



PATIENT & CAREGIVER EDUCATION

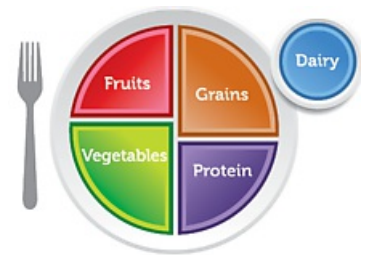
Eating Well During and After Your Cancer Treatment

This information will help you maintain your nutrition during and after your cancer treatment.

Good nutrition is very important for people with cancer. There may be some nutritional changes you can make now that will help you during treatment. Start by eating a healthy diet. This can increase your strength, help you maintain your weight, and help you fight infection. It may even help with the side effects of treatment.

■ My Plate

My Plate is a picture of a place setting that shows what a healthy meal should look like. It includes the 5 food groups that are the building blocks of a healthy diet. These groups include whole grains, fruits, vegetables, lean proteins, and low-fat dairy products. Foods that are high in fat and sugar should be limited or avoided. For more information about the My Plate guidelines, go to: www.choosemyplate.gov.



The side effects of cancer and cancer treatment can make it hard to eat. When this happens, it may be difficult for you to follow the My Plate guidelines. You may need to change your eating plan if you can't eat certain foods.

■ How Treatment Can Affect Your Eating

Surgery

If your weight is below normal, you may have to gain weight before your surgery. In this resource, you will find suggestions for how to eat more calories and protein. This can help you put on weight before surgery and help you heal afterward.

If you are having mouth, throat, or stomach surgery, it can be hard for you to eat. You may need to get nutrition in other ways, such as intravenously (through a vein), through a tube in your nose, or through a tube in your stomach or the upper part of your intestine.

Radiation

Radiation treatment to the head and neck can cause trouble swallowing, taste changes, dry mouth, or soreness in the mouth or throat. Treatment to the chest can cause you to have trouble swallowing. Treatment to the stomach, abdominal (stomach) area, or pelvis can cause nausea and vomiting, diarrhea, cramps, and bloating.

Chemotherapy

Many chemotherapy medications can affect your digestive system. They can cause nausea and vomiting, decreased appetite, diarrhea, constipation, weight gain or loss, and changes in the taste or smell of food.

Immunotherapy

Immunotherapy stimulates your body's immune system to fight cancer cells. Side effects include:

- Nausea and vomiting
- Diarrhea
- Sore mouth
- Dry mouth
- Weight loss
- Changes in the taste of food
- Muscle aches
- Fatigue
- Fever

Hormonal therapy

Hormonal therapy uses medications that stop your body from making some hormones or change the way they work. Side effects include changes in appetite, water retention, weight gain, and nausea and vomiting.

■ General Nutritional Guidelines

Vitamin and mineral supplements

You can get 100% of your daily recommended nutrients from a well-balanced diet. If your diet is lacking, vitamins and mineral supplements can help. Some people take large amounts of antioxidants, herbs, or extra vitamins and minerals because they think it will help cure their cancer. This has not been shown to help in the fight against cancer. During some kinds of cancer treatments, this can actually harm you. If you are thinking about doing this, talk with your doctor first. A dietitian or pharmacist can also answer any questions you have.

Clinical trials are research studies. They are done to test new

- Therapies
- Drugs or drug combinations
- Methods of delivery
- Dosages and timing

Some trials test vitamins or supplements. This is done to see if they have an effect on a type of cancer. One trial is looking at the effects of high-dose vitamin D on metastatic colorectal cancer (colorectal cancer that has spread to other areas of the body). To find out more about this or other clinical trials:

- Visit the clinical trials section of the National Cancer Institute (NCI) website at: www.cancer.gov/clinicaltrials
- Call the NCI Cancer Information Service at 1-800-4-CANCER (1-800-422-6237).

Alternative and complementary therapies

You may have read or heard about alternative therapies. Sometimes, these are used in place of

conventional treatment. The safety and effectiveness of many of these treatments have not been confirmed. We do know that some are not safe. Others can interfere with your chemotherapy or radiation therapy. **Talk with your doctor or nurse before you start any of these treatments.** It could make your treatment less effective and cause harm.

Complementary therapies can help people cope with some of the symptoms of cancer and the side effects of treatment, such as nausea, vomiting, and fatigue. They can also help reduce stress and promote a feeling of well-being. They do not cause any harm. Complementary therapies include:

- Reflexology
- Meditation
- Massage
- Music therapy
- Yoga
- T'ai Chi
- Acupuncture
- Reiki

Food safety

During cancer treatment, your body has a hard time fighting off infection. It is more important than ever to make sure that the foods you're eating are safe. This will reduce your risk for foodborne illnesses and other infections. Below are 4 simple steps for food safety.

Wash your hands and surfaces often

- Before and after preparing food, wash your hands well with soap and warm water for 15 to 20 seconds.
- Wash your cutting boards, dishes, utensils, and counter tops with soap and hot water when preparing each food item and before moving on to the next food item.
- Consider using paper towels to clean up kitchen surfaces. Replace used sponges and dishtowels with clean ones often.
- Wash all fruits and vegetables well before eating, even if you are going to peel off the skin.

Separate raw foods from other foods

- Separate raw foods (e.g., raw meat, poultry, and fish) from other foods in your grocery shopping cart, grocery bags, and in your refrigerator.
- Use 1 cutting board for fresh produce and a separate one for raw meat, poultry, and fish.

