PATIENT & CAREGIVER EDUCATION

Nutrition and Prostate Cancer: Making Healthy Diet Decisions

This information explains nutritional guidelines to follow a healthy diet and lower the risk of prostate cancer.

You can read the entire resource or just the sections that apply to you. If you have any questions, speak with your dietitian, doctor, or nurse.

Lifestyle and Prostate Cancer Risk

A healthy diet and lifestyle are associated with overall wellness. Studies show diet and lifestyle may play a role in prostate cancer and its recurrence (when cancer comes back).

Keys to overall good health include:

- Achieving and maintaining a healthy body weight
- Eating a balanced, mostly plant-based diet
- Limiting red meat and avoiding processed meat
- Exercising regularly

Maintaining a Healthy Body Weight

Achieving and maintaining the right body weight is one of the most important things you can do for your health. Excessive body weight (specifically, body fat) is associated with an increased risk for some diseases, including type 2 diabetes, heart disease, and certain types of cancer. These include cancer of the esophagus, pancreas, colon, rectum, kidney, gallbladder, and prostate. Recent studies suggest that being overweight or obese can lead to advanced prostate cancer.
Find your body mass index

Body mass index (BMI) is a measure of body weight based on height. It is one way to measure body weight. It may or may not indicate overall wellness and does not measure body fat versus muscle mass. However, it can be a useful tool in determining health and disease risk. A healthy BMI for an adult is between 18.5 and 24.9.

Find your BMI on the table below. First, find your height in the left-hand column. Go across to the next column on the same line and find your weight. Next, look at the corresponding BMI at the top of your column. This is your BMI. For example, if you weigh 130 pounds and you are 5 feet tall (60 inches), your BMI is 25.

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<td>328</td>
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</table>

You can also calculate your BMI using this tool:

www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm
The table below shows weight classifications according to the National Institutes of Health (NIH).

<table>
<thead>
<tr>
<th>Weight Classification</th>
<th>BMI</th>
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<tbody>
<tr>
<td>Underweight</td>
<td>Less than 18.5</td>
</tr>
<tr>
<td>Normal</td>
<td>18.5 to 24.9</td>
</tr>
<tr>
<td>Overweight</td>
<td>25.0 to 29.9</td>
</tr>
<tr>
<td>Obesity</td>
<td>30.0 to 39.9</td>
</tr>
<tr>
<td>Extreme Obesity</td>
<td>40.0 or higher</td>
</tr>
</tbody>
</table>


Keep in mind that BMI is only one health measure. Other measures include waist-to-hip ratio and waist circumference, which look at weight in your abdominal area. Extra weight in the abdominal area is associated with an increased risk for certain illnesses, even in people with a normal BMI.

**Find out your caloric needs**

Finding out how many calories your body needs can help you to gain or lose weight. There are 3,500 calories in 1 pound of body weight. This means that if you eat an extra 500 calories a day from any type of food, you could gain 1 pound in a week.

Your age, muscle mass, amount and type of exercise you do, and overall health affect your caloric needs. In general, the older you are, the fewer calories you need. However, if you have a lot of muscle or exercise a lot, you need more calories. Use this formula to calculate the number of calories you need each day to maintain your current weight:

Your body weight in pounds x 12 = your estimated daily caloric need

If you need to lose weight, subtract 500 calories from your estimated daily caloric need. If you need to gain weight, add 500 calories to your estimated daily caloric need.
For example, if you weigh 200 pounds:

- 200 pounds x 12 = 2,400 calories (your estimated daily need)
- For weight loss: 2,400 calories - 500 calories = 1,900 calories per day
- For weight gain: 2,400 calories + 500 calories = 2,900 calories per day

If you need to lose weight, or just want more information on a balanced diet, you can also visit the United States Department of Agriculture (USDA) website at [www.ChooseMyPlate.gov](http://www.ChooseMyPlate.gov). You can enter your height, weight, age, and activity level, and a healthy meal plan will be created for you. You may also schedule an appointment with an outpatient dietitian for diet counseling.

**Manage your portion sizes**

It is important to think about serving sizes. Serving sizes of bottled, packaged, and restaurant foods and drinks have increased over the years. The table below lists the amount of food that is equal to 1 serving size.

