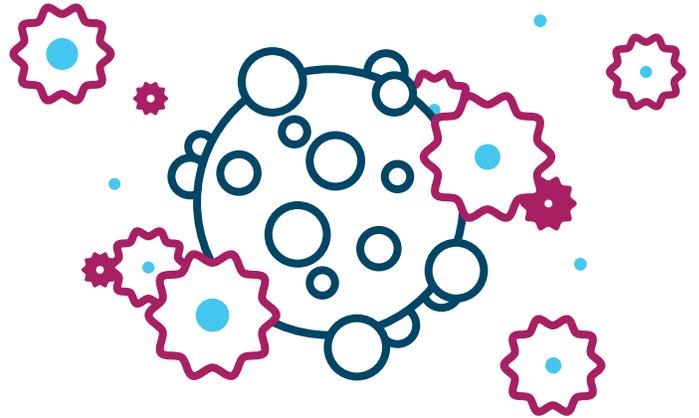


GOOD NUTRITION CAN HAVE A POSITIVE EFFECT ON YOUR CANCER JOURNEY

WHAT IS CANCER?

Cancer is a disease that affects the body's cells. It starts when cells grow and divide uncontrollably. Cancer can happen anywhere in the body, and sometimes it can spread from one part of the body to another.



CANCER AND CANCER TREATMENTS MAY CAUSE YOUR BODY TO UNDERGO CHANGES THAT AFFECT HOW WELL IT TAKES IN AND USES NUTRIENTS.

SOME SYMPTOMS YOU MAY EXPERIENCE INCLUDE

Losing your appetite
Feeling full quickly
Foods tasting differently
Feeling nauseated
Dry mouth
Trouble swallowing
Vomiting
Diarrhea
Muscle loss, muscle weakness
Weight loss
Fatigue



WHICH MAY LEAD TO

Eating and drinking less
Decreased ability to absorb nutrition from food
Changes in your body's ability to use nutrition for energy



WHICH CAN LEAD TO

Malnutrition

MALNUTRITION

Poor nutrition, is caused by the inability to eat or take in nutrients or changes in digestion and absorption.¹ Malnutrition can cause muscle loss and loss of strength, making it hard to maintain health and independence.² Malnutrition can also impact how well a person tolerates cancer treatment.³

Cancer treatments work by destroying cancer cells. Some treatments have side effects that can put you at risk for malnutrition and muscle loss, which can make it difficult to complete treatment.

HOW DO YOU KNOW IF YOU'RE AT RISK FOR MALNUTRITION OR ARE CURRENTLY MALNOURISHED?

Your healthcare team may ask you questions like these during your visits to help determine your nutritional status:⁴

1. Have you recently lost weight without trying?
2. Have you noticed any changes in the types and amounts of foods you eat?
3. Do you have any problems with the desire or ability to eat, like loss of appetite, trouble digesting foods, or pain?
4. Are you able to walk and do other routine activities like preparing a meal, getting dressed, making your bed, getting out of a chair, or taking a shower?

GOOD NUTRITION IS IMPORTANT BEFORE AND DURING TREATMENT

Everyone's experience with cancer is unique, and treatments can affect people differently. Focusing on good nutrition and regular physical activity will help you maintain your strength and may help you better tolerate your treatment.

Good nutrition can help you:

- Keep your immune system functioning well – and help lower your risk of infections⁵
- Complete treatments with fewer side effects^{6,7}
- Recover after treatment
- Shorten the length of time you're in the hospital,^{7,8} if time in the hospital is necessary

THE IMPORTANCE OF GOOD NUTRITION

Getting adequate calories and protein is essential in maintaining optimal nutrition status.

CALORIES

Calories are found in carbohydrates, proteins, and fats and give you the energy your body needs to function. Eating a variety of foods can help you meet your calorie and vitamins and mineral needs.

PROTEIN IS IMPORTANT FOR MUSCLE

Your body has more than **600 muscles**, and you use those muscles every day for movement, balance, posture, and strength. You need a steady supply of protein from your diet to replenish, build, and maintain your muscles. Protein is also essential to maintaining a healthy immune system. Not all foods have the same quality of protein. You want to eat foods that contain high-quality proteins to get the nutrients your body needs.