Cook foods to proper temperatures

- Avoid eating any foods that have raw or undercooked eggs, meat, poultry, or fish.
- Use a thermometer to measure the internal temperature of cooked foods. Make sure that meat, poultry, fish, egg dishes, and casseroles are cooked to the internal temperature shown in the chart below:

Food Item	Internal Temperature
Fish	145° F (62.8° C)
Beef, pork and lamb steaks, chops and roasts	145° F (62.8° C)
Egg dishes	160° F (71.1° C)
Ground beef	160° F (71.1° C)
Chicken breast	165° F (73.9° C)
Whole poultry (e.g., chicken, turkey)	165° F (73.9° C)
Ground poultry	165° F (73.9° C)
Leftovers and casseroles	165° F (73.9° C)

Source: US Department of Agriculture (USDA)

Refrigerate promptly

- Refrigerate or freeze meat, poultry, eggs and other perishables as soon as you get them home from the store.
- Keep a constant refrigerator temperature of 40° F or below. The freezer temperature should be 0° F or below.
- Thaw foods in the refrigerator. Do not leave them out to thaw at room temperature.
- After cooking, cool foods in the refrigerator. Do not cool them at room temperature.

If your immune system gets weaker, your doctor may ask you to follow stricter guidelines than those above. You may need to cut out most raw or uncooked fruits and vegetables, cold cuts and processed meats, raw honey, and unpasteurized products.

■ Calories and Protein

The suggestions in this booklet may be different from those in the My Plate guidelines. You may be told to add more of a certain food to increase your intake of calories and protein or to decrease your discomfort with eating. Your dietitian can help you find an eating plan that works best for you.

Tips for getting the most from your meals

Large meals can seem overwhelming or unappealing. This can happen when you have a decreased appetite or feel full shortly after you start eating. The suggestions below can help you get enough calories:

- Eat small meals 6 to 8 times a day instead of 3 main meals.
- Serve smaller food portions on salad plates instead of dinner plates.
- Drink hot chocolate, fruit juices, and nectars that are high in calories.
- Avoid low-calorie drinks, such as water, coffee, tea, and diet drinks. Make Double Milk and milkshakes using the recipes in the “Recipes” section.
- Have your favorite snack foods available at home and at work.
- Eat your favorite foods at any time of the day. For example, eat breakfast foods such as pancakes or

omelets for lunch or dinner.

- Include different colors and textures of foods in your meals to make them more appealing.
- Make dining a good experience by eating your meals in a pleasant, relaxing setting with family or friends.
- Smells, such as bread baking or bacon frying, may help boost your appetite.

Tips for adding more protein to your diet

Your body needs a balance of calories and protein to function at its best. Your doctor or dietitian may tell you to temporarily increase the amount of protein in your diet. If you recently had surgery or have wounds, eating more protein will help you heal. The suggestions below will help you increase the amount of protein in your diet:

- Eat foods rich in protein, such as chicken, fish, pork, beef, lamb, eggs, milk, cheese, beans, and tofu.
- Drink Double Milk (see the “Recipes” section) and use it in recipes that call for milk or water. You can use it in instant pudding, cocoa, omelets, and pancake mixes.
- Add cheese and diced, cooked meats to your omelets.
- Add powdered milk to creamy soups, mashed potatoes, milkshakes, and casseroles.
- Snack on cheese or nut butters (e.g., peanut butter, cashew butter, almond butter) with crackers.
- Spread nut butters on apples, bananas, or celery.
- Try apple slices with cheese wedges and honey drizzled on top.
- Blend peanut butter into your chocolate or vanilla shakes.
- Snack on roasted nuts and sunflower, pumpkin, or chia seeds.
- Try hummus with pita bread.
- Add cooked meats to soups, casseroles, salads, and omelets.
- Add wheat germ or ground flax seeds to cereals, casseroles, yogurt, and meat spreads.
- Eat desserts that are made with eggs. These include angel food cake, puddings, custards, and cheesecakes.
- Add grated cheese to sauces, vegetables, and soups. You can also add it to baked or mashed potatoes, casseroles, and salads.
- Melt cheese on hamburgers and breaded cutlets.
- Add chickpeas, kidney beans, tofu, hard-boiled eggs, nuts, and cooked meats or fish to your salads.

Tips for adding more calories to your diet

The suggestions below can help you take in more calories. They may seem to go against what you read and hear about healthy eating. However, while you are healing, it is more important that you get enough calories than eat only healthy foods.

- Do not eat foods that are fat-free or reduced in fat. Avoid food and drink labels that say “low-fat,” “non-fat,” or “diet.” For example, use whole milk instead of skim.
- Snack on dried fruits, nuts, or dried seeds. Add them to hot cereals, ice cream, or salads.

- Drink fruit nectars or fruit shakes.
- Add butter, margarine, or oils to potatoes, rice, and pasta. Also add them to cooked vegetables, sandwiches, toast, and hot cereals.
- Add cream cheese to toast or bagels or use it as a spread on vegetables.
- Spread cream cheese and jam or peanut butter and jelly on crackers.
- Add jelly or honey to breads and crackers.
- Mix jam with diced fruit and use it as a topping over ice cream or cake.
- Snack on tortilla chips with guacamole. Add avocado slices to your salads.
- Use high-calorie dressings on salads, baked potatoes, and on chilled cooked vegetables, such as green beans or asparagus.
- Add sour cream, half and half, or heavy cream to mashed potatoes and cake and cookie recipes. You can also add it to pancake batter, sauces, gravies, soups, and casseroles.
- Top cakes, waffles, French toast, fruits, puddings, and hot chocolate with whipped cream.
- Make vegetables or pasta with cream sauces.
- Use mayonnaise in salads, sandwiches, and vegetable dips.
- Mix granola with yogurt or put it on top of ice cream or fruits.
- Top your ice cream or unfrosted cakes with sweetened condensed milk. Combine the condensed milk with peanut butter to add more calories and flavor.
- Add croutons to your salads or omelets.
- Include bread stuffing as a side dish with your meals.
- Drink homemade shakes. Try the shake recipes in the “Recipes” section. You can also drink high-calorie, high-protein drinks, such as Carnation® Breakfast Essentials or Ensure®. See the next section for a list of nutritional supplements you can buy. Or, try the shake recipes in the “Recipes” section of this resource.

■ Nutritional Supplements

If you can't make your own shakes, there are many nutritional supplements that you can buy. Some are drinks that have vitamins and minerals added to them. Most are also lactose-free, which means that you can have them even if you are lactose intolerant (have difficulty digesting milk products). Check your local market or drug store to see if they carry any of the brands below.

