



THIS RESOURCE PROVIDES MEN WITH PROSTATE CANCER WITH AN OVERVIEW OF INFORMATION ON DIET, VITAMIN AND MINERAL SUPPLEMENTS AND COMPLEMENTARY THERAPIES RELATED TO PROSTATE CANCER RECURRENCE AND PROGRESSION.

This information is based on current scientific evidence and will need to be updated as new information is available. If you are following a special diet or are taking medications, check with your Doctor before making any changes.

If after reading this handout you still have questions discuss them with your Registered Dietitian or Doctor at your cancer centre. If you have concerns about how to manage side effects of prostate cancer or its treatment with diet, contact a Registered Dietitian at your cancer centre.

For more detailed information refer to the *Nutrition Guide for Men with Prostate Cancer*, available on the BC Cancer Agency website or from your Cancer Centre.

 www.bccancer.bc.ca

After Diagnosis

For men diagnosed with prostate cancer, research suggests that some of the same foods and nutrients that are related to prostate cancer prevention may also affect the risk of recurrence. These foods and nutrients may also lower the risk of other health conditions.

The dietary recommendations within this handout are designed to help men to reduce the risk of prostate cancer recurrence as well as the risk of heart disease, other forms of cancer, and diabetes. Heart disease and diabetes are common in men with prostate cancer and the risk of developing these conditions may be increased with the use of some cancer treatments, such as hormone therapy. Therefore, for men with early and curable prostate cancer the risks of other chronic diseases are equally if not more important to long-term health. This is an important fact that is often overlooked when cancer is diagnosed.

What Does the Evidence Say?

Men are recommended to follow *Eating Well with Canada's Food Guide* and *Canada's Physical Activity Guide to Healthy Active Living*.

Prostate Cancer Prevention

All men may also benefit from:

- Foods rich in vitamin E
- Foods rich in selenium
- Ground flaxseed
- A daily supplement of vitamin D (1000 IU)

Prostate Cancer Progression

Many of the healthy eating habits that promote overall health also appear to protect men from prostate cancer progression. In addition to a healthy and well balanced diet and regular physical activity, some foods and nutrients may be beneficial to lower Prostate-specific Antigen (PSA) and possibly the risk of prostate cancer recurrence.

Risk of prostate cancer progression may be lowered by:

- A lycopene rich diet (foods or supplements containing up to 15 mg per day)
- Soy foods, such as soybeans, soy beverages and tofu (consumed as whole soy foods, these have additional health benefits over isoflavone supplements)
- Ground flaxseed
- A low fat, vegan diet
- A daily supplement of selenium (200 µg)

While these foods and/or nutrients can lower PSA, more evidence is needed on the long-term effects to determine if they affect prostate cancer recurrence and survival. Also, most of these agents were used in combinations and it is difficult to determine if they have benefits when used alone.

Antioxidants

The term “antioxidant” refers to certain substances that protect the cells in our bodies. Some examples of antioxidants are β -carotene, vitamin C, vitamin E and selenium. In theory, these antioxidants may protect healthy cells from damage, enhance recovery from cancer treatment, or possibly enhance cancer treatment itself. It is also possible that these antioxidants may interfere with radiation therapy or chemotherapy, making cancer treatments less effective.

At present, there is no evidence to clearly support any of these possible effects. The amounts of antioxidants that are naturally found in food as well as those in multiple vitamin-mineral supplements are considered to be safe. Large doses of antioxidant supplements are discouraged during cancer treatment. Speak with your Doctor or Registered Dietitian for more information.

The use of vitamin E supplements has been associated with reducing the risk of prostate cancer progression. However, vitamin E supplements of 400 IU or greater have possible adverse effects. It is important to check with your Doctor before using vitamin E supplements.

Multiple Vitamin-Mineral Supplements

It is most beneficial to obtain vitamins and minerals from food sources, rather than supplements. However, a multiple vitamin and mineral supplement (“a once-a-day”) may be needed if you are unable to eat the foods recommended in *Eating Well with Canada’s Food Guide*. Speak with your Doctor or Registered Dietitian for more information.

