



CANCER NUTRITION CONSORTIUM™

Nutritional Guidance & Support

CANCER COMPENDIUM | **Issue No. 4**
RESEARCH, RESOURCES, AND RECIPES TO HELP PEOPLE
DURING CANCER TREATMENT AND RECOVERY

RESOURCE

AN INTRODUCTION TO **Plant-Based Diets**

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Everywhere you look, food and nutrition websites, newsletters and magazines are preaching the benefits of a plant-based diet. But what exactly does that mean?

At first pass it may sound like vegetarianism, which itself can mean a few different things. The strictest form is a vegan diet, which only includes foods from plant sources, like fruits, vegetables, whole grains, soy foods, legumes, nuts and seeds. Many self-identified vegetarians are actually “lacto-ovo” vegetarians, meaning they eat plant foods, eggs, and dairy products, like milk, yogurt and cheese, but no animal flesh. There are also those who mainly consider themselves vegetarians but also eat seafood, some occasionally poultry, or maybe just avoid red meat. Despite the differences, what all have in common is a focus on getting most of their nutrients from plants.

Two of the most recognized plant-based diets are the Mediterranean Diet and The DASH Diet (Dietary Approaches to Stop Hypertension). Both suggest significant increases in fruits and vegetables (targets are higher than those consumed by the average American), favor whole grains, and include plant proteins like nuts, seeds and legumes. Both suggest limitations on animal protein, with the Mediterranean Diet recommending seafood over poultry, and that red meat be consumed “sparingly.”

Another less familiar but highly regarded plant-based diet in the nutrition science world is the OmniHeart diet. Backed by the National Institutes of Health, the OmniHeart Diet provides three different options for a heart-healthy plant-based diet that emphasize more carbohydrates, proteins or unsaturated fats, depending on one’s preferences. Like Mediterranean and DASH, all three OmniHeart patterns include a big push for more fruits and vegetables, and inclusion of plant proteins from nuts, seeds and legumes. It’s also worth noting that all these plant-based plans allow dairy in moderation — all encouraging low or reduced-fat versions — and suggest limiting added sugars and refined carbohydrates.

Are plant-based diets good for cancer survivors?

For cancer prevention and survivorship, cancer research and education organizations worldwide also advocate plant-based eating. The American Institute for Cancer Research (AICR), their European affiliate the World Cancer Research Fund, and the American Cancer Society all push for more plant foods (see URLs for more details). All acknowledge that healthful forms of animal foods, like seafood, low fat dairy, eggs, poultry and lean meat (no more than 12-18 ounces per week) can be worked into a balanced, healthful eating plan.

What makes plant-based diets so healthy?

Aside from being low in calories and rich in fiber, vitamins, and minerals, plant foods are loaded with thousands of compounds called phytonutrients (“phyto” means plant in Greek) which act as natural antioxidants, anti-inflammatories and detoxifiers. These compounds mix and match in countless combinations within plants to provide these benefits. Examples of phytonutrients are the orange/red carotenoids in carrots and tomatoes,

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(Plant-Based Diets, continued)



polyphenols in berries, tea and dark chocolate, and phytoestrogens in soybeans. Many of these compounds give plants their pigment, so varying up the colors of your fruits and vegetables, and eating a variety of whole grains, nuts, seeds and legumes, naturally varies these phytonutrients.

Making it happen

Despite minor differences in the plant-based patterns mentioned above, they have a lot in common:

- Aim to cover ½ your plate with vegetables, including a variety of colors to maximize phytonutrients
- Include whole fruits with meals and snacks, with a goal of 2 servings or more per day
- Choose whole grains, like brown rice, quinoa, oats, barley, millet and whole grain pasta, breads, cereals and crackers (look for the word “whole” in the first ingredient) instead of refined, “white flour” options whenever possible

- Swap out animal proteins for plant proteins, like legumes, hummus, soy foods, and quinoa, starting with a goal of one “vegetarian” dinner per week and working up from there.
- Find ways to incorporate nuts, nut butters and seeds into your snacks, salads, and meals at every opportunity
- Choose plant-based fats, like olive, canola, avocado, and peanut oil over animal fats like butter, lard or beef tallow.

Eating more plant-based also means eating fewer foods from animal sources, which may require down-shifting your intake of meat, poultry, eggs, milk, yogurt and cheese to make room for more fruits, vegetables, whole grains, nuts, seeds and legumes. Of all the animal-based foods, seafood carries the most disease-fighting benefits so is also a healthful alternative to meat.

