



BC Cancer Agency

CARE + RESEARCH

An agency of the Provincial Health Services Authority



HealthLinkBC

A Nutrition Guide for Women with Breast Cancer



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HealthLink BC
www.healthlinkbc.ca

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This booklet contains general information and is not intended to replace the advice of a qualified healthcare provider.

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INTRODUCTION

“I want to do something for myself.” This statement is being made by thousands of Canadian women with breast cancer. For some of these women, diet is that “something”. Many women believe that understanding nutrition and making good food choices is an important step in their recovery.

This booklet focuses on the period after diagnosis and provides women with information on lifestyle factors that may:

- lower the risk of breast cancer recurrence
- improve survival
- benefit overall health

It also includes up-to-date information on:

- nutrition during treatment that may help with side effects
- complementary therapies
- helpful books, websites and other resources

For more information

The information in this booklet answers questions on nutrition asked by women who have had breast cancer. If you still have questions after reading the booklet:

- Discuss them with the staff at your treatment centre
- Call a dietitian at HealthLink BC
(dial 8-1-1 for residents of British Columbia)
- Call one of the Canadian Cancer Society’s Information Specialists
(toll-free at 1 888 939-3333)

AFTER DIAGNOSIS

Women say that the time following the diagnosis of breast cancer is an intense period of learning. Part of this learning may be about food choices. Diet is important because eating well can improve recovery and may help to lower the risk of breast cancer recurrence.

Many women use the time of diagnosis to make lifestyle changes, such as eating healthier and being more active. Some women say it is the perfect time to make lifestyle changes, while other women find it easiest to keep the changes small and focus on their recovery. The important thing is for each woman to do what is best for herself.

Feelings about food

“When I first found out I had breast cancer, I asked my surgeon, “Is it my diet that caused this?”

Many women question their diet when they learn they have breast cancer. Wanting to know what causes cancer is a natural reaction. However, it is important to remember that cancer is a complex disease. It is probably caused by a combination of factors, not just one factor. The risk of developing breast cancer is increased by being overweight or obese, and by alcohol consumption. The role of a diet high in fat is unclear but may be related. However, women who eat healthy diets can also develop breast cancer.

“Since I’ve been diagnosed, I haven’t been able to read or talk about breast cancer, including all the stuff about diet. If I don’t think about cancer, I almost feel that I don’t have it.”

Some women may feel this way while others look for information right away. Every woman has a different way of coping with the diagnosis of breast cancer. You will know when you are ready for more information.

“I don’t know what to eat now that I have breast cancer. And I’m getting all kinds of advice – drink carrot juice, don’t eat any sugar, eat tofu. I’m really confused.”

It is natural to be confused by the many choices now facing you. This booklet may help answer some of your questions. You may also want to discuss your questions about diet with your cancer doctor (oncologist) and the dietitian at your treatment centre. If your centre does not have a dietitian, see *How to find a registered dietitian*.

RECENT EVIDENCE

Lifestyle factors in breast cancer recurrence and survival

Recent research findings show that factors such as body weight, diet and exercise likely play a role in breast cancer recurrence and survival. Aside from cancer treatment, lifestyle choices may have the greatest impact on reducing the risk of breast cancer recurrence and improving overall health. The good news is that these are factors you can change.

Body weight: why is body weight important?

Research tells us that there is a higher risk of breast cancer recurrence as well as lower overall survival for women who are either overweight, obese or who gain significant weight after the diagnosis of breast cancer. Achieving and maintaining a healthy body weight may be one of the most important ways for you to reduce your risk of breast cancer recurrence, improve survival and improve overall health.

This booklet includes tools to help you assess your body weight and provides nutrition tips and strategies for achieving a healthy body weight.

Low-fat diet

Some research has found a link between a low-fat diet and breast cancer, however not all studies have shown a benefit. In the Women's Intervention Nutrition Study (WINS) a low-fat diet providing 20% of calories from fat lowered the risk of breast cancer recurrence. In this study women were overweight and over a period of 5 years lost weight while following the low-fat diet. These findings suggest that both weight loss and a low-fat diet are important in lowering the risk of breast cancer recurrence.

Eating less fat can have many other health benefits. A low-fat diet may also lower the risk of heart disease and may help achieve weight loss.

If you are at a healthy body weight:

- A low-fat diet is recommended for maintaining a healthy weight.

If you need to lose weight:

- Achieve a healthy body weight by following a low-fat diet.

The following sections include tips on a low-fat diet and how to determine your daily fat goal.

Exercise

Exercise may also improve breast cancer survival. Early research shows that women who participate in moderate physical activity such as walking 3–5 hours per week improve their survival from breast cancer. Regular physical activity can also help prevent weight gain and achieve a healthy body weight if you are overweight or have gained weight after the diagnosis of breast cancer.

Staying physically active has many health benefits for women with breast cancer. Exercise can improve common side effects of cancer treatment such as fatigue and aid in the prevention and management of lymphedema (arm swelling). Over the long term, exercise can also help prevent osteoporosis by minimizing bone loss associated with some treatments.

What you need to know

Many of the healthy eating habits that may reduce the risk of breast cancer recurrence and improve survival also help overall health. The most important lifestyle recommendation after a breast cancer diagnosis is to achieve and maintain a healthy body weight by making gradual changes to the way you eat and by becoming more physically active.

Women with breast cancer are recommended to:

- achieve a healthy body weight defined as a Body Mass Index (BMI) between 18.5–24.9
- eat a diet based on Canada’s Food Guide that is lower in fat and high in vegetables, fruit and whole grains
- be physically active, for example, walk 3–5 hours per week

GETTING STARTED

This section provides practical information on food choices and lifestyle habits to lower your risk of recurrence and improve overall health. Making changes to your lifestyle is very individual. After the diagnosis of breast cancer some women may find it is the right time and make changes easily, while other women may find it easier to make smaller, more gradual changes. Keep in mind that any amount of positive change in lifestyle habits is likely to offer health benefits.

Maintaining a healthy body weight

Achieving and maintaining a healthy body weight is important for women who have been diagnosed with breast cancer for several reasons. A healthy weight may decrease the risk of breast cancer recurrence and improve survival, and it benefits overall health by decreasing the risk of common health conditions such as heart disease, diabetes and other new cancers.

What is a healthy weight?

A healthy weight is defined as a Body Mass Index (BMI) in the range of 18.5–24.9. It is calculated based on your height and weight. The chart below shows the BMI ranges that are considered underweight, normal, overweight or obese. This applies to everyone between the ages of 18 and 64 years. For persons 65 years and older the ‘normal’ range may be slightly above BMI 18.5 and extend into the ‘overweight’ range.

BMI category (kg/m ²)	Classification	Risk of developing health problems
<18.5	Underweight	Increased
18.5–24.9	Normal weight	Least
25.0–29.9	Overweight	Increased
>30.0	Obese	High

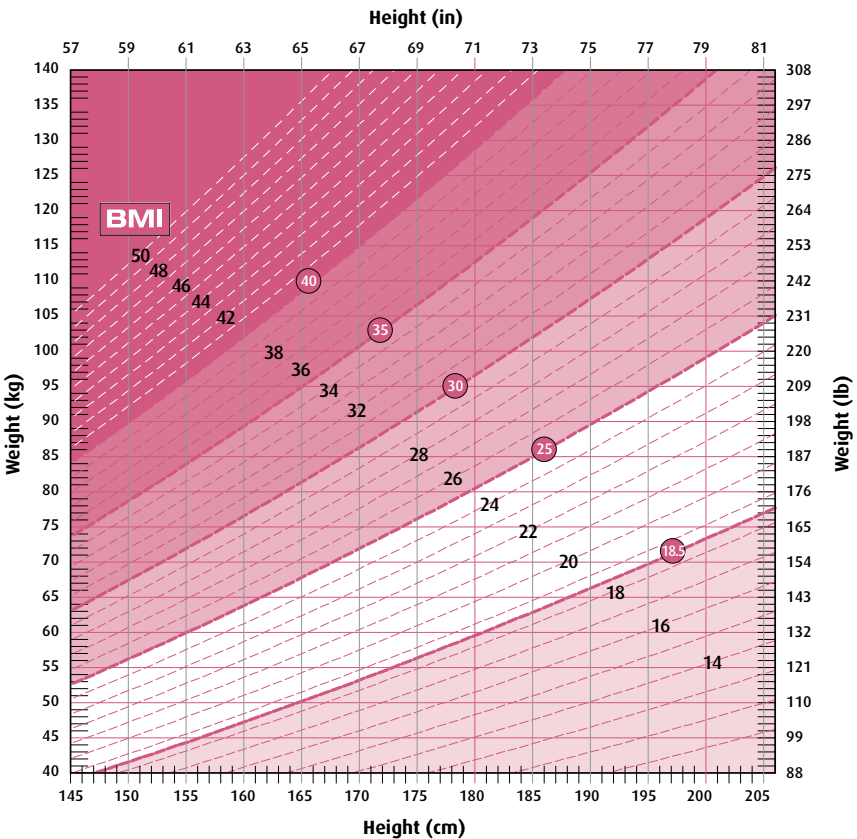
Adapted from: Canadian Guidelines for Body Weight Classification in Adults – Quick Reference Tool for Professionals, Health Canada (2003).

There are health risks with a BMI below 18.5 or above 25.0. If you are overweight or obese, you are at higher risk of developing various health problems including:

- some types of cancer
- Type 2 diabetes
- heart disease
- high cholesterol
- insulin resistance
- gallbladder disease
- high blood pressure
- osteoarthritis

Am I at a healthy body weight?

To determine if you are at a healthy body weight use the graph below. On the graph, locate the point where your height and weight intersect. Read the number on the dashed line closest to this point. For example if you weigh 65 kg (about 143 lbs) and are 165 cm (about 5' 5") you have a BMI of approximately 24 which is within the normal range.



Source: Canadian Guidelines for Body Weight Classification in Adults – Quick Reference Tool for Professionals, Health Canada (2003). Adapted and reproduced with permission of the Minister of Public Works and Government Services Canada, 2009.

Health Canada’s website also has a tool to calculate BMI. Visit www.healthcanada.gc.ca and enter “BMI” in the search field.

Waist circumference is also used in combination with BMI to determine health risk. Too much weight around the waistline is associated with similar health problems as being overweight. It is recommended to have a waist circumference less than 88 cm (35 in) for women.

What you need to know

If your Body Mass Index (BMI) or waist circumference is higher than the healthy range, then weight loss is recommended.

How do I lose weight if I need to?

Slow, steady weight loss is recommended to achieve a healthy body weight. A safe and healthy rate of weight loss is gradual in the range of 1–2 lbs (0.5–1 kg) per week. For example, it would take 2–5 months to safely lose about 9 kg (20 lbs).

The most effective way to lose weight is to create a calorie (energy) deficit using a combination of a calorie-reduced diet plus exercise. See *Estimating your daily calorie needs* (page 21), which outlines estimated calorie needs for maintenance of a healthy body weight. Adding exercise will help you achieve and maintain weight loss and has many other health benefits.

Tips to help you manage your calories:

- Eat a low-fat diet rich in vegetables, fruits and whole grains.
- Choose sensible portion sizes. You might already be eating the right foods, but it could be that you’re eating too much. Occasionally measure the amount of food you serve yourself, and pay special attention to higher calorie foods such as high fat meats, fried foods, desserts and added fats.
- Limit the amount of liquid calories from pop, coffee beverages and sweetened drinks like iced tea and fruit-flavoured drinks.
- Love everything you eat. Make sure that when you do indulge in a treat that it’s worthy of the calories.

PLANNING A HEALTHY DIET

Women are recommended to use *Eating Well with Canada's Food Guide* to plan a plant-based diet. A plant-based diet emphasizes whole grains, fruits, vegetables, beans and lentils. This diet is rich in fibre, vitamins and dietary compounds referred to as “phytochemicals” or plant nutrients that reduce the risk of developing cancer. Most plant foods are also naturally low in calories and fat which can be helpful for managing weight. A plant-based diet does not mean that foods from animals need to be eliminated. Compared to a typical Western diet, a plant-based diet can include dairy products and meat, fish and poultry but less often and in smaller portions.