Complementary Therapies

Complementary therapies are a wide range of therapies that may be used together with conventional cancer treatment. Choosing whether or not to use a complementary therapy is a personal decision. The answer is not the same for everyone.

The effect of the vast majority of complementary therapies on prostate cancer recurrence is not well known. This makes it difficult to weigh the possible benefits and risks. If you’re thinking about trying a complementary therapy during or after treatment, be sure to make an informed decision and to discuss it with your Doctor.

Many complementary therapies make use of natural health products (NHPs) including vitamins and minerals, in several forms such as teas, capsules, powders and tables. They are often perceived as safe because they may be labelled as “natural”. However some complementary therapies can cause potentially harmful effects.

The use of NHPs, including **large doses of antioxidants, while you’re being treated with conventional treatment is generally not recommended** because of the risk of drug interactions. The effect of taking NHPs during your cancer treatment can’t always be predicted. They could lower the effectiveness of conventional treatment, interact with your cancer treatment and affect test results used to track your disease. In addition, **men with prostate cancer should avoid any NHPs which contain male hormones or androgens as they may stimulate cancer growth.**

The number of supplements on the market is vast and increasing all the time. For information on specific complementary therapies and for guidance on evaluating information about therapies obtain a copy of the Canadian Cancer Society’s *Complementary Therapies: A guide for people with cancer*.

 www.cancer.ca

Nutrition Advice for Managing Treatment Side Effects

Prostate cancer treatment may cause a number of side effects including bone loss, muscle loss and weight gain. These side effects may be improved by a combination of a healthy diet and regular exercise. Men are recommended to follow *Eating Well with Canada's Food Guide* and *Canada's Physical Activity Guide to Healthy Active Living*. Achieving a healthy body weight is important for men with prostate cancer and is associated with a number of other health benefits. A body mass index (BMI) of 18.5 to 24.9 and a waist measurement of less than 40 inches is recommended.

To calculate your BMI visit Health Canada's website:



www.hc-sc.gc.ca

(select Healthy Living, then Healthy Eating, and see Resources)

Some men may experience side effects from hormone therapy or radiation therapy that make it difficult to follow *Eating Well with Canada's Food Guide* and to exercise regularly. If you are having ongoing difficulties eating related to the side effects of your treatment, or experiencing unwanted weight loss, contact a Registered Dietitian at your cancer centre.

Prevention of Osteoporosis

GUIDELINES FOR THE PREVENTION OF OSTEOPOROSIS FOR MEN WITH PROSTATE CANCER ON HORMONE THERAPY

The average age of men diagnosed with prostate cancer in BC is 69 years. This factor, and the use of long-term hormone therapy (greater than six months) may lead to bone loss. Over time, loss of calcium from the bones increases the risk of developing osteoporosis.

The following guidelines are provided to reduce the risk of bone loss during treatment. If your bone density at the start of treatment indicates that you are at increased risk of osteoporosis you may be advised to use medications in addition to following the guidelines below.

Calcium and vitamin D are essential for strong bones. Men with prostate cancer over the age of 50 years are recommended to consume **1500 mg of calcium** daily from all sources, including the amount in the diet and from supplements. A supplement of **1000 IU Vitamin D** daily is recommended for bone health and cancer prevention.

If you do not consume milk products, you may not get enough calcium or vitamin D. Please refer to the Food Sources of Common Nutrients (page 9).

Eating Well with Canada's Food Guide

Men with prostate cancer are recommended to follow *Eating Well with Canada's Food Guide*. It outlines the recommended number of servings from each of the four groups, based on gender and age. This plan is flexible and offers a wide range of choices within each food group, and can be used along with the recommendations on diet and dietary supplements that may lower the risk of prostate cancer progression and recurrence.

Having 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 overall health and for men at different ages. 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 10 µg (400 IU). Include a small amount - 30 to 45 mL (2-3 Tbsp) - of unsaturated fat each day. This includes oil used for cooking, salad dressing, margarine and mayonnaise. For example, vegetable oils such as canola, olive and soybean or soft margarines that are low in saturated and trans fats.