Eating a well balanced diet will provide your body with a variety of nutrients before and during your treatments. Here are some tips and choices to help you get started.



PROTEIN

TIP

Include high-quality protein in every meal and snack.

Milk, yogurt, and cheese
Eggs
Lean red meats
Poultry
Seafood
Beans and peas
Nuts & seeds
Tofu
Oral nutritional supplements



FRUITS

TIP

Go for a variety of whole or cut-up fruits – they're loaded with fiber and other key nutrients.

Apples, pears
Bananas
Grapes
Mangoes, kiwi fruit
Oranges, tangerines
Watermelon, cantaloupe



VEGETABLES

TIP

Eat a variety of colorful cooked or fresh vegetables gives you fiber, vitamins, and minerals.

Carrots
Eggplant
Green leafy vegetables
Peppers
Tomatoes
Sweet potatoes
Zucchini



GRAINS

TIP

Vary the grains you eat and make half your grains whole grains.

Whole grains:
Brown rice
Oatmeal
Whole wheat pasta
Wild rice

Refined grains:
Bagels
Cornflakes
Pasta
Soda crackers
White bread
White rice



DAIRY

TIP

Choose milk or yogurt for protein, calcium and other nutrients.

Milk
Yogurt
Greek yogurt
Soy milk
Natural or processed cheese

TRY THESE IDEAS FOR HEALTHY MEALS AND SNACKS

Work with your dietitian or healthcare team to create a meal plan that meets your personal nutritional needs.



BREAKFAST

Whole wheat toast
Scrambled eggs
Greek yogurt
Fresh berries



LUNCH

Chicken salad on whole wheat bread
Cherry tomatoes
Crackers & Cheddar cheese
Grapes



DINNER

Grilled salmon
Sautéed spinach
Steamed brown rice
Watermelon



SNACKS

Hummus
Sliced carrots
Pita bread
Or
Oral nutritional supplement

NUTRITIONAL STRATEGIES FOR MANAGING SIDE EFFECTS DURING TREATMENT

Discuss all side effects with your doctor. Your healthcare team will use this information to help you develop and adjust your treatment plan.



NAUSEA Avoid strong smells and hot temperature foods. Try eating cold or room temperature foods. Ginger as a home remedy can work well: use root ginger or ginger paste in your cooking. Make a cup of ginger tea by boiling slices of ginger root in water. Another option is to chew on a small piece of candied ginger.



POOR APPETITE Try concentrating on calories and protein. For calories, you can use olive oil on bread; spread peanut butter or other nut butters on toast, crackers or fruit like bananas and apples. Try adding some avocado slices to a sandwich. For protein, add extra meat, poultry, fish, or cheese to casseroles or soups.



CONSTIPATION Increase your water intake and fiber from whole grains, fruits, and vegetables. Take a daily walk and drink room temperature prune juice to stay regular.



DIARRHEA Some treatments can cause diarrhea. At this time, avoid fiber and increase your fluids to stay hydrated. Drink plenty of mild, clear liquids during the day that are room-temperature. To replace fluids, drink at least 1 cup (8 ounces) of liquid after each loose bowel movement. Drink and eat small portions of food that provide sodium and potassium (two minerals that your body loses when you have diarrhea). Choices include broths, soups, fruit juices, sport drinks, crackers, pretzels, potatoes without skin, and ripe bananas.



MOUTH SORES Try salt or bicarbonate of soda mouth washes during the day. Just before bedtime, try a mix of glycerin and warm water; you can also try baking soda or salt. In the morning you can brush as usual.



HEARTBURN Sit upright when eating or drinking and eat small portions. Try to avoid lying down after you've eaten. If you need to lie down, use a pillow to keep your head up.

NAUSEA & POOR APPETITE

Choosing one food over another can help you manage these two very common side effects.

NAUSEA AFFECTS
2 OUT OF 3
PEOPLE WITH CANCER.⁹

It's caused by cancer treatments, certain cancers, and sometimes by anxious or depressed feelings.

