were comparable to the control group and no between-group differences were reported at study completion.

## Future Directions

Upon review of these recent publications, it becomes apparent that although soy protein interventions demonstrate cardioprotective effects via improved lipid profiles, the exact biomarkers impacted are inconsistent across studies. These discrepancies could stem from differences in the type of soy protein intervention and corresponding dose of soy protein and/or isoflavones, as well as from differences in the population studied.

Another plausible explanation for variable results is the inclusion of individuals classified as “equol” producers and nonproducers in the studied samples.<sup>15,16</sup> Although isoflavones exert antioxidant activity, a subset of adults harbor intestinal bacteria that metabolize the isoflavone daidzein into equol, which exerts a stronger effect than its parent compound, thus it is considered beneficial to be an equol producer. An active area of investigation is to determine which intestinal bacteria have equol-producing capabilities, and results to date suggest genera within the *Coriobacteriaceae* family may have this ability. Nevertheless, the gut microbiome has been acknowledged as a key factor modulating the bioavailability of soy and may be harnessed in the future to amplify intervention responses.

## Conclusions

Taken collectively, recent research supports the continued consumption of soy protein for improvement of cardiometabolic risk factors, namely blood lipids, among generally healthy adults. Increasing soy protein intake through the addition of whole foods may be preferable to extract supplementation, owing to the synergistic effects of nutrients and non-nutrients conferred by the food matrix. Continued investigation that prioritizes inter-individual differences and additional cardiovascular outcomes is warranted. Nevertheless, consumption of functional foods such as soy represent a feasible and cost-effective approach to improve dietary patterns and confront cardiometabolic disease in the United States.

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# CPE Practice Article

## Functional Foods and Cardiovascular Wellness

by Kellie McLean, MPH, RD, CDCES, CDN, PhD Candidate

### Learning Objectives

- Identify examples of functional foods and summarize their cardioprotective effects
- Describe how functional foods have been used in different cultures
- Explain how dietetics and nutrition professionals can discuss the use of functional foods with clients

Cardiovascular disease (CVD) is the leading cause of mortality and costs more than \$200 billion in healthcare expenses in the United States.<sup>1</sup> Thus, there is pertinent need to identify beneficial lifestyle approaches that may mitigate the burden of CVD. Cardioprotective diets, such as the Mediterranean diet and the DASH diet, have been shown to delay the initiation and progression of CVD.<sup>2</sup> What these diets often have in common is that they are a rich source of functional foods.

Functional foods are foods that contain biologically active ingredients that promote physiological health benefits for preventing and managing chronic disease.<sup>3,4</sup> Functional foods such as salmon, green tea, and blueberries have gained widespread coverage in social and scientific media for their role in promoting wellness and staving off disease.<sup>3,4</sup> In disease prevention, functional foods are hypothesized to exert protective effects against CVD, including reducing low-density

lipoprotein (LDL) levels, reducing platelet aggregation, and promoting glycemic control.<sup>5,6</sup>

The health benefits of certain foods may be related to the joint action of antioxidant and inflammatory mechanisms induced by various phytochemicals such as tannins and flavones found in fruits, vegetables, herbs, and spices.<sup>7</sup> Many functional foods such as legumes, whole grains, and peanuts have been shown to lower cholesterol due to their phytosterol content.<sup>8</sup> Phytosterols are fat-soluble compounds present in most plant cell walls that contribute to membrane structure and stability.<sup>8</sup> Phytosterols compete with cholesterol absorption in the enterocyte, contributing to decreased cholesterol absorption in the small intestine and consequently lowering amounts circulating in the blood.<sup>8</sup> This is just one example of how a functional food might act to decrease CVD risk.

### Use of Functional Foods in Different Cultures

Some cultural groups such as Hispanics and Asians use functional foods for disease management at higher rates than Whites.<sup>9,10,11</sup> Common functional foods consumed in Hispanic culture to reduce cardiometabolic risk factors include nopal, aloe, beans, oats, and chayote.<sup>12,13</sup> Nopal, or prickly pear cactus, is well-known in Mexican culture for its multiple health benefits, including antioxidant, hypolipidemic, and hypoglycemic effects.<sup>14</sup> This is likely related to compounds found in nopal, such as phenols, flavonoids, betaxanthins, and betacyanins.<sup>14</sup> Nopal is typically cooked with other vegetables, such as onion and tomato, or prepared in a thick soup with meat, garlic, and chilis.<sup>15</sup>