Canada's Food Guide

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 O-Canada (1 800 622-6232), TTY: 1 800 926-9105



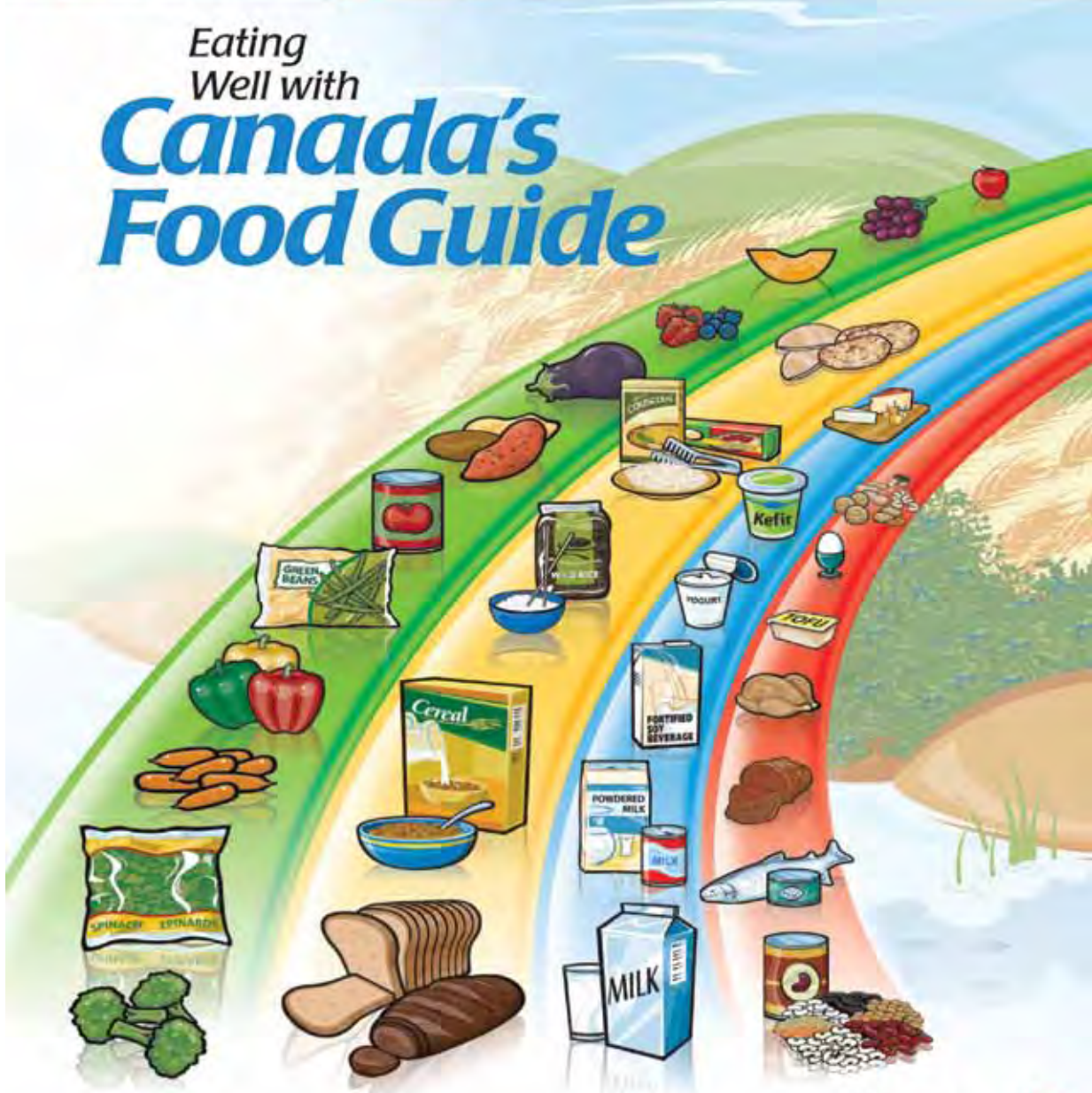
Health
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Santé
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Your health and
safety... our priority.