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Food</th>
<th>Amount of 1 serving size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread, cereal, rice,</td>
<td>Bread</td>
<td>1 slice</td>
</tr>
<tr>
<td>and pasta</td>
<td>Bagel, New York City style</td>
<td>¼ bagel</td>
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<tr>
<td></td>
<td>Cereal (hot)</td>
<td>½ cup</td>
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<tr>
<td></td>
<td>Cereal (cold)</td>
<td>1 ounce (½ cup to 1 cup, depending on cereal)</td>
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<tr>
<td></td>
<td>Pasta</td>
<td>½ cup</td>
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<tr>
<td></td>
<td>Rice</td>
<td>½ cup</td>
</tr>
<tr>
<td>Vegetables</td>
<td>Cooked or raw, chopped</td>
<td>½ cup</td>
</tr>
<tr>
<td></td>
<td>Juice</td>
<td>¼ cup</td>
</tr>
<tr>
<td></td>
<td>Raw, leafy</td>
<td>1 cup</td>
</tr>
<tr>
<td>Fruits</td>
<td>Chopped, cooked, or canned</td>
<td>½ cup</td>
</tr>
<tr>
<td>(unsweetened)</td>
<td>Dried</td>
<td>¼ cup</td>
</tr>
<tr>
<td></td>
<td>Juice</td>
<td>¾ cup</td>
</tr>
<tr>
<td></td>
<td>Fresh</td>
<td>1 medium fruit</td>
</tr>
<tr>
<td>Milk, yogurt, and</td>
<td>Milk or yogurt</td>
<td>1 cup</td>
</tr>
<tr>
<td>cheese</td>
<td>Natural cheeses (mozzarella, Swiss, muenster, cheddar, provolone, Gouda)</td>
<td>1 ½ ounces</td>
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<td>-------------------------------------------</td>
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<tr>
<td>Lean meat, poultry, fish, beans, eggs, and nuts</td>
<td>Cooked beans</td>
<td>½ cup</td>
</tr>
<tr>
<td>Cooked meat or fish</td>
<td></td>
<td>3 ounces</td>
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<tr>
<td>Eggs</td>
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<td>1</td>
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<tr>
<td>Nuts</td>
<td></td>
<td>⅓ cup</td>
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<tr>
<td>Peanut butter</td>
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<td>2 tablespoons</td>
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</table>

Use the following examples of everyday items to help determine your portion sizes:

- Three ounces of meat is about the size of a deck of cards.
- Three ounces of fish is about the size of a checkbook.
- One cup of fruit, vegetables, or cereal is about the size of a baseball.
- A medium size bagel is about the size of a hockey puck.
- One ounce of cheese is about the size of a domino.
- A teaspoon of butter is about the size of a die.

**Understand food labels**

Reading and understanding food labels can help you make smart food choices.

There are new food labels coming out on foods that will provide more information and be easier to read. These changes include:

- Listing added sugars. The FDA recommends that most Americans limit added sugars to 50 grams per day.
- The amount of vitamin D and potassium that is in a serving of the food.
- The serving size for foods and beverages will be changed to reflect amounts that people actually eat.
- The number of calories and the serving size will be in larger, bolder numbers, making them easier to read.
- The percentage of daily value for nutrients such as sodium, fiber and vitamin D are being updated based on newer scientific evidence.

Here is an example of the current food label and the new food label.

![Old and New Food Labels](image)

**Figure 1.** Old food label (left) and new food label (right)
How to read food labels

The label below lists the nutritional content of a serving of macaroni and cheese. The arrows point to the boxes on the right, which explain what each line means.

![Nutrition Facts](image)

- **Servings per container can sometimes be deceiving. Packages that look like single servings can often be 2 or 3.**
- **The % Daily Value is a guide to the amount of nutrients in 1 serving of food. For example, the label lists 20% for calcium. This means 1 serving provides 20% of the calcium you need each day. The % Daily Values are based on a diet of 2,000 calories per day for healthy adults.**
- **The type of fat in your food is important. Choose products with 3 grams of fat or less per serving and choose products with the least amount of saturated or trans fats.**
- **More fiber, vitamins, and minerals are better (up to 100% of the Daily Value). Select foods that contain at least 25% of 1 or more of these categories.**
- **Grams and % Daily Value are now required for added sugars. Less sugar is better. Save foods or beverages with more than 15 grams of sugar per serving for special occasions. Limit added sugars which are found in soft drinks, fruit drinks, snacks and sweets.**
- **Actual amounts of vitamin D (in micrograms), calcium, iron, and potassium are now listed, in addition to % Daily Value.**

This food label shows that macaroni and cheese is high in total fat and saturated fat. Due to its high fat content, this food would not be considered a healthy choice.