Nutritional Supplement (Manufacturer)	Description	Nutritional Content	Comments
Osmolite® 1 Cal (Abbott) Isosource® HN (Nestlé) Glytrol® unflavored (Nestlé)	Bland, unflavored drink. Useful for people who like mild sweetness. Can be used as a base for mildly sweetened milkshakes.	Per 8-ounce serving: 255 calories and 9 grams of protein	■ Lactose-free ■ Gluten-free ■ Kosher ■ Refrigerate after opening.
Ensure® (Abbott) Boost® and Boost® High Protein (Nestlé)	Flavored, sweetened drink available in vanilla, chocolate, strawberry, and	Per 8-ounce serving: 255 calories and 9 grams of protein	■ Lactose-free ■ Gluten-free ■ Kosher

(Note: some brands are also available in “Plus” versions)	other flavors, depending on the brand.	Per 8-ounce serving of “Plus” versions: 355 calories and 13 grams of protein	Refrigerate after opening.
Glucerna® Shake (Abbott) Boost® Glucose Control (Nestlé) Glytrol® Vanilla (Nestlé)	Low-sugar, liquid supplement for people with diabetes. Available in vanilla, chocolate, and other flavors, depending on the brand.	Per 8-ounce serving: 190 to 250 calories and 10 grams of protein	- Lactose-free - Gluten-free - Kosher - Refrigerate after opening.
Ensure® Enlive! (Abbott) Ensure® Clear (Abbott) Boost® Breeze (Nestlé) Resource® Diabetishield (Nestlé)	A fruity drink available in peach, orange, wild berry, iced tea, apple, blueberry pomegranate, and other flavors, depending on the brand. Resource® Diabetishield is for people with diabetes.	Per 8- to 10-ounce serving: 180 to 250 calories and 9 grams of protein Per 8-ounce serving of Resource® Diabetishield: 150 calories, 7 grams of protein, and 30 grams of carbohydrates	- Fat-free - Lactose-free - Gluten-free - Kosher - Refrigerate after opening.
Carnation® Breakfast Essentials™ (Carnation) Scandishake® (Aptalis)	Milk-based, flavored, sweetened powders that can be mixed with milk or water, depending on the brand. Available in vanilla, chocolate, and strawberry. Carnation® Breakfast Essentials™ is also available in premixed cans and some flavors are available in sugar-free versions. Scandishake® is available in a lactose-free version.	Per 8-ounce serving of Carnation® Breakfast Essentials™ with whole milk: 280 calories and 12 grams of protein Per 8-ounce serving of sugar-free (artificially sweetened) Carnation® Breakfast Essentials™ with whole milk: 210 calories and 14 grams of protein Per 11-ounce serving of Scandishake® with whole milk: 600 calories and 12 grams of protein	- Most of these products contain lactose. - The amount of fat per serving is different, depending on the brand. - Refrigerate after opening the liquid formula or after mixing the powder.
Scandical® (powder) (Aptalis) Benecalorie® (liquid) (Nestlé) Duocal® (powder) (Nutricia)	Unflavored supplement that can be mixed into moist food or drinks for added calories, protein, or both.	Per tablespoon of powder: 23 to 35 calories Per 1.5 ounces of liquid: 330 calories and 7 grams of protein	- Not for use as a sole source of nutrition. - Use under medical supervision.
Nepro® (Abbott) Suplena® (Abbott) Novasource® Renal (Nestlé) Renalcal® (Nestlé)	Nutritional supplement for people who need to limit potassium and/or phosphorus in their diet. Available in vanilla, butter pecan, and berry.	Per 8-ounce serving: 425 calories and 11 to 19 grams of protein	- Lactose-free - Gluten-free - Kosher
Boost® Nutritional® pudding (Nestlé) Ensure® pudding (Abbott)	High-calorie, high-protein pudding available in vanilla, chocolate, and butterscotch.	Per 4-ounce serving: 250 calories and 9 grams of protein	- Lactose-free - Gluten-free - Kosher
Glucerna® Snack Bar (Abbott) Glucerna® Meal Bar (Abbott)	Snack bar for people with diabetes.	Per bar: 150 to 220 calories and 8 to 10 grams of protein	Kosher
Orgain™ (Nutricia)	Organic nutritional shake available in sweet vanilla	Per 11-ounce serving: 255 calories and 16 grams of	- Gluten-free - Soy-free

	bean, creamy chocolate fudge, iced café mocha, and strawberries & cream.	protein	■ 99.3% Lactose-free ■ Kosher
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Contact information for buying nutritional supplements

Abbott Nutrition

1-800-258-7677
www.abbottstore.com

Aptalis

1-800-472-2634
<http://store.foundcare.com/aptalis>

Carnation

1-800-289-7313
www.carnationbreakfastessentails.com

Nestlé

1-800-422-ASK2 (2752)
www.nestle-nutrition.com

Nutricia

1-800-365-7354
www.Nutricia-NA.com

■ Sample Menus

Use these sample menus to spark your imagination. They can give you ideas for making your own, high-calorie, high-protein meals at home. You may find it easier to divide a meal into 2 portions so that you have a small, ready-made meal to eat later in the day. If it is hard for you to make your meals, ask family or friends for help. Try making meals in batches on days when you have the energy and freeze them for a later date. You can also eat ready-made foods, if necessary.

Key points

- If you have diabetes or high blood sugar, use products that are unsweetened or are made with sugar substitutes. Limit the amount of fruit juice that you drink.
- The amount of liquid in the meal plans is small so you don't feel full early during meals. Try to drink most of your liquids in between your meals. Most adults need 8 to 10 (8-ounce) glasses of liquids per day. This includes juices, water, milkshakes, and soups. It also includes solids that become liquid at room temperature such as Italian ices.
- If you are lactose-intolerant, you should not drink regular cow's milk. Instead, you should drink Lactaid[®] milk, rice milk, almond milk, or soy milk.* Try the sweetened versions of these milks for extra calories. Take Lactaid[®] tablets or drops with other dairy foods, such as ice cream or soft cheeses. People with mild to moderate lactose intolerance can usually handle hard aged cheeses and yogurt.
- Vegetarian and vegan menus are included. Both vegetarians and vegans should eat more nuts, seeds,

and oils to increase their calories. Vegans should take special care to eat foods rich in vitamin B12, calcium, iron, and zinc. Speak with a dietitian if you follow a vegetarian or vegan diet.