Momordica charantia, otherwise known as bitter melon, is a widely used medicinal plant in Asia, India, South America, East Africa, and the Caribbean.<sup>16</sup> Bitter melon is known for its hypoglycemic effects, but also has been shown to reduce weight and fat percentage in patients with chronic disease.<sup>16,17,18</sup> Bitter melon is often sliced and consumed as a fruit, added to soup, or cooked with other vegetables in a stir-fry.<sup>19</sup>

Mung beans, a popular functional food used in many Asian countries, have a long history of use in traditional medicine as an excellent source of fiber, vitamins, and minerals, and significant amounts of bioactive compounds, including polyphenols and polysaccharides.<sup>20</sup> Mung beans are consumed for their numerous health benefits, including blood pressure control, lipid lowering effects, and hepatoprotective activities.<sup>20</sup>



Herbs and spices have a long history of culinary use and providing health benefits with strong roles in cultural heritage.<sup>21</sup> For example, parsley, oregano, basil, and thyme are used throughout Italy for culinary and medicinal purposes.<sup>22</sup> Ethnopharmacologic studies show multiple cardioprotective benefits of these herbs, such as lowering total cholesterol and lowering triglycerides.<sup>22</sup>

Although functional food choices are varied according to culture, reasons for food selection are often based on what's available, affordable, natural, and consistent within cultural practices.<sup>23,15</sup>

## Evidence Demonstrating the Benefits of Functional Foods

Researchers have investigated various foods for components acting as protective factors for cardiovascular health. A well-known example of a cardioprotective food component is omega-3 polyunsaturated fatty acids (PUFAs) found in fish oil and various plant seeds.<sup>24</sup> Studies have demonstrated myriad health benefits of PUFAs related to cardiovascular health, such as altering blood lipid levels, eicosanoid biosynthesis, and cell signaling.<sup>24</sup>

Dietary and functional fibers, components found in carbohydrate-containing foods and fruits and vegetables, also have been shown to be protective against CVD.<sup>25</sup> Insoluble fiber is protective due to its ability to bind to and adsorb mutagens and carcinogens, removing them from the body before their harmful effects occur.<sup>25</sup> Functional fibers refer to nondigestible carbohydrates that are either extracted and isolated or synthesized and manufactured.<sup>25</sup> Some examples include cellulose, psyllium, pectin, or lignin, which are sometimes added to cereals and grain products to increase their nutrient value.<sup>26</sup>

Plant sterols and stanols, found in nuts, soybeans, and wheat germ, also have cardioprotective effects, with the most likely mechanism being micellar competition with cholesterol within the small intestine, prompting the development of phytosterol-enriched functional foods.<sup>27</sup> In addition, plant polyphenols such as flavonoids, lignans, stilbenes, and phenolic acids have been linked to improved cardiovascular health.<sup>6</sup> The therapeutic effects of polyphenols is thought to be due to a bidirectional reaction in which the gut microbiome converts polyphenols into bioactive compounds that induce therapeutic effects, such as improved endothelial function and reduced production of cyclooxygenase (COX) type 1 and 2 enzymes, thus providing anti-atherogenic and anti-hypertensive properties.<sup>6</sup>

Culinary herbs and spices like oregano, rosemary, and cinnamon contain bioactive molecules such as alkaloids, flavonoids, and polyphenols.<sup>22</sup> While herbs and spices have

a multitude of health benefits in and of themselves, cooking methods can increase the antioxidant capacity of spices and herbs, such as when making soup.<sup>22</sup> For example, turmeric has been shown to have increased total antioxidant capacity after boiling as compared with roasting or frying.<sup>28</sup> Since herbs and spices are concentrated with bioactive compounds, health benefits may be derived from adding only 100-250 mg (1/50 -1/10 teaspoon).<sup>22</sup>

## Helping Clients Incorporate Functional Foods in Their Diets

Dietetics and nutrition professionals can support their clients in making healthy food selections by first asking about their cultural food preferences, thus prompting a discussion about functional food use and methods of preparation for disease management. While asking these questions may sound straight forward, how these questions are worded is important because some cultural groups may be hesitant to share this information for fear of being judged or reprimanded.<sup>9</sup>