DASH Diet nhlbi.nih.gov/health-topics/dash-eating-plan

Mediterranean Diet oldwayspt.org/traditional-diets/mediterranean-diet

OmniHeart Diet health.harvard.edu/PDFs/OmniDiets.pdf

American Institute for Cancer Research/World Cancer Research Fund aicr.org/reduce-your-cancer-risk/recommendations-for-cancer-prevention

American Cancer Society cancer.org/healthy/eat-healthy-get-active/acs-guidelines-nutrition-physical-activity-cancer-prevention/summary.html

NEW RESEARCH

DIETARY CHANGES & FOOD PREFERENCES EXPERIENCED BY OLDER ADULT CANCER PATIENTS & THE IMPACT ON HEALTH OUTCOMES

Kisha Coa, Joel B. Epstein, Kathy McManus, and Bruce Moskowitz

The first step to helping people get through treatment is to better understand the challenges they face and the impacts those challenges have on their recovery. That’s why one of our main goals is to further the scientific understanding of nutrition and treatment through clinical research.

We’re happy to present the second original research study funded by the CNC. Building on what we learned about in our first study, here our investigators, led by Kisha Coa, Ph D., explored how cancer treatment influences the dietary behaviors and food preferences of older adult cancer patients and explore associations between these dietary changes and common cancer symptoms.

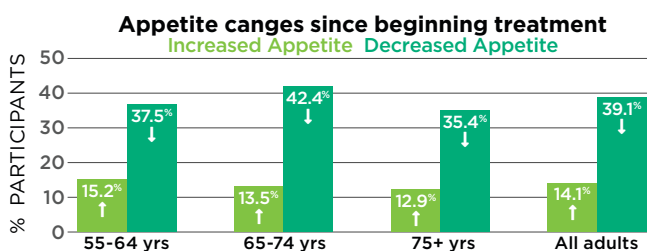
The study involved 800 cancer patients age 55 years and older undergoing cancer treatment, assessing each patients’ dietary changes, food preferences and aversions since starting treatment, and health outcomes. We examined associations between dietary changes by age group (55-64 years, 65-74 years, and 75+ years old).

Notable findings

- The majority of participants experienced at least one cancer symptom, with fatigue and poor appetite the most commonly reported
- About half of respondents reported no change in appetite or thirst, but those who did report a change were more likely to report a decrease in appetite rather than an increase, and more likely to report an increase in thirst rather than a decrease
- Decreased appetite was most commonly reported among 65-74 year olds as was increased thirst
- 55-64 year olds were more than twice as likely as 65-74 year olds to experience Metallic Tastes
- Those who had a decreased appetite were 4.6 times more likely than those whose appetite stayed the same to report losing 5 or more pounds since beginning treatment. Similarly, those who reported eating less frequently had double the risk of weight loss than those who ate with about the same frequency as before treatment
- Most of the patterns were consistent across age groups but the oldest age group (75+) was less likely to report eating less frequently, and less likely to report certain increased taste and smell sensitivities

What’s next?

Characterizing the nutritional needs of older adult cancer patients is the first step in being able to address these needs. Future research is needed to evaluate potential strategies to address nutritional concerns, and to better understand the unique needs of specific subgroups of older adult cancer patients at high risk of experiencing dietary changes (e.g., those with head and neck cancer).





Hydration is Important

Mae Reilly, MS, RD, LDN, CNSC

In colder months, we may think less about staying hydrated, but it's important for many reasons.

Drinking enough fluid helps regulate our body temperature,

blood pressure, and heart rate. It helps lubricate our joints, and it keeps our organs functioning properly. Water also helps our body remove waste and toxins and transports nutrients throughout our body. Staying hydrated can also help promote bowel regularity and prevent constipation.

Adequate hydration is especially important while undergoing cancer treatment. Drinking enough fluids can be challenging for patients who experience side effects from treatment including nausea, vomiting, decreased appetite, taste changes, diarrhea and/or fatigue. Some of these side effects can increase the risk of dehydration, which in turn can make it hard for the body to flush out chemotherapy drugs or other medications and may put unwanted stress on the kidneys.

Here are some tips for staying well-hydrated:

- Use a reusable water bottle. Having water with you throughout the day can be a good reminder to drink more.
- Infuse water with sliced fruit or fresh herbs like mint. You can also try adding a splash of juice to water to add some flavor without adding too much sugar.
- Experiment with different herbal teas. Warm beverages can be both hydrating and satisfying in the winter months.
- Count all liquids towards your hydration goals. Think of broth, soup, sparkling water, smoothies, or anything that melts at room temperature like popsicles or ice cubes.
- Track your fluid intake. Consider filling a large pitcher with your daily water goal and drink from that throughout the day. You can also use a smartphone app to help keep track of daily fluid consumption.

How much fluid do you need?