Voire santé et votre
sécurité... notre priorité.

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



Canada

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

Vegetables and Fruit

Males 19-50 years
need 8-10 servings a day

Males 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

Males 19-50 years
need 8 servings a day

Males 51+
need 7 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 Men

Milk and Alternatives

Males 19-50 years
need 2 servings a day

Males 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

Males 19-50 years
need 3 servings a day

Males 51+
need 3 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.

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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.

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Food Sources of Common Nutrients

CALCIUM	Food Sources	Portion Size	Calcium (mg)
	Cheese (Swiss)	50 g (2 oz)	440
	Cheese (Cheddar, Mozzarella)	50 g (2oz)	390
	Milk (skim, 1% MF, 2% MF or whole)	250 ml (1 cup)	300
	Buttermilk or chocolate milk	250 ml (1 cup)	300
	Yogurt, plain	185 mL (3/4 cup)	300
	Milk powder, dry	45 mL (3 Tbsp)	280
	Fortified soy and rice beverages	250 ml (1 cup)	300
	Fortified orange juice	250 ml (1 cup)	300
	Blackstrap molasses	15 mL (1 Tbsp)	180
	Parmesan cheese	15 mL (1 Tbsp)	90
	Sardines, with edible bones	24 g	90
	Cottage cheese, 2% MF	125 mL (1/2 cup)	80
	Figs, dried, uncooked	3	80
	Orange, raw	1 medium	50
Broccoli, frozen, boiled, drained	250 mL (1 cup)	50	

VITAMIN D	Food sources	Portion Size	Vitamin D (IU)
	Fish, herring	100 g (3 oz)	900
	Fish, mackerel or salmon	100 g (3 oz)	650
	Fish, sardines or tuna	100 g (3 oz)	250
	Fortified milk and soy beverages	250 mL (1 cup)	90
	Margarine	5 mL (1 tsp)	55
	Egg	1 large	25

Adapted from the Manual of Clinical Dietetics, 6th Edition (p. 746-747), American Dietetic Association et al, 2000.

VITAMIN E	Sources of vitamin E	Portion Size	Vitamin E (IU)
	Multiple vitamin and mineral supplement*	1 tablet	25-50
	Almonds	62 mL (¼ cup)	10.9
	Sunflower seeds	62 mL (¼ cup)	12.4
	Cooked spinach	250 mL (1 cup)	5.5
	Peanut Butter	30 mL (2 Tbsp)	4.3
	Canola oil	15 mL (1 Tbsp)	3.6
	Broccoli	250 mL (1 cup)	3.4

USDA, Agricultural Research Service, 2004. National Nutrient Database for Standard Reference, Release 16-1.

LYCOPENE	Food Sources	Portion Size	Lycopene (mg)
	Vegetable juice (ie. V8)	250 mL (1 cup)	23.4
	Tomato juice	250 mL (1 cup)	22.0
	Tomato sauce	125 mL (½ cup)	21.5
	Tomato soup (prepared with water)	250 mL (1 cup)	12.6
	Tomato paste, canned	2 Tbsp	9.0
	Watermelon	250 mL (1 cup)	6.9
	Canned tomatoes	125 mL (½ cup)	6.5
	Fresh tomato	1 medium	3.2
	Ketchup	15 mL (1 Tbsp)	2.6
	Pink or red grapefruit	125 mL (½ cup)	1.7

USDA, Agricultural Research Service, 2004. National Nutrient Database for Standard Reference, Release 17.

Canada's Physical Activity Guide



For more information on Canada's Physical Activity Guide contact Health Canada at 1-888-334-9769 or visit

 www.paguide.com

Choose a variety of activities from these three groups:

Endurance

4-7 days a week
Continuous activities for your heart, lungs and circulatory system.

