



Canadian Cancer Society
Société canadienne du cancer

Eating Well When You Have Cancer

A guide to good nutrition



Let's Make Cancer History

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Eating well can be a challenge if you have cancer. This booklet provides information about:

- what good nutrition is
- why eating well is important for people with cancer
- how to eat as well as possible throughout your treatment and recovery

It also offers tips and easy recipes that can help you manage eating-related side effects during treatment.

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Benefits of Good Nutrition

Good nutrition is vital at every stage of your cancer treatment and recovery. Eating well gives you energy, helps you feel better and keeps your body strong so that you can cope with side effects from treatment. It will also help you heal and recover after treatment.

People's responses to food during their cancer experience vary widely. Some continue to enjoy eating and their appetite stays strong. Others find that just when they need to eat well, they feel unable to do so. Side effects or emotions like fear and anxiety can make eating more challenging. To help you eat well during difficult times, you might:

- Try to present your food in an attractive way on the plate to make it more appealing.
- Make mealtimes relaxed and pleasant. (Try music or soft lighting if this helps.)
- Experiment with different foods. Some food that didn't taste good before might taste good now.
- Remind yourself that eating difficulties are temporary. Try to be patient and know that you will be able to eat with pleasure again – perhaps as soon as tomorrow.

Try to make your food choices as balanced and varied as possible so that your body gets all the nutrients it needs. Weight loss is common in cancer patients, but weight gain is also possible. Many people with cancer, especially those who are losing weight or who have side effects that affect their ability to eat well, need to make changes to what they eat – perhaps by “building up” their diet with extra protein and calories.

Everyone's situation is unique

During your cancer experience, “good nutrition” for you may be different than “good nutrition” for someone else. Following *Canada's Food Guide* is a good place to start, but you may have unique nutritional needs depending on your treatment plan, the type of cancer, how much you weigh, and other factors.

A registered dietitian, as part of your healthcare team, can help you work towards your goal of eating well and maintaining a healthy body weight.

Snacking is okay

Many people with cancer find it hard to eat full meals. If this is a challenge for you, try eating smaller amounts more often throughout the day. Snacking is a good way to get the calories and nutrients your body needs. Healthy snacks – like vegetables or fruit with dip, yogurt, cottage cheese, nuts and grain products – can also give you an energy boost between meals. So feel free to “graze”, or reach for nutritious snacks, as often as you like.

Keeping your strength up

Whether eating snacks or full meals, many people with cancer need to consume plenty of calories and protein. This may be different than what you've heard in the past about healthy eating – but when you're fighting cancer, taking in more calories and protein than usual can help you maintain your strength. Extra calories and extra protein can also help prevent weight loss and provide the energy you need to get through the day.



Try the *Fortified Milk* recipe on page 33.



Calories

Carbohydrates and fats are a good source of extra calories. Healthy carbohydrates include vegetables and fruit, breads, pasta, grains and cereal products, dried beans, peas and lentils. Sources of fat include butter, margarine, oils, nuts, seeds and the fat in meats, fish, poultry, and milk and alternatives.

You may be surprised to hear that some fats can be good for you. But healthy fats play an important role in nutrition, helping the body store energy and protect tissue. They can also make foods taste better so that you feel like eating more.

To add **calories** to your meals and snacks:

ADD	TO
Evaporated whole milk, table cream	Cream soups, cereal, milkshakes, puddings, mashed potatoes, cheese sauces, recipes for baked goods, scrambled eggs, pancakes
Yogurt or sour cream (with at least 3% M.F.)	Dips and salad dressings, fruit, perogies, potatoes
Whipping cream, whipped topping	Puddings, custard, cake, pie, gelatin
Ice cream and other frozen desserts	Fruit, milkshakes, cake, pie, gelatin desserts
Butter, non-hydrogenated margarine, vegetable oil	Soups, mashed potatoes, hot cereals, rice, pasta, cooked vegetables
Hard cheese (pasteurized)	Scrambled eggs, sandwiches, potatoes, cream soups, sauces, casseroles
Cream cheese (pasteurized)	Crackers, breads, bagels
Mayonnaise or salad dressing	Sandwich fillings, dips
Jam, sugar, syrups, honey (pasteurized)	Breads, crackers, muffins, cereal, pancakes, desserts
Dried fruit	Cereal, recipes for baked goods, nuts and seeds
Nuts and seeds	Cereal, recipes for baked goods, stir-fries

Protein

Protein is good for your health in many different ways. Your body needs protein to grow cells, heal tissue and maintain a healthy immune system. This will help you recover more quickly and avoid infection.

Sources of protein include meat, fish, poultry, milk and alternatives, nuts, dried beans, peas and lentils, and soy products. If you find it difficult to eat these in whole servings, try smaller quantities throughout the day.

To add **protein** to your meals and snacks:

ADD	TO
Grated cheese (pasteurized)	Soups, mashed potatoes, vegetables, sauces, meatloaf, casseroles, breads
Cottage cheese (pasteurized)	Sauces, scrambled eggs, casseroles
Whole milk	Hot cereal, soups, casseroles, hot chocolate (instead of water)
Skim milk powder (30–60 mL for each 250 mL or 2–4 tbsp for each cup of liquid or semi-solid food)	Regular milk and milk drinks, mashed potatoes, hot cereal, cream soups, recipes for casseroles, meatloaf, breads, muffins, sauces, puddings, custards
Yogurt (pasteurized)	Fruit, soups, dips
Tofu	Soups, casseroles, stir-fries
Soy beverages	Smoothies, soups
Peanut butter or other nut butters	Fruit slices, toast, muffins, crackers, ice cream, milkshakes
Nuts and seeds	Casseroles, bread recipes, muffins, cookies, salads, ice cream sundaes
Chopped cooked meat, poultry and fish	Salads, soups, scrambled eggs, quiches, baked potatoes, pasta
Hard-boiled eggs	Salads, sandwiches, vegetables, potatoes
Legumes, lentils	Salads, dips, soups, pasta, rice, casseroles

Boosting your immune system

Many people wonder whether eating lots of one type of food or protein will boost their immune system and help them fight cancer. Many researchers are also interested in this question and are studying it. What we know so far is that it's best not to rely on any one type of protein or food in the hope that it will boost your immune system. It's the combination of what you eat that is important.