**Get active**

Physical activity is a necessary part of a healthy lifestyle. By doing 30 to 60 minutes of moderate exercise on most days of the week, you can stay fit and reduce your risk of chronic disease. Staying active can also:

- Help you achieve and maintain a healthy body weight
- Improve heart health
- Keep your bones strong
- Help prevent falls
- Build lean muscle mass and reduce fat tissue
- Improve cognitive function, including memory, thought-processing, and
Reduce fatigue (feeling unusually tired or weak) and increase energy
Reduce depression or anxiety
Prevent or relieve constipation
Improve joint pain
Reduce the risk for other types of cancer and many chronic health conditions and diseases
Improve overall health

Researchers have found other benefits of exercise for people with cancer. If you are receiving chemotherapy, you may feel tired during the day. Exercise can help reduce fatigue and boost energy. It can strengthen your immune system, increase fitness, and help prevent weight gain.

Talk with your doctor before starting any exercise program or increasing your current exercise.

Adding exercises to your daily routine
Find physical activities you enjoy. This will make it more likely that you will do them regularly. Remember that any small increases in activity will help. Set small goals and gradually work your way up.

Exercise can be broken up into 2 or 3 sessions. For instance, if you don’t have 1 whole hour to exercise, try walking for 30 minutes twice a day. Try the following ideas for exercise:

- Take the stairs instead of the elevator or escalator.
- Get off the subway or bus 1 or 2 stops early and walk the rest of the way.
- Take a 2-mile walk in 30 minutes.
- Walk to work, class, or the store or walk your pets.
- Get up from your desk and take short walks around the office throughout the day.
- Plan active social activities with friends and family. For example, instead of meeting for lunch or coffee, go for a bike ride. Instead of watching a movie with your children, go to the park with them.
- Walk or play Frisbee at the beach or in the park instead of lying down or sitting.
- Make walking or biking “date” nights with your spouse or partner.

The table below will help you determine how many calories you can burn from doing different forms of exercise.

**Guidelines for Healthy Eating**

**Balancing your plate**

The balance of foods on your plate is important when trying to eat healthy. Keep in mind the picture of the plate in Figure 3. This can help you choose the appropriate serving sizes of different foods.

Two-thirds (or more) of your plate should be vegetables, fruits, whole grains, or beans. For your vegetables, try to choose non-starchy ones, such as:

- Broccoli
- Cabbage
- Cauliflower
- Leafy greens (e.g., spinach, lettuce, kale, collards, bok choy)
- Mushrooms
- Asparagus
- Zucchini
- Peppers
- Tomatoes

Your grains, fruits, and other fiber-rich carbohydrates include:

- Whole grains (e.g., brown rice, whole-wheat pasta, quinoa, barley)
- Starchy vegetables (e.g., potatoes, sweet potatoes, corn, pumpkin)
Whole fruits (e.g., berries, apples, pears, kiwis, oranges)

No more than one-third of your plate should be animal protein. Some good sources are:

- Fish
- Non-fat or low-fat dairy products (e.g., plain yogurt)
- Eggs
- Poultry

For protein, you can also substitute plant proteins, such as beans.

Your meal might not always look exactly like the plate shown here. You could have a cup of lentil and vegetable soup and a small apple, and you’d be getting a similar kind of meal and proportions. Also, you might get more vegetables at lunch and dinner than at breakfast. Just keep in mind the ideas of “mostly plant based” and “portion controlled” for all meals.

**Monitor the fat in your diet**

Some fat in our diets is necessary and healthy. There are different types of fat. Some are healthier than others.

Fat is calorie-dense. One gram of fat has more 9 calories, while 1 gram of a carbohydrate or a protein has 4 calories. Therefore, high-fat foods have a lot of calories in a small amount of food. If you are trying to lose weight or maintain weight loss, this is important.

For some medical conditions, limiting fat may be helpful. However, for most people, there is no need to avoid fat. What is important is to avoid eating too many calories and to choose healthier types of fats.

Your fat intake should be about 20% to 35% of your calories. This is about 40 to 70 grams of fat per day for a 1,800 calorie diet.

The type of fat you eat can be as important as the amount.

**Types of cholesterol**

Cholesterol is a fat-like substance. It is found only in foods that come from an animal source, such as meat, eggs, and dairy. Cholesterol travels in the blood in
packages called lipoproteins. There are 2 types of lipoproteins: “good” and “bad.”

- Low-density lipoprotein (LDL) is “bad” cholesterol. It can clog your arteries and cause heart disease.
- High-density lipoprotein (HDL) is “good” cholesterol. It takes cholesterol out of your body.

**Types of fats**

Limit the amount of saturated fat you eat can keep your heart healthy and make it easier to maintain your weight. Choose mostly monounsaturated fats. These fats are described below.

**Monounsaturated fats** come from plant sources. They are mostly found in:

- Olives
- Olive oil
- Canola oil
- Peanuts, peanut oil
- Almonds, hazelnuts, pecans
- Avocados

These fats can lower your total cholesterol and LDL levels. They will not affect your HDL level.

