



CANCER NUTRITION™ CONSORTIUM

Nutritional Guidance & Support

CANCER COMPENDIUM | Issue No. 5
RESEARCH, RESOURCES, AND RECIPES TO HELP PEOPLE
DURING CANCER TREATMENT AND RECOVERY

Kathy McManus

Co-founder and board member of
the Cancer Nutrition Consortium

CNC INTERVIEW



Kathy McManus is Director of the Department of Nutrition and Director of the Dietetic Internship at the Brigham and Women's Hospital and Director of Nutrition Services at Dana Farber Cancer Institute. In addition, she serves as the Director of Nutrition and Behavior Modification Programs

for the Program for Weight Management at the Brigham.

Kathy co-authored an article published in the New England Journal of Medicine about the POUNDS (Preventing Obesity Using Novel Dietary Strategies) Lost study, of which she served as co-Investigator. She has presented her research around the globe: China, Japan, Germany, Italy, Mexico, the UK, Crete, Jordan and Rwanda.

She is a faculty member of the Harvard T.H. Chan School of Public Health and Culinary Institute of America's "Healthy Kitchens, Healthy Lives" program, which educates attendees on the most recent nutrition science combined with teaching them culinary skills to support their patients. More than 2500 physicians have attended since 2007.

How did you end up focusing on nutrition and behavior change?

My mother was a major influence. My father and brother both had insulin-resistant diabetes. That strongly influenced our daily lives and the meals my mother prepared for us.

I went on to study nutrition at Simmons College as an undergraduate. After graduation, I was accepted at Brigham & Women's Dietetic Internship and then began my clinical practice, working with patients who had cardiovascular disease.

What's the approach you've found most effective to change dietary and activity behaviors in your patients?

One of the first things I realized was that just because you have the knowledge doesn't mean you're actually going to make the changes necessary to get healthier. Instead of just handing someone a regimen, start with the question: "What matters to you, and why?" Once they're involved, they are more likely to mobilize their own resources. It's much more effective having them make the connections for themselves.

How much does marketing by food companies contribute to poor dietary and habits?

Marketing by food companies contributes significantly to diet habits. In the U.S. we produce 4,000 calories a day for every man, woman and child. The food industry needs to sell these calories.

It's not just what we choose to eat – the production of our food needs revamping.

What one piece of advice would you want every parent to follow regarding their kids' diets?

Start cooking! Use whole, real foods. People think kids like bland foods, but if you expose them to a variety of foods the family eats, they will get curious about different cultures' foods and explore new things.

What's the best way for our society to deal with cardiometabolic disease - Type 2 diabetes, heart disease, and stroke?

Rather than focusing entirely on treatment, the focus really should be on how we can prevent development of these diseases – diseases that are actually affecting us at an even earlier age. A healthy, plant-forward diet, daily physical activity, stress management, healthy bodyweight, no smoking, sleep, and connection with others are all important components of a healthy lifestyle.

Does the leading health threat change for other regional or cultural populations around the world? Europe? Asia? Africa? South America?

In emerging areas of Africa and Asia, many countries continue to deal with malnutrition. But the rise in the incidence of obesity and type two diabetes is also beginning to plague them, as it does in more developed countries.

Countries are reporting population shifts from rural areas to cities. What are your biggest concerns for human health as a result of this trend?

As people shift from rural areas into cities, they can be exposed to more processed foods and sugar-sweetened beverages. These foods are relatively cheap, and more available in the cities. And then, of course, the daily activity patterns are different – there's considerably more physical activity in rural and farm areas, and less in the city.

What's the most useful book you've read on bringing about behavioral change?

Savor: Mindful Eating, Mindful Life, by Thich Nhat Hanh and Dr. Lilian Cheung. It teaches how to adopt the practice of mindfulness and integrate it into eating, physical activity and many facets of daily life.

What's the most promising technological approach you're seeing, in terms of bringing about positive behavioral change?

One of the big areas that can bring about a change in behavior is self-monitoring technology: diabetic patients can now receive constant blood sugar results to adjust what they are consuming. Watches and phones can track steps, stairs, and miles. These technologies support individuals in their quest to be more active. Getting involved in group competitions or competing against themselves can add additional motivation.

I also like apps that offer nutrition information such as calories, saturated fat and sodium content. Point of purchase information, scanning, and taking photos of food can translate into people making better choices.

I also think telemedicine is an important addition to our healthcare system. It can provide support by guiding and coaching patients through their own change process. It allows us to reach out to folks who may be homebound and those in rural areas who may not have the kind of access to care available in larger cities.

If you could instantly change one common character trait in people, what would it be?