Plant-based Diet

When following a plant-based diet within Canada's Food Guide, aim for 7-8 servings of fruit and vegetables, 6-7 servings of grain products and consider choosing beans and lentils as one of the 2 servings recommended from the Meat and Alternatives food group.

What you need to know

A plant-based diet emphasizes whole grains and legumes (beans, lentils and dried peas), vegetables and fruit. These foods provide fibre, vitamins and minerals as well as cancer fighting phytochemicals. Most plant foods are also naturally low in calories and fat which can be helpful for managing weight.

Eat mostly plant foods. Choose foods that are minimally processed.

Aim to make at least half of your grain choices whole grains each day.

Choose beans, lentils and dried peas often instead of meat.

Tips to Eating a Plant-based Diet

Making the move towards a plant-based diet will likely involve shopping for and trying new foods and cooking methods. Keep an open mind to try new ingredients, flavourful ethnic foods and interesting restaurants while having fun along the way. Consider following these three steps to enjoy more plant foods:

- Reduce your portions of animal foods and include more plant-based foods. Make vegetables, whole grains and legumes the focus of your meal and animal food the side dish.
- Introduce beans and lentils into your diet. Start by adding small amounts into your favourite recipes and increase the proportion gradually while decreasing the meat ingredients.
- Go meatless on occasion. Try a vegetarian meal once a week and gradually increase the frequency working towards a whole day without animal foods.

What are whole grains?

Grains are seeds of plants. There are many types of grains, such as wheat, rice, oats, barely, corn, rye, quinoa and buckwheat. All of these can be either whole or refined depending on how the grain is processed after harvesting. If the whole seed is left intact it is referred to as a whole grain whereas if it is processed whereby part of the seed is removed it is a refined grain.

Foods rich in whole grains

Choose naturally occurring whole grains (such as oats, corn, brown or wild rice) or foods made from whole grains (such as various forms of breads, cereals, pasta) as part of your daily diet. These foods provide a good source of vitamins, minerals and fibre and have a number of health benefits.

Some foods that are a rich source of whole grains* are:

- Cereals made with whole grains such as oats
- Many types of rice such as brown rice, wild rice
- Breads, bagels, English muffins and tortillas made with any of the whole grains listed above, or with whole wheat flour
- Pastas made with whole grains
- Corn and popcorn

* In Canada, whole wheat flour has a small amount of the seed removed and is therefore technically not a whole grain. Whole wheat flour (and foods made with whole wheat flour, such as many breads) however remain a nutritious choice. In comparison if “whole grain wheat flour” (rather than “whole wheat flour”) is included in the ingredient list it is by definition a whole grain.

Beans, lentils and dried peas

Beans, lentils and dried peas come from a type of plant called legumes. There are many different types of beans and lentils which vary in colour, shape and flavor. Common types include kidney beans, black beans and navy beans and green, brown, yellow and orange lentils. Soybean, which is used to make tofu, is another type of legume. Chickpeas (or garbanzo beans) and split peas are commonly used dried peas.

Beans, lentils and dried peas are a nutritious and versatile alternative to meat. In addition to providing a low fat source of protein, they provide fibre as well as B vitamins, iron and cancer fighting phytochemicals.

Most legumes are minimally processed. They are sold as dried, canned and sometimes frozen. Dried beans need to soak before cooking, so use them when you have the time. Canned beans are easy and quick, but should be rinsed to remove excess sodium or purchase no sodium added varieties. Lentils don't require soaking and cook faster than most beans.

Interesting ways to try beans:

- Use beans in a breakfast burrito or wrap
- Top a salad with kidney beans and/or chickpeas
- Dip vegetables into hummus or use hummus as a sandwich filling
- Make a vegetarian chili with kidney beans, black beans and chickpeas
- Replace part of the meat in a spaghetti sauce with lentils or tofu
- Add beans or lentils to soups

Eating Well with Canada's Food Guide

Canada's Food Guide outlines the number of servings from each of the four groups, based on gender and age. This plan is flexible, offers a wide range of choices within each food group and can easily be used by women who choose a low-fat or a vegetarian diet.

Choosing the amount and type of food recommended and following the tips in *Canada's Food Guide* will help:

- meet your needs for vitamins, minerals and other nutrients
- reduce your risk of obesity, Type 2 diabetes, heart disease, certain types of cancer and osteoporosis
- contribute to your overall health and vitality

Eating Well with Canada's Food Guide provides specific advice for women at different ages and stages:

- The need for vitamin D increases after the age of 50. In addition to following *Canada's Food Guide*, everyone over the age of 50 should take a daily vitamin D supplement of 400 IU.
- All women who could become pregnant and those who are pregnant or breastfeeding need a multivitamin containing folic acid every day. Pregnant women need to ensure that their multivitamin also contains iron.
- Pregnant and breastfeeding women need more calories. Include an extra 2 to 3 Food Guide Servings each day (Source: *Eating Well with Canada's Food Guide*, Health Canada, 2007).

By selecting the recommended servings, you can meet your nutritional needs for important nutrients such as calcium, iron and fibre. *Canada's Food Guide* provides suggestions for eating healthy, for example:

- choose vegetables and fruit prepared with little or no added fat
- choose grain products that are lower in fat
- select lean meats

It is important to remember that some fat is healthy. *Eating Well with Canada's Food Guide* recommends including a small amount – 30–45 mL (2–3 tbsp) – of unsaturated fats each day. This includes oil used for cooking, salad dressings, margarine and mayonnaise. Vegetable oils such as canola, olive and soybean or soft margarines are low in saturated and trans fats. This amount of added fat is suggested for overall good health.

This information has been adapted from *Eating Well with Canada's Food Guide*.
To get your copy of *Canada's Food Guide* visit:
www.healthcanada.gc.ca/foodguide or
call 1 800 0-Canada (1 800 622-6232). TTY: 1 800 926-9105



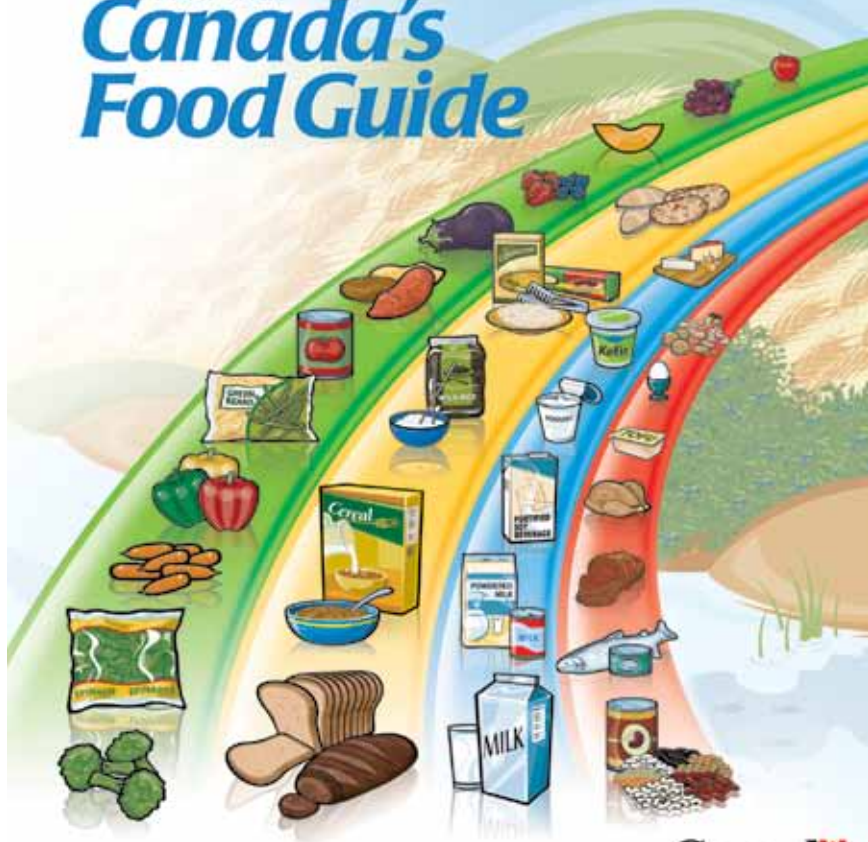
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Your health and
safety... our priority.

Votre santé et votre
sécurité... notre priorité.

Eating Well with **Canada's Food Guide**



Canada

Also, visit www.healthcanada.gc.ca/foodguide to create a copy of *My Food Guide*,
an interactive tool that will help you personalize the information found in *Canada's Food Guide*.

Source: *Eating Well With Canada's Food Guide* (2007), Health Canada.

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What is One Food Guide Serving? Look at the following examples.

Vegetables and Fruit

Females 19-50 years
need 7-8 servings a day

Females 51+
need 7 servings a day

Fresh, frozen or canned vegetables
125 mL (½ cup)



Leafy vegetables

Cooked: 125 mL (½ cup)

Raw: 250 mL (1 cup)



Fresh, frozen or canned fruits

125 mL (½ cup) or

1 fruit



100% Juice

125 mL (½ cup)

Grain Products

Females 19-50 years
need 6-7 servings a day

Females 51+
need 6 servings a day

Bread
1 slice (35 g)



Bagel
½ bagel (45 g)



Flat breads
½ pita or
½ tortilla (35 g)



Cooked rice,
bulgur or quinoa
125 mL (½ cup)



Cereal
Cold: 30 g
Hot: 175 mL (¾ cup)



Cooked pasta
or couscous
125 mL (½ cup)



Adapted from *Eating Well with Canada's Food Guide* (2007), Health Canada.

Health Canada does not assume the responsibility for any errors and omissions which may occur during adaptation.

Recommended Number of Food Guide Servings per Day for Adult Women

Milk and Alternatives

Females 19-50 years
need 2 servings a day

Females 51+
need 3 servings a day

Milk or powdered milk (reconstituted)
250 mL (1 cup)



Canned milk (evaporated)
125 mL (½ cup)

Fortified soy beverage
250 mL (1 cup)



Yogurt
175 g (¾ cup)

Kefir
175 g (¾ cup)



Cheese
50 g (1½ oz.)

Meat and Alternatives

Females 19-50 years
need 2 servings a day

Females 51+
need 2 servings a day

Cooked fish, shellfish, poultry, lean meat
75 g (2½ oz.) /
125 mL (½ cup)



Cooked legumes
175 mL (¾ cup)



Tofu
150 g or
175 mL (¾ cup)



Eggs
2 eggs

Peanut or nut butters
30 mL (2 Tbsp)



Shelled nuts and seeds
60 mL (¼ cup)

Adapted from *Eating Well with Canada's Food Guide (2007)*, Health Canada.

Health Canada does not assume the responsibility for any errors and omissions which may occur during adaptation.

Make each Food Guide Serving count . . .

wherever you are – at home, at school, at work or when eating out!

- ▶ **Eat at least one dark green and one orange vegetable each day.**
 - Go for dark green vegetables such as broccoli, romaine lettuce and spinach.
 - Go for orange vegetables such as carrots, sweet potatoes and winter squash.
 - ▶ **Choose vegetables and fruit prepared with little or no added fat, sugar or salt.**
 - Enjoy vegetables steamed, baked or stir-fried instead of deep-fried.
 - ▶ **Have vegetables and fruit more often than juice.**
-
- ▶ **Make at least half of your grain products whole grain each day.**
 - Eat a variety of whole grains such as barley, brown rice, oats, quinoa and wild rice.
 - Enjoy whole grain breads, oatmeal or whole wheat pasta.
 - ▶ **Choose grain products that are lower in fat, sugar or salt.**
 - Compare the Nutrition Facts table on labels to make wise choices.
 - Enjoy the true taste of grain products. When adding sauces or spreads, use small amounts.
-
- ▶ **Drink skim, 1%, or 2% milk each day.**
 - Have 500 mL (2 cups) of milk every day for adequate vitamin D.
 - Drink fortified soy beverages if you do not drink milk.
 - ▶ **Select lower fat milk alternatives.**
 - Compare the Nutrition Facts table on yogurts or cheeses to make wise choices.
-
- ▶ **Have meat alternatives such as beans, lentils and tofu often.**
 - ▶ **Eat at least two Food Guide Servings of fish each week.***
 - Choose fish such as char, herring, mackerel, salmon, sardines and trout.
 - ▶ **Select lean meat and alternatives prepared with little or no added fat or salt.**
 - Trim the visible fat from meats. Remove the skin on poultry.
 - Use cooking methods such as roasting, baking or poaching that require little or no added fat.
 - For luncheon meats, sausages or prepackaged meats, choose those lower in salt (sodium) and fat.