- Fruits and vegetables are low in calories. Therefore, they are not included in the meal plans often. You may find that you are not meeting the daily recommended servings. You may need to take a multivitamin, but check with your doctor first.
- See the “Recipes” section for recipes for Double Milk and the shakes listed in the sample menus.

*If you have or have had breast cancer, ask your doctor if it is okay for you to eat foods with soy.

Sample Menu for a Regular Diet

Meal	Regular Diet	Regular Diet	Regular Diet
Breakfast	1-egg omelette with 1 ounce of grated cheese 1 small croissant with butter and jelly 4 ounces of orange juice	2 small pancakes with butter and syrup 4 ounces of pineapple juice	4 ounces of pear nectar 1 slice of French toast with butter and syrup
Mid-morning snack	2 tablespoons of peanut butter and 1 tablespoon of jelly on 4 crackers 4 ounces of Double Milk	4 graham crackers with ¼ cup of cottage cheese and apricot jam 4 ounces of Double Milk	8 ounces of peach Fruity Shake
Lunch	½ sandwich of grilled turkey and Swiss cheese on rye bread 4 ounces of hot chocolate made with Double Milk and topped with whipped cream	½ cheeseburger with mayonnaise and ketchup 15 French fries 4 ounces of chocolate milk made with Double Milk	½ cup of macaroni and cheese with extra cheese grated on top ½ cup of cauliflower with bread crumbs sautéed in butter 4 ounces of apricot nectar
Afternoon snack	½ cup of trail mix (mixed dried fruits and nuts) 4 ounces of cranberry juice	1 slice of bread with 1 ounce of melted mozzarella cheese 4 ounces of pear nectar	8 ounces of fruit yogurt
Dinner	1 (2-inch) slice of quiche ½ cup of broccoli with cream or cheese sauce 4 ounces of peach nectar	1 (2"x 2") portion of meat lasagna ½ cup of peas with onions and butter or cream sauce 4 ounces of regular soda	2 ounces of steak ½ cup of sautéed green beans with slivered almonds 4 ounces of grape juice
Evening snack	½ cup of super premium* vanilla ice cream topped with chopped pecans, maple syrup, and whipped cream	½ cup of custard topped with whipped cream	1 (2-inch) slice of apple pie with 1 ounce of cheddar cheese 4 ounces of Double Milk

*Super premium ice cream has about 100 more calories per serving than regular ice cream. It also has about 20 grams of fat per ½-cup serving.

Sample Menu for a Regular Diet

Meal	Regular Diet	Regular Diet	Regular Diet
Breakfast	1 egg and cheese omelet with croutons sautéed in butter 4 ounces of orange juice	¾ cup of Frosted Flakes® cereal 4 ounces of Double Milk	1 blueberry pancake with butter and syrup 1 slice of ham 4 ounces of hot chocolate made with Double Milk

Mid-morning snack	½ cup of sugar-coated roasted peanuts 4 ounces of grape juice	2 deviled egg halves 4 ounces of pear nectar	¼ cup of pistachios 4 dried apricots 4 ounces of apple juice
Lunch	½ of a tuna fish sandwich made with mayonnaise 4 ounces of peach nectar	½ of a grilled ham and cheese sandwich 4 ounces of chocolate milk made with Double Milk	1 slice of whole-grain bread topped with peanut butter and honey 4 ounces of Double Milk
Afternoon snack	10 tortilla chips with nacho cheese dip 4 ounces of regular soda	1 celery stalk filled with cream cheese or herb cheese spread 4 ounces of apricot nectar	2 baked stuffed clams 4 ounces of grape juice
Dinner	Chicken pot pie 4 ounces of raspberry Fruity Shake	2 ounces of fried chicken ½ cup of creamed corn ½ cup of cheesy mashed potatoes made with butter and American cheese	1 cup of baked ziti made with whole-milk ricotta cheese and mozzarella ½ cup of broccoli with garlic and oil 4 ounces of regular soda
Evening snack	½ cup of rice pudding topped with whipped cream 4 ounces of Double Milk	Graham cracker “sandwich” with 1 tablespoon of peanut butter and mini marshmallows 4 ounces of chocolate Standard Milkshake	½ cup of super premium ice cream topped with chocolate syrup, nuts, and whipped cream 4 ounces of Double Milk

Sample Menu for Regular and Vegetarian Diets

Meal	Regular Diet	Vegetarian	Vegetarian
Breakfast	½ cup of granola ¾ cup of fruit yogurt 4 ounces of apricot nectar	¾ cup of cooked oatmeal made with Double Milk, raisins, walnuts, brown sugar, and butter 4 ounces of instant cocoa made with Double Milk	1 slice of whole-grain bread 1 ounce of Muenster cheese 4 ounces of orange juice
Mid-morning snack	A small muffin with butter or cream cheese and jelly 4 ounces of Double Milk	½ bagel with vegetable cream cheese 4 ounces of strawberry Fruity Shake	1 cup of Peanut Butter Shake
Lunch	1 (3-inch) wedge of chicken and cheese quesadilla topped with sour cream 4 ounces of apple juice	½ of a peanut butter and jelly sandwich on whole-grain bread 4 ounces of Double Milk	½ of a veggie burger with cheese on a bun with ranch dressing, pickle, and onion 15 French fries 4 ounces of regular soda
Afternoon snack	½ cup of roasted cashews 4 ounces of banana Fruity Shake	½ cup of fruit cocktail with ⅓ cup of sour cream and sugar to taste 4 ounces of apple juice	4 tablespoons of guacamole 8 tortilla chips 4 ounces of peach nectar
Dinner	2 ounces of fish baked in a red onion vinaigrette 1 small baked potato topped with sour cream and chives ½ cup of green beans and carrots with butter 4 ounces of cranberry juice	1 (2-inch) slice of broccoli and cheese quiche 1 small salad with feta cheese, olives, olive oil, and vinegar 4 ounces of Chocolate Almond Shake	1 cup of fettuccine Alfredo ½ cup of spinach sautéed in garlic and oil 4 ounces of grape juice