Fluids

It's easy to forget that fluids are an essential part of your diet. Every cell in your body needs water to function properly. If you don't take in enough fluids you may become dehydrated, which can cause symptoms like fatigue, light-headedness and nausea.

Drink plenty of water or other fluids each day (and drink more if you're active or when it's hot outside). Your dietitian can give you more specific guidelines on how much is right for you. Try to choose water, milk and other nutritious drinks more often than coffee, tea and soda.

Here are a few tips to help make sure you take in enough fluids:

- Carry fluids with you wherever you go in a bottle, travel mug or thermos.
- Take small sips of fluid throughout the day if drinking a full glass makes you feel uncomfortable.
- Drink most of your fluids between meals. Drinking with meals can make you feel full, which can cause you to eat less.

Don't forget that food can be a source of fluid as well. To keep your fluid intake up, try popsicles, gelatin desserts, pudding, applesauce, ice cream, sherbet and soup. Many vegetables and fruit can also provide extra fluids. Try celery, cucumbers, lettuce, watermelon, cantaloupe and oranges.

On days when you don't feel able to eat solid foods, it's very important to drink plenty of fluids. Choosing milk, juice, soups and liquid nutrition supplements will help add calories and nutrients to your diet.

What to watch for

Dehydration is not having enough water in the body or not having enough fluid where it is needed in the body. Some common signs of dehydration are:

- thirst
- dry skin or dry mouth
- no tears when crying
- urinating less often, and small amounts of dark-coloured urine

If you can't drink enough, or are losing too much water because of vomiting or diarrhea, you may need extra fluids and electrolytes. If you are showing signs of being dehydrated, alert your healthcare team.

Alcohol

Many people wonder whether it's okay to drink alcohol while being treated for cancer. Some people find that it increases their appetite and helps them enjoy their meal. That said, alcohol is low in nutrition but high in calories, so a drink or two may make you feel full – and then not feel like eating anything else.

Alcohol can also interfere with some medications and treatment, and increases your risk of developing certain types of cancer.

Before you choose to drink, talk to your healthcare team. Most health organizations recommend a limit of less than one drink a day for women and less than two drinks a day for men.

One drink is:

- one 350 mL (12 oz) bottle of beer (5% alcohol)
- one 145 mL (5 oz) glass of wine (12% alcohol)
- one 45 mL (1.5 oz) spirits (40% alcohol)

Special diets

You now know that eating well can help when you have cancer. This can be more of a challenge if you have a health condition (such as diabetes or heart disease) that restricts your dietary choices or if you are already following a diet (such as vegan or vegetarian) that eliminates certain foods.

If you have special dietary needs to consider while you're having cancer treatment, a registered dietitian can help you make sure you meet these needs.

A diet is not a cure-all

You may wonder whether following a certain diet will cure your cancer. Very little is known about how unconventional or alternative diets may affect people with cancer. There is no scientific evidence that these diets (such as the Macrobiotic diet or the Gerson therapy diet) cure cancer. Because they often restrict food choices, such as meat, milk, eggs and even vegetables and fruit, these diets do not provide enough calories, protein, vitamins and minerals. This can lead to weight loss and malnutrition.

If you are considering an unconventional or alternative diet, talk to your healthcare team.

How Exercise Can Help

Many doctors now encourage people with cancer to be as active as possible. Exercising may help you cope during treatment and recovery. Being active may:

- reduce stress and improve your mood
- boost your energy
- stimulate your appetite
- help you sleep
- reduce side effects like nausea, fatigue and constipation
- help you regain your strength during recovery

Some gentle exercises you may want to try include walking, stretching, yoga or tai chi.

You will need to check with your doctor before starting any exercise program. This is true even if you exercised regularly before being diagnosed. After your doctor has given the okay, you might also meet with a physical therapist or another healthcare professional with experience in this area. They can help you develop an exercise program that is safe, effective and fun for you.

Although exercise is safe for many people there are some exceptions. For example, if you are at risk for infection or anemia you may not be able to exercise. This is why consulting your doctor is an important first step.

During treatment, there may be times when you don't feel able to exercise. The goal is to be as active as you comfortably can be. Try exercising when you have the most energy. Even a few minutes of gentle stretching can help you feel better.

Managing Eating-related Side Effects

When your cancer is diagnosed, your healthcare team will talk to you about a treatment plan. This may include surgery, radiation therapy, chemotherapy, hormonal therapy, biological therapy or a combination of treatments. Treatments can damage some healthy cells along with cancer cells. This is why many people experience side effects that make it hard to eat well. Pain medications and the cancer itself can also cause eating-related side effects.

Side effects can vary from day to day and from person to person. Eating-related side effects should fade away after treatment ends. In the meantime, it's important to do what you can to manage side effects during treatment and recovery.

Changes in taste or smell

Your sense of taste and smell can change during cancer treatment. Some foods may have less taste than usual, taste sweeter than usual or have a bitter or metallic taste. These tips may help:

- Rinse your mouth before and after eating to help clear your taste buds. Club soda or a solution of 2 mL ($\frac{1}{2}$ teaspoon) of salt mixed with 250 mL (1 cup) of water may help. Your treatment centre may also have a suggested recipe for you to follow.
- Keep your mouth and teeth clean. If your mouth is sore, your family doctor or dentist can suggest gentle ways of cleaning your teeth.
- Try foods or beverages that are different than the ones you usually eat.
- Serve foods cold or at room temperature to reduce strong tastes and smells.
- Use plastic cutlery and glass cooking pots if foods taste metallic.
- Add seasonings and spices, which can make foods taste better. Try onion, garlic, chili powder, herbs like basil, oregano, rosemary, mint and tarragon, barbecue sauce, mustard or ketchup.

- Try tart flavours from lemons and other citrus fruit, vinegar, and pickled foods as part of your snacks and meals (unless you have a sore mouth).
- Add sugar to increase the sweet taste of some foods or to decrease the salty, bitter or acid taste of other foods.
- Suck on lemon candies and mints, or chew gum, to help get rid of unpleasant tastes that remain after eating.