A motivational interviewing approach can guide RDNs with asking open-ended questions directed at gaining valuable information and building trust for therapeutic purposes.<sup>29</sup> Refraining from judgement about food choices is crucial when speaking with all clients, regardless of cultural identity. Because speaking about food approaches from a non-biomedical perspective can be a sensitive and personal topic for clients, building trust is an important aspect of communication to encourage accurate reporting about intake.<sup>29</sup>

RDNs working with multiple cultural groups may find that using a cultural humility model can provide guidance on how and what to ask regarding functional food choices and practices. The Campinha-Bacote framework<sup>30</sup> is a model that views cultural humility as an ongoing process and focuses on achieving effective work within the cultural context of the client. This process involves the integration of cultural awareness, cultural knowledge (including knowledge about traditional dietary patterns and functional food choices), cultural skill, cultural encounters, and cultural desire.<sup>31</sup>

It is important to research the health benefits and potential harmful components of specific functional foods used by clients. Although many natural foods are safe in moderation, manufactured food products and supplements made from natural ingredients often have increased concentrations of food components, posing a risk for chemical toxicity.<sup>32</sup> Omega 3 capsules, for example, contain fish oil in large quantities not typically consumed through whole foods, and may lead to skin rashes, gastrointestinal discomfort, and inhibition of blood coagulation.<sup>33</sup> Thus, investigating foods for their functional properties is an important strategy for steering clients in the right direction while creating awareness about any foods that



could be harmful. The NatMed Pro database<sup>34</sup> is an excellent resource for nutrition professionals to look up information on natural medicines, including benefits, side effects, and adverse reactions.

Medication adherence when using functional foods is valuable information to collect as clients may erroneously think these foods act as a substitute for medication.<sup>35</sup> Food-drug interactions are also common and can have an impact on the way drugs are processed in the body, making the use of functional foods a concern in pharmacotherapy.<sup>36</sup> Understanding which foods may interact with a patient's prescribed medications may help prevent harmful interactions.

Highlighting the strengths rather than the inadequacies of one's diet is a motivational strategy for RDNs and their clients. There are many ways to build a healthy plate that provide numerous cardiovascular benefits. While inclusion of functional foods should be beneficial versus harmful for patients, assessing overall dietary intake will provide a better measure of the cardioprotective potential of a patient's current diet. Encourage your patients to eat foods reported in the literature to reduce CVD risk that also suit their cultural palates.

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# CV-Well Equipped

New Products, Tools, and Trends

## Food Safety of Plant-Based Meat Alternatives

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

For a hot minute, plant-based meats were invincible. During the 2020 pandemic, the popularity of these products skyrocketed! Nearly everyone was (or soon would be) eating hamburgers, chicken, and steak made from plants. However, the momentum and the craze for plant-based meat alternatives has worn off, and sales have dropped, likely due to their higher price tag, inflation,<sup>1</sup> and possibly a realization that these products may not be as healthy as consumers first assumed.

Despite this, plant-based meat products are here to stay and will probably rise in popularity again. Manufacturers are still investing in these products. Although plant-based meats are made from plants, they still have unique food safety considerations, and perhaps a cooling off in their popularity will allow nutrition scientists to clarify their influence on long-term health and overall wellness.

While this kind of clarification is important, this article has another focus: How safe are these products? In other words, how should we safely store, cook, and consume these products? Just because they are plant-based does not mean they are easier to handle or safer than animal-based meats.

### A Closer Look at the Ingredients

Have you taken a moment to look at the ingredient list of any plant-based meat foods? Many of these products have a long list of ingredients, including additives. The ingredients vary from product to product and company to company, but the most commonly included proteins are soy, peas, and wheat in the form of gluten. To create a mouthfeel, the manufacturer might add oil and potato, mung bean, and rice proteins for texture. If the product is too dry, i.e., it needs water and/or moisture, a carbohydrate polymer such as cellulose, gums, pectins, and starches may be added. Yeast extract, pigments, sugars, and spices might be added to either spice up the taste or make it more visually appealing.<sup>2,3</sup>

We know that wheat and soy are two of the nine major food allergens,<sup>4</sup> so your clients with these allergies must evaluate the ingredient list. Also, those with a peanut allergy need to know that chickpeas and peas have a high cross-contamination risk because they are processed in manufacturing facilities that also process peanuts.<sup>3</sup>