**Polyunsaturated fats** also come from plant sources. They are found in:

- Corn oil
- Safflower oil
- Sunflower oil
- Soybean oil
- Hemp oil
- Grape seed oil

These fats can lower both your total cholesterol LDL levels.

**Saturated fats** are found in:
• Meat and chicken fat
• Whole milk and milk products
• Butter
• Lard
• Coconut, palm, and palm kernel oils

Eating foods with too much saturated fat can raise your total cholesterol and LDL levels.

**Trans fats** are formed when hydrogen is added to oil. These are also called “partially hydrogenated” fats or oils. Trans fats are found in:

• Many fried, baked, and processed foods
• Margarine and other butter-like spreads

Trans fats can raise your total cholesterol and LDL levels. They can also lower your HDL level. Choose foods that say “zero (0) trans fat” on the label. Try not to eat processed foods that contain partially hydrogenated oils, such as some crackers, cookies, peanut butter, and breaded frozen foods. All natural peanut butter doesn’t contain trans fats.

**Omega-3 fatty acids** are needed for good health, especially for heart health. They are found mainly in oily fish. It is recommended that you eat at least 2 (4-ounce) servings of omega-3 rich fish per week. Fish that have omega-3 fatty acids include:

• Salmon
• Tuna
• Mackerel

Foods that contain smaller amounts of omega-3 fatty acids include:

• Leafy green vegetables
• Walnuts
• Soybeans
• Flax seeds
Eat less saturated and trans fats
Stay away from saturated fats found in butter, animal fat, palm and coconut oil, and trans fats in stick margarine, fried foods, and baked goods. Note that any food that has “partially hydrogenated” oil in the ingredients list has trans fat.

Choose mostly mono and polyunsaturated fats
Nutrition guidelines recommend that most of your fat intake come from mono and polyunsaturated fat sources. They are found mostly in plant foods and fish and other seafood.

Tips for Trimming Fat from Your Diet
Studies show that reducing the amount of animal fat in your diet may decrease prostate cancer risk. Here are some ways you can trim the fat off your diet:

- Read food labels. Notice the amount of fat your food contains but also pay attention to the serving size. Eating 2 servings of a food doubles the amount of calories and fat you take in.
- Limit spreads that are high in fat. These include:
  - Butter
  - Margarine
  - Cream cheese
  - Mayonnaise
  - Certain salad dressings. Try lemon juice or balsamic vinegar and herbs on salads instead of high-fat bottled dressings.
- Choose lean cuts of meat, such as skinless chicken or turkey and fish.
- Eat no more than 18 ounces of red meat per week and avoid processed meats like hot dogs, sausage, bacon and cold cuts.
- Have more non-meat meals like tofu, lentils, or bean chili.
- Remove the fat and skin from your meat before cooking it.
- Avoid deep-fried foods. Prepare foods by baking, broiling, steaming, or pan-frying with non-stick cooking spray instead.
- Add more flavor to your foods with herbs and spices instead of butter, oil, or gravies.
• Use fruit or fruit juices in your marinades. Try kiwi, papaya, lemon, or lime juice.

• Use vegetable stock or low-sodium tomato juice instead of butter or oil to cook your vegetables, meats, and seafood.

• Refrigerate your soups and skim off the fat layer that forms on top.

• Make scrambled eggs or omelets by using 1 yolk with 2 egg whites. You can also use an egg substitute product.

• Choose canned tuna or sardines that are packed in water rather than oil. Otherwise, drain oil-packed canned tuna or sardines to decrease the fat.

• Cook with canola or olive oil. These oils have the least amount of saturated fat.

• Choose skim, fat-free, or lowfat milk, yogurt, and cheeses instead of the full fat versions

• Include nuts and avocado in your diet as they contain healthy monounsaturated oils, but only in small amounts because they are also high in fat and calories

• Have sorbets, fruit ices, lowfat ice cream, or frozen yogurt in place of regular ice cream.

• Top baked potatoes, chicken, or fish with salsa, fat-free dressing, or plain low-fat yogurt.

Include fiber in your diet

Fiber is an important part of your diet because it:

• Helps regulate bowel movements and prevent constipation.

• Provides a feeling of fullness.

• Helps with weight loss.

• Can help reduce cholesterol.

• Can lower the risk for diabetes, heart disease, and obesity.