Evening snack	½ cup of strawberries in heavy cream or half and half and topped with sugar 4 ounces of Double Milk	4 tablespoons of hummus on ½ of a toasted pita 4 ounces of peach nectar	1 small banana dipped in chocolate syrup and rolled in chopped peanuts ½ cup Double Milk
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Sample Menu for Vegetarian and Vegan Diets

Meal	Vegetarian	Vegan	Vegan
Breakfast	1 fried egg 1 slice of whole-grain bread with butter and raspberry jam 4 ounces of apricot nectar	½ cup of muesli with slices of fresh peach 4 ounces of soy, rice, or almond milk	1 soy sausage link 2 small pancakes made with soy milk, margarine, and maple syrup 4 ounces of pineapple juice
Mid-morning snack	4 dried apricots ¼ cup of almonds 4 ounces of vanilla Standard Yogurt Shake	1 cup of dairy-free Maple Walnut Shake ½ cup of roasted pistachios	4 ounces of dairy-free Chocolate Cherry Shake
Lunch	½ of a falafel sandwich with extra tahini 4 ounces of regular soda	½ cup of linguini with garlic and oil 1 soy meatball 1 small slice of garlic bread 4 ounces of vanilla rice milk	½ soy burger with soy cheese on a bun with soy mayonnaise, ketchup, pickle, and onion 15 French fries 4 ounces of dairy-free Vanilla Almond Shake
Afternoon snack	4 graham crackers with 2 tablespoons of peanut butter 4 ounces of Double Milk	4 whole-grain crackers with 2 tablespoons of almond butter 4 ounces of apricot nectar	½ cup of fruit and nut granola 4 ounces of peach nectar
Dinner	1 cup of macaroni and cheese ½ cup of chilled asparagus tips with blue cheese dressing 4 ounces of grape juice	½ cup of tofu and white bean casserole ½ cup of brown rice ½ cup of sautéed spinach with roasted pine nuts 4 ounces of peach nectar	1 cup of bean chili topped with soy cheese 1 slice of dairy- and egg-free corn bread 4 ounces of sparkling cider
Evening snack	1 baked apple with cinnamon sugar, butter, and walnuts 4 ounces of vanilla soy milk	1 (2-inch) slice of silken tofu cheese cake 4 ounces of vanilla Dairy-free Milkshake	½ cup of blueberries topped with sugar and non-dairy whipped topping 4 ounces of cranberry juice

■ Recipes

Before you make these recipes, please be aware that raw eggs can cause food poisoning. **Do not add raw eggs to your shakes.**

If you have diabetes or high blood sugar, these recipes may not be appropriate for you. Talk with your dietitian.

Double Milk

1 quart of whole milk

1 envelope of non-fat dry milk powder (to make 1 quart of product)

Mix in the blender and refrigerate.

Per 8-ounce serving: 230 calories and 16 grams of protein

Standard Milkshake

1 cup of Double Milk described above
2 cups of super premium ice cream (any flavor)
2 tablespoons of sugar or syrup
Mix in the blender and refrigerate.
Per 8-ounce serving: 470 calories and 11 grams of protein

Standard Yogurt Milkshake (a shake for those who prefer mild sweetness)

8 ounces of plain yogurt (use low-fat yogurt if you cannot find regular yogurt)
2 cups of super premium ice cream (any flavor)
4 ounces of Double Milk
Mix in the blender and refrigerate.
Per 8-ounce serving: 380 calories and 10 grams of protein

Standard Milkshake for People With Diabetes

8 ounces of Double Milk
2 cups of sugar-free ice cream (any flavor)
4 teaspoons of canola or olive oil
2 teaspoons of NutraSweet® or other calorie-free sugar substitute (optional)
Mix in the blender and refrigerate.
Per 8-ounce serving: 260 calories and 10 grams of protein

Standard Dairy-free Shake

8 ounces of oat milk, soy milk, or almond milk
2 cups of soy ice cream (any flavor)
4 tablespoons of canola or olive oil
2 tablespoons of maple syrup or sugar (omit this ingredient if you are using sweetened, non-dairy milk)
For vanilla shakes only, add 1 teaspoon of vanilla extract
Mix in blender and refrigerate.
Per 8-ounce serving: 285 calories and 6 grams of protein

Maple Walnut or Pecan Shake

1 cup of Double Milk (described above)
2 cups of super premium vanilla ice cream
¼ cup of maple syrup
½ cup of ground walnuts or pecans
Mix in the blender and refrigerate.
Per 8-ounce serving: 480 calories and 12 grams of protein

Vanilla or Chocolate Almond Shake

Use vanilla ice cream in the Standard Milkshake recipe and add the following:
½ cup of ground blanched (skinless) almonds
1 teaspoon of vanilla extract (add more sweetener, if desired)
Mix in blender and refrigerate.
Per 8-ounce serving: 480 calories and 15 grams of protein

OR

Substitute ½ cup of chocolate syrup for the other sweeteners in the Standard Milkshake recipe and add ½ cup of ground blanched almonds.

Mix in the blender and refrigerate.

Per 8-ounce serving: 500 calories and 13 grams of protein

Peanut Butter Shake

Add ½ cup of peanut butter to any standard shake recipe.

Substitute ½ cup of sweetened condensed milk or chocolate syrup for the other sweeteners in the standard shake recipe.

Mix in the blender and refrigerate.

Per 8-ounce serving with peanut butter and sweetened condensed milk: 660 calories and 19 grams of protein

Per 8-ounce serving with peanut butter and chocolate syrup: 640 calories and 16 grams of protein

Fruity Shake

Add the following to any standard shake recipe:

1 cup of frozen, fresh, or canned fruit such as strawberries, raspberries, blueberries, bananas, mangoes, or peaches

You can add more sweetener, depending on how tart the fruit tastes.

