

BENEFITS OF

# Exercise

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There are many benefits to exercising both during and after cancer treatment. In 2009 the American College of Sports Medicine published their recommendations that all cancer survivors should strive to avoid inactivity. Since then, more research has continued to emphasize this point and show potential reductions in cancer recurrence. Also, evidence suggests that exercise can have a beneficial impact on body weight, overall fitness, muscle strength, flexibility and quality of life, as well as on symptoms such as pain and fatigue.

## 1 START LOW & GO SLOW

Before you start exercising, you should check in with your medical team to make sure they don't have any concerns. Once they have given you clearance, it is important to start slowly. As you are starting to establish a routine, I recommend finishing your routine knowing you could have done a little bit more. Set yourself up for success and make your activity enjoyable and not exhausting. Fatigue is one of the most common and frustrating side effects of treatment and exercise is one of the most helpful ways to help you have more energy. It seems counterintuitive, but even a short walk around your house or to the end of the driveway and back can help take the edge off the fatigue. As you get stronger, you may find that breaking up your exercise into two or three 10-minute bouts over the course of the day is helpful.

## 2 SET GOALS & KEEP TRACK

There are so many ways to keep track of your progress with exercise. Maybe it's a calendar on your refrigerator or an activity tracker that you wear and monitor your exercise on a website or phone app. The main goal of tracking is to keep you aware of how much activity you are getting and remind you of the importance. Focusing on the consistency piece, instead of the duration or intensity will help your body get adjusted to incorporating

activity into your lifestyle. As your body is recovering from treatment, you want to avoid doing a big bout of activity that leaves you exhausted and unable to exercise again a day or two later. Listening to your body will make it easier to progress and get stronger.

Many survivors find it helpful to set a daily or weekly exercise goal to keep them on track. Make sure that your goal is S.M.A.R.T; Specific, Measurable, Attainable, Relevant and Time-bound. For example, instead of "I will exercise more" saying "I will walk on Monday, Wednesday and Friday morning from 10 to 10:20 am." Setting goals like this will help with accountability and focusing on small changes to help reach your wellness goals.

## 3 DECREASE SEDENTARY TIME

Exercise should also be more than an event in your day; the goal is to stay as active as possible throughout your day. Look for creative ways to add more movement into your day. Many of the activity trackers on the market will buzz when you have been inactive for more than an hour. You could also set a reminder in your computer to get up every hour or download an app that will buzz and remind you to move. As few as 250 steps an hour, or 2-3 minutes of walking can help with fatigue and the harmful effects of being sedentary. Try parking further away when you are running errands, taking the stairs or getting off the bus one stop earlier and walking.

## 4 LOOK FOR RESOURCES

All the positive research around exercise and cancer has led to the design of many different programs to help survivors stay active. For example, many of the YMCAs across the country offer the Livestrong exercise program, which is specifically designed for cancer survivors. It is a free 12-week program that incorporates cardiovascular exercise, strength training and stretching. You could also look into programs at your local hospital or wellness center to see if they have movement classes that are designed for survivors. If you are struggling with side effects from treatment like neuropathy, it may be beneficial to meet with a physical or occupational therapist to help with modifications. Many hospitals are now researching exercise and have clinical trials that you may be eligible for to help you get started or stay motivated. You can find trials by visiting MyClinicalTrialLocator.com or ClinicalTrials.gov and entering "exercise and survivors" in the search box.

## 5 RESPECT YOUR BODY

Be kind to your body as you are undergoing or recovering from treatment and starting to exercise. I always say, 10% of something is better than 100% of nothing.

## Our Research Initiatives

### The Impact of Cancer Treatment on the Diets & Food Preferences of Patients Receiving Outpatient Treatment

PUBLISHED 2015 - *NUTRITION AND CANCER*, 67(2), 339-353, 2015

Kisha I. Coa | Joel B. Epstein | David Ettinger | Aminah Jatou | Kathy McManus | Mary E. Platek | Wendy Price | Meghan Stewart | Theodoros N. Teknos | Bruce Moskowitz

**ABSTRACT:** Patients undergoing cancer treatment experience a multitude of symptoms that can influence their ability to complete treatment as well as their quality of life during and after treatment. This cross-sectional study sought to describe the dietary changes experienced by cancer patients and to identify associations between these changes and common treatment symptoms. A convenience sample of 1199 cancer patients aged 18 years and older undergoing active treatment were recruited from 7 cancer centers to complete a self-administered paper-and-pencil survey. Descriptive analyses were conducted to estimate prevalence of dietary changes and Chi-squared tests were used to examine associations between dietary changes and health outcomes.

Approximately 40% of patients reported a decreased appetite since beginning treatment, and 67.2% of patients reported at least 1 chemosensory alteration. Increased taste sensitivities were more common than decreased taste sensitivities, with increased sensitivity to metallic being the most common taste sensitivity (18.6%). Patients also had increased sensitivities to certain smells including cleaning solutions (23.4%), perfume (22.4%), and food cooking (11.4%). Patients reported a wide range of food preferences and aversions. Patients who had less energy or lost weight since beginning treatment were more likely than others to report treatment-related dietary changes.