Try the Sweet and Sour Sauce recipe on page 37.



Constipation

Changes in your bowel habits can be a result of cancer and its treatment, certain medications, changes in your eating habits (including how much fluid you take in) or being less active. If you're constipated, your healthcare team may recommend a stool softener or laxative. To help keep your bowels moving, try these tips:

- Add more fibre to your diet gradually. Whole grain breads and cereals, fruit, vegetables, legumes, dried fruit, seeds and nuts are examples of higher-fibre foods.
- Drink plenty of liquids throughout the day. Try water, fruit and vegetable juices, teas and lemonade.
- Choose a cereal that contains more than 4 grams of fibre per serving.
- Try eating 50 mL (¼ cup) of prunes or drinking 125 mL (½ cup) of prune juice to stimulate your bowels. Other foods that are natural laxatives include rhubarb and papaya.
- Add small amounts of bran to cooking or baking.
- Be more physically active if you can.

Diarrhea

Some cancer treatments and medications can cause loose, frequent stools. These ideas may help:

- Eat small, frequent meals and snacks throughout the day.
- Drink plenty of non-carbonated, caffeine-free fluids such as water, sports drinks and clear broth. They will help prevent you from becoming dehydrated.
- Limit greasy, fried, spicy or sugary foods.
- Switch to low-lactose milk or a soy beverage if drinking milk makes your diarrhea worse.
- Choose salty foods such as soups, sports drinks, crackers and pretzels to replace sodium lost from having diarrhea.
- Choose foods that are high in potassium such as bananas, tomatoes, fruit juices and nectars, and sports drinks to replace lost potassium.
- Avoid sugarless gum and candies made with sorbitol, which acts like a laxative.
- Stay away from foods that are natural laxatives (prunes and prune juice, rhubarb and papaya).
- Avoid nuts, seeds, dried peas and beans.
- Limit foods and drinks that contain caffeine (coffee, tea, chocolate and cola).
- Choose foods that are low in *insoluble* fibre, which provides bulk to the stool. Examples include white bread and pasta, refined cereals, ripe bananas, mashed potatoes or baked potatoes without the skin, meat, poultry and fish.

What to watch for

Talk to your doctor if your diarrhea:

- continues for more than 24 hours
- causes pain in your abdomen (stomach or middle area)
- causes cramping

Keep a record of the number, amount and appearance of bowel movements for your doctor.

Dry mouth or thick saliva

Some treatments and medications can cause dry mouth or thick saliva. To help keep your mouth moist:

- Add extra moisture to solid foods by adding broth, soup, sauces, gravy, creams, butter or margarine. Keep prepared gravy ready to add to meat, potatoes and vegetables.
- Alternate eating food with taking sips of fluid.
- Avoid foods like muffins, crackers and rice that break down to little pieces in your mouth.
- Sip fluids often throughout the day and make sure you are well-hydrated. Water, juices and nectars, soups, milk, popsicles, gelatin, pudding, yogurt and ice cream are good sources of liquids.
- Take your favourite liquid with you everywhere you go in a bottle, travel mug or thermos.
- Keep your mouth clean by using a soft-bristle toothbrush and rinsing your mouth often throughout the day (especially before and after you eat).
- Sipping on club soda or ice water may help loosen thick saliva. You can also try sucking on ice chips or popsicles.
- Try making commercial nutrition supplements or milkshakes thinner with ice or skim milk if you find they coat your mouth.



Try the Creamy Mushroom Sauce recipe on page 32.



Feeling hungry and weight gain

Some treatments, such as steroid medication, can make you gain weight during treatment. Your healthcare team can help if this becomes a problem for you. These ideas can help if you're hungry all the time and gaining weight:

- Eat smaller portions and plan your meals around vegetables, fruit and whole grain products, rather than around fatty meats. Choose fish, legumes, nuts and seeds as alternatives to meat.
- Choose vegetables and fruit, low-fat yogurt, popcorn and low-fat crackers for snacks instead of higher-fat snack foods and baked goods.
- Add only small amounts of fat when you're cooking and at the table. Foods such as butter, margarine, mayonnaise, and salad dressing are high in fat. When you can, choose brands that are low in fat or fat-free.
- Choose lower-fat milk and yogurt and cottage cheese that are either skim or contain no more than 2% milk fat (M.F). Choose hard cheeses with no more than 20% M.F.
- Don't skip meals. This may cause you to overeat later.
- Be more physically active if you can.

Feeling tired (fatigue)

You may feel very tired or find it hard to be as active as you usually are. This can make it difficult to shop for groceries, prepare food or even eat a meal. Remember that a diet rich in protein and calories can help boost your energy. You can also try these ideas:

- Eat small amounts of food throughout the day if you can, even if you are not hungry.
- Eat when you have the most energy.
- Stay hydrated. Being dehydrated can make you feel tired.
- Buy healthy but convenient foods. For example, buying pre-cut vegetables can save you time and energy when preparing meals.

- Cook in batches when you've got the energy. Freeze in small portions that can be re-heated when you're too tired to cook.
- Ask friends and family to help with grocery shopping and food preparation. You may be able to arrange to have your groceries delivered.
- Ask your dietitian or social worker about community resources such as Meals on Wheels.

Food cravings or dislikes

You may find that you suddenly like or dislike certain foods. These cravings or dislikes may change from day to day. These suggestions can help:

- Eat a variety of foods when your appetite is good and when side effects are under control.
- Use food cravings to your advantage by including the foods you crave in healthy meals and snacks. For example, chocolate can be used in a milkshake, in banana bread or as a dip for fruit.
- Keep a stash of your favourite snacks around to encourage nibbling even when you don't feel like eating much.
- Take a break from favourite foods when you are feeling nauseous or vomiting. This will help you avoid associating these foods with feeling sick in the future.
- Add extra seasonings when foods taste bland or to mask unpleasant tastes.