Mix in the blender and refrigerate.

Per 8-ounce serving: 380 calories and 8 grams of protein

Cherry Vanilla or Chocolate Cherry Shake

Add the following to any standard shake recipe:

1 cup of pitted cherries

½ teaspoon of vanilla extract or substitute ½ cup of chocolate syrup for the sweeteners in the standard shake recipe

Mix in the blender and refrigerate.

Per 8-ounce serving of Cherry Vanilla: 380 calories and 8 grams of protein

Per 8-ounce serving of Chocolate Cherry: 430 calories and 7 grams of protein

Other shake variations

Experiment with other ingredients after you have tried the shake recipes in this resource. You can use any of the following ingredients to enhance the flavor of and increase the number of calories in your shakes:

- Peanut butter and bananas
- Bananas and walnuts
- Pineapple and coconut cream*
- Oreo® cookies*
- M&M's®*
- Peanut butter cups*

- Flavored liqueurs,* with your doctor's approval and for occasional use only

*If you have diabetes or high blood sugar, these ingredients may not be appropriate for you. Talk with your dietitian before trying them.

■ Managing Symptoms and Side Effects Through Nutrition

This section describes some tips you can use to help you with:

- Constipation
- Diarrhea
- Dry or sore mouth
- Taste changes
- Nausea

Please report any symptoms to your doctor and nurse before following these tips.

Constipation

Constipation is a decrease in your bowel movements. It can include:

- Trouble passing stools (feces)
- Hard stools
- Not being able to empty your bowel

Constipation can be caused by many things, including diet, activity, and lifestyle. Some chemotherapy and pain medications can also cause constipation. Dietary causes include irregular meals, not eating enough fiber, and not drinking enough liquids. Fiber is important because it increases the bulk in your stool. This helps move waste out of your body. Fruits, vegetables, and whole grains have fiber. Below are ways to manage constipation through your diet.

Eat more high-fiber foods

Add fiber to your diet one food at a time. Be sure to drink enough liquids to prevent gas and bloating. Examples of high-fiber foods are:

- Fruits
- Vegetables
- Whole grains (e.g., whole-grain cereals, pastas, muffins, breads, and brown rice)
- Nuts and seeds

Drink plenty of liquids

Try to drink at least 8 to 10 (8-ounce) glasses of liquids per day. Drink water, fruit and vegetable juices, milk, and other liquids. This will help keep your stool soft.

Eat at consistent times

Try to eat your meals at the same time each day. If you make changes to your diet, do it slowly.

Diarrhea

Diarrhea is frequent, loose, watery bowel movements. It causes food to pass quickly through your intestines. When this happens, water and nutrients are not absorbed well by your body. Diarrhea can be caused by:

- Chemotherapy
- Radiation therapy
- Surgery of the stomach or intestines
- Medications
- Difficulty digesting milk and milk products
- Other food sensitivities

Check with your doctor before you use the suggestions below to manage your diarrhea.

Drink plenty of liquids

Drink at least 8 to 10 (8-ounce glasses) of liquids daily. This will help replace the water and nutrients you lose when you have diarrhea. Try drinking

- Water
- Fruit juices and nectars mixed with water
- Sports drinks like Gatorade®
- Clear broth
- Unflavored Pedialyte®
- Caffeine-free soda. Let the soda sit out uncovered for a few minutes before drinking to reduce the fizz

Avoid very hot or cold, high-sugar, high-fat, and spicy foods. These are hard on your digestive system and may make your diarrhea worse.

Follow the dietary guidelines below if you are having diarrhea.

Fruits and Vegetables	
Foods to try ■ Well-cooked, peeled and puréed, or canned fruits and vegetables ■ Bananas ■ Peeled apples ■ Juices or nectars mixed with water ■ Smooth peanut butter Most of these items have potassium and liquid to help replace what your body loses from diarrhea. They also have soluble fiber, which may decrease diarrhea.	Foods to avoid ■ Raw fruits and vegetables, nuts, and seeds (except those allowed) ■ Vegetables that can cause gas such as broccoli, cauliflower, cabbage, beans, and onions
Starches and Carbohydrates	
Foods to try	Foods to avoid

- Refined white breads, cereals, rice, pasta, and farina - Boiled or mashed potatoes (without the skins) - Crackers, pretzels, and graham crackers Some of these foods contain salt to help replace what your body loses from diarrhea.	- Whole-grain breads, pastas, cereals, and brown rice - Bread products with nuts or seeds - Fatty breads and pastries, such as croissants and doughnuts - Fried potatoes
Meat and Meat Alternatives	
Foods to try - Lean meats, such as chicken or turkey breast without skin - Hard-boiled eggs - Tofu These are bland, low-fat, and low-fiber foods. They are easier on your digestive system.	Foods to avoid - Fatty or fried meats and tofu - Meats with skin These foods are hard on your digestive system. They can cause discomfort and make your diarrhea worse.
Dairy	
Foods to try Low-fat milk or yogurt If you have problems digesting milk and milk products, try Lactaid® milk, soy milk, or rice milk	Foods to avoid - Whole milk - Ice cream - High-fat cheeses - Sour cream
Condiments	
Foods to try - Salt, unless you must avoid it for other reasons - Fat-free gravies and salad dressings	Foods to avoid - Large amounts of sugar and spices - Rich gravies and salad dressings - Foods or drinks with caffeine (e.g., chocolate, tea, or soda) These foods are hard on your digestive system. This can cause discomfort and make your diarrhea worse.

Dry or Sore Mouth

When your mouth is dry or sore, eating can be hard or painful. Some foods may be hard to chew and swallow. A dry or sore mouth can be caused by:

- Chemotherapy
- Radiation therapy
- Medications
- Surgery on the head and neck
- Infections
- Other health problems

A dry and sore mouth may also cause cavities. This is because you are making less saliva, which protects your teeth against decay.