Flexibility

4-7 days a week
Gentle reaching, bending and stretching activities to keep your muscles relaxed and joints mobile.

Strength

2-4 days a week
Activities against resistance to strengthen muscles and bones and improve posture.

Starting slowly is very safe for most people. Not sure? Consult your health professional.

For a copy of the *Guide Handbook* and more information: **1-888-334-9769**, or www.paguide.com

Eating well is also important. Follow *Canada's Food Guide to Healthy Eating* to make wise food choices.

Get Active Your Way, Every Day – For Life!

Scientists say accumulate 60 minutes of physical activity every day to stay healthy or improve your health. As you progress to moderate activities you can cut down to 30 minutes, 4 days a week. Add-up your activities in periods of at least 10 minutes each. Start slowly... and build up.

Time needed depends on effort

Very Light Effort	Light Effort <i>60 minutes</i>	Moderate Effort <i>30-60 minutes</i>	Vigorous Effort <i>20-30 minutes</i>	Maximum Effort
<ul style="list-style-type: none"> • Strolling • Dusting 	<ul style="list-style-type: none"> • Light walking • Volleyball • Easy gardening • Stretching 	<ul style="list-style-type: none"> • Brisk walking • Biking • Raking leaves • Swimming • Dancing • Water aerobics 	<ul style="list-style-type: none"> • Aerobics • Jogging • Hockey • Basketball • Fast swimming • Fast dancing 	<ul style="list-style-type: none"> • Sprinting • Racing

Range needed to stay healthy

You Can Do It – Getting started is easier than you think

Physical activity doesn't have to be very hard. Build physical activities into your daily routine.

- Walk whenever you can – get off the bus early, use the stairs instead of the elevator.
- Reduce inactivity for long periods, like watching TV.
- Get up from the couch and stretch and bend for a few minutes every hour.
- Play actively with your kids.
- Choose to walk, wheel or cycle for short trips.
- Start with a 10 minute walk – gradually increase the time.
- Find out about walking and cycling paths nearby and use them.
- Observe a physical activity class to see if you want to try it.
- Try one class to start – you don't have to make a long-term commitment.
- Do the activities you are doing now, more often.

Benefits of regular activity:

- better health
- improved fitness
- better posture and balance
- better self-esteem
- weight control
- stronger muscles and bones
- feeling more energetic
- relaxation and reduced stress
- continued independent living in later life

Health risks of inactivity:

- premature death
- heart disease
- obesity
- high blood pressure
- adult-onset diabetes
- osteoporosis
- stroke
- depression
- colon cancer



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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.

All BC Cancer Agency centres have Registered Dietitians on staff that can help you with nutrition questions you may have.

BC Cancer Agency Centres

Abbotsford

604-851-4733 or toll free in BC 1-877-547-3777

Fraser Valley

604-930-4000 or toll free in BC 1-800-523-2885

Southern Interior

250-712-3963 or toll free in BC 1-888-563-7773

Vancouver

604-877-6000, ext. 2013 or toll free in BC 1-800-663-3333, ext 2013

Vancouver Island

250-519-5525 or toll free in BC 1-800-670-3322

Visit the BC Cancer Agency website:

 www.bccancer.bc.ca

Library/Cancer Information Centre

604-675-8003

If your treatment centre elsewhere in BC 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 their website:

 www.dietitians.ca

Other Resources:

Dial-A-Dietitian

604-732-9191 in the Lower Mainland or toll free in BC 1-800-667-3438 or visit their website:

 www.dialadietitian.org


This is a free nutrition infoline with a Registered Dietitian who is available to answer questions regarding diet and cancer.

HealthLinkBC

8-1-1 toll free in BC or visit their website:

 www.healthlinkbc.com

The *Nutrition Guide for men with Prostate Cancer* provides more detailed information. Contact your cancer centre for a copy, or download a free copy from:

 www.bccancer.bc.ca
(select Patient/Public Info, then Pamphlets/Handouts, then Nutrition)



BC Cancer Agency

CARE + RESEARCH

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