*Try the Honey Butter recipe on page 34
if you're craving sweet foods.*



Gas, bloating or cramping

Some treatments and medications may increase gas, bloating or cramping. Here are some helpful tips:

- Eat small, frequent meals or snacks throughout the day.
- Limit drinks and foods that can cause gas or bloating. These include carbonated drinks, beer, raw and cooked spinach, broccoli, cabbage, cauliflower, turnip, squash, cucumbers, lettuce, peppers, dried beans, garlic, peas and onions.
- Try low-lactose milk or a soy beverage if you have gas, bloating or cramping after drinking milk. If this seems to help, talk to a registered dietitian before completely cutting out milk and milk products from your diet.
- Try not to take in extra air while you're eating or drinking. Don't talk while chewing your food. Sip fluids instead of gulping and don't use a straw for drinking.
- Avoid chewing gum.
- Avoid tobacco.

Heartburn and reflux

Heartburn and reflux can leave a burning feeling in your throat and upper stomach or a sour taste in your mouth. This can make you lose interest in eating or bring on nausea and vomiting. Your healthcare team may be able to suggest medicines that can help. You can also try the following for some relief:

- Avoid acidic foods like citrus fruit and tomato products.
- Avoid foods that are spicy or high in fat.
- Wait 30 minutes after eating food before drinking fluids.
- Eat small, frequent meals rather than larger, less frequent meals.
- Avoid eating two to three hours before bedtime.
- Don't lie down right after eating. When you do lie down, keep your head and shoulders propped up.

- Limit your use of alcohol and products that contain caffeine (colas, coffee, tea).
- Avoid chocolate.
- Wear loose, comfortable clothing.

Loss of appetite and weight loss

You may lose your appetite or find food unappealing. These changes can cause you to lose weight – one of the most common side effects of cancer and its treatment. Having cancer and being treated for it may mean that your body needs more energy. If you don't meet your body's energy needs with food, you may lose weight. If you're losing weight, these ideas may help:

- Make every mouthful count by choosing foods and drinks that are high in protein and high in calories. (The charts on pages 5 and 6 can help.)
- Eat smaller amounts every 1 to 2 hours.
- Keep foods that are high in protein and high in calories, as well as quick and easy snacks, in your cupboards so that they are ready to eat when you are.
- Eat your favourite foods at any time of the day. Eat breakfast foods at suppertime if you feel like it.
- Eat your biggest meal when you feel most hungry.
- Drink beverages high in calories and protein such as milkshakes, smoothies and commercial nutrition supplements between meals.
- Exercise lightly, if you can. A walk before meals can help increase your appetite.



Try the Mega Milkshake recipe on page 36.



Nausea and vomiting

Your doctor can prescribe a type of drug called an *anti-emetic* to prevent or reduce nausea. It's often easier to prevent nausea than to treat it once it happens, so it's important to take the medicine as directed. You may need to try different drugs to find the one that works best for you. These ideas may also help:

- Eat smaller, more frequent meals throughout the day. Eat slowly.
- Ask someone else to prepare foods for you if cooking smells upset your stomach.
- Eat foods that are served cold or at room temperature if the smell bothers you. Avoid eating in a room that is warm, or that has cooking odours or other smells. Make sure you have fresh air by opening a window or using a fan.
- Nibble on dry foods, such as crackers, toast, dry cereals or bread sticks. Try this as soon as you wake up and every few hours during the day.
- Avoid foods that are very sweet, greasy, fried or spicy. Also avoid foods with a strong odour.
- Sip water and other liquids (flat ginger ale, sports drinks, broth, herbal teas) throughout the day. Try cool liquids, which may be easier to drink than hot or cold liquids.
- Suck on ice chips.
- Rinse your mouth with club soda before and after meals.
- Keep your mouth clean by brushing your teeth at least twice a day. This can help reduce unpleasant tastes that make you feel nauseated.
- Avoid lying down for at least an hour after eating unless the head of the bed is elevated.

What to watch for

Call your healthcare team

If you cannot stop vomiting or it continues for more than 24 hours after your treatment (even if you are taking the anti-emetics as directed), call your healthcare team as soon as possible.

Sore mouth or throat

Talk to your healthcare team if a sore mouth or throat is making it difficult to eat or drink. They can recommend medicines that can help make chewing and swallowing less painful. You can also try these soothing suggestions:

- Eat soft, bland foods that are lukewarm or cool in temperature. Try creamed soups, mashed potatoes, yogurt, eggs, custards, puddings, cooked cereals, ice cream, casseroles, milkshakes and commercial nutrition supplements.
- Use a straw for liquids to avoid too much contact with your mouth.
- Try fruit nectars like pear, peach or apricot. Avoid acidic fruit and juices, alcohol, and foods that are tart, salty or spicy.
- Avoid drinking or eating foods that are either very hot or very cold.
- Rinse your mouth often. Try different rinses to see what works best for you. Your healthcare team may recommend a recipe for a rinse you make yourself. You can also try mixing 5 mL (1 tsp) baking soda with 250 mL (1 cup) water.



*Try the Classic Instant Breakfast Milkshake on page 32
and the Yogurt Frosty on page 38.*



Swallowing difficulties

Sometimes chewing and swallowing becomes difficult. Talk to your healthcare team if you are coughing or if you feel like you're choking while eating. To help with swallowing difficulties:

- Make every mouthful count by choosing foods and drinks that are high in protein and high in calories. (The charts on pages 5 and 6 can help.)
- Experiment with different food textures to find one that you can swallow. Foods with a smooth texture like mashed potatoes may be easier to swallow.
- Use a blender or food processor to chop foods that are too difficult to chew. Use fruit or vegetable juices, broth or milk to blend the food together.
- Thicken liquids as much as needed to make them easier to swallow. Adding gelatin, puréed vegetables or fruit, instant potatoes, cornstarch, infant rice cereal or commercial thickeners may help.



*Try the Classic Instant Breakfast Milkshake on page 32
and the Yogurt Frosty on page 38.*



Food Safety Issues

People with cancer need to be especially careful about food safety. This is because cancer and treatments like chemotherapy can weaken your immune system. Your body may be less able to fight infection from bacteria or other organisms that could be in foods.