Sources of fiber

Plant foods are the best sources of fiber. In addition to fruits and vegetables, eating a variety of whole grains, cereals, legumes (beans, peas, and lentils), nuts, and seeds can provide the fiber you need.
Read your food labels carefully to find out if the foods you choose have whole grains. Food labels must have the word “whole” right before the name of the grain. For example, when choosing a wheat bread or pasta, the label must read “whole wheat,” not “enriched wheat flour.”

Here are some tips to get more fiber and whole grains in your diet:

- Eat foods such as whole-wheat bread, brown rice, barley, whole oats, oatmeal, bran cereals, and popcorn.
- Try pancakes, muffins, or bread mixes made with whole-wheat or buckwheat flour.
- Choose a whole grain like barley and add a small amount of dried fruit or toasted nuts.
- Add beans to rice, pasta, salad, and soups.
- Choose fresh fruits and vegetables instead of juices.

Increase your fiber intake gradually and drink at least 8 (8-ounce glasses) of liquids each day.

For more information on how to include fiber in your diet, read *Food Sources of Fiber*.

**Limit salt and sodium**

Eating foods with a lot of salt may raise blood pressure and increase the risk for stroke, heart failure, and kidney disease. Consume less than 2,300 mg of sodium (about 1 teaspoon of salt) per day. Fresh food that is not processed is usually lower in sodium.

Read food labels to find out the amount of sodium in the product. Choose foods that are labeled “low sodium,” “very low sodium,” or “sodium-free.”

Here are some tips to reduce how much sodium you eat:

- Do not add salt to food at the table.
- Pay attention to the ingredients. Sometimes the name of a food can be misleading. Lemon pepper, spice rubs, and adobo may contain large amounts of salt or other sources of salt, such as MSG (monosodium glutamate).
• When cooking, flavor foods with fresh herbs and spices instead of salt.
• Limit canned foods.
• Limit packaged, processed, pickled, and cured foods.
• Be aware that both fast food and regular restaurant food can contain large amounts of salt.

Include calcium and vitamin D in your diet

Your body needs calcium in your diet everyday to keep your bones and teeth strong and to maintain healthy muscle and nerve function. When you are not getting enough calcium from your diet, your body makes up for this by taking calcium from your bones. This can make your bones weak and brittle. This is called osteoporosis. Osteoporosis puts you at greater risk for bone fractures.

The hormone testosterone helps prostate cancer cells to grow. This is why hormonal therapy for prostate cancer may block testosterone. However, testosterone also helps keep your bones strong so lower levels of testosterone may lead to increased risk of osteoporosis and broken bones.

Protect your bones by including calcium in your daily diet. Aim for 1,000 to 1,200 mg of calcium daily. Some studies show that more than 1,500 mg of calcium per day can actually increase your risk for prostate cancer so be sure to monitor your daily intake.

Take part in daily weight bearing activities, such as walking, jogging, lifting weights, or jumping rope, to strengthen your bones.

Here are tips for getting more calcium in your diet:

• Have at least 2 to 3 servings of skim or low-fat dairy every day. Include milk, yogurt, or cheese. If lactose (a sugar found in milk products) hurts your stomach, try lactose-free products, such as Lactaid® milk or soy products.
• Almonds, leafy greens, soybeans, canned sardines with bones, and salmon are also good sources of calcium.
• Foods such as cereals and orange juice usually have added calcium.
• Many people need calcium supplements. Check with your doctor or a dietitian to find out more about your calcium needs.
It’s important to know that we cannot absorb more than 500 to 600 mg of calcium at a time. If a particular meal exceeds that amount, you need to add calcium rich foods at other meals or snacks.

Without vitamin D, your body can’t absorb the calcium in your diet. Vitamin D is found in fortified dairy products, orange juice, cereals, and some fatty fishes such as salmon. Most people get all the vitamin D they need from sunlight. However, as we age, our ability to produce vitamin D from sunlight decreases. Speak with your doctor about getting your vitamin D levels checked. You may need to take a vitamin D supplement.

**Reduce your alcohol intake**

Research has shown a link between alcohol intake and increased risk for cancer of the esophagus, mouth, and head and neck, and cirrhosis of the liver. It is also high in calories. If you drink, do so in moderation. This means no more than 2 drinks a day for men.

Pay attention to the size of the wine glasses you use at home or in restaurants. Some wine glasses hold 20 ounces or more—up to 5 times the amount in 1 serving of wine. Keep in mind that “light beer” has fewer calories—but not less alcohol—compared with regular beer.

Each of the following is 1 serving of alcohol:

- 4 to 5 ounces of wine or champagne (about 100 calories)
- 12 ounces of regular beer (about 150 calories)
- 1.5 ounces of hard liquor, for example, 1 shot of tequila (about 100 calories)

To help dilute alcohol, use club soda as a mixer.