* Health Canada provides advice for limiting exposure to mercury from certain types of fish. Refer to www.healthcanada.gc.ca for the latest information.

Adapted from *Eating Well with Canada's Food Guide (2007)*, Health Canada.

Health Canada does not assume the responsibility for any errors and omissions which may occur during adaptation.

Low-Fat Eating

A healthy diet can include a range of fat levels from 20 to 35% of total calories. For breast cancer survivors some research shows that a diet lower in fat may reduce the risk of cancer recurrence (see page 6). While ongoing debate continues on what the ideal fat intake is for women with a history of breast cancer aiming for a fat intake in the lower range may have advantages. A lower fat diet may also help women to achieve weight loss and has been shown to be beneficial in the prevention and treatment of heart disease.

When following a low-fat diet it is important to focus on both the total amount and quality (type) of fat you eat. Choosing fats found in plant-based foods such as nuts, seeds, avocados and vegetable oils is preferred to saturated fat from animals. When eating a low-fat diet, it is also important to focus on replacing fat with foods that are minimally processed or refined. This includes choosing whole grains, beans, lentils and fruits and vegetables rather than processed and refined foods such as white breads, baked goods and sugary foods.

What you need to know

Women are recommended to follow a plant-based diet that is lower in fat. While a healthy diet can include a wide range of fat intakes, evidence shows what women with breast cancer can reduce their risk of recurrence by following a low-fat diet that provides 20% of total calories from fat. This diet may also be beneficial in helping to achieve or maintain weight loss and in lowering the risk of heart disease.

Replacing fat with nutrient-rich foods such as whole grains, beans, lentils and fruits and vegetables will provide the greatest health benefits. Avoid replacing fat with refined, processed foods (such as white breads or cereals, baked goods) or high sugar foods (such as soft drinks).

How much fat can I eat?

The amount of total fat you should eat depends on how many calories you need each day. This is because fat intake is based on a percentage of the total calories you eat. Most women need an estimated 1600–2000 calories per day. Based on this calorie range the amount of fat recommended on a low-fat diet that contains 20% of calories from fat is about 35–45 g per day. This total includes both the fat within foods, such as meat, cheese and nuts and the fat added in cooking and at the table. Added all together, it equals approximately 45-55 ml (9–11 tsp) of fat per day. See *Appendix B: Fat Content of Common Foods* for the grams of fat in individual foods.

For simplicity you can use 35–45 g of fat per day as a goal (based on approximately 1600–2000 calories per day). You can also use the two charts below to estimate your individual calorie and fat goals.

- To determine your daily calorie needs, find your age and activity level from the first chart, *Estimating your calorie needs*. For example, if you are 45 years old and have a “moderate” activity level, your calories needs are 2000 per day.
- Next, use the second chart, *Daily dietary fat goals*, to identify the amount of fat you are recommended to eat based on your daily calorie needs.

These values are based on women who are maintaining their weight. If you need to gain or lose weight, you will need to adjust your estimated daily calorie needs either up or down.

Estimating your daily calorie needs

Age	Physical activity level		
	Light Typical daily living activities (for example, household tasks, walking to the bus).	Moderate Typical daily living activities plus 30–60 minutes of daily moderate activity (for example, walking at 5–7 km/h).	Active Typical daily living activities plus at least 60 minutes of daily moderate activity (for example, walking at 5–7 km/h).
19–30 yrs	1900 calories	2100 calories	2350 calories
31–50 yrs	1800 calories	2000 calories	2250 calories
51–70 yrs	1650 calories	1850 calories	2100 calories
71 yrs and older	1550 calories	1750 calories	2000 calories

Adapted from: Health Canada www.healthcanada.gc.ca. These values are based on average needs.

To calculate your individual estimated energy requirement visit Health Canada’s website at www.healthcanada.gc.ca and enter “estimating energy requirements” in the search field.

Daily dietary fat goals

This chart lists the number of grams of fat that equals 20%, 25% and 30% calories from fat for each of the calorie levels listed in the table above.

Calorie goal per day	grams fat per day		
	20%	25%	30%
1550	34	43	52
1650	37	46	55
1750	39	49	58
1800	40	50	60
1850	41	51	62
1900	42	53	63
2000	44	56	67
2100	47	58	70
2250	50	63	75
2350	52	65	78

Tips to Eating a Low-fat Diet

Prepare foods in ways that use less fat

Use steaming, poaching, baking or broiling instead of frying.

Try lower-fat recipes

Substitute lower fat ingredients in your favourite recipes, or try some new lower-fat recipes. Today's low-fat cookbooks describe many ways to cook using little or no fat. These books provide lower fat recipes for many traditional dishes. Most of them also have a section at the beginning explaining how to eat less fat. See *Cookbooks and books for healthy eating*.

Limit the amount of fat that you add to food

Instead of ...

- butter on a baked potato
- margarine on toast
- butter on cooked vegetables
- mayonnaise on a sandwich
- cream in coffee or tea
- regular salad dressing
- cream sauce for pasta

Try ...

- light sour cream, plain yogurt or salsa
- jam or honey
- lemon, garlic and/or herbs
- mustard, chutney or cranberry sauce
- skim or low-fat milk
- low-fat or fat-free dressing
- tomato-vegetable sauce

Choose lower-fat foods

- Choose 1% or skim milk
- Choose lower fat or fat-free yogurt
- Choose lower fat cheeses (look for the percentage of milk fat [%MF] on the label and choose those with less than 20% [MF] milk fat)
- Choose lean meats, such as sirloin, loin, round, rump and extra lean ground beef, and trim off the visible fat. Limit processed meats such as bologna, wieners, bacon, sausages and pepperoni
- Remove the skin from poultry

Shop for lower fat foods

Limit foods that are processed with added fat. For example, breaded fish sticks contain added fat while fresh fish fillets do not. Also, French fries and potato chips contain added fat while boiled and baked potatoes do not. The same is true for fat that is added to food as condiments. For example, baked fish and a boiled potato are no longer low-fat choices when you add lots of butter, margarine or sour cream. Instead, try some of the flavouring ideas listed above.

Choose lower fat meals away from home

It's ok to indulge now and then, but with so many meals eaten away from home dining out is no longer a treat but a way of life for many people. Making healthier choices while dining out is easier if you prepare ahead and follow some of these tips:

- Check out the menu or the nutritional content of the meal choices in advance to help you make a healthier choice. More restaurants have their menus online and are also serving “heart healthy” meals which may be lower in fat.
- Many menu items can be made healthier with some simple changes. Before ordering take some time to look at the description on the menu and ask your server for more information about how the food is prepared.
- In general look for menu items that are baked, broiled, roasted, grilled, steamed, sautéed or in a tomato sauce as they are likely to contain less added fat. Dishes labeled deep-fried, pan-fried, basted, battered, breaded, creamy or crispy, au gratin, scalloped, in a cream sauce or Alfredo are likely to be higher in fat.
- Ask if vegetables or main dishes can be served without salad dressings or sauces, or on the side and use them sparingly. The same for condiments such as butter, mayonnaise, cheese or sour cream.
- Choose lower fat side dishes such as simply prepared vegetables and salads rather than French fries or onion rings.
- If portions are large, consider an appetizer as your main entrée, share a main entrée or take some home.
- If you do overindulge or have a larger meal consider making it the main meal of the day. If you eat more than you would normally then choose lighter fare for the rest of the meals of the day or week.
- Avoid buffets if you find you usually overeat when there are so many choices.

How can I get my fat intake down to 20% of total calories from fat?

Start by learning about fat. The type and amount of fat in foods varies widely. See *Appendix B: Fat Content of Common Foods*. You can use this list to choose foods that are low in fat and identify higher fat foods so that you can eat those foods less often and in smaller amounts.

Sorting out the fats

Saturated fats are found in:

- animal fats like lard, the fat on meat and the fat in gravy
- dairy fats like butter, cream, ice cream, sour cream and higher fat cheeses
- processed vegetable fats like shortening and hard margarine
- tropical fats like coconut oil, palm oil and cocoa butter

You can usually recognize saturated fats easily. Except for coconut and palm oils, these fats are solid at room temperature. Studies have shown that eating less saturated fat reduces the risk of developing heart disease and possibly some forms of cancer.

Choose these fats less often.

Monounsaturated fats are highest in:

- vegetable oils, especially canola, peanut and olive oils
- avocados
- olives
- nuts, especially almonds, hazelnuts and macadamia nuts

Health experts consider these fats beneficial.

Polyunsaturated fats are found in:

- most vegetable oils other than coconut and palm oils
- seeds and nuts
- fatty fish such as salmon, trout, mackerel, herring and sardines

These fats are also considered beneficial. Omega 3 and omega 6 fatty acids are polyunsaturated fats needed to stay healthy.

Omega 3 fatty acids are highest in:

- flaxseeds and walnuts
- flaxseed, canola and soybean oils
- wheat germ
- fatty fish such as salmon, trout, mackerel, herring, sardines and char

Omega 6 fatty acids are highest in:

- safflower, corn, sunflower and soybean oils
- sunflower, sesame, poppy and pumpkin seeds
- wheat germ

Why are omega 3 and omega 6 fatty acids important?

Your body cannot make omega 3 and omega 6 fatty acids so you must get them from your diet. Most Canadians get enough omega 6 fatty acids, but not enough omega 3 fatty acids. Omega 3 fatty acids are essential, but you only need 1–2 g daily. You should be getting enough if you eat foods high in omega 3 fatty acids often, for example, including fatty fish twice weekly and using canola oil for cooking. Eating large amounts of foods high in omega 3 fatty acids will not provide added benefit – it will only increase the total fat in your diet.

What are trans fatty acids and why are they a problem?

A small amount of trans fatty acids (also called trans fat) naturally occurs in foods but the majority are formed when manufacturers use a chemical process called hydrogenation, which turns liquid fats such as vegetable oils into hard fats such as shortening or hard margarine. Eating a diet that is high in these fatty acids may raise your “bad” blood cholesterol and lower the “good” cholesterol.

Foods made with partially hydrogenated vegetable oil, shortening or hard margarine contain trans fats. Commercially prepared foods may be high in trans fats, such as cookies, cakes, baked goods, packaged mixes, crackers, deep fried foods and chips.

You can limit trans fats in your diet by reducing the amount of deep fried, packaged and processed foods you eat, particularly foods that have the words “partially hydrogenated oil”, “hydrogenated vegetable oil” or “vegetable shortening” as an ingredient on a food label. When eating packaged foods, buy foods with the least amount of trans fat per serving. The Nutrition Facts table of packaged foods lists the amount of trans fats in a food as “Trans”.

I recently heard that butter is better for us than margarine.

This surprised me. Which is better?

Both butter and margarine can be included in a healthy diet when used in small quantities. They are both high in fat and calories providing 4 g of fat and 36 calories per teaspoon. The difference is that butter and margarine contain different types of fat. Butter contains cholesterol and saturated fat. Hard margarines (the kinds sold in a brick) contain trans fatty acids. Soft “non-hydrogenated” margarines however contain mainly unsaturated fats and very little or no trans fatty acids. Therefore a soft-tub margarine that is labeled as “non-hydrogenated” is a better choice than a hard margarine. Overall, whether you choose butter or soft-tub margarine, the most important thing is to limit the total amount that you use. For more information on types of fat see page 24.

What kind of fat should I use for cooking and in salads?

Vegetable oils are a better choice than hard fats such as butter, lard or shortening. Even in baking, oil is a better choice. See *Cookbooks and books on healthy eating* for recipes for muffins, pizza crusts and breads that use small amounts of vegetable oil.

Which oil is best?

Olive oil is a good choice because it is high in monounsaturated fats with several health benefits and an appealing flavour. The flavour is richest in the oil that is taken first from the olives – the “extra virgin” oil – and is particularly tasty with salads. Some people use it on crusty bread instead of butter or margarine.