Your healthcare team or a registered dietitian can help you make food choices that are safest for you. They will know your treatment schedule and will be watching you closely for signs of a weakened immune system. They can help with any particular concerns you have about food safety steps that you should take or foods that you should avoid. The suggestions below are just a starting point.

Prepare, cook and store your foods with care

- Wash your hands with warm soapy water before and after preparing food and before eating.
- Wash vegetables and fruit thoroughly under running water before peeling or cutting.
- Avoid vegetables and fruit that can't be washed well (for example, raspberries).
- Scrub vegetables and fruit that have firm surfaces such as potatoes, carrots, oranges and melons.
- Cut away any damaged or bruised areas on produce. Bacteria can thrive in these places.
- Wash the top lids of canned foods with soap and water before opening.
- Rinse packaged salads under running water even when marked "pre-washed".
- Refrigerate foods at or below 4°C (40°F).
- Thaw meat, fish or poultry in the microwave or refrigerator (not on the counter).

- Put food in the refrigerator within 2 hours of serving. Foods containing eggs, cream or mayonnaise should be refrigerated after no more than one hour.
- Use defrosted foods right away and do not refreeze them.
- Cook meats until well done, with no traces of pink in the centre. Red meats should be cooked to an internal temperature of 77°C (170°F) or 71°C (160°F) if the meat is ground. Poultry should be cooked to an internal temperature of 85°C (185°F) or 74°C (165°F) if ground or in pieces (breast, legs, thighs and so on). A meat thermometer is your only way to be sure of the internal temperature.
- Use different spoons to taste and stir your food while you're cooking it.
- Cool hot foods, uncovered, in the refrigerator. Place in storage containers after cooling. Freeze what you do not plan to use within the next 2 to 3 days. Throw out all prepared foods after 3 days in the refrigerator.
- Throw out entire food packages or containers with any mould, including yogurt, cheese, cottage cheese, fruit, vegetables, jelly, and bread and pastry products.

Keep work surfaces and kitchen equipment clean

- Use separate cutting boards for raw foods and cooked foods. Use one cutting board for fresh produce and a different one for raw meat, poultry and seafood.
- Wash cutting boards after each use in hot, soapy water or in the dishwasher.
- Get rid of worn cutting boards.
- Keep appliances, counter tops and kitchen surfaces free of food crumbs.
- Consider using paper towels to wipe kitchen surfaces or change dishcloths daily to avoid the possibility of cross-contamination and the spread of bacteria.

- Wash dishcloths in the hot cycle of the washing machine.
- Avoid using sponges because they are harder to keep bacteria-free.
- Clean and sanitize counter tops, cutting boards and utensils each week with a disinfectant cleaner or a mild bleach solution of 5 mL (1 teaspoon) of bleach per 750 mL (3 cups) of water.

Shop for food with care

- Read food labels to make sure food isn't past its "sell by" date.
- Keep raw meat, poultry, seafood and eggs separate from other foods in your grocery cart.
- Buy only pasteurized, refrigerated milk and dairy products.
- Pick up perishable foods last, and plan to go directly home from the grocery store.
- Avoid foods from bulk bins, salad bars, delicatessens, buffets, potlucks, and sidewalk vendors.

Try to avoid

- raw or undercooked eggs (like in Caesar salad dressing)
- raw and undercooked meat, fish, shellfish, poultry and tofu
- unwashed raw vegetables and fruit, and those with visible mould
- home-canned vegetables, fruit, meats and fish
- well water, unless tested yearly and found safe

Your dietitian may suggest other foods to stay away from, depending on your situation.

When You Just Can't Cook

There may be times when you just don't have the energy to cook. Or you may have very little time to prepare meals because of your treatment schedule or visits to the doctor. Keeping your kitchen stocked with nutritious, ready-to-serve foods that can be eaten any time can help. You can also let family and friends help you - they may just be waiting for you to ask. Community resources such as Meals on Wheels may also be an option.

Shopping list

The following list gives you some ideas of foods that are simple to prepare and easy to grab when you aren't up to cooking or eating a large meal. Use it as a starting point for stocking your fridge and cupboards.

In your fridge

- > butter, margarine (non-hydrogenated)
- > cottage cheese
- > cut-up vegetables and fruit
- > eggs and egg substitute
- > grated cheese
- > hummus and other bean- or yogurt-based dips
- > sliced meats and cheeses
- > yogurt and fresh cheese snacks

- > flavoured water
- > 100% fruit juice
- > liquid commercial nutrition supplements
- > milk (or soy milk), sour cream, table cream, whipping cream
- > nectar drinks
- > sport drinks
- > yogurt drinks

In your freezer

- > frozen pancakes and waffles
- > frozen pizza or pizza crusts
- > ice cream, popsicles, sherbet, frozen yogurt
- > microwave frozen entrees

In your cupboard

- > bagels, muffins, English muffins, pita bread, tortillas
- > bouillon cubes or canned broths
- > canned beans or peas (such as kidney, white, lentils, chickpeas)
- > canned fish (salmon, tuna)
- > canned soups
- > canned tomatoes and spaghetti sauce
- > crackers, bread, rice cakes, breadsticks
- > evaporated milk
- > granola bars
- > herbs and spices
- > hot and cold cereals
- > jams, jellies
- > jarred or canned vegetables (such as pickles, olives, antipasto)
- > nuts (such as peanuts, almonds, cashews, walnuts)
- > olive oil, vegetable oils
- > peanut butter and other nut butters
- > raisins, dried fruit
- > rice, pasta, couscous
- > seeds (such as sesame, sunflower, pumpkin)
- > skim milk powder
- > snack packs of applesauce, fruit cocktail and pudding
- > tomato paste
- > trail mix

Let family and friends help

If you're too tired or weak to shop and cook, this is a good time to accept help from others. While it can be hard to ask for help, family and friends are often happy to do what they can to make your life easier. You may want to suggest that they:

- Shop for groceries for you, using a list that you've prepared.
- Stock your pantry with basic items that have a long shelf life.
- Keep you stocked up on perishable items like fresh vegetables and fruit. Ask for help washing and cutting up some items (depending on when you plan to eat them) before storing in the fridge.
- Bake some snacks that you can freeze and thaw when you feel like eating them, such as muffins, breads and cookies. Make every bite count by including nuts, seeds or dried fruit in baking.
- Prepare a meal that will feed you and your family one evening. A casserole is easy to cook and easy to deliver. Add a side salad and some bread - dinner is made and your energy is conserved.
- Prepare foods in batches for you. Foods like spaghetti sauce, soups, stews and casseroles, quiches, even pancakes, can be frozen in single-serving containers and thawed whenever you feel like eating them.