People tend to stay safe. What's familiar to us is comfortable. I'd say: be more explorative, more inventive.

Describe an ideal day for a human from an activity and dietary perspective.

Doing something active outside that they enjoy, connected to family, friends, neighbors, or meeting someone new. Expressing gratitude for what you have, and giving back in some small way. For the food part: Preparing and eating great food with friends and family and savoring every moment!

Describe an ideal day for Kathy McManus.

All of those things I just described – it's the same day. For me, the outside activity is running 8-10 miles.

Christina L. DiSegna, MS, RD, CSO, CNSC, LDN | Senior Clinical Dietitian
Dana-Farber Institute / Brigham & Women's Cancer Center

CANCER & Organic Foods

Organic foods are emerging as a potential strategy for decreasing cancer risk. But does the research support this trend?

Summary

- Organic foods are grown or produced without use of synthetic pesticides or herbicides and chemical fertilizers
- Exposure to pesticides and herbicides may increase risk for certain cancers
- Choosing organic foods as a strategy for decreasing pesticide exposure may decrease cancer risk but the research at this point is conflicting and unclear
- Many studies show the benefits of increased intake of fruits and vegetables to decrease cancer risk and a diet high in a variety of fruits and vegetables is recommended

Recommendations

- Wash all produce with running water prior to consuming
- If choosing to buy organic, utilize the "Dirty Dozen" and "Clean Fifteen" lists from the Environmental Working Group to prioritize organic purchases
- Consider local farms and farmers markets for in-season produce with potential cost benefit
- Organic does not necessarily mean healthy! Choose diets high in fruits and vegetables, whole grains, lean proteins, and healthy fats over organic processed foods.

Organic foods are those which are grown or produced without use of synthetic pesticides or herbicides and chemical fertilizers. Certain pesticides – malathion and diazinon – as well as the herbicide glyphosate have been classified as probable human carcinogens and have been linked to higher rates of certain cancers in those with workplace exposures such as farm workers.

However, for the general population, low-level pesticide exposure occurs mostly from diet through conventionally-grown produce. The health consequences of these low-level exposures, including cancer risk, are not clear at this time. Regardless, many people are choosing organic foods as a strategy for decreasing pesticide exposure to, in theory, lower cancer risk. The research to support this practice has been conflicting thus far.

A recent study published in the Journal of the American Medical Association followed 70,000 adults over a seven-year timeframe; those who reported the highest intakes of organic foods had decreased cancer incidence compared with those who rarely chose organic foods.

However, the researchers noted that those who reported eating organic foods also engaged in healthier lifestyle behaviors and ate an overall healthy diet which are known to decrease cancer risk. Although the study adjusted for these factors in the analysis, there may be unadjusted factors that contributed to the results.

Additionally, the study did not measure pesticide residues in any of the participants, so it is unclear if differences in pesticide levels correlated with decreased cancer incidence. One other large study conducted previously in 2014 did not

show a decreased cancer risk in those who usually or always consume organic foods. Based on these two studies with differing results, conclusive recommendations on the benefit of organic foods and cancer risk cannot be made.

In contrast, the research surrounding the importance of fruits and vegetables in reducing cancer risk is vast.

The American Institute of Cancer Research and World Cancer Research Fund have compiled expert reports which assess decades of research, looking at hundreds of studies, to make recommendations on overall diet and lifestyle factors that can reduce the risk of developing cancer. In the most recent report, many studies suggested decreased cancer risk associated with increased consumption of fruits and vegetables.

The inverse was also true; low intakes of fruits and vegetables were associated with increased risk of certain types of cancers. Therefore, high intakes of a variety of colorful fruits and vegetables are suggested for decreasing overall cancer risk.

One major problem: For those looking to choose organic as well as increase produce intake, the cost increase can be a barrier for many people and this goal is often cost-prohibitive. Practically, what can consumers do to increase produce intake while also decreasing potential pesticide exposure?

First, all produce – both conventional and organic – should be washed thoroughly before being consumed. Washing produce under running water with light friction if needed helps remove dirt, bacteria, chemicals, and pesticide residues.