Canola oil is another good choice that is high in monounsaturated fats. It also has the lowest amount of saturated fat and a good balance of omega 3 and omega 6 fatty acids. Canola oil is less expensive than olive oil so you may want to mix canola and olive oils for your cooking oil. That way you get the advantages of both.

Flaxseed (linseed) oil and walnut oil are also good sources of omega 3 fatty acids. If you use one of these oils, buy a small quantity and store it in the refrigerator. It should keep well for up to two months. Flaxseed oil, unlike ground flaxseed, does not contain phytoestrogens (plant estrogens).

PHYSICAL ACTIVITY

Participation in regular physical activity has a number of health benefits and has been shown to be safe for women with breast cancer. Being active can help you take control of your physical and mental health. It also helps to achieve weight loss and to maintain weight loss or a healthy body weight. Physical activity increases the success of any weight loss program and allows you to eat a more realistic and balanced diet while still losing weight. The key is to choose physical activity as part of your lifestyle (for example, walking to work, taking the stairs) and to participate in activities that you enjoy.

Exercise helps in many ways. This includes:

- lowered risk of common health concerns such as high blood pressure, heart disease and osteoporosis
- less side effects of treatment such as less fatigue, nausea and pain
- improved energy
- better sleep
- weight control
- feeling better about yourself and the way you look
- better sexual functioning
- improved mood
- overall, improved well-being

Use the *Canadian Physical Activity Guidelines* to build physical activity into your daily life. It provides guidelines on the amount of daily physical activity recommended to stay healthy or improve your health.

A variety of programs and services can help to support you in being more physically active. The following services may be available in your community:

- commercial exercise gyms
- community centres
- employee wellness centres/programs
- activity clubs
- university athletic programs
- community continuing education programs

Exercise for Health: An Exercise Guide for Breast Cancer Survivors is a helpful booklet. To get a free copy see page 56.

Canadian Physical Activity Guidelines

FOR ADULTS - 18 – 64 YEARS

Guidelines



To achieve health benefits, adults aged 18-64 years should accumulate at least 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week, in bouts of 10 minutes or more.



It is also beneficial to add muscle and bone strengthening activities using major muscle groups, at least 2 days per week.



More physical activity provides greater health benefits.

Let's Talk Intensity!

Moderate-intensity physical activities will cause adults to sweat a little and to breathe harder. Activities like:

- Brisk walking
- Bike riding

Vigorous-intensity physical activities will cause adults to sweat and be 'out of breath'. Activities like:

- Jogging
- Cross-country skiing

Being active for at least 150 minutes per week can help reduce the risk of:

- Premature death
- Heart disease
- Stroke
- High blood pressure
- Certain types of cancer
- Type 2 diabetes
- Osteoporosis
- Overweight and obesity

And can lead to improved:

- Fitness
- Strength
- Mental health (morale and self-esteem)

Pick a time. Pick a place. Make a plan and move more!

- Join a weekday community running or walking group.
- Go for a brisk walk around the block after dinner.
- Take a dance class after work.
- Bike or walk to work every day.
- Rake the lawn, and then offer to do the same for a neighbor.
- Train for and participate in a run or walk for charity!
- Take up a favourite sport again or try a new sport.
- Be active with the family on the weekend!

Now is the time. Walk, run, or wheel, and embrace life.



www.csep.ca/guidelines

Canadian Physical Activity Guidelines

FOR OLDER ADULTS - 65 YEARS & OLDER

Guidelines



To achieve health benefits, and improve functional abilities, adults aged 65 years and older should accumulate at least 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week, in bouts of 10 minutes or more.



It is also beneficial to add muscle and bone strengthening activities using major muscle groups, at least 2 days per week.



Those with poor mobility should perform physical activities to enhance balance and prevent falls.



More physical activity provides greater health benefits.

Let's Talk Intensity!

Moderate-intensity physical activities will cause older adults to sweat a little and to breathe harder. Activities like:

- Brisk walking
- Bicycling

Vigorous-intensity physical activities will cause older adults to sweat and be 'out of breath'. Activities like:

- Cross-country skiing
- Swimming

Being active for at least 150 minutes per week can help reduce the risk of:

- Chronic disease (such as high blood pressure and heart disease) and,
- Premature death

And also help to:

- Maintain functional independence
- Maintain mobility
- Improve fitness
- Improve or maintain body weight
- Maintain bone health and,
- Maintain mental health and feel better

Pick a time. Pick a place. Make a plan and move more!

- Join a community urban poling or mall walking group.
- Go for a brisk walk around the block after lunch.
- Take a dance class in the afternoon.
- Train for and participate in a run or walk for charity!
- Take up a favourite sport again.
- Be active with the family! Plan to have "active reunions".
- Go for a nature hike on the weekend.
- Take the dog for a walk after dinner.

Now is the time. Walk, run, or wheel, and embrace life.



www.csep.ca/guidelines

FREQUENTLY ASKED QUESTIONS

What about fibre? I've heard that it may protect us from cancer.

There is some evidence to show that eating foods higher in fibre may reduce the risk of developing some cancers. It is not known, however, whether a higher fibre diet decreases the risk of cancer recurrence including breast cancer. Fibre has many other health benefits and is recommended as part of a healthy diet.

Dietary fibre is found in plant foods such as:

- legumes (beans)
- lentils
- fruit
- vegetables
- whole grains
- nuts
- seeds

Animal foods such as dairy products, eggs, meat, fish and poultry do not contain fibre. See *Appendix C: Fibre Content of Common Foods*.

A healthy diet for women includes about 20–25 g of fibre daily. Eating plant-based foods such as beans and high fibre cereals will help you reach this goal. As well, you need a total of 7 or more servings of vegetables and fruit every day.

You can learn about the fibre in foods by reading the claims on labels:

- Very high source = 6 g or more of fibre in 1 serving
- High source = 4 g or more of fibre in 1 serving
- Source = 2 g or more of fibre in 1 serving

I'm thinking of eating a vegetarian diet. How can I make sure I'm getting all the nutrients I need? What about protein?

After diagnosis, some women consider following a vegetarian diet. The addition of more plant foods to the diet is a healthy choice whether or not you choose to follow a vegetarian diet. Vegetarian diets are defined by the types of foods that are included. Some vegetarian diets include milk and/or eggs. If you decide to eat a vegetarian diet that includes milk products, the only nutrient that needs special attention is iron. To improve the absorption of iron eat plant sources of iron together with foods that contain vitamin C. For food sources of iron and vitamin C, see *Appendix A: Food Sources of Common Nutrients*.

You may not get enough protein when following a “vegan” diet or a vegetarian diet because it excludes or limits animal products such as meat, eggs and milk. To get enough protein with this diet you need two servings daily from the Meat and Alternatives group listed in *Canada’s Food Guide*.

Several additional nutrients may also need special attention – namely calcium, zinc and vitamin B₁₂. For your calcium needs, you need to eat several large servings of plant sources of calcium and may need to consider a calcium supplement. For example, in one day you would need to eat 250 ml (1 cup) of cooked kale, 60 mL (¼ cup) of almonds and 125 mL (½ cup) of fortified orange juice in addition to a calcium supplement. To get enough zinc, you need regular servings of plant sources of zinc. For vitamin B₁₂, you need either a regular supplement or 5–15 mL (1–3 tsp) daily of nutritional yeast that contains added vitamin B₁₂. For plant food sources of calcium and zinc, see *Appendix A: Food Sources of Common Nutrients*.

You may need extra time when starting a vegetarian diet to learn how to plan meals and how to cook without meat. If you decide to make this change, a dietitian can help you get started. You can also get ideas from some of the cookbooks listed in *Cookbooks and books for healthy eating*.

I’ve also heard that phytochemicals help. What are they?

Phytochemicals are naturally occurring substances found in plants. The prefix “phyto” comes from the Greek word phyton, meaning “plant”. As part of a plant-based diet, phytochemicals may help to prevent cancer. Fruit, vegetables, whole grains and legumes (beans) – for example, broccoli, Brussels sprouts, garlic, onions and citrus fruits – are rich sources of phytochemicals. To lower your risk of cancer, eat the recommended number of servings for vegetables and fruit and whole grains from *Canada’s Food Guide*.

What you need to know

New evidence has found that soy foods are safe for breast cancer survivors when eaten in amounts similar to typical Asian diets (two servings per day). It is unclear whether soy has benefits beyond general health in terms of lowering the risk of breast cancer recurrence or improving survival. Soy supplements may contain a concentrated source of plant estrogens and therefore until more information is available women are advised to avoid soy supplements (eg. soy products in concentrated or pill form).

I've heard that soy is good for us, but I've also heard that it contains estrogen. Is it safe to eat soy foods or use supplements?

Soy foods such as soybeans, tofu and soy beverages are healthy foods. They are also a rich source of plant estrogens also known as phytoestrogens.

When soy foods are eaten beginning in childhood they may help reduce the risk of developing breast cancer. For many years there was a controversy about whether women with breast cancer should consume soy foods. New studies have found that soy foods are safe for breast cancer survivors when eaten in amounts similar to typical Asian diets (two servings per day). At this time it is unclear if soy has other benefits beyond general health in terms of lowering the risk of breast cancer recurrence or improving survival. Soy supplements may contain a concentrated source of plant estrogens and therefore until more information is available women are advised to avoid soy supplements (eg. soy products in concentrated or pill form).

Soybeans are considered legumes (beans). A typical serving of soy is: 250 ml (1 cup) soy beverage, 125 ml ($\frac{1}{2}$ cup) tofu, 60 ml ($\frac{1}{4}$ cup) roasted soy nuts, or 175 ml ($\frac{3}{4}$ cup) edamame. Other beans (chickpeas, kidney beans, black beans) and lentils (split peas, green lentils, red lentils) are also healthy additions to a plant-based diet.

Someone suggested that I should add flaxseeds to my diet. Can I?

Flaxseeds are a good source of fibre and a type of fat called omega 3 fatty acids. Similar to soy foods ground flaxseeds are a source of phytoestrogens (weak plant estrogens). Flaxseeds have a hard shell that the body is unable to digest and therefore the seed must be ground to get all of the nutritional benefits.

Flaxseed is safe when used in moderation (such as 1-2 Tablespoons ground flaxseed per day) as part of a healthy diet. It is unclear whether flaxseed has benefits beyond general health in terms of lowering the risk of breast cancer recurrence or improving survival.

A variety of other foods can be included in the diet as sources of omega 3 fats and fibre. See Omega 3 fatty acids (page 25) and *Appendix C: Fibre Content of Common Foods*.

I've heard that women who have had breast cancer should avoid milk products because they contain estrogen. Is this true?

It is natural to be concerned about hormones in food because we know that the hormone estrogen may stimulate certain forms of breast cancer. In Canada, hormones are not approved for use in dairy cattle and therefore milk does not contain a significant source of hormones.

What about growth hormones in meat?

Growth hormones are not approved for use in Canada in chickens or pigs or added to their feed. However, hormones may be used in beef cattle. One of the growth hormones used is a form of estrogen that occurs naturally in animals and humans. Any residues of these hormones in meat are very small when compared to the amount of estrogen a woman produces daily. Residues are thought to be stored in fat – you can lower your intake of these residues by choosing leaner cuts of meat, trimming visible fat or choosing other foods from the Meat and Alternatives group of *Canada's Food Guide*.

I'm concerned about pesticides in the food supply. Is buying organically grown food the answer?

Pesticides used in farming have the potential to build up in the body, which has caused concern for the risk of developing cancer. Current evidence suggests there may be a possible association between pesticides and some cancers. However, the association is not clear and more research is needed. Additional research is needed to determine if pesticides are associated with an increased risk of breast cancer. Overall, it is believed that the potential risks associated with pesticides are not as great as the nutritional value of plant foods and their role in cancer prevention and promoting good health. Therefore whether you choose organic or not it is important to eat a diet rich in fruits and vegetables and obtain the recommended servings each day.

The Canadian Food Inspection Agency (CFIA) regulates and monitors pesticide residues on vegetables and fruit sold in Canada. They estimate that the majority of produce have pesticide residue levels below the set limit. When tests show that residues are over the set limit, CFIA takes steps to keep the produce from being sold. For more information about the standards used in testing foods for pesticides, contact the Canadian Food Inspection Agency (1 800 O-Canada or 1 800 622-6232) or visit Health Canada's website at www.healthcanada.gc.ca (enter "food safety" in the search field).