When You Just Can't Eat

There may be times when you feel you just can't eat. If food doesn't appeal to you, or you become too tired or nauseated to eat, it may be difficult to meet all of your nutrition needs from food and drinks alone. If you can't eat for more than a couple of days, talk to your healthcare team. They might recommend some of the following alternatives.

Commercial nutrition supplements

Commercial nutrition supplements are a good source of calories and nutrients. They come in a variety of flavours and forms, including a ready-to-use beverage (similar to a milkshake), a powder, a pudding or a bar. Experiment to find one that is right for you.

Many pharmacies and grocery stores sell commercial nutrition supplements. You do not need a doctor's prescription to buy them. Some provincial and private healthcare insurance plans may cover the cost under certain conditions.



Try the Mega Milkshake recipe on page 36 to make your own nutrition supplement.



Talk to a registered dietitian if you think that you will need to rely on commercial nutrition supplements more than food.

Feeding tubes

If it becomes too difficult for you to eat or drink, and you lose a lot of weight, your healthcare team may suggest using a feeding tube to help meet your nutrition needs. A feeding tube is a thin, flexible tube that is placed directly into the stomach or intestines. Once the tube is in place, liquid nutrition supplements can be given through it. Your dietitian will determine how much of the supplements you need each day.

Vitamin, mineral and herbal supplements

The best way to obtain vitamins, minerals or other nutrients is by eating healthy foods. Cancer and its treatments may make it difficult to eat healthily for an extended period of time. A daily vitamin and mineral supplement may be recommended. Talk to your doctor to see if vitamin and mineral supplements are appropriate and safe to use, especially if you are having chemotherapy or radiation therapy.

Some people consider using nutritional supplements or "natural" health products. "Natural" does not always mean safe. These products may also interfere with other medications or treatments. Always talk to your doctor about nutritional supplements or natural health products before taking them.

Eating Well After Treatment

Once you have completed treatment, your interest in food often returns as the side effects from treatment improve. This is a gradual process and is an opportunity to slowly start eating a wider variety of foods.

Changes will not happen overnight so be patient with yourself. Your interest in food might not come back as quickly as you would like it to. Your body needs plenty of time to recover. If side effects persist, talk to your healthcare team about how to manage them as you gradually return to your usual activities.

As you recover from treatment, eating well will help your body regain strength and rebuild healthy cells. It will also make you feel better. You may still need extra calories and extra protein in your diet until you reach a weight that is healthy for you. As you become more active, make sure you are eating enough to maintain your healthy weight.

Following *Canada's Food Guide* can help you plan your meals to make sure you get all the nutrients you need. The guide provides recommendations on serving sizes and daily quantities for each food group. A registered dietitian can help you work towards these recommendations as your recovery progresses.

As food regains its appeal, you can slowly return to regular eating habits. Here are a few suggestions:

- Pull out some simple recipes you used to like making – and eating.
- Remember what made meal times enjoyable – candles, music, your best dishes or tablecloth – and try these things again.
- Eat a nice meal with close friends or family. You can even ask them to supply the food!
- Make your meal a picnic – inside or out.
- Keep trying to eat foods you previously enjoyed. What doesn't taste good today might taste good tomorrow.
- Visit a gourmet or specialty food shop and indulge in a special treat.

Many people wonder if a healthy diet can prevent cancer from returning. Research has shown that eating a healthy diet can help prevent some cancers from developing in the first place. As far as cancer coming back, some research does suggest that eating a healthy diet may prevent cancer from returning. Research has also shown that obesity increases the risk of some cancers returning so maintaining a healthy body weight is important.

Contact us for up-to-date information about cancer risk

With research, we're always learning more about reducing cancer risk, including the risk of cancer recurring. Contact us for the most up-to-date information:

- Call an information specialist toll-free at **1 888 939-3333**
Monday to Friday 9 a.m. to 6 p.m.
- E-mail us at info@cis.cancer.ca.
- Visit our website at www.cancer.ca.



Living with advanced cancer

If you are living with advanced cancer, you will have different challenges in trying to eat well and maintain your body weight. Talk to your healthcare team about ways to meet your nutritional needs. Eating as healthy a diet as possible will help you feel better, keep up your strength and cope with side effects such as fatigue and loss of appetite.



Recipes

Please note that calorie and protein nutrient values are approximate. If you have food allergies or intolerances, your dietitian can suggest substitutions for some ingredients — for example, using a dairy-free product instead of milk. This may affect the nutrient values shown.

Classic Instant Breakfast Milkshake

This drink is a meal replacement when chewing foods becomes difficult.

125 mL (½ cup) whole milk
60 mL (¼ cup) instant breakfast mix
250 mL (1 cup) vanilla ice cream
(Add different ice cream flavours for variety.)

1 serving
474 calories and 20 grams protein per serving

Creamy Mushroom Sauce

This cream sauce can help with a dry mouth. Use over vegetables, fish, poultry or meat.

1 can condensed cream of mushroom soup
60 mL (¼ cup) fortified milk (see recipe at page 33)

Whisk condensed soup and fortified milk together while heating to a gentle boil.

4 servings
80 calories and 2 grams protein per serving

Extra Chicken Noodle Soup

Try a bowl of soup with added protein and calories when you feel too sick to eat a meal. Serve with plain crackers or bread sticks.

1 can condensed chicken noodle soup

1 egg, whisked

10 mL (2 tsp) vegetable oil

Prepare soup according to directions on the can. As soup comes to a gentle boil, add egg and vegetable oil. Mix thoroughly. Heat soup a few minutes longer to completely cook the egg.