### Contamination and Cooking Considerations

Another source of food safety concerns is post-processing contamination, i.e., contamination that occurs after the product is manufactured. Plant-based meat alternatives have a high protein and moisture content (otherwise, they would be too dry!) and a neutral pH.<sup>3</sup> Guess who loves this environment? Bacteria. Some researchers suggest that consumers treat plant-based meat products similarly to raw animal meat.<sup>5</sup>

Plant-based meat alternatives should be kept frozen or refrigerated like animal meat products. You can generally store these products for 15 to 20 days at refrigerator temperature, but check the package and follow the manufacturer's suggestions.<sup>3</sup> These products should not be left at room temperature for more than 2 hours.

What about cooking? The FDA recommends cooking plant-based meat alternatives to a minimal temperature of 135°F. You need to get to 145° to 165°F to kill pathogens—the same as animal-based proteins.<sup>6</sup> So, although the food may be made from plants, you still need your thermometer!

### The Dreaded Food Recall

Yes, some plant-based proteins have been recalled! In 2022, five cases of *Listeria* infections were linked to a plant-based cheese in Europe. In addition, *Salmonella* Virchow infection was linked to a low-moisture powdered meal replacement in 2016.<sup>7</sup>

Plant-based meat alternatives can carry microbial contaminants, which can be introduced at any step during or after processing. For example, *Clostridium botulinum* is found in soil and plants. Plant-based meat analogs provide the perfect nutrient environment to encourage their growth. Since they are anaerobes, they can continue to thrive in vacuum-packaged products. Other bacteria can survive extended storage periods, e.g., *Listeria* and *Bacillus*.<sup>3</sup>

## Staying Informed

This article is not intended to scare you but to make you aware that we need to carefully handle these alternative products with the same considerations as the products they replace.

Before we sign off on this article, we have a few sources that you might find interesting to keep you informed:

- Your Gateway to Food Safety Information website (<https://www.foodsafety.gov/>) reports the latest tips, recalls, and outbreaks.
- FoodKeeper is a USDA application you can find in the Google Play and iTunes stores that provides recent recalls and information on handling and storage of food. The database contains more than 500 items. Click on the “i” circle to locate recalls.
- There are several other apps, such as FoodRecalls, in the app store. Give these a try.

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## CV-WELL INAUGURAL SYMPOSIUM

Cardiovascular Health and Well-being

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Join us in Tucson, the first UNESCO City of Gastronomy in the U.S, where you'll gain new perspectives on cutting-edge topics affecting your practice.

Packed with insightful presentations, the first CV-Well DPG Symposium will expand your expertise and provide many opportunities to build relationships as you connect with colleagues and renowned speakers. You'll also have time to explore the University of Arizona campus, taste the flavors of this culinary city, visit a living agricultural museum with traditional local heirloom crops and edible native plants, and more.

The Symposium's program is designed to deepen your cardiovascular and wellness knowledge base while interacting with experts at the forefront of their fields and networking with our own CV-Well experts.

### HERE'S THE PARTIAL LINE-UP OF THE TIMELY TOPICS TO EXPLORE:

- Nutrition Equity and Security
- The Salty Truth: A Deep Dive into Current Insights on Sodium and Cardiovascular Health
- Nutrition Controversies in the Management of Dyslipidemia and Cardiovascular Risk
- Dietary Supplements and Health
- Metabolic Matters: The Road Forward in Weight Management Beyond Calories In and Calories Out
- Sustainability
- Probiotics and Beyond: The Knowns and Unknowns of Diet's Role in Cultivating the Gut Microbiome and Health
- Exercise Recommendations for Weight Management and Implication of Obesity Medications for the RDN
- Navigating the Complexities: Health and Wellness Coaching in Your Practice

**PRE-SYMPOSIUM SESSION:** **Body Composition in Practice: What Every RD Needs to Know**, delivered by Dr. Timothy Lohman, literally the man who wrote the book, and Dr. Laurie Milliken

Visit the [Symposium website](#) or scan the QR code to learn more about this exciting inaugural event! Sponsorships and poster opportunities are also available. The website will be updated as more information becomes confirmed.

**DON'T MISS THIS INAUGURAL EVENT!**



# CV-Well Done

## Members in the Spotlight

**Interviewed by Jean Storlie, MS, RD, CV-Well Leadership Cultivation Director**

This issue features [Connie Diekman, MEd, RD, FADA, FAND](#), a longtime leader in her profession with experience consulting in industry as well as heading nutrition services at the university level.