What you need to know

How to minimize pesticide residues

- wash all produce thoroughly with running water
- use a small scrub brush to clean the outer skin of vegetables and fruit
- peel vegetables and fruit and trim the outer leaves of leafy vegetables, along with washing them thoroughly

Organic vegetables and fruit

At this time, there is no solid evidence proving that organic vegetables and fruit are better at reducing your cancer risk than similar foods produced by other farming methods. A few studies suggest that the nutrient values vary and that organic foods can have either a higher or lower amount of vitamins and minerals compared to conventionally grown produce.

Organic vegetables and fruit (continued)

The Canadian government has created a national system for labeling organic food. You may see the “Canada Organic” logo on products that meet the national standard for certification. The national organic standard covers agricultural products including fruit, vegetables, grains, dairy products and meat.

The Canadian Cancer Society is monitoring research in this area. For more information, see the Canadian Cancer Society website at www.cancer.ca. From the website, enter “pesticides on vegetables and fruit” in the search field. You may also search “organic products” for information on Canada’s Organic Products Regulation.

Do I need to take vitamin or mineral supplements since my diagnosis?

Women diagnosed with breast cancer may need more of specific nutrients such as calcium and vitamin D because bone loss may be a side effect of chemotherapy or some types of treatments. Talk to your doctor before starting supplements, particularly if you are currently undergoing or have just finished treatment.

Calcium: The amount of calcium you need is based on your age and your risk of bone loss. Calcium needs range from 1000–1200 mg daily (from all sources) but intake should not be more than 2000 mg (for 51+ years) and 2500 mg (19-50 years). Talk to your doctor to determine the amount of calcium you need daily.

General recommendations for women with breast cancer are:

- Women under 50 years of age: 1000 mg of calcium daily
- Women over 50 years of age: 1200 mg of calcium daily

If you are postmenopausal as a result of cancer treatment or are taking a hormone therapy that causes bone loss (regardless of age) 1200 mg of calcium is recommended daily.

Vitamin D: Research is ongoing about the role of vitamin D and the ideal amount. As well various health benefits of vitamin D are not yet fully understood. At present research is too preliminary to recommend vitamin D to prevent breast cancer recurrence or improve survival.

Several organizations have made recommendations for vitamin D ranging from 400 IU to 1000 IU (international units) daily depending on age and other factors.

Health Canada recommends that everyone over the age of 50 should take a daily vitamin D supplement of 400 IU.

The Canadian Cancer Society suggests you consider the following recommendations in consultation with you healthcare provider:

- Adults living in Canada should consider taking vitamin D supplementation of 1000 IU daily during the fall and winter.
- Adults at higher risk of having lower vitamin D levels should consider taking a vitamin D supplement of 1000 IU daily all year round.

While recommendations vary, daily intake should not exceed 4000 IU.

How can I get enough calcium?

Aim to meet your calcium needs through food when possible. By following *Canada's Food Guide*, most women will get approximately 850 mg to 1350 mg of calcium daily. A supplement of calcium may be considered by women who do not eat enough foods rich in calcium to meet their daily needs. See also *Appendix A, Food Sources of Common Nutrients* for food sources of vitamin B₁₂, vitamin D and calcium.

Should I take antioxidant supplements to protect against cancer returning?

Antioxidant supplements include vitamin C, vitamin E, selenium and beta-carotene. Large doses of antioxidant supplements haven't been shown to be effective in reducing the risk of cancer recurrence. Also, some supplements may cause side effects. Until there is more evidence women are recommended to follow a diet that includes antioxidant rich foods like vegetables, fruit and whole grains. See *Vitamin and mineral supplements during treatment* (page 41).

I am taking hormone therapy. Do I need to be careful about what I eat?

Several types of hormone therapy are used to lower the risk of breast cancer recurrence. Some types of hormone therapy such as aromatase inhibitors may lead to bone loss, which over time could result in osteoporosis. It is important that women taking aromatase inhibitors get enough calcium and vitamin D to help reduce the risk of bone loss. See pages 35-36 for recommendations for calcium and vitamin D.

Consult your doctor if you have questions about whether the type of hormone therapy you are taking affects your bone health.

Some foods (soy and flaxseed) are a source of plant estrogens. These foods are safe when eaten in moderation as part of a healthy diet. See Frequently Asked Questions: *Is it safe to eat soy foods or use soy supplements* (page 32) and *Someone suggested that I should add flaxseeds to my diet. Can I?* (page 33)

I am having hot flashes due to tamoxifen. Is it true that supplements of vitamin E can help?

Many women consider using vitamin E to help reduce menopausal symptoms associated with tamoxifen, as well as early menopause resulting from chemotherapy. Vitamin E has not been shown to reduce hot flashes. In addition, supplements of 400 IU or greater are associated with negative effects and should be used only on the advice of your doctor.

Other supplements such as evening primrose oil (some products), soy, red clover and black cohosh have also been suggested as “natural therapies” for treating hot flashes. These substances however contain plant estrogens (possibly in concentrated amounts) and therefore may not be recommended for women with breast cancer until more information is available.

Are there any natural health products (supplements) that I shouldn't take?

Many supplements contain hormones (also known as plant estrogens) and therefore may not be recommended for women who have had breast cancer. Consult with your doctor before using natural health products.

How much calcium do I need to prevent osteoporosis? Do I need extra magnesium?

Osteoporosis is caused by a variety of factors. Not getting enough dietary calcium is one of the risk factors. Vitamin D is also important in bone health. The amount of calcium and vitamin D that a woman has been getting over many years is what seems to make a difference in preventing osteoporosis. For women with breast cancer, meeting the recommendation for calcium and vitamin D is important because bone loss may be a side effect of chemotherapy or some types of hormone therapy. See *Frequently Asked Questions: Do I need to take vitamin and mineral supplements since my diagnosis?* (page 35) for recommendations on how much calcium you need.

It is uncommon for women to need magnesium supplements as long as they eat a wide variety of nutritious foods. See *Appendix A: Food Sources of Common Nutrients* for good sources of calcium, vitamin D and magnesium.

Is it okay to drink coffee and tea?

Regular coffee and black tea both contain caffeine. Caffeine is a cause of concern to many women. However, currently there is no evidence linking caffeine to an increased risk of developing breast cancer or to its recurrence. Some women with painful, non-cancerous breast lumps find that they have less pain when they avoid caffeine. Therefore, avoiding tea and coffee may be helpful for these women. Because caffeine is found in chocolate and cola drinks, limiting these foods and beverages may also be helpful. Drinking coffee and tea at meal times decreases a person's absorption of the iron in plant foods. As well, many people have trouble relaxing and sleeping when they get a lot of caffeine. For most other women, food and beverages containing caffeine can be enjoyed in moderation, which is usually defined as up to 1 litre (4 cups) of coffee per day.

I've read that sugar is bad for the immune system. I've also heard that sugar "feeds" cancer. Do I need to avoid all forms of sugar?

The widespread idea that eating sugar is bad for your immune system is misleading. It is probably based on the fact that high levels of blood sugar (as in uncontrolled diabetes) reduce the activity of some cells in the immune system. Under normal conditions however, eating sugar does not produce high blood sugar levels. Instead, the body makes extra insulin to keep levels within a safe range. Although sugar provides empty calories it does not appear to harm the immune system.

The fear that sugar feeds cancer may be based on the fact that cancer cells like other healthy cells in the body use sugar as a source of energy. While this is true, it's not possible to prevent cancer cells from using sugar by eliminating sugar from your diet.

Although sugar itself is not harmful, it should be used in moderation. This is because sugar (whether from molasses, honey, white or brown sugar) and sugary foods (like soft drinks, candy and desserts) are high in calories and usually low in other nutrients. For this reason, sugary foods are sometimes called “empty calories” and should only be eaten in small quantities. Healthy foods such as fruit and whole grains that are a source of natural sugars and other nutrients are encouraged.

I've read that alcohol may be linked to breast cancer risk.

Is an occasional drink okay?

There is strong evidence that drinking alcohol leads to an increased risk of developing breast cancer. Even low levels of alcohol consumption (just over 1 drink per day) can increase a woman's risk of breast cancer. After a diagnosis of breast cancer the effect of alcohol is less clear. Some studies suggest that alcohol may increase the risk of recurrence of breast cancer, while other studies examining the effect on survival have shown no effect and in some cases a benefit. Some studies have shown improved survival possibly because of the protective effect of alcohol on heart disease.

Overall for women interested in breast cancer prevention or its recurrence avoiding alcohol may be prudent. If you choose to drink alcohol limit consumption to less than one drink per day (for women).

One serving of an alcoholic beverage is equal to one of the following: 145 mL (5 oz) glass of wine, or 350 mL (12 oz) bottle of beer, or 45 mL (1.5 oz) glass of spirits (whiskey, rye, gin).

EATING DURING TREATMENT

Eating well is one of the best ways to keep your body healthy during cancer treatment. However, there may be days following your treatments when you don't feel like eating.

Everyone reacts differently to cancer treatment. Even though two women have the same kind of chemotherapy, one woman may become nauseated while the other has little or no nausea. Even from one treatment to the next, a woman's experience may change. With current treatments it is also possible that some women may not experience side effects that significantly affect eating.

For more information on managing side effects from your treatment:

- Contact your doctor or a dietitian at your cancer treatment centre
- Get a free copy of *Eating Well When You Have Cancer: A guide to good nutrition* from the Canadian Cancer Society (see website at www.cancer.ca or call 1 888 939-3333)
- Call a dietitian at HealthLinkBC (Dial 8-1-1 for residents of British Columbia)

Your nutritional needs

Your body needs energy (calories) from the food we eat and protein during cancer treatment to promote healing, keep your body healthy and maintain a strong immune system.

Foods that are sources of protein are listed in *Appendix A: Food Sources of Common Nutrients*. Eating the recommended number of servings from all four food groups in *Canada's Food Guide* will allow you to get all the energy, protein, vitamins and minerals your body needs.

Fluids are important during treatment to protect your bladder and kidneys from the effects of chemotherapy drugs. Everyone needs at least two litres (8 cups) of fluid every day. Try to drink more than this amount on the day before your chemotherapy treatment and for two or three days afterwards. If you don't like the taste of tap water, try adding a slice of lemon or a few drops of lemon or lime juice. Some women find that carbonated water (soda water) tastes better at this time. Other choices are fruit juice, popsicles, yogurt, soup, sherbet, hot cereal, milk, pudding and decaffeinated tea and coffee.

Regular coffee and regular tea are not the best fluid choices because they are diuretics (that is they can cause water loss).

Vitamins and minerals perform many functions. They are important during cancer treatment to heal and protect body tissues and to maintain a strong immune system. Foods that are good sources of important vitamins and minerals are listed in *Appendix A: Food Sources of Common Nutrients*. If you are not able to eat your normal diet for a few days, you do not need to take a multiple vitamin and mineral supplement. However, if you are unable to eat normally for a longer time, you may wish to take a daily multiple vitamin and mineral supplement. More than one vitamin pill daily is not necessary and could be harmful. Other vitamin and mineral supplements may be recommended for some women. See *Frequently Asked Questions: Do I need to take vitamin and mineral supplements since my diagnosis?* (page 35).

What you need to know

Vitamin and mineral supplements during treatment

Larger amounts of supplements

Large doses of certain vitamins and minerals have not been shown to boost the immune system in well nourished people or be beneficial for other reasons, and could cause harm. These doses are often much larger than the levels found in foods or in a multiple vitamin and mineral supplement. If you decide to take large doses of vitamins or minerals during treatment, check with your doctor first.

Supplements and antioxidants

Health experts use the term “antioxidant” to refer to substances that protect the cells in our bodies. Examples are beta-carotene, vitamin C, vitamin E and selenium. There is concern that large amounts of antioxidants from supplements may interfere with cancer treatments. At present, the use of antioxidant supplements is not recommended during chemotherapy and radiation treatments. If you have questions about antioxidants, speak with a dietitian, pharmacist or your doctor. Foods rich in antioxidants, however, are safe to eat during cancer treatment as part of a varied diet based on *Canada’s Food Guide*. A daily multiple vitamin and mineral supplement that contains small amounts of a wide variety of nutrients including antioxidant nutrients is also acceptable.