2 servings

140 calories and 7 grams protein per serving

Fortified Milk

When you add skim milk powder to milk, it becomes fortified. For extra calories and protein, add skim milk powder to milk before mixing it in your favourite recipes. For example, you can use fortified milk when making macaroni and cheese, puddings, mashed potatoes, hot chocolate and cream soups.

250 mL (1 cup) whole milk

60 mL (4 tbsp) skim milk powder

Add milk powder to liquid milk and blend well. Refrigerate.

1 serving

265 calories and 19 grams protein per serving

Fruit and Cream Smoothie

250 mL (1 cup) milk or nutritional supplement

250 mL (1 cup) of fruit

(your choice – try peach, any type of berry, mango, pineapple, coconut, soursop [guanabana])

250 mL (1 cup) vanilla ice cream

5 mL (1 tsp) honey or 2 mL (½ tsp) vanilla

Blend ingredients. Serve immediately.

2 servings

300 calories and 7 grams protein per serving

Honey Butter

This tasty spread will add extra calories to waffles, toast, pancakes, croissants and oatmeal.

125 mL (½ cup) butter, softened

60 mL (¼ cup) pasteurized liquid honey

Cream butter and honey together. Store in the fridge.

5 servings

275 calories per serving

Leftover Potato Cakes

Lovely with butter for breakfast or an evening snack. If you've got a lot of leftover potatoes, make lots of potato cakes. Let them cool, then freeze in freezer bags. To enjoy later, just thaw, toast and serve! An easy, make-ahead snack!

500 mL (2 cups) leftover mashed potatoes

1 egg

250–500 mL (1–2 cups) flour

pinch salt and pepper

250 mL (1 cup) grated cheese

3–4 cloves roasted garlic (optional)

Preheat oven to 180°C (350°F). With a wooden spoon, combine potato, egg and seasoning. Add flour a little at a time and roll out dough. Flour work surface and roll out dough till 1–2 cm ($\frac{1}{4}$ – $\frac{3}{4}$ " thick). Cut into pieces about the size of your palm and place on a floured baking sheet. Cook for 10 to 15 minutes until dough starts to brown around edges. Should still be soft inside. Serve with butter and salt.

Store in a covered container in the fridge to be eaten the next day – just toast and serve.

Makes 12 slices

145 calories and 5 grams protein per slice

Leftover Rice Muffins

Very good with lunch and as snacks, and a good way to get a variety of food groups into one food. Also very flexible – you can use whatever leftovers you have on hand, or whatever is in your cupboard.

250 mL (1 cup) cooked rice

125 mL (½ cup) grated cheese

60 mL (¼ cup) black olives or green olives, onions or bell peppers or dill pickles (your choice)

1 can tuna (170 g or 6 oz) or salmon (213 g or 7.5 oz), or leftover ham, chicken or turkey (anything goes)

1 egg

Salt and pepper to taste

Preheat oven to 200°C (400°F). Spray mini-muffin tins with oil or butter spray. Mix ingredients together. (Mixture should be moist, but not sticky or runny. The cheese and egg will bond together when cooking.) Season with salt and pepper. Press into mini-muffin tins. Bake for 10 to 15 minutes. Let cool before removing from tray.

Makes 24 mini-muffins

70 calories and 5 grams protein per 3 mini-muffins

Mega Milkshake

This is an economical alternative to commercial nutrition supplements and contains as many calories and protein as a small meal.

250 mL (1 cup) fortified milk (see recipe page 33)

200 mL (¾ cup) vanilla ice cream

Mix well. Add your favourite syrup such as chocolate, strawberry or butterscotch to change the flavour.

1 serving

445 calories and 20 grams protein per serving

Mocha Latte Shake

This recipe may appeal to coffee lovers – but it packs an extra protein punch.

- 250 mL (1 cup) whole milk**
- 1 packet chocolate instant breakfast**
- 1 mL (¼ tsp) instant coffee granules**
- 2 ice cubes**

Combine all ingredients in blender and blend until smooth. Sprinkle with cinnamon or cocoa.

1 serving
280 calories and 13 grams protein per serving

Sweet and Sour Sauce

This tangy sauce can help if your sense of taste changes during treatment. Try it on meat or chicken.

- 60 mL (¼ cup) vinegar**
- 250 mL (1 cup) ketchup**
- 15 mL (1 tbsp) soy sauce**
- ½ red or green pepper, cubed**
- 125 mL (½ cup) honey or brown sugar (packed)**
- 2 mL (½ tsp) salt**
- 1 can (240 mL or 8 oz) pineapple chunks (optional)**
- water**
- 30 mL (2 tbsp) cornstarch**

Mix all ingredients except cornstarch and water in saucepan. Bring to boil. Turn heat down to simmer, stirring occasionally and cook for at least 20 minutes to allow flavors to blend. Dissolve cornstarch in small amount of water. Add to saucepan, stirring sauce until thickened. (You can leave out the cornstarch and allow the sauce to thicken by cooking it longer.)

Makes 500 mL or 2 cups
120 calories per 60 mL (¼ cup) serving

Yogurt Frosty

Try this mild-flavoured drink when your mouth is too sore to chew and swallow foods.

1 envelope vanilla instant breakfast mix

250 mL (1 cup) whole milk

125 mL (½ cup) yogurt (any flavour)

6 to 10 crushed ice cubes

Mix all ingredients in a blender. Try different flavours of yogurt for variety.

1 serving

400 calories and 19 grams protein per serving

Resources

Finding a registered dietitian near you

A registered dietitian (RD, RDN, Pdt, RDt or Dt.P.) is a healthcare professional who has clinical training and a university degree in nutrition. Most cancer centres have a registered dietitian on staff who can provide one-on-one counselling and answer your questions on diet and nutrition throughout your treatment and recovery.

If your treatment centre does not have a dietitian on staff, try these options to find one near you:

- Ask your healthcare team.
- Ask your family doctor.
- Call *Dietitians of Canada* toll-free at 1 888 901-7776 or visit www.dietitians.ca.