As a food and nutrition consultant, Connie works with government agencies and food companies to develop messaging for consumers and acts as a spokesperson when companies need to reach the public about a product, agriculture, or other aspects of nutrition.

For nearly 25 years, Connie served as director of university nutrition at Washington University in St Louis, where she ensured that menu offerings provided a wide variety of healthful options, and developed tools and messages to promote nourishing food choices. She also was the CSSD for Wash U athletic teams and the dietitian in student health services. No stranger to leadership, Connie was president of the Academy of Nutrition and Dietetics, chair of the Weight Management DPG, chair of the St Louis and Missouri chapters of the American Heart Association (AHA), and much more.



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

My first exposure was in high school, where my Home Economics teacher was a dietitian. Conversations with her triggered my interest in learning more about the field and career options.

### What's the most enjoyable part of your work?

My passion is translating the science of food and nutrition into practical tips, whether for students, athletes, the public

through the media, or food industry clients who want to craft messaging that promotes products and science.

### What has helped you in your career?

My instructors and internship director motivated me to work hard, connect with clients, and enjoy what I do. In addition, my colleagues have been an amazing support network. Being a part of the Academy's Missouri affiliate and St Louis Chapter as well as the CV-Well, FCP, SCAN, SHNP, and WM DPGs has enabled me to connect with so many excellent professionals. I know I can go to them when I need a sounding board or when I need someone to give me a boost or collaborate on projects.

### What advice do you have for newcomers to cardiovascular health and wellness?

Enjoy what you do. Get involved with professional organizations, whether through CV-Well alone or also through the AHA. When I worked in lipid research and cardiac rehab, I quickly learned that collaborating with other healthcare providers was essential to my career and my patients' health. Sharing knowledge with MDs, exercise physiologists, researchers, psychologists, and others helped me grow as well as helped grow awareness of the RDs role in heart health.

### What drives or motivates you?

I get fired up when setting a goal that involves sharing information to help others live healthier. Also, I'm motivated by initiatives that move the profession forward and improve external recognition of RDNs.

### Why did you decide to get involved in CV-Well?

My involvement centers on being part of the CV-Well Mentor-Mentee group. I've been excited to see the vision, enthusiasm, and passion shown by the mentees. This experience has made me proud of our profession, excited about its future, and pleased to have been a small part of making RDs important players in healthcare, policy, and communities.

### What's next for you?

Handing over the leadership reins to the next generation!



# CV-Well Seasoned

Recipes from Your Colleagues

## Cranberry Chocolate Chunk Granola Bars

**Recipe by Claire Tibboles, MFN, RD**

Oats, dark chocolate, and cranberries are functional foods. They contain fiber, antioxidants, and polyphenols that are known to support heart health. This recipe adds indulgence, functional food properties, and nutrient density to your average whole grain energy bar.

*Makes 8 bars*

*Serving size: 1 bar*

*Total time: 30-45 minutes*



### Ingredients

- ¼ cup water
- 2 Tbsp maple syrup
- 2 Tbsp honey
- 1 tsp vanilla
- 1/8 tsp salt
- 2 cups old fashioned oats
- 1 Tbsp chia seeds
- 1 Tbsp hemp hearts
- 1 oz dark chocolate, roughly chopped
- ¼ cup dried cranberries
- 2 Tbsp almonds, raw, unsalted, sliced

### Directions

1. In a large nonstick saucepan or pot, heat water, maple syrup, and honey on medium heat until simmering, stirring occasionally. Allow contents to simmer for 3-5 minutes or until steaming and slightly condensed.
2. While keeping heat on, add vanilla and salt to pot and stir. Add oats, chia seeds, and hemp hearts. Stir ingredients together with a rubber spatula on the heat for 2-3 minutes.
3. Turn off heat and fold in dark chocolate, cranberries, and almonds.
4. Press mixture into an 8x8 pan, lined with parchment paper.
5. Cool in refrigerator for at least 30 minutes to set. Cut into 8 bars. Enjoy!

\*Store in refrigerator or at room temp.

### Nutrition Facts

Per serving (1 bar): 150 calories, 4g total fat, 4g protein, 27g carbohydrate, 37mg sodium, 4g sodium