Coping with treatment side effects

Chemotherapy and radiation therapy may temporarily damage normal cells while they are destroying cancer cells. Until the healthy cells heal, the damage can lead to side effects that make eating difficult during treatment. Many women undergoing chemotherapy may have difficulty eating for several days after their treatment and may experience a change in appetite, nausea and fatigue or other side effects. After the first week of chemotherapy, many women can often return to their regular meals with few changes, until their next treatment.

Most women who have radiation therapy to treat breast cancer do not experience significant difficulty eating. The goal at this time is to eat a balanced diet.

Change in appetite

If you don't feel like eating, choose the foods that you find appealing and don't worry if some of them are not nutritious. There is nothing wrong with eating cookies or drinking a soft drink if it makes you feel better. A few unhealthy food choices won't make your diet unhealthy. If you have days when nothing else appeals, these foods will help to keep up your energy level. If you are not able to eat a healthy diet for a few days, you can improve your food choices after the poor appetite, nausea or other side effects have improved.

Feeling tired

Both chemotherapy and radiation therapy can make you feel tired. Below are tips that may help when your energy is low. These tips may also be helpful during the several months after your treatments before your energy improves:

- Ask your family and friends to make your favourite soups and casseroles. Give these people a gift by letting them help you.
- Freeze prepared foods in one-serving portions so you can have an easy meal when you don't feel like cooking.
- Ask family and friends to help with shopping and other chores. Tell them ahead of time which days you will need help.
- Arrange for a food-shopping-and-delivery service. Many grocery stores will provide this service for a small fee. Some locations have online grocery shopping.
- Buy frozen meals to keep on hand for times when you don't feel like cooking.
- Try to keep active. Moderate physical activity like walking can make you feel less tired.

Nausea

Nausea can usually be controlled by an anti-nausea medication. Food choices can also help to control nausea. Some women find that keeping servings small and eating frequent snacks helps. Often just the sight of a normal-sized meal can make nausea worse.

Simple foods without a strong smell seem to be easier to eat. If possible, avoid the smell of cooking which may make nausea worse. Cold foods, such as those listed below may be easier to manage. For some women, dry, starchy foods like crackers take away the empty-stomach feeling that makes nausea worse.

Food ideas to help you cope with nausea:

- chicken soup
- steamed rice
- crackers and lower-fat cheese
- toast, dry or spread with honey
- cottage cheese with fruit
- chilled canned pears or peaches
- yogurt
- plain noodles
- fruit juices
- melon
- flat ginger ale

Taste changes

Changes in your sense of taste can make food unappealing. Some women having chemotherapy say that food has an unpleasant metallic taste for a few days. While each woman's experience is often unique, foods that are high in protein, like meat, may be especially unappealing. Other women can tolerate only bland foods while still others find that tart (sour) fruit taste good. Some become sensitive to the taste of plastic mugs or metal cutlery.

If you experience taste changes, experiment with foods. Different flavours or textures may be appealing at different times. There usually is something that tastes normal and can be used to make other foods more appetizing. For example, if fruit tastes good, try a fruit yogurt or chicken marinated in fruit juice. A mixture of fruit juice and soda water may also be appealing.

Rinsing your mouth with a solution of baking soda should be soothing and may reduce taste changes. Mix 1 mL ($\frac{1}{4}$ tsp) of baking soda with 250 mL (1 cup) of water. Carbonated water also makes a good mouthwash.

Sore mouth

Some chemotherapy drugs can cause your mouth to be sore. If you develop mouth sores, choose foods that are soft-textured and mild-flavoured. Avoid foods that are sharp-flavoured, especially acidic foods. Also, let hot foods cool before eating them. Make sure some of your foods are high in protein.

Soothing food ideas include:

- a variety of fruit including banana, papaya, watermelon, canned pears or peaches
- juices (carrot) or nectars (pear, apricot)
- soy beverages
- mild flavoured soups such as pureed vegetable, lentil or cream soup
- milk, cottage cheese, yogurt, frozen yogurt, pudding, ice cream, sherbet or custard
- cold cereal soaked in milk
- hot cereal
- poached or scrambled eggs
- strained baby foods

If you don't feel like eating solid foods, try a drink made in a blender like a milkshake. A recipe for a drink that is a good source of energy and protein is provided below. Try variations by adding your favourite fruit or yogurt.

High Protein Milkshake

250 mL (1 cup) skim or 1% milk

60 mL (¼ cup) skim milk powder

1 scoop (¾ cup) light ice cream, ice milk, or frozen yogurt

125 mL (½ cup) berries or peaches or half a banana

Blend until smooth. Chill before serving. Makes 1 serving.

Nutrition Information: 285 calories, 19 g protein, 4 g fat (using skim milk and ice milk).

If you need extra calories, substitute whole milk and/or ice cream in this recipe.

You may decide to use a commercial nutritional supplement like Ensure®, Boost® or Nestle Carnation Breakfast Anytime®. These nutritional supplements have similar nutritional value as a homemade milkshake but offer more convenience. These products are sold in most drug stores and in some grocery stores. Most are ready-to-serve drinks or are powders that are mixed with milk. You can vary the flavour of these products by blending them with frozen fruit, banana, cocoa powder or other flavours. Blending with ice cubes makes a refreshing “slushie”.

Diarrhea

Some types of chemotherapy cause diarrhea. Depending on the severity it may help to temporarily decrease high fibre foods like high fibre cereals, whole grain products and the skins and seeds of fruit and vegetables. See *Appendix C: Fibre Content of Common Foods*. If drinking milk makes the diarrhea worse try lactose-reduced milk, for example Lactaid®. Lactose-reduced milk is available at most supermarkets. A dietitian can give you more suggestions for dealing with diarrhea. If it persists, ask your doctor to prescribe an anti-diarrhea medication.

Constipation

Prescription pain and anti-nausea medications can cause constipation that can last for several days after chemotherapy treatment. If you develop constipation as a side effect of medication, ask your doctor about using stool softeners and laxatives.

You can soften bowel movements by drinking lots of fluids. Some women may find a cup of hot water before breakfast helps. If you are not taking prescription pain medications, then eating high fibre cereals, whole grains and vegetables and fruit may also help keep bowel movements regular and soft. Drinking plenty of fluids is particularly important while following a high fibre diet. See *Appendix C: Fibre Content of Common Foods*.

Prunes are a natural laxative. Keep prunes and prune juice on hand and use them for several days before and after your chemotherapy treatment. The recipe below makes a pleasant-tasting, natural laxative.

Fruit Lax

125 mL (1/2 cup) pitted dates

175 mL (3/4 cup) raisins

175 mL (3/4 cup) prune nectar

125 mL (1/2 cup) pitted prunes

125 mL (3/4 cup) figs

Cook dates and prune nectar on low heat until dates are very soft. Put date mixture in a blender and add figs, raisins and prunes. Blend to a smooth paste. Store in the refrigerator. Use on toast, crackers, ice cream, etc.

Weight gain

Weight gain is common in women with breast cancer. It most often occurs during chemotherapy but can be experienced by women who are treated with radiation therapy and hormone therapy or even just in response to the diagnosis of breast cancer. This weight gain is likely due to many factors that affect calorie balance. For example, eating and exercise habits may change as a result of reduced energy or fatigue, stress, nausea or a change in appetite.

Even though it is common, not all women gain weight. Even though women are on the same therapy, there will be women who gain weight, women who lose weight and women who stay at the same weight. Healthy eating and exercise are ways you can prevent weight gain or in some cases gradually lose weight during treatment. It is important to consult your doctor before trying to lose weight at this time. See *Maintaining a healthy body weight*.

Weight loss

Some women with breast cancer may want to lose weight, however weight loss can be unhealthy if it results from a poor appetite and difficulty eating due to side effects from treatment. Rapid weight loss under these conditions can lower your energy level and slow recovery from treatment.

If you are experiencing uncontrolled weight loss during treatment, eat frequent meals and snacks and choose high-energy, nutritious foods.

Nutritious food ideas include:

- casseroles and stews
- thick soups
- sandwiches
- macaroni and cheese
- scrambled or poached eggs
- humous and pita bread
- bread with nut butter
- crackers and cheese
- cottage cheese
- whole grain muffins
- oatmeal cookies
- trail mix (nuts and dried fruit)
- yogurt
- milkshakes (see recipe page 44)

Try not to skip meals or snacks when you are busy. Snacks can be as simple as a muffin or a piece of fruit or hummus with pita bread. Keep a list of the foods you enjoy, and use these foods when you find food unappealing. If you continue to lose weight, consult a dietitian.

If you need to lose weight, see *Maintaining a healthy body weight*.

COMPLEMENTARY THERAPIES

Many women think about using complementary therapies after a diagnosis of breast cancer or they may be suggested by friends and family. Some women feel that these therapies are helpful whereas other women may not find a benefit.

Choosing whether or not to use a complementary therapy is a personal decision. The answer is not the same for everyone. If you're thinking about trying a complementary therapy during or after your conventional cancer care, be sure to make a safe and informed choice.

Making a safe and informed choice means:

- understanding the differences between conventional, complementary, integrative and alternative therapies
- finding out as much as you can about the complementary therapy you are thinking about, including possible benefits and risks
- talking to your healthcare team about the complementary therapy and how it may interact with the care you are receiving

Conventional cancer treatments are those accepted and widely used today to treat people in the Canadian healthcare system. Conventional cancer treatments, such as surgery, chemotherapy and radiation, focus on interfering with the cancer's ability to grow and spread.

Complementary therapies are a wide range of therapies and remedies that may be used together with conventional cancer treatment. The purpose of a complementary therapy is not to treat the cancer itself. Complementary therapies may help a person cope with cancer, its treatment or side effects and to feel better. Complementary therapies may include massage, acupuncture, meditation, various diets and natural health products such as herbal remedies and dietary and vitamin or mineral supplements.

Integrative cancer therapy is a comprehensive approach to treating people. It offers the best of both complementary and conventional medicines. At cancer centres with integrative care, complementary therapies are offered along with conventional cancer treatments by a team of health professionals from both fields.

Alternative therapies are those used in place of conventional treatments. They are considered scientifically unproven therapies.

What you need to know

There are currently no complementary therapies proven to treat cancer.

Some complementary therapies may help to improve side effects of treatment or quality of life. There is limited scientific evidence on most complementary therapies which makes it difficult to determine the possible benefits and risks, including potential interactions with cancer treatment.

You should discuss your interest or use of complementary therapies with your doctor because these therapies might:

- lower the effectiveness of your conventional treatment
- interact with your cancer treatment
- affect tests results used to follow your disease

Natural health products

These products come in many forms, including teas, liquid extracts, capsules, powders, and tablets. Many complementary therapies make use of natural health products (NHPs). Natural health products include:

- herbs
- vitamins and minerals
- homeopathic medicines
- traditional medicines such as traditional Chinese medicines
- other products like amino acids and essential fatty acids
- probiotics (healthy bacteria)

The number of supplements on the market is vast and increasing all the time. Health Canada has rules that govern NHPs, but they do not cover NHPs bought in other countries or over the Internet. The Canadian regulations help to make sure that NHPs are well prepared, safe to use, helpful and come with instructions on how they should be used. When buying a NHP, look for either a NPN (Natural Product Number) or DIN-HM (Drug Identification Number-Homeopathic Medicine).

Potential harmful effects

Some people assume that because a health product is labeled “natural”, it is safe. NHPs, like drugs, may have side effects that can be serious. Examples with known harmful effects are chaparral, comfrey, ephedra and lobelia.

For women with breast cancer it is important to know that many NHPs may contain hormones (also known as plant estrogens) with estrogen-like effects and therefore may not be recommended. Some of these natural health products such as black cohosh and evening primrose oil (EPO) are commonly used to treat hot flashes associated with menopause. See *I am having hot flashes due to tamoxifen. Is it true that supplements of vitamin E can help?* (page 37)

Be sure to tell your doctor or the clinic nurse if you are considering using any herb or other preparation, either during or after your cancer treatments.

What you need to know

Many natural health products may contain hormones (also known as plant estrogens) and therefore may not be recommended for women with breast cancer. Consult with your doctor before using these products.