Canadian Cancer Society

Helping you understand cancer and nutrition during treatment

Trained information specialists at our *Cancer Information Service* take the time to answer your questions over the telephone and search for the information you need about:

- nutrition basics
- side effects of treatment and ways to manage them
- many other cancer-related issues

You may also find these Canadian Cancer Society resources (available in print and online) useful:

Radiation Therapy: A guide for people with cancer

Information about radiation therapy, possible side effects and tips to manage them.

Chemotherapy: A guide for people with cancer

Information about chemotherapy, possible side effects and tips to manage them.

Living with Cancer: A guide for people with cancer and their caregivers

Helping you cope with practical and emotional issues during your cancer experience.

Talking with someone who has been there

If you have been touched by cancer and would like to talk to someone who has had a similar cancer experience, we can help you connect with a trained volunteer – in person, over the phone or in a group setting.

To contact the Canadian Cancer Society:

- Call us toll-free at **1 888 939-3333** (Monday to Friday, 9 a.m. to 6 p.m.).
- E-mail us at **info@cis.cancer.ca**.
- Visit our website at **www.cancer.ca**.
- Contact your local Canadian Cancer Society office.

Our services are free and confidential.



Suggested websites

Health Canada

www.hc-sc.gc.ca

search for > Canada's Food Guide

Dietitians of Canada

www.dietitians.ca

BC Cancer Agency

www.bccancer.bc.ca/HPI/NutritionalCare/PtEd/default.htm

National Cancer Institute

www.cancer.gov

search for > Eating hints

American Institute for Cancer Research

www.aicr.org

search for > Nutrition of the Cancer Patient

American Cancer Society

www.cancer.org

search for > Nutrition for Cancer Patients

Cancerbackup

www.cancerbackup.org.uk

search for > Building-up diet

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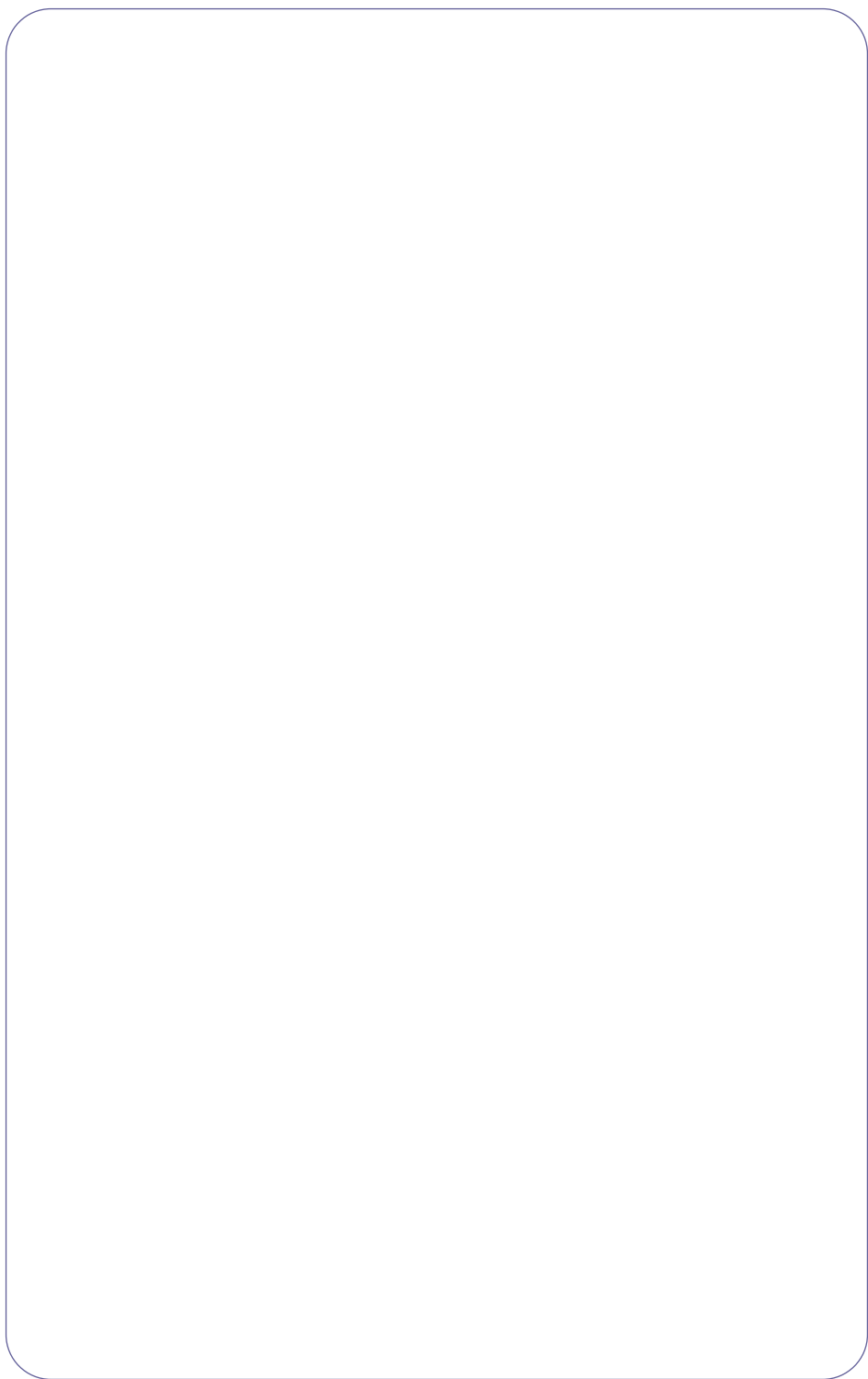
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What we do

Thanks to the work of our volunteers and staff, and the generosity of our donors, the Canadian Cancer Society is leading the way in the fight against cancer. The Canadian Cancer Society:

- funds excellent research for all types of cancer
- advocates for healthy public policy
- promotes healthy lifestyles to help reduce cancer risk
- provides information about cancer
- supports people living with cancer

Contact us for up-to-date information about cancer, our services, or to make a donation.



Canadian Cancer Society
Société canadienne du cancer

Let's Make Cancer History
1 888 939-3333 | www.cancer.ca

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It is not intended to replace the advice of a qualified healthcare provider.

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