If you have any questions about alcohol, talk with your doctor, nurse, or dietitian.
Sample meal plan

Here are some sample menus to help you use healthy foods in your diet. These menus are not right for every person. Individual needs and tastes vary, so you don’t need to follow the menus exactly. However, they may give you ideas for healthy meals and snacks.

<table>
<thead>
<tr>
<th>Meal</th>
<th>Sample Menu #1</th>
<th>Sample Menu #2</th>
<th>Sample Menu #3</th>
</tr>
</thead>
</table>
| **Breakfast** | • 1 cup of bran flakes with 2 tablespoons of raisins  
• ½ cup of skim milk  
• 1 sliced banana  
• Coffee or tea with skim milk | • 8 ounces of low-fat vanilla or fruit yogurt  
• 1 cup of cooked whole oats with 2 teaspoons of mixed cinnamon and sugar  
• ½ cup of fresh or canned fruit (in its own juice)  
• Coffee or tea with skim milk | • Vegetable frittata (1 egg, 2 egg whites, and 1 cup of julienned vegetables)  
• 1 cup of cantaloupe cubes  
• Coffee or tea with skim milk |
| **Lunch** | • Tuna salad (4 ounces of tuna packed in water and 1 tablespoon of low-fat mayonnaise)  
• 1 slice of multigrain bread  
• ½ cup of cold bean (canned, drained, and rinsed) and carrot salad  
• 1 cup of grapes  
• 16 ounces of sparkling water with a fresh lemon wedge | • Turkey sandwich (3 ounces of roasted turkey breast on 2 slices of whole-grain bread, 1 tablespoon of low-fat mayonnaise or mustard, ¼ of a sliced avocado, lettuce, and tomato)  
• 1 medium apple  
• 8 ounces of chocolate skim milk | • 1 ½ cups of black bean and corn soup†  
• Whole-grain roll with 1 slice of low-sodium cheese  
• 1 cup of mixed-greens salad  
• Salad dressing: 1 tablespoon of olive oil and 1 tablespoon of balsamic vinegar |
| **Snack** | • 15 almonds  
• 1 orange | • 2 cups of air-popped popcorn (no added butter) | • ½ cup of 1% cottage cheese  
• ½ cup of fresh fruit |
| **Dinner** | • 4 ounces of whole-wheat pasta | • 2 cups of vegetarian chili  
• 2 slices of whole-wheat | • 6 ounces of broiled salmon |
<table>
<thead>
<tr>
<th>Item</th>
<th>Snack</th>
<th>Nutritional Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>• ½ cup of tomato sauce with no added salt</td>
<td>• 1 fresh pear topped with 1 crumbled</td>
<td>• 1,780 calories</td>
</tr>
<tr>
<td>• 1 tablespoon of grated Parmesan cheese</td>
<td>graham cracker and 2 tablespoons of low-fat yogurt</td>
<td>58 g fat</td>
</tr>
<tr>
<td>• 4 ounces of grilled chicken breast</td>
<td></td>
<td>10 g polyunsaturated fat</td>
</tr>
<tr>
<td>• 6 steamed asparagus spears</td>
<td></td>
<td>12 g saturated fat</td>
</tr>
<tr>
<td>• 1 cup of mixed greens with tomato, red onion, and 4 black olives</td>
<td></td>
<td>30 g monounsaturated fat</td>
</tr>
<tr>
<td>• 2 tablespoons of low-fat dressing</td>
<td></td>
<td>211 mg cholesterol</td>
</tr>
<tr>
<td></td>
<td></td>
<td>37 g fiber</td>
</tr>
<tr>
<td></td>
<td></td>
<td>933 mg calcium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,800 mg sodium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3,370 mg potassium</td>
</tr>
<tr>
<td>bread or 1 medium whole-wheat dinner roll</td>
<td>• ½ cup of fruit sorbet topped with 1 cup of fresh or frozen strawberries or raspberries</td>
<td>1,800 calories</td>
</tr>
<tr>
<td>• 1 cup of mixed-greens salad</td>
<td></td>
<td>28 g fat</td>
</tr>
<tr>
<td>• Salad dressing: 1 tablespoon of olive oil and 1 tablespoon of balsamic vinegar</td>
<td></td>
<td>5 g polyunsaturated fat</td>
</tr>
<tr>
<td>• 2 slices of watermelon</td>
<td></td>
<td>8 g saturated fat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9 g monounsaturated fat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>81 mg cholesterol</td>
</tr>
<tr>
<td></td>
<td></td>
<td>47 g fiber</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,300 mg calcium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,600 mg sodium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4,200 mg potassium</td>
</tr>
<tr>
<td>1 cup of spinach and mushrooms sautéed in 2 tablespoons of oil and garlic</td>
<td>• 1 cup of sugar-free cocoa made with skim milk</td>
<td>1,700 calories</td>
</tr>
<tr>
<td>1 sweet potato, sliced and roasted in the oven</td>
<td></td>
<td>47 g fat</td>
</tr>
<tr>
<td>1 cup of cooked mushrooms</td>
<td></td>
<td>6 g polyunsaturated fat</td>
</tr>
<tr>
<td>1 cup of brown rice</td>
<td></td>
<td>13 g saturated fat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 g monounsaturated fat</td>
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<td>320 mg cholesterol</td>
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<td></td>
<td>44 g fiber</td>
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<td>1,050 mg calcium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2,300 mg sodium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3,300 mg potassium</td>
</tr>
</tbody>
</table>
Recipe for Black Bean and Corn Soup