WHAT YOU CAN DO ABOUT IT

- Avoid greasy or spicy foods.
- Sip liquids slowly to stay hydrated.
- Eat small meals and snacks throughout the day. Don't miss a meal – going hungry can make your nausea worse.
- Have protein every time you eat to help settle your stomach, such as adding shredded cheese to soup or omelet and having peanut butter with an apple.
- Try eating some crackers, dry toast, pretzels or breadsticks throughout the day.
- Open a window or turn on a fan for fresh air.
- Note when you eat and how you feel, like before or after treatment. You may learn that you have less nausea when you eat a light snack before treatment.
- Rest after you eat. Sit up or recline with your head raised up.
- Let your care team know you're experiencing nausea. They can recommend and prescribe medications to help manage.

POOR APPETITE IS COMMON, AFFECTING NEARLY
60% OF PEOPLE
UNDERGOING CANCER TREATMENT.⁹

Cancer treatment, cancer itself, fatigue, pain, and some medicines can take away your appetite.

WHAT YOU CAN DO ABOUT IT

- Eat small meals and snacks during the day.
- Keep snacks handy, like dried fruit, nuts, peanut butter crackers, fig bars, or granola bars.
- Sip on liquids during the day; pick ones that have nutrition, like milk, fruit juices, or soups, instead of carbonated drinks.
- Choose foods that are soft and cool like yogurt and milkshakes, or frozen like sorbet or popsicles.
- Have a small bedtime snack.
- Be flexible with food. Foods that didn't appeal to you yesterday might taste good today.
- Eat larger meals when you're feeling better.
- Keep meal time as calm and relaxed as possible.
- Talk with your dietitian for more ideas about what to eat when you don't have an appetite.

WAYS TO FOCUS ON NUTRITION

POSITIVE WAYS TO FOCUS ON YOUR NUTRITION AS YOU PREPARE FOR AND BEGIN TREATMENT

Work with your healthcare team to:



CREATE A MEAL PLAN that meets your individual needs. It's important to remember to include protein in all your meals and snacks.



MAINTAIN YOUR WEIGHT At this time, it's important to maintain your weight, even if you're overweight. Now is not the time to intentionally lose weight or diet.



CONTINUE WITH PHYSICAL ACTIVITY Find activities you can do, are enjoyable, and will help maintain your strength. Not moving, for instance staying in bed or a chair for long periods of time, can lead to muscle loss and fatigue.



CHECK YOUR BLOOD SUGAR If you have diabetes or prediabetes, it's important to check your blood sugar levels regularly and keep your levels within normal range.



EVALUATE YOUR ORAL HEALTH Your dentist can clean your teeth, check for cavities, treat any infections, and show you how to maintain good oral health before starting treatment.

ORAL NUTRITIONAL SUPPLEMENTS ARE A GOOD OPTION TO INCREASE YOUR NUTRITIONAL INTAKE

Your healthcare team may recommend oral nutritional supplements for additional nutrition before, during, and after treatment.

Oral nutritional supplements can help you:

- Increase your protein and calorie intake
- Maintain your weight during treatment¹⁰
- Receive nutrients when your appetite is low

How to use oral nutritional supplements

-  Drink one with a meal or as a snack.
-  Consider chilling them or serving them with ice.
-  Heat them gently for a warm treat.
-  Mix them with other foods, like ice cream or frozen yogurt.
-  Use them to make a smoothie or milkshake.

Visit [ahn.org](https://www.ahn.org) for a digital copy of this resource.

1. World Health Organization. What is malnutrition? Published July 8, 2016. Accessed September 2, 2020. <https://www.who.int/features/qa/malnutrition/en/> | 2. Deutz NEP, et al. *J Am Med Dir Assoc*. 2019;20(1):22-7. | 3. Arends J, et al. *Clin Nutr*. 2017;36(5):1187-96. | 4. Arends J, et al. *Clin Nutr*. 2017;36(1):11-48. | 5. American Cancer Society. Cancer Basics. Published 2020. Accessed April 22, 2020. <https://www.cancer.org/> | 6. Cereda E, et al. *Radiother Oncol*. 2018;126(1):81-8. | 7. Odelli C, et al. *Clin Oncol*. 2005;17(8):639-45. | 8. Gillis C, et al. *Gastroenterology*. 2018;155(2):391-410.e4. | 9. Kim ES, et al. *Clin Cancer Res*. 2018;24(22):5543-51. | 10. de van der Schueren MAE, et al. *Ann Oncol*. 2018;29(5):1141-53.