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CONTINUE READING CANCER & ORGANIC FOODS »



Second, consider choosing organic when buying produce with the highest pesticide residues. The Environmental Working Group publishes the “Dirty Dozen” and “Clean Fifteen”

Dirty Dozen

- | | | |
|-----------------|-------------|-------------|
| 01 Strawberries | 05 Apples | 09 Pears |
| 02 Spinach | 06 Grapes | 10 Tomatoes |
| 03 Kale | 07 Peaches | 11 Celery |
| 04 Nectarines | 08 Cherries | 12 Potatoes |

Clean Fifteen

- | | | |
|------------------------|--------------|-------------------|
| 01 Avocados | 06 Papayas | 11 Cauliflower |
| 02 Sweet corn | 07 Eggplants | 12 Cantaloupes |
| 03 Pineapple | 08 Asparagus | 13 Broccoli |
| 04 Sweet peas (frozen) | 09 Kiwis | 14 Mushrooms |
| 05 Onions | 10 Cabbages | 15 Honeydew Melon |

lists yearly which rank foods based on pesticide levels. Those concerned with pesticide residues may choose to buy organic when purchasing from the “Dirty Dozen” list to reduce exposure while also saving money while choosing conventional produce from the “Clean Fifteen” list.

Third, consider buying locally from farmers markets or directly from farmers. Often, smaller farms are practicing organic farming methods but cannot afford the cost of becoming a certified organic farm. The produce cost may be less than organic in the supermarket but with the same benefits, as well as the added bonus of supporting your local farm.

Lastly, note that “organic” does not mean “healthier”. There are many processed and packaged foods in the supermarket that have the ingredients grown organically but still contain significant amounts of fat, sugar, and artificial ingredients that can be detrimental to health. Overall, diets high in fruits and vegetables – conventional or organic – have significant benefits for both cancer prevention and general health and a variety should be included in your diet daily.

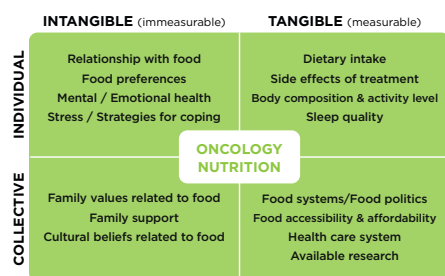
RESOURCE

Emily Biever, MS, RD, LDN | Senior Clinical Dietitian
Dana-Farber Cancer Institute

Integrative Oncology & NUTRITION

Integrative oncology nutrition is an approach that acknowledges the multiple influential factors affecting a cancer patient’s nutritional wellbeing, including, but not limited to, their macro/micronutrient needs, personal relationship with food, cultural understanding of food and disease, food availability/accessibility, etc.

This diagram shows one possible way to visualize an integrative approach to oncology nutrition:



If we only look at what someone is eating (“dietary intake”), we may be missing other important pieces of the puzzle.

For instance, sleep duration and sleep quality can have an impact on not only the amounts and types of foods we choose to eat, but also on how our bodies process these foods. Research has shown that inadequate sleep increases brain activity in the presence of food, and increases calorie intake, primarily from foods high in sugar and fat. Including a discussion of sleep, therefore, can shed light on other ways to support healthier eating, particularly for cancer survivors aiming to prevent weight gain. When necessary, healthcare professionals can make referrals to sleep specialists to best support their patients.

Our ability to manage stress is another variable that can impact nutrition. “Stress-induced eating” is a common experience for many people with a tendency towards eating higher fat/higher sugar-containing foods. Hormones, like cortisol and ghrelin, tend to increase in stressful situations, with studies showing a connection between greater intake of calorie-rich foods and higher circulating levels of these hormones. While occasional use of foods bring to bring comfort and relieve overwhelming stress can be helpful for some, for others, sweets and snack foods can become a primary means of coping.

Some people, however, may experience a loss of appetite in the setting of significant stress, which can compound unintentional weight loss during treatment.

On the surface, whether over- or under-eating, the food choices themselves may be identified as the issue, while the underlying reason behind the choices may be the most fruitful piece of the pie to focus on. Acknowledging stress, and becoming curious as to what tools are most supportive for working with it, can attenuate unintentional weight gain or weight loss during cancer treatment.

Finding a companion to talk through difficult feelings, as well as support groups, social workers and therapists can all help prevent isolation after a cancer diagnosis. Additionally, meditation

and meditation apps, physical activity and other forms of self-care are powerful tools to reduce stress and enable more healthful eating habits.

There are too many components of integrative oncology nutrition to cover in this article, but one final component worth noting is how family and cultural views of food are impactful after a cancer diagnosis.

In many family systems and cultures, home-cooked meals are a way of expressing love and support during difficult times. Some possible side effects of cancer treatments, like nausea, loss of appetite, and taste changes, however, can render familiar comfort foods unpalatable, leaving friends and family at a loss for how to care for and nurture their loved one. As a result, tension and frustration for all parties involved can add to the lack of desire to eat. In this instance, it’s helpful to have a dietitian acting as a “third party” of sorts to help find ways to make foods more nutrient-rich and palatable, so mealtimes become less stressful and more about connecting and communing.