### Nutrition Related Issues & Dietary Challenges among Older Adult Cancer Patients

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Kisha I. Coa | Joel B. Epstein | Kathy McManus | Bruce Moskowitz

**ABSTRACT:** To describe the impact of cancer treatment on the dietary behaviors and food preferences of older adult cancer patients and explore associations between these dietary changes and common cancer symptoms. Eight hundred cancer patients age 55 years of age and older undergoing cancer treatment completed a self-administered questionnaire. Descriptive statistics were conducted to examine associations between dietary changes and age groups (categorized as 55-64 years old, 65-74 years old, and 75 years old and older), and multivariable logistic regression was used to assess associations between dietary changes and health outcomes. The majority of participants experienced at least one cancer symptom, with fatigue and poor appetite being most commonly reported. About half of respondents reported no change in appetite or thirst, but those who did were: (1) more likely to report a decrease in appetite rather than an increase in it, and (2) more likely to report an increase in thirst rather than a decrease. 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. Characterizing the nutritional needs of older adult cancer patients is the first step in being able to address their 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).

### Taste Changes, Oral Status & Eating Interest in Head and Neck and Breast Cancer Patients Treated with Chemotherapy: Clinical Taste/Flavor Evaluation

STARTING DEC. 2017 - CEDARS-SINAI MEDICAL CENTER, LOS ANGELES

Principal Investigator: Joel B. Epstein, MD

**ABSTRACT:** The perception of flavor is frequently altered in cancer patients, impacting quality of life and affecting dietary intake, with potential metabolic and nutritional effects. While taste/flavor changes are very common during active cancer care, they persist in large numbers of cancer survivors affecting quality of life beyond active cancer treatment. The CNC is planning a broad survey of taste function and nutritional outcomes, which provides an opportunity to add a subsite study of measures of taste and flavor and impact of oral function upon nutrition, leveraging the planned survey with clinical testing.

We propose a pilot study in both head and neck and breast cancer patients to assess taste/flavor change due to cancer therapy, employing chemosensory testing and patient report of taste change. Significant advances have occurred in the study of taste biology, but there has been very limited study in oncology. We propose objective testing, along with patient reported outcomes, to further investigate taste function. We will complete nutrition assessment for correlation with taste measures. The goal is to provide pilot data for subsequent grant applications to assess the natural history of taste change over time, and to define a testing protocol to facilitate progress in prevention and management of taste/flavor change in cancer patients during therapy and throughout survivorship to guide product development.

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## BRINGING TOGETHER RESOURCES IN HEALTH CARE, NUTRITION, & CULINARY ARTS

As a physician, I found on a frequent basis that I was seeing patients undergoing chemotherapy and radiation therapy who were having great difficulty eating—staying nourished and hydrated. They were coming to me because nutritional advice was not a focus of their oncologists. In searching for information themselves, they frequently encountered unreliable or untrustworthy information.

Concern for my patients and the realization that this story was not unique to my practice led to the formation of the Cancer Nutrition Consortium (CNC). Our mission is to bring together resources in health care, nutrition and culinary arts to raise awareness about patient nutritional needs with the result of bettering the quality of life for those undergoing cancer treatment.

We began by assembling a team of experts from medical institutions including Dana Farber, Brigham and Women's, Johns Hopkins, Duke University, Cedars Sinai, Mayo Clinic, Yale University, University of Chicago, NYU Langone Perlmutter, and Roswell Park. With them,

we created a clinical research study to learn how cancer treatment affects a patient's food intake and preferences so as to guide the development of dietary interventions. The study explored nutritional needs and preferences for taste and smell, which can be problematic for patients undergoing chemotherapy and radiation.

We took the results of our initial study and developed hundreds of delicious recipes to meet patients' nutritional needs. Cancer patients, family members and caregivers can access these recipes on the consortium's website ([CancerNutrition.org](#))—and prepare meals at home for themselves and their loved ones.

We look forward to any feedback you may have.

Bruce Moskowitz, MD  
FOUNDER

## ACHIEVE OPTIMAL HEALTH DURING CANCER TREATMENT

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 these dishes can be created at home, making it easier for patients to achieve optimal health during cancer treatment by providing nourishing and great-tasting meals and protein shakes.

Based upon a nutrition and taste research study conducted at several leading U.S. cancer centers, we took the expert advice of renowned nutritionists and asked the best chefs in the nation to develop hundreds of recipes to

meet patients' nutritional needs—while always remaining focused on making great-tasting food. We trust that these foods will sustain you.

We are continually undertaking new research on nutrition and taste to guide our efforts. We look forward to what the future holds.

Peter L. White  
EXECUTIVE CHAIRMAN