Check with your healthcare team to determine how much fluid you should be consuming. Fluid requirements are highly individualized based on your age, sex, and activity level. Certain medications and cancer treatments can also affect how much water you need.

Electrolytes

Electrolytes are minerals required for normal bodily functions such as maintaining regular heart rhythm, muscle contractions, nerve impulses, bone health, immune function and blood pressure maintenance. Some electrolytes include sodium, potassium, calcium and magnesium. You can consume these minerals from both food and drinks.

Electrolyte imbalances can occur during cancer treatment if you are experiencing side effects like vomiting, diarrhea, dehydration or decreased oral intake. Additionally, certain medications or treatment regimens can also lead to electrolyte abnormalities. Your healthcare team may recommend including electrolyte containing beverages to help achieve healthy electrolyte levels.

However, it's important to know that these beverages can vary quite a bit in terms of which electrolytes they contain and how much electrolytes they contain. A Registered Dietitian or other members of your healthcare team can help evaluate your lab values and provide recommendations for fluid choices that would be best for you.

Can you count coffee or other caffeinated beverages towards your hydration goals?

Although caffeinated drinks may have a mild diuretic effect — they may cause the need to urinate — they don't appear to increase the risk of dehydration. However, there may be other reasons to limit your caffeine consumption. It can cause headaches for some people and contribute to trouble sleeping for others.

Conclusion

Adequate hydration is an important part of supporting overall health. Side effects from cancer treatment can make it challenging to meet your fluid needs. If you are concerned that you are not drinking enough or if you want individualized recommendations, always check in with your healthcare team.

References

Popkin BM, D'Anci KE, Rosenberg I. Water, Hydration and Health. *Nutr Rev.* 2010 Aug; 68(8): 439-458.

Killer SC, et al. No evidence of dehydration with moderate daily coffee intake: A counterbalanced cross-over study in a free-living population. *PLoS One.* 2014;9:e84154.

Banana Breakfast Bites

Adi Goldberg, MS | Dietetic Intern
Brigham and Women's Hospital



INGREDIENTS

SERVINGS: 24

- 2 VERY RIPE BANANAS
- 1/3 cup CANOLA OIL
- 1 EGG
- 1 tsp VANILLA EXTRACT
- 3/4 cup WHITE WHOLE WHEAT FLOUR
- 1/2 tsp BAKING SODA
- 1/4 tsp SALT
- 1/4 tsp GROUND CINNAMON
- 2 cups ROLLED OATS
- 1/2 cup CHOPPED WALNUTS
- 1/2 cup CHOCOLATE CHIPS

DIRECTIONS

Preheat oven to 325°

In a mixing bowl, add mashed bananas, egg, oil, & vanilla

Add dry ingredients and mix all contents together

Roll dough into golf size balls and place on baking sheets

Bake in oven until lightly browned, 10-12 minutes

*If unable to use ripe bananas, soak oats in apple juice for 30 minutes and then rinse in water and pat dry

Cinnamon Apple Crisp

Jake Brach | Manager of Culinary Learning
& Development Rich Products Corporation



INGREDIENTS

SERVINGS: 9

- 8 - 10 BAKING APPLES, MEDIUM SIZED
(ENOUGH TO FILL 9x9 BAKING PAN), SLICED & PEELED)
- 1/2 cup OATMEAL, DRY
- 1/2 cup BROWN SUGAR
- 1/2 cup BUTTER, SOFTENED
- 1/2 cup ALL PURPOSE FLOUR
- 1 tsp GROUND CINNAMON

DIRECTIONS

Place oatmeal, brown sugar, butter, flour and cinnamon in a bowl and mix with a fork until crumbly

Spray a 9 x 9 baking pan with pan spray and fill with apples

Sprinkle topping over the apples

Cover with aluminum foil and bake at 350° for 15 - 20 minutes. Remove foil and bake an additional 15 minutes, or until apples are soft

Serve warm



The Cancer Nutrition Consortium's founding research focuses on better understanding how cancer treatment affects the food intake and food preferences of cancer patients.



CNC Carepack Grant Initiative Update 750+ Carepack donations as of April 2019!

Many people undergoing treatment don't have the resources they need to get adequate nutrition.

The CNC initiated a Carepack Grant program, with additional support from Hormel Foods to provide free nutritional care packs to help them in their time of biggest need.

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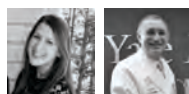


CancerNutrition.org offers valuable resources, research, recipes, and answered questions from leading cancer experts in one convenient location. We're here to help!

VALUABLE RESOURCES

Look at frequently asked questions, or ask your own. Read more articles and download our convenient mobile nutrition app! All sources under the 'Resources' tab on 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

DONATE TO HELP OTHERS

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

122 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

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.

Contact the CNC

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