It’s clear that there are many factors influencing our nutrition journey. The greatest benefits from an integrative oncology nutrition approach arise when we tease out which pieces of the pie are the most influential and need the most attention and care.

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HEART HEALTHY COOKING DEMONSTRATION SERIES

Recipes from Rich Duclos: Executive Chef Brigham and Women's Hospital
(teaching affiliate of Harvard Medical School)

Curry Squash Soup with Poblano Peppers & Kale



SERVINGS: 6

CALORIES: 160
FAT: 7g
SAT FAT: 1g
CARB: 22g
FIBER: 2g
PROTEIN: 5g
SODIUM: 480mg

INGREDIENTS

1 oz EXTRA VIRGIN OLIVE OIL
7 SPRIGS OF SAGE CHOPPED
2 PEELED SHALLOTS
1 oz CHOPPED GARLIC
4 oz POBLANO PEPPERS CHOPPED
1/2 PEELED AND DESEEDED MEDIUM DICED CURRY SQUASH
1 Tbsp RED CURRY PASTE
1/2 tsp SALT
1 tsp PEPPER
1 qt LOW SODIUM VEGETABLE STOCK
1 cup SOY MILK
2 cup WASHED AND CHOPPED KALE
1 SMALL WHOLE WHEAT BAGUETTE

DIRECTIONS

Heat olive oil in a gallon soup pot
Add sage, shallots, garlic and poblano peppers
Cook herbs and vegetables until caramelized

Add in curry squash and red curry paste

Add in vegetable stock and season with salt and pepper
When mixture is tender blend until smooth and add soy milk and kale.

Return to simmer

Cut whole wheat baguette into 6 pieces – toast & garnish

Dijon & Ginger Roasted Vegetables with Ancho Chili



SERVINGS: 4

CALORIES: 117
FAT: 4g
SAT FAT: 1g
CARB: 18g
FIBER: 6g
PROTEIN: 5g
SODIUM: 229mg

INGREDIENTS

8 oz BABY BELLA MUSHROOMS, WASHED AND CUT IN HALF
12 oz RAINBOW BABY CARROTS, PRE-PEELED, PAR COOKED AND COOLED
20 each MEDIUM ASPARAGUS, TRIM END, CUT EACH ASPARAGUS INTO TWO
2 oz RED ONION, PEELED AND MEDIUM DICED
1 Tbsp EXTRA VIRGIN OLIVE OIL
1 Tbsp DIJON MUSTARD
1/2 tsp GROUND GINGER
1/4 tsp CHILI POWDER
1/8 tsp BLACK PEPPER & KOSHER SALT
1/2 each LEMON (DESEEDED AND JUICED)

DIRECTIONS

In a medium stainless-steel bowl, mix all ingredients until vegetables are coated fully

Place vegetable mixture in roasting pan

Place mixture in a 425deg, preheated oven for 15 minutes

Roast until vegetables are lightly browned

Place on serving platter

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CancerNutrition.org offers valuable resources, research, recipes, and answered questions from leading cancer experts in one convenient location. We're here to help!

VALUABLE RESOURCES

Look at frequently asked questions, or ask your own. Read more articles and download our partner, Dana Farber's mobile nutrition app! All sources under the 'Resources' tab on [CancerNutrition.org](https://cancernutrition.org) offer reliable suggestions and resources to help answer your questions about cancer nutrition.



RECIPES FROM 16 CHEFS



Adi Goldberg & Ron DeSantis are only two of the chefs featured on the Cancer Nutrition Consortium. View all chef recipes & bios at [CancerNutrition.org/chef](https://cancernutrition.org/chef)



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We are providing healthy, tasty nutrition to patients during their cancer treatment, who may not be able to otherwise afford it. Your gifts provide much-needed nutrition to a patient in need. Any size donation is helpful and appreciated. Click the 'Donate' tab on [CancerNutrition.org/make-a-donation](https://cancernutrition.org/make-a-donation)



120+ RECIPES

All recipes featured on our website were carefully crafted by chefs, nutritionists, and cancer patients. These unique recipes offer functional nutrition and great taste for those undergoing cancer treatments. View more recipes at [CancerNutrition.org/recipes](https://cancernutrition.org/recipes)

Our Mission

The Cancer Nutrition Consortium recognizes the importance of food and nutrition to positive medical outcomes of cancer treatment. Our recipes and recommendations incorporate a wide range of insights. Key among them is that they can be adopted at home to make life easier for patients to achieve optimal health during cancer treatment.

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