Complementary diets

Popular diets used by some women with breast cancer may include a macrobiotic diet, Gerson therapy, food combining, low acid/alkaline diet or a diet based on blood type. The effects of these diets on breast cancer recurrence or survival have not been evaluated. These diets vary widely. There may be risks associated with following certain diets if they eliminate or limit various foods such as meat, milk and eggs or specific fruit and vegetables, and do not include alternate sources of protein or various nutrients. In some cases diets that are restrictive can lead to unhealthy weight loss and possibly nutrient deficiencies. If you have questions consult a dietitian for help.

When considering nutritional complementary therapies

There are many things to think about as you decide whether to use complementary therapies. When you are trying to decide, first ask yourself some basic questions: Why do I want to use this complementary therapy? What are my goals and expectations? Are they realistic?

It is important to make an informed choice and to be sure that whatever you plan is safe. The following questions will help you evaluate complementary nutritional therapies.

Does the therapy recommend that you avoid certain foods?

Learn all about the therapy. If it eliminates one or more of the four food groups in the *Canada's Food Guide*, you will miss important nutrients. Ask the person promoting the therapy to explain how your nutritional needs will be met without these foods.

Does the therapy include vitamin or mineral supplements? If so, are the prescribed levels safe?

If you are considering using vitamin or mineral supplements, it is important to know that large amounts of supplements can have drug-like effects on the body or interact with your cancer treatment. Even if you plan to take amounts considered safe, you should check with your doctor before taking supplements. Your doctor may advise you to avoid certain supplements or to use them for only a limited time.

Are there any side effects to watch for with the complementary therapy?

Some people lose weight or experience side effects as a result of following special diets. Undesired weight loss can lead to fatigue and also slow down healing and delay recovery from treatment.

How expensive is the therapy?

Special diets may be more expensive than a regular diet. As well, using vitamin and mineral supplements or herbal preparations can become costly over time. These therapies are not covered by health plans.

Does the therapy mean giving up things that are important to you, for example, family dinners?

Some diets may be hard to follow for a long time. To use the words of one woman, “regardless of what you are doing with complementary or alternative therapies, you still have to be able to live your life in a way that has meaning for you”. In other words the diet should not deprive you of things you really enjoy.

Have other women been helped by the therapy?

Ask for written information about results with the diet. Be sure that you hear or read enough to decide that it is right for you.

For further information on complementary therapies contact the Canadian Cancer Society toll-free at 1 888 939-3333 to request a free copy of *Complementary Therapies: A guide for people with cancer*.

Recommended websites for complementary therapies:

Name and web address	Website content
<p>BC Cancer Agency www.bccancer.bc.ca Select “Complementary and Alternative Cancer Therapies” under Patient/Public Info</p>	<p>Tips/questions to ask about complementary therapies and information on specific therapies.</p>
<p>Health Canada www.hc-sc.gc.ca Select “Drugs & Health Products”, then “Natural Health Products”</p>	<p>Information on Canadian natural health product definition and regulations.</p>
<p>CAMline www.camline.ca</p>	<p>Up-to-date evidence based reviews of natural health products and complementary therapies.</p>
<p>American Cancer Society www.cancer.org Search “complementary therapy”</p>	<p>Definitions and descriptions of various complementary therapies. There are also guidelines for use in cancer management and a database to search for information on herbs, vitamins and minerals.</p>
<p>Memorial Sloan Kettering www.mskcc.org Search “About Herbs, Botanicals & Other Products”</p>	<p>A free searchable database for a large selection of complementary therapies such as herbs, botanicals and other products. Information provided includes the common uses, how the therapy works, warnings and herb-drug interactions.</p>
<p>National Institute of Health www.medlineplus.gov Select “Drugs & Supplements”</p>	<p>Information on background evidence and dosing and safety for a small selection of complementary therapies.</p>
<p>Natural Medicines Comprehensive Database www.naturaldatabase.com</p>	<p>A database of thousands of natural medicines and information on product effectiveness and potential drug interactions. A monthly or yearly subscription fee is required. Available in printed version.</p>

FURTHER RESOURCES

Cookbooks on healthy eating

Look for cookbooks by Anne Lindsay, Rose Reisman or Bonnie Stern. Each of these authors has a variety of recommended low-fat cookbooks. Listed below are recent publications by these and other authors.

Lighthearted at Home: The Very best of Anne Lindsay by Anne Lindsay, 2010

Choices Menus: Cooking for One or Two, by Margorie Hollands, 2011

Dietitians of Canada Cook!: 275 Recipes Celebrate Food from Field to Table by Mary Sue Waisman, 2011

HeartSmart: The Best of Heartsmart Cooking by Bonnie Stern, 2006

Rose Reisman's Family Favourites Healthy Meals For Those That Matter Most by Rose Reisman, 2010

The internet is also a good source for healthy and low-fat recipes. At some websites such as www.aicr.org you can sign up to receive recipes by e-mail.

Weight loss programs and services

Weight loss classes

Many regions offer weight loss programs delivered through the local hospital or wellness centre. Residents of BC can contact a dietitian at HealthLink BC (8-1-1) for up-to-date information on program availability.

Commercial weight loss programs

The Yellow Pages Directory of the phone book provides a list of fee-for-service weight loss programs under 'Weight Control Services'. The programs most recommended are those that encourage healthy eating and regular exercise, and those that address behaviours that contribute to weight gain. Programs not recommended are those that have unrealistic and/or restrictive diets, or require the purchase of specialty foods or meal replacements. These programs generally do not teach skills for successful long-term weight loss and many people who can afford the specialized meals may initially lose weight but are then dependent on the use of products for keeping the weight off.

Support groups and programs

Maintaining a healthy body weight after losing weight can be as difficult as losing the weight itself. Long-term commitment to a healthy eating program and regular exercise is necessary for losing and maintaining weight. Some people may find support groups of value, while others may prefer the services of a dietitian or doctor, or support from family or friends. In all cases, having support and some way to monitor your progress is recommended to avoid regaining the weight you have lost.

Contact the following weight loss support groups for more information including whether there are costs associated with the programs:

- TOPS (Take Off Pounds Sensibly)

www.tops.org

Call toll-free 1 800 932-8677

- Overeaters Anonymous

www.aa.org

- HUGS Program

www.hugs.com

Online resources

Finding information on the Internet can be a quick way to learn about a variety of health issues. The Internet offers millions of pages of information about therapies for cancer, but it isn't perfect. There are no regulations as to what can be posted on a site. It's often hard to know whether the information is accurate, complete or relevant to your situation. The following list of websites is a good starting place for reliable information.

Recommended websites

Name and web address	Website content
Breast Cancer Information	
BC Cancer Agency www.bccancer.bc.ca	Information about breast cancer and its treatment. You will also find links to a breast cancer navigation map and nutrition information for coping with treatment side effects.
Canadian Cancer Society www.cancer.ca	Information about prevention and treatment of cancer for patients, family, friends and cancer survivors. In the search box, type “Breast Cancer” or “Nutrition Concerns for women with breast cancer”.
American Institute for Cancer Research www.aicr.org	Information on the role of nutrition in cancer prevention and for cancer survivors. Educational brochures on reducing your cancer risk, preparing healthy recipes and managing your weight.
National Cancer Institute www.cancer.gov	Information about the prevention and treatment of cancer including diet, research and clinical trials.
American Cancer Society www.cancer.org	Information on cancer prevention and treatment for patients, family, friends and cancer survivors.
Nutrition Information	
Dietitian Services at HealthLinkBC www.healthlinkbc.ca/dietitian	Information and links to recommended resources for various nutrition topics including bone health, heart-healthy eating, allergies, diabetes, cancer, weight control, vitamins and minerals, constipation, high blood pressure in addition to many others.

Resources and other services

Resource and web address	Content and contact information
<p>Eating Well with Canada's Food Guide www.healthcanada.gc.ca</p>	<p>Free copy of <i>Canada's Food Guide</i>. Visit the website Select "Canada's Food Guide" or call: 1 800 O-Canada (1 800 622-6232).</p>
<p>Canadian Physical Activity Guidelines www.paguide.com</p>	<p>Provides information on the benefits of physical activity and a link to activity guidelines and tips to get active.</p>
<p>Exercise for Health Guidebook www.behaviouralmedlab.ualberta.ca</p>	<p>Click on "For Cancer Survivors", then select the link for "Exercise for Health Guidebook" to download a free electronic copy of this booklet in the form of a PDF. This guide provides detailed information on physical activity guidelines for women with breast cancer.</p>
<p>Abreast & the Rest www.abreastandtherest.ca</p>	<p>A quarterly newsletter for women with breast and gynecological cancers. Formerly <i>Abreast in the West</i>.</p>
<p>BMI Calculator www.healthcanada.gc.ca</p>	<p>Free tool to calculate your Body Mass Index. Search "BMI" and select "Body Mass Index Nomogram".</p>
<p>Nutrient Value of Some Common Foods www.healthcanada.gc.ca</p>	<p>Provides nutrition information for over 1000 commonly consumed foods in Canada. The booklet is available to download or print. Search "Nutrient Values of Some Common Foods". To order a free copy call: 1 866 225-0709.</p>
<p>Eating and Activity Tracker www.eatracker.ca</p>	<p>Eatracker lets you track your day's food and activity choices and compares them to what is recommended for your age and activity level. It also provides information to help you achieve and maintain a healthy weight.</p>
<p>Livestrong www.livestrong.com</p>	<p>Provides a number of diet, nutrition and fitness tools including a diet and recipe analyzer. Supported by the Lance Armstrong Foundation.</p>

Resources and other services (continued)

Canadian Nutrient File <i>www.healthcanada.gc.ca/cnf</i>	Free computerized searchable database that includes nutrition information for over 5000 foods. Select “Search online for foods in the Canadian Nutrient File”.
Supermarket Tours <i>www.saveonfoods.com</i>	Many supermarkets offer guided grocery tours by a dietitian. Check with your local supermarket. For nutrition tours at Save-On-Foods in BC, see the website and search “nutrition tours” or call 1 800 448-2118.

Regional resources

National and provincial resources on breast cancer are available through your cancer centre, your local hospital and the Canadian Cancer Society, which has offices in most Canadian cities. Call toll-free 1 888 939-3333.

How to find a registered dietitian

A registered dietitian (RD) is a health professional with a university degree in nutrition and additional clinical training. A registered dietitian is a key member of your healthcare team and can offer individualized counseling about your diet during your cancer experience. Most cancer centres have a dietitian on staff who can help you with any nutrition questions you may have.

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

- Ask your healthcare team.
- Ask your family doctor.
- Contact Dietitians of Canada at 416 596-0857 or visit *www.dietitians.ca*.
- In British Columbia, call HealthLink BC toll-free at 8-1-1 for free telephone access to a dietitian Monday to Friday 9 am to 5 pm. Ask to speak to a dietitian specialized in nutrition and cancer.

Appendix A:

Food Sources of Common Nutrients

Protein

- red meats (beef, pork, lamb)
 - poultry
 - fish, seafood
 - eggs
 - milk, cheese, yogurt
 - beans (legumes)
 - tofu
 - peanut butter and other nut butters (cashew, almond)
 - lentils
-

Vitamin D (cholecalciferol)

- milk
 - fortified soy beverage
 - fatty fish (herring, mackerel, salmon, sardines, tuna)
 - margarine
 - eggs
-

Vitamin E

- vegetable oils (sunflower, safflower, canola, corn, olive)
 - nuts and seeds (almonds, sunflower seeds)
 - legumes (peanuts)
 - leafy green vegetables
 - whole grains, wheat germ
-

Vitamin A

- liver, kidneys
 - milk, cheese, yogurt
-

Beta carotene (is converted into vitamin A)

- sweet potato, pumpkin
 - cantaloupe, mango, papaya
 - carrots, squash, green vegetables
 - apricots, peaches
-

Vitamin B₁₂

- liver
 - red meats (beef, pork, lamb)
 - poultry
 - fish
 - eggs
 - milk, cheese, yogurt
-

Calcium

- milk, hard cheeses, yogurt
- sardines, canned salmon with bones
- fortified soy beverage
- tofu* (check for calcium in the ingredient list)
- white beans
- kale, broccoli, Chinese cabbage
- almonds, Brazil nuts
- sunflower seeds, sesame seeds
- molasses
- figs

Vitamin C

- black currants, citrus fruits
 - broccoli, snow peas, peppers
 - Brussels sprouts, cauliflower, cabbage
 - cantaloupe, papaya, mango
 - berries, kiwi fruit
 - tomato, potato
-

Iron - best sources:

- liver
- oysters, mussels
- trout, clams, shrimp, scallops, sardines, mackerel
- red meats (beef, pork, lamb)
- dark meat of poultry
- egg yolk

Iron - other sources:

- Cream of Wheat or other iron-enriched cereals
- beans (legumes)
- nuts, seeds
- iron-enriched pasta
- dried figs, prunes, dates, raisins, dried peaches
- canned tomatoes and tomato juice
- tofu
- leafy green vegetables, broccoli, green peas
- whole grains
- potato, sweet potato (with skin)

Better absorbed when eaten with best sources of iron or foods containing vitamin C.