- 28-ounce can of low-sodium crushed tomato and basil
- 8 ounces of low-sodium tomato juice
- 16-ounce can of rinsed black beans
- 16-ounce can of rinsed white beans
- 16-ounce can of rinsed kidney beans
- 16-ounce can of sweet corn
- 1 teaspoon of dry oregano
- ½ teaspoon of rosemary
- ½ teaspoon cracked red pepper flakes (optional)

Mix ingredients in a large pot and bring to a boil. Turn down heat and let simmer for 10 minutes. Serves 4.

Nutritional Supplements

The following nutrients are being studied for possible effects on prostate cancer. Vitamin, mineral, and herbal supplements may interfere with certain treatments for prostate cancer. Always check with your doctor before taking any nutritional supplements.

For more information about herbs and minerals, visit: www.aboutherbs.com.

Multivitamin/mineral supplements

- Multivitamins with high levels of selenium, vitamins C and E, and beta-carotene, may interfere with chemotherapy and radiation therapy.

- Eat whole fruits and vegetables to ensure you are getting all the vitamins you need without interfering with your treatment. Fruits and vegetables also contain beneficial phytochemicals (compounds found in plants that have a beneficial effect on your health) and fiber not found in a vitamin pills.

Carotenoids

- Carotenoids are what give certain fruits and vegetables their colors. Two
common carotenoic types are lycopene (found in tomatoes, guava, pineapple, and watermelon) and beta-carotene (found in dark green leafy vegetables, and yellow/orange vegetables like carrots and sweet potatoes).

- Studies suggest that lycopene from foods may reduce prostate cancer risk.
- Beta-carotene rich foods and supplements don’t significantly reduce prostate cancer risk. In fact, high beta-carotene levels may increase prostate cancer risk.
- Avoid taking beta-carotene supplements and juicing foods rich in it. It’s safe to eat foods with beta-carotene.

**Flaxseed**

- Flaxseed has been shown to help reduce the growth and spread of prostate cancer and a good source of omega-3 fatty acids and fiber.
- Whole flaxseeds do not get absorbed by your body so make sure your flaxseeds are ground in order to get their health benefits.
- Flaxseed oil does not have the same benefits as ground flaxseeds.

**Folate**

- It’s important to take the right amount of folate. A study found that taking folic acid supplements can more than double your risk of developing prostate cancer.
- However, adding just the right amount (400 micrograms) of folate in your diet can slightly lower your risk for prostate cancer.
- Eat a balanced diet with folate-rich foods such as fortified breakfast cereals and grain products, liver, legumes, dark green leafy vegetables, asparagus, avocado, and nuts.

**Green Tea**

- Green tea is highly unlikely to reduce the risk of prostate cancer but it continues to be researched.

**Selenium and vitamin E**

Selenium and vitamin E are antioxidants studied in the Selenium and Vitamin E Cancer Prevention Trial (SELECT) for their possible role in prostate cancer...
• The study found that selenium and vitamin E supplements, taken either alone or together, did not prevent prostate cancer. People taking vitamin E alone actually had a small increase in their risk of developing prostate cancer.

• We don’t recommend taking selenium or vitamin E supplements. Get your selenium and vitamin E intake by eating foods such as seafood, whole grains, vegetable oil, margarine, nuts, seeds, eggs, whole grain breads, and cereals.

**Soy**

• Soy products make a good heart-healthy addition to your diet as a replacement for foods that are high in animal proteins and saturated fat.

• Soy food sources should be eaten in moderation. You can get your daily dose of soy though foods like tofu, soy milk, soybeans (edamame), soy nuts, soy nut butter, miso (soy paste), and soy burgers.

