Memorial Sloan Kettering Cancer Center

PATIENT & CAREGIVER EDUCATION

Nutrition and Prostate Cancer: Making Healthy Diet Decisions

This information has guidelines for how to follow a healthy diet and lower your risk of getting prostate cancer. You can read the entire resource or just the sections that apply to you. If you have any questions, talk with your healthcare provider or clinical dietitian-nutritionist.

How does lifestyle affect the risk for prostate cancer?

A healthy lifestyle is an important part of overall wellness. Reaching and maintaining a healthy body weight are keys to overall good health. Eating a balanced diet and exercising can help you do this.

Being overweight or obese can lead to advanced prostate cancer. Advanced prostate cancer is cancer that spreads or comes back. Having extra body weight (specifically, body fat) can also increase your risk for other diseases, including:

- Cancers of the esophagus, pancreas, colon, rectum, kidney, and gallbladder.

- Type 2 diabetes.
- Heart disease.

How to reach and maintain a healthy body weight

Reaching and maintaining a healthy body weight is one of the most important things you can do for your health. You can do this by eating a balanced, mostly plant-based diet, limiting red meat, and avoiding processed meat. It's also important to get regular physical activity.

There are several things that will help you figure out a diet that is balanced for you:

- Know your body mass index (BMI).
- Know your caloric needs.
- Manage your portion sizes by reading and understanding nutrition labels.

About BMI

BMI is a measurement of the amount of fat in your body. It is based on your height and weight. This can help you learn if your weight is healthy or not. A healthy BMI for an adult is between 18.5 and 24.9.

BMI	Weight category
18.4 or lower	Underweight

18.5 to 24.9	Healthy
25 to 29.9	Overweight
30 or higher	Obese

You can enter your height and weight into this tool to figure out your BMI. You can also find your BMI on the BMI table below.

To use this table:

1. Find your height in the left-hand column.
2. Once you find your height, look across that same row to find your weight.
3. Once you find your weight, look at the matching BMI at the top of the column. This is your BMI.

BMI Table														
	Normal						Overweight					Obese		
BMI	19	20	21	22	23	24	25	26	27	28	29	30	35	40
Height (feet and inches)	Body Weight (pounds)													
4' 10"	91	96	100	105	110	115	119	124	129	134	138	143	167	191
4' 11"	94	99	104	109	114	119	124	128	133	138	143	148	173	198
5' 0"	97	102	107	112	118	123	128	133	138	143	148	152	179	204
5' 1"	100	106	111	116	122	127	132	137	143	148	153	158	185	211
5' 2"	104	109	115	120	126	131	136	142	147	153	158	164	191	218
5' 3"	107	112	118	124	130	135	141	146	152	158	163	169	197	225
5' 4"	110	116	122	128	134	140	145	151	157	163	169	175	204	232
5' 5"	114	120	126	132	138	144	150	156	162	168	174	180	210	240
5' 6"	118	124	130	136	142	148	155	161	167	173	179	186	216	247
5' 7"	121	127	134	140	146	153	159	166	172	178	185	191	223	255
5' 8"	125	131	138	144	151	158	164	171	177	184	190	197	230	262
5' 9"	128	135	142	149	155	162	169	176	182	189	196	203	236	270
5' 10"	132	139	146	153	160	167	174	181	188	195	202	209	243	278
5' 11"	136	143	150	157	165	172	179	186	193	200	208	215	250	286
6' 0"	140	147	154	162	169	177	184	191	199	206	213	221	258	294
6' 1"	144	151	159	166	174	182	189	197	204	212	219	227	265	302
6' 2"	148	155	163	171	179	186	194	202	210	218	225	233	272	311
6' 3"	152	160	168	176	184	192	200	208	216	224	232	240	279	319
6' 4"	156	164	172	180	189	197	205	213	221	230	238	246	287	328

Table 1. Body Mass Index (BMI) table

If your BMI is above 25, look for the weights that match a healthy BMI for your height. That should be your target weight. For example, if you're 5 feet, 5 inches tall and you weigh 168 pounds, your BMI is 28. This means you're considered overweight. Your goal should be to reach a BMI that puts you in the normal range.

Keep in mind that BMI is only one health measure. Other measures include waist-to-hip ratio and waist circumference. These look at weight in your abdominal (belly) area. Extra weight in the abdominal area can increase your risk for certain illnesses, even if your BMI is healthy.

Know your caloric needs

Your caloric need is the number of calories your body needs every day. It depends on:

- Your age.
- Your gender assigned at birth.
- Your muscle mass (how much muscle you have).
- The amount and type of exercise you do.
- Your overall health.

Knowing your caloric needs can help you make a meal plan to gain, lose, or maintain your weight. To learn more, you can schedule an appointment with an outpatient clinical dietitian-nutritionist for diet counseling. Call Nutrition Services at 212-639-7312 or visit www.msk.org/nutrition to schedule an appointment with an MSK clinical dietitian-nutritionist.

The United States Department of Agriculture (USDA) website www.myplate.gov also has tools you can use. There, you can enter your height, weight, age, and daily activity level. It will use this information to create a healthy meal plan for you. You can use this site if you need to lose or gain weight, or just want more information.

Manage your portion sizes

It's important to pay attention to serving sizes when you eat or drink. Knowing how many servings you're having will help you figure out whether you're meeting your caloric needs.

The table below lists the amount of food that is equal to 1 serving size.

Food Group	Food	Amount of 1 serving size
Bread, cereal, rice, and pasta	Bread	1 slice
	Bagel, New York City style	¼ bagel
	Cereal (hot)	½ cup
	Cereal (cold)	1 ounce (½ cup to 1 cup, depending on cereal)
	Pasta	½ cup
	Rice	½ cup
Vegetables	Cooked or raw, chopped	½ cup
	Juice	¼ cup
	Raw, leafy	1 cup
Fruits	Chopped, cooked, or canned (unsweetened)	½ cup
	Dried	¼ cup
	Juice	¾ cup

	Fresh	1 medium fruit
Milk, yogurt, and cheese	Milk or yogurt	1 cup
	Natural cheeses, such as mozzarella, Swiss, muenster, cheddar, provolone, or Gouda	1 ½ ounces
Lean meat, poultry, fish, beans, eggs, and nuts	Cooked beans	½ cup
	Cooked meat or fish	3 ounces
	Eggs	1
	Nuts	⅓ cup
	Peanut butter	2 tablespoons

Here are some examples of everyday items to help determine portion sizes.