The types of foods you eat can make a difference. Choose foods that have a moist, soft texture and are easy to swallow. Avoid foods that are dry or rough. Below is a list of foods you can try.

When Your Mouth Is Dry	
Foods to try Soft and puréed foods ■ Casseroles, bean dishes, macaroni and cheese, and scrambled eggs ■ Tender cooked chicken and fish ■ Stews and creamed soups ■ Cooked cereal ■ Baby food ■ Sauces, gravies, juices, clear broths, margarine, and sour cream added to foods ■ Breads, crackers, and other baked goods dipped in milk or tea Cold foods ■ Milkshakes, smoothies, yogurts, gelatin, cottage cheese, and nutritional supplements (see the section “Nutritional Supplements”) ■ Puréed fruits and vegetables	Foods to avoid Rough or dry foods ■ Dry meats without sauce ■ Dry, coarse breads, crackers, pretzels, and cereals ■ Coarse, raw fruits and vegetables

When Your Mouth Is Sore	
Foods to try Bland, soft, puréed foods - Plain casseroles, mashed potatoes, macaroni and cheese, and scrambled eggs - Soft-cooked or puréed chicken and fish - Creamed soups - Cooked cereals - Baby food (tapioca and plain flavors) - Margarine, sour cream, and mild sauces (as tolerated) added to foods - Breads, crackers, and other baked goods dipped in milk or tea Cold foods - Milkshakes, smoothies, yogurts, gelatin, custards, cottage cheese, and nutritional supplements	Foods to avoid Rough or dry foods - Dry meats - Dry breads, crackers, and pretzels - Coarse, raw fruits and vegetables - Spicy, salty, and acidic foods - Foods made with large amounts of spices, such as pepper or chili powder - Foods high in salt or made with vinegar - Citrus fruit products (e.g., orange juice and lemonade) - Tomato products (e.g., pasta sauce, tomato juice, or tomato soup)

The way you eat can make a difference. The following are some tips to avoid irritating your mouth:

- Cook your foods until they are soft and tender. Use a blender to purée foods.
- Cut your foods into small pieces that are easy for you to chew.
- Rinse your mouth out with water often.
- Drink liquids with your meals, sipping in between bites.
- Use a straw to drink liquid to prevent it from touching your sore mouth.
- If you have dry mouth, try sugar-free mints or gum to make more saliva.
- Brush your teeth (with the permission of your doctor or dentist) and tongue. Drink more liquids to help to keep your mouth clean.

Taste Changes

Your sense of taste is made up of 4 main sensations. These are saltiness, sweetness, bitterness, and sourness. Your sense of taste can be affected by chemotherapy, radiation therapy, and other medications. Changes in taste vary from person to person. The most common changes are having bitter and metallic tastes in your mouth. Sometimes, food may not taste like anything.

When your food seems tasteless:

- Change the texture of your foods. For example, you may prefer mashed potatoes to baked potatoes or vice versa. Some foods may taste better cold or at room temperature.
- Choose and prepare foods that look and smell good to you.
- Use more spices and flavorings as tolerated, for example:
 - Add sauces and condiments, such as soy sauce or ketchup, to your food.
 - Marinate your meats or meat substitutes in salad dressings, fruit juices, or other sauces

- Use onion or garlic to flavor your vegetables or meats.
- Add herbs, such as rosemary, basil, oregano, and mint to your food.
- Blend fruit into your milkshakes or yogurt. You can also try mint or coffee-flavored milkshakes.
- Try sour and tart foods. These may help stimulate your taste.

If there is a bitter or metallic taste in your mouth:

- Rinse your mouth out with water before meals.
- Maintain good oral hygiene by brushing your teeth (if your doctor allows it) and your tongue and drinking more liquids.
- If meats taste bitter, try marinating them in sauces or fruit juices.
- Include meat substitutes for protein, such as dairy products and beans.
- Use plastic utensils to reduce the metallic taste.
- Try sugar-free mints or gum.

If foods taste or smell different than usual:

- Avoid foods with strong odors. Since beef and fish have the strongest odors, try eating poultry, eggs, and dairy products.
- Experiment with different seasonings and food combinations, such as:
 - Adding sauces to foods
 - Changing the temperature and texture of foods
- Try adding lemon juice or salt if the food tastes too sweet.
- If your mouth is not sore, try tart foods such as lemon wedges or citrus fruits to stimulate taste.
- Rinse your mouth out before and after you eat.
- Drink small sips of liquid throughout your meals to rinse out the taste of the food.
- Maintain good oral hygiene by brushing your teeth (if your doctor allows it) and tongue and drinking more liquids. Your doctor may also recommend using a mouthwash. This may help you manage your taste changes.

Check with your doctor or dentist to find out the cause of your taste changes. You should do this before you make any long-term changes to your diet. If you have any questions or concerns about your dietary needs, contact a dietitian.

Nausea

Nausea is a feeling of stomach upset or queasiness. If you have nausea, you may also have vomiting. Nausea can be caused by radiation therapy, chemotherapy, and surgery. It can also be caused by pain, medication, and infection. Below are suggestions for managing your nausea through nutrition. Check with your doctor or nurse before you try any of the tips below. Also, ask your doctor or nurse if you need an antiemetic. This is a medication to prevent or treat nausea and vomiting.