• Soy supplements and soy bars are not recommended as they do not contain the same nutrients as found in whole foods. Often, soy bars are high in calories, sugar and fats.

**Zinc**

• Zinc is needed for normal cell functioning, nerve signaling, and for the body to protect itself against infection or disease.

• Studies have shown that taking more than 100 mg of zinc daily may increase your risk for prostate cancer, increase your LDL levels, decrease HDL levels, and slow down your immune system.

• Don’t take zinc supplements. Instead get your zinc from foods like meat, fish, poultry, beans, and whole grains.

**Nutrition Concerns During Treatment**

Prostate cancer treatments come with their own set of dietary guidelines and recommendations. This section explains some of the recommendations for different treatment options. For more information, ask your doctor, nurse, or dietitian for the resource *Eating Well During and After Your Cancer Treatment*.
**Brachytherapy**
During brachytherapy (radioactive seeds inserted into the prostate), there are no dietary restrictions. You may continue with your regular diet.

**External beam radiation therapy**
Diarrhea (frequent, loose or watery bowel movements) is a common side effect during some forms of radiation therapy to the prostate. Your doctor will let you know if you should follow a low fiber diet.

**Androgen deprivation therapy/hormonal therapy**
The hormone testosterone allows prostate cancer cells to grow. In androgen deprivation therapy, testosterone is blocked through medications such as leuprolide (Lupron®). Another way of reducing testosterone levels is through orchiectomy (removal of the testicle). A possible side effect of hormonal therapy is weight gain. Following the healthy diet guidelines in this resource, watching portion sizes, and exercising, if possible, can help you maintain a healthy weight.

Testosterone also helps keep your bones strong so lower levels of testosterone may lead to increased risk of osteoporosis and broken bones. Protect your bones by including calcium in your daily diet.

**Chemotherapy**
Side effects of chemotherapy can include loss of appetite, nausea, vomiting, and mouth sores, so you may have difficulty eating. During this time, try to eat small, frequent, soft, and bland meals. Dietary supplements such as Ensure® or milkshakes between meals may help increase your calorie intake.

If you have any questions or concerns about your diet or use of supplements, speak with your doctor, nurse, dietitian, or nutritionist. To find a dietitian or nutritionist that is right for you and your treatment, call 212-639-7071 to make an appointment.

**Memorial Sloan Kettering (MSK) Resources**
Integrative Medicine Service: About Herbs
646-888-08800
www.aboutherbs.com
Has information of different herbs, botanicals, and other products.
External Resources

AICR CUP (Continuous Update Project)
Report on Diet, Nutrition, Physical Activity and Prostate Cancer 2014
www.eatright.org
Has information about the latest nutrition guidelines and research and can help you find a dietitian in your area. The academy also publishes *The Complete Food and Nutrition Guide*, which has over 600 pages of food, nutrition, and health information.

American Cancer Society
800-227-2345
www.cancer.org
Has information on diet and other cancer-related topics.

Academy of Nutrition and Dietetics
800-877-1600
www.eatright.org
Has information about the latest nutrition guidelines and research and can help you find a dietitian in your area. The academy also publishes *The Complete Food and Nutrition Guide*, which has over 600 pages of food, nutrition, and health information.

American Institute for Cancer Research
800-843-8114
www.aicr.org
Has information on diet and cancer prevention research and education.

Cancer Care
800-813-4673
www.cancercare.org
Has information and resources for people living with cancer, including support groups and education.

National Cancer Institute (NCI)
800-4-CANCER (800-422-6237)
www.cancer.gov
Has information about cancer, including summaries of treatment guidelines, research news, clinical trial listings, links to medical literature, and more.
National Institutes of Health Office of Dietary Supplements
301-4352920
ods.od.nih.gov
Has up-to-date information on dietary supplements.

Prostate Cancer Foundation
800-757-2873
www.pcf.org
Has information about prostate cancer, including symptoms, treatment options, and their side effects.

USDA My Plate Guidelines
www.myplate.gov

USDA National Agricultural Library
www.nutrition.gov

Contact Information for Nutrition Services at MSK

Department of Food and Nutrition in New York, NY
212-639-7071

Radiation Oncology Outpatient Nutrition in New York, NY
212-639-7622

Outpatient Nutrition in Commack, NY
631-623-4000

Outpatient Nutrition in Rockville Centre, NY
516-256-3651

Outpatient Nutrition in Basking Ridge, NJ
908-542-3000

Outpatient Nutrition in Westchester, NY
914-367-7000
If you have any questions, contact a member of your healthcare team directly. If you're a patient at MSK and you need to reach a provider after 5:00 PM, during the weekend, or on a holiday, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.