Magnesium

- beans (legumes)
 - tofu
 - nuts, seeds
 - avocado
 - whole grains, wheat germ, bran cereals
 - baked potato (with skin)
 - milk, cheese, yogurt
 - banana, raisins, dried figs, dates
 - green peas, leafy green vegetables, broccoli
-

Zinc

- liver
 - red meats (beef, pork, lamb)
 - poultry
 - whole grains, wheat germ
 - beans (legumes)
 - tofu
 - peanuts
 - seeds
 - milk, cheese, yogurt
 - egg
 - seafood, sardines, herring
 - leafy green vegetables
-

Selenium

- Brazil nuts
- liver, kidneys
- seafood
- red meats (beef, pork, lamb)
- whole grains
- milk, cheese, yogurt
- fruit, vegetables

Appendix B:

Fat Content of Common Foods

Note: 4 grams of fat is equal to 1 tsp

Food and Serving Size	Fat (grams)
Grain Products	
Bread (1 slice), roll (1 small), flat breads ($\frac{1}{2}$ pita or tortilla)	very small
Bagel, $\frac{1}{2}$	1
Granola, 60 mL ($\frac{1}{4}$ cup)	7
Breakfast cereals, hot, cooked 175 mL ($\frac{3}{4}$ cup) and cold (30 g)	very small
Rice, barley, bulgur, cooked, 125 mL ($\frac{1}{2}$ cup)	very small
Pasta, cooked 125 mL ($\frac{1}{2}$ cup)	very small
Crispy chow mein noodles, 250 mL (1 cup)	14
Waffles, 1 round, from frozen prepared	3
Pancakes, 1 medium	4
Crackers, 4 pieces	
• Fancy snack crackers	4
• Low-fat crackers (soda crackers, rice cakes, Melba toast, water biscuits)	1
Baked goods	
• Fruit pie or cheesecake, $\frac{1}{8}$ th of cake	13.5
• Croissant	12
• Commercially made blueberry muffin	9
• Cake with icing, $\frac{1}{8}$ th of cake	12
• Doughnut, yeast-leavened	17
• Peanut butter cookie, 1	5
• Chocolate chip cookie, 1	6.5
• Homemade muffin	6
• Arrowroot cookie, 1	1
Vegetables and Fruit	
All but avocado	0
Avocado, 1 whole	
• California (sold in winter)	21
• Florida (sold in autumn)	30
Caesar salad, 250 mL (1 cup), with dressing	15
French fries, 1 small order	16

Food and Serving Size	Fat (grams)
Milk Products	
Milk, 250 mL (1 cup)	
• Whole	8
• 2%	5
• 1%	2.5
• Skim	very small
Yogurt, 175 mL (³ / ₄ cup), 1 small container	
• more than 4% milk fat	10
• 2–4% milk fat	5
• 1–2% milk fat	3
• less than 0.5% milk fat	very small
Hard cheese, 50 g (1 ¹ / ₂ oz)	
• 29–31% milk fat (for eg. Cheddar, Gouda, Gruyere, Swiss)	16
• 15% milk fat (for eg. part-skim Mozzarella)	8
• 7% milk fat (most low-fat cheeses)	3
Ricotta, 50 g (1 ¹ / ₂ oz), part-skim	4
Cottage cheese, 125 mL (¹ / ₂ cup)	
• creamed, 4.5% milk fat	5
• 2% milk fat	2
• 1% milk fat	1
Cream cheese, 15 mL (1 tbsp)	
• regular	5
• low-fat	3
• fat-free	very small
Cream, 15 mL (1 tbsp)	
• whipping cream, 33% milk fat	5
• table cream, 18% milk fat	3
• half and half, 10% milk fat	1.5
• regular sour cream	3
• light sour cream, 14% milk fat	2
Ice cream, 250 mL (1 cup)	
• rich, 16% milk fat	37
• regular, 10% milk fat	17
• light	7
Ice cream cone vanilla, soft serve, 1	7
Sherbet, 250 mL (1 cup)	3
Milkshake, 250 mL (1 cup)	6

Fat Content of Common Foods (continued)

Food and Serving Size	Fat (grams)
Meat and Alternatives	
Meat, trimmed, 75 g (2 1/2 oz)	
• beef, ground lean, broiled	11
• beef, inside round, oven roast, roasted	2
• beef, sirloin tip steak, roasted	4
• pork, tenderloin, broiled	2
• pork, loin, centre chop, broiled	7
• pork, shoulder, blade, roasted	11
• lamb, shoulder, blade, roasted	9
• lamb, 1 chop, broiled	7
Deli or luncheon-type meats	
• beef or pork wiener, 1	10.5
• chicken or turkey wiener, 1	7
• bologna, 1 slice, 28 g (1 oz)	6
• salami, 1 slice, 23 g (1 oz)	4.5
• ham, 1 slice, 25 g (1 oz)	0.5
Chicken, 75 g (2 1/2 oz)	
• breast, with skin	6.5
• breast, without skin	1.5
• drumstick, breaded and fried	10
Chicken nuggets, 1 serving (6 pc)	18
Turkey, breast, without skin, 75 g (2 1/2 oz), roasted	0.5
Fish, 75 g (2 1/2 oz)	
• salmon, sockeye, baked	8
• cod, broiled	1
• sole, baked	1
Fish, canned, 75 g	
• salmon, canned with bones and liquid	7.5
• tuna, canned in oil	6
• tuna, canned in water	1
Egg, 1 large	5
Tofu	
• extra firm, 175 mL (3/4 cup)	11
• dessert tofu, 175 mL (3/4 cup)	4
Lentils, split peas, 175 mL (3/4 cup)	1
White beans, kidney beans, cooked, 175 mL (3/4 cup)	1
Chickpeas (or garbanzo beans), cooked, 175 mL (3/4 cup)	3
Seeds, pumpkin, sesame, sunflower, 60 mL (1/4 cup)	38

Food and Serving Size	Fat (grams)
Meat and Alternatives (continued)	
Nuts, 60 mL (1/2 cup)	18
Peanut butter, 15 mL (1 tbsp)	8
Other Foods	
All oils, butter and margarine, 15 mL (1 tbsp)	12
Mayonnaise, 15 mL (1 tbsp)	
• regular	11
• light	5
Salad dressing, French-style, 15 mL (1 tbsp)	
• regular	6
• calorie-reduced	2
Potato chips, 10 chips (20 g)	7
Popcorn, 750 mL (3 cups)	
• air-popped, plain	1
• microwave-popped, lower fat	2
Chocolate bar, milk chocolate, 50 g	15
Pretzels, 10 twists (60 g)	2
Combination Foods	
Fast food breakfast sandwich, 1	13
Chicken burger, 1	38
Deluxe cheeseburger, 1	36
Fish burger, 1	23
Macaroni and cheese (Kraft Dinner®), 250 mL (1 cup)	17
Hot dog (wiener and bun), 1	14.5
Lasagna, with meat, 1 piece (7.5 cm x 9 cm)	14
Burrito, beans, cheese and beef, 2	13
Pizza, pepperoni, 1/6 th of a medium	9
Beef stew, canned, with vegetables, 250 mL (1 cup)	14
French fries, 1 small order	16

Source: Canadian Nutrient File, 2007b and Nutrient Value of Common Foods (Health Canada)

Appendix C:

Fibre Content of Common Foods

Note: Animal foods (meat, poultry, fish, eggs and milk products) do not contain fibre.

Food and serving size	Fibre (grams)
Grain Products	
Dry breakfast cereals, 125 mL (1/2 cup)	
• All Bran®	12
• Bran Flakes®	2
• Shredded Wheat®, spoon size	4
• Cheerios®, Just Right®	1
• Shreddies®	3
Hot cereals, 175 mL (3/4 cup)	
• Red River®	4
• Oatmeal	3
• Cream of Wheat®	2
Bran muffin, 1 medium	3–6
Whole wheat English muffin, 1	4.5
Whole wheat bread, 1 slice	2.5
White bread, 1 slice	1
Brown rice, cooked, 125 mL (1/2 cup)	1.5
White rice, cooked, 125 mL (1/2 cup)	0.5
Vegetables and Fruit	
Asparagus, cooked, 6 spears	1.8
Bean sprouts, 250 mL (1 cup)	2.5
Beans, cooked, green or yellow, 125 mL (1/2 cup)	1.5
Broccoli, cooked, chopped, 125 mL (1/2 cup)	2
Brussels sprouts, cooked, 125 mL (1/2 cup)	3
Cabbage, cooked, 125 mL (1/2 cup)	1
Carrots, cooked, 125 mL (1/2 cup) or raw, 1 medium	2
Cauliflower, cooked, 125 mL (1/2 cup)	2
Celery, raw, diced, 125 mL (1/2 cup)	1
Corn, cooked, 125 mL (1/2 cup) or 1 ear	2.5
Onions, raw, diced, 125 mL (1/2 cup)	1
Parsnips, cooked, 125 mL (1/2 cup)	3
Peas, cooked, 125 mL (1/2 cup)	5.5
Potatoes	
• with skin, 1 medium	4
• mashed, 125 mL (1/2 cup)	3

Food and serving size	Fibre (grams)
Vegetables and Fruit (continued)	
Spinach, cooked, 125 mL (1/2 cup)	2
Squash, winter, cooked, 125 mL (1/2 cup)	2
Sweet potatoes, mashed, without skin 125 mL (1/2 cup)	4
Tomato, raw, 1 medium	1.5
Turnip, cooked, 125 mL (1/2 cup)	1.5
Apple, with skin, 1 medium	2.5
Apple, without skin, 1 medium	2
Apple juice, 250 mL (1 cup)	very small
Applesauce, cooked, 125 mL (1/2 cup)	1.5
Apricots	
• dried, 6 halves	1.5
• fresh, 3	2
Banana, 1 medium	2
Blueberries, 125 mL (1/2 cup)	2
Cantaloupe, cubed, 125 mL (1/2 cup)	5
Cherries, sweet, 10	1.5
Dates, 3	2
Grapefruit, 1/2	2
Grapes, 125 mL (1/2 cup)	1
Mango, peeled, 1	4
Orange, medium	2.5
Papaya, cubed, peeled, 125 mL (1/2 cup)	3
Peach, fresh, without skin, 1 medium	2
Pear, fresh, with skin, 1 medium	5
Pineapple, 125 mL (1/2 cup)	1
Plums, 1	1
Prunes, 3	2
Raisins, 60 mL (1/4 cup)	1.5
Raspberries, 125 mL (1/2 cup)	4
Strawberries, sliced, 125 mL (1/2 cup)	2
Rhubarb, cooked, 125 mL (1/2 cup)	2.5

Fibre Content of Common Foods (continued)

Food and serving size	Fibre (grams)
Meat and Alternatives	
Legumes, cooked, 175 mL (³ / ₄ cup)	
• baked beans (canned)	10
• kidney beans	8.5
• black beans	9
• chickpeas (Garbanzo beans)	5.5
• split peas	4
• lima beans	6
• lentils	6
• peanuts	3.5
Peanut butter, chunky, 15 mL (1 tbsp)	1.3
Nuts and seeds, shelled, 60 mL (¹ / ₄ cup)	
• hazelnuts	3
• almonds	2.5
• pumpkin seeds	1.5
• sunflower seeds	1

Source: Canadian Nutrient File, 2007b (Health Canada)



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