Foods to Try	Foods to Avoid

Starchy, low-fat, bland foods ■ Dry toast, crackers, and bagels ■ Angel food cake and vanilla wafers ■ Sherbet, low-fat ice cream, or frozen yogurt ■ Gelatin ■ Canned, unsweetened fruit Cold foods ■ Cold proteins such as skinless chicken, cheeses, and yogurts ■ Light pasta salads ■ Popsicles ■ Chilled clear liquids, such as broth, nutritional supplements (such as Ensure®) and juices diluted with water	■ High-fat, overly spicy, or overly sweet foods ■ Fatty meats ■ Fried foods, such as eggs and French fries ■ Soups with heavy cream ■ Creamed vegetables ■ High-fat, high-sugar pastries, doughnuts, and cookies ■ Foods made with heavy spices, such as pepper or chili pepper, onion, hot sauce, or salad dressing High-fat foods may stay in your stomach longer and are harder to digest. Many of these foods have strong odors or flavors that can cause nausea or make it worse.
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General tips

- Pay attention to the amount of food you eat.
- Try convenience foods to prevent nausea while you cook or prepare foods. If you need to, ask others to cook for you.
- Eat small, frequent meals. This can stop you from getting too full and allow you to take in more food throughout the day.
- Drink most liquids in between your meals to prevent feeling full too fast or bloated.
- Eat slowly and chew your foods well to help with digestion. Avoid activity right after meals.
- Eat your meals in a pleasant setting. Choose a relaxing place that has a comfortable temperature.
- Avoid places with strong odors. Eating with friends or family may also help distract you from your nausea. Wear loose-fitting clothing to stay comfortable.
- If you experience nausea in the morning, keep crackers or dry toast at your bedside. Eat these before getting out of bed.
- Avoid eating your favorite foods right before or after treatments. You may begin to dislike these foods.

If nausea is an ongoing problem for you, it may be useful to keep a food diary. This is a record of the foods you eat, the time you ate them, and the setting in which you ate them. Record any situations when you became nauseous. Discuss this with your doctor, nurse, or dietitian.

Fatigue

Fatigue is the most common side effect of cancer and cancer treatments. It may prevent you from doing your daily activities. It may also impact your quality of life and decrease your tolerance to treatment.

Fatigue can be caused by many symptoms, such as:

- Poor appetite
- Depression
- Nausea and vomiting

- Diarrhea or constipation

Relief of these symptoms can give you more energy. It can also increase your feeling of well-being.

Another option is to save your energy. You can do this by

- Asking family and friends for help with shopping and preparing your meals.
- Buying already prepared or takeout foods when your energy is low.
- Keeping ingredients and utensils that you use often close at hand.
- Sitting instead of standing when cooking.
- Eating small, frequent, high-calorie meals or snacks so that your body may not need as much energy to digest your food.

If you live alone and are not able to shop for food or prepare meals, you may be eligible for food programs, such as God's Love We Deliver or Meals on Wheels. There may be age or income requirements for some programs. Your social worker can give you more information.

Engaging in physical activity may actually increase your energy levels. Talk with your doctor about doing light-to-moderate intensity activities like walking or gardening. Research shows that some physical activity can improve your daily functioning, boost your energy level, stimulate your appetite, and enhance your mood.

Medication

While diet changes can help, medication may be needed to manage your side effects. Medication can help with nausea, diarrhea, and constipation. Tell your doctor or nurse about any side effects you have during your treatment.

■ After Your Cancer Treatment Ends

When your cancer treatment is finished, it is a good time to think about making good food choices. You will want to make choices that promote health and well-being. Select foods low in fat and rich in vitamins, minerals, fiber, and phytochemicals. Phytochemicals, also known as phytonutrients, are plant substances that may protect against cancer. Examples of phytochemicals include lycopene in tomatoes, curcumin in turmeric, and resveratrol in grape skins.

Diet is linked to health. There is no evidence that the foods you eat will prevent your cancer from coming back. But, eating the right foods will help you regain your strength, rebuild tissue, and feel your best. The following tips may help:

- Include many kinds of fruits and vegetables in your diet to make sure you get many different nutrients. You can eat fruits and vegetables cooked or raw at any time of the day. Be sure to eat more of the non-starchy vegetables. These include artichokes, artichoke hearts, asparagus, beans (green wax, Italian) bean sprouts, beets, broccoli, Brussels sprouts, cabbage, carrots, cauliflower, celery, cucumber, eggplant, green onions (scallions), kohlrabi, leeks, mushrooms, okra, onions, peppers, radishes, salad greens (endive, escarole, iceberg lettuce, romaine, green and red leaf lettuce, spinach), summer squash, tomatoes, turnips, water chestnuts, watercress, and zucchini. Starchy vegetables, such as corn, greens peas, plantains, potatoes, winter squash (acorn butternut, pumpkin), and yams

are also good to eat and should be served with the foods listed above.

- Eat whole-grain breads and cereals. Select high-fiber foods, such as bran and shredded wheat cereals, brown rice, and multigrain, whole wheat, and oat breads. Try different grains, such as barley, buckwheat, and bulgur.
- Legumes are also an excellent source of fiber and nutrients. They include beans and peas (chickpeas, pinto, kidney, white, split, black-eyed, and lima), lentils, and miso (thick soy paste).
- Limit your intake of fat, salt, sugar, alcohol, and smoked, cured, or pickled foods.
- Choose low-fat milk products, lean meats, poultry without skin, and baked fish.
- Prepare meals using lower-fat cooking methods such as broiling, steaming, and poaching.

■ Resources

Academy of Nutrition and Dietetics (AND)

www.eatright.org/public

AND is a professional organization for registered dietitians. To find a registered dietitian in your area, click on “Find a Registered Dietitian” in the upper right corner of the website home page.

American Institute for Cancer Research

www.aicr.org

1-800-843-8114

Includes information on diet and cancer prevention.

FDA Center for Food Safety and Applied Nutrition

www.fda.gov/AboutFDA/CentersOffices/OfficeofFoods/CFSAN/default.htm

Includes helpful information on food safety.

MSK Integrative Medicine Service

1-800-525-2225

www.mskcc.org/cancer-care/integrative-medicine

Integrative Medicine Service offers patients many services to complement traditional medical care, including music therapy, mind/body therapies, dance and movement therapy, yoga, and touch therapy.

National Institutes of Health Office of Dietary Supplements

<http://ods.od.nih.gov>

(301) 435-2920

Has up-to-date information on dietary supplements.

If you have any questions or concerns, talk with a member of your healthcare team. You can reach them Monday through Friday from 9:00 am to 5:00 pm at _____. After 5:00 pm, during the weekend, and on holidays, please call _____. If there's no number listed, or you're not sure, call (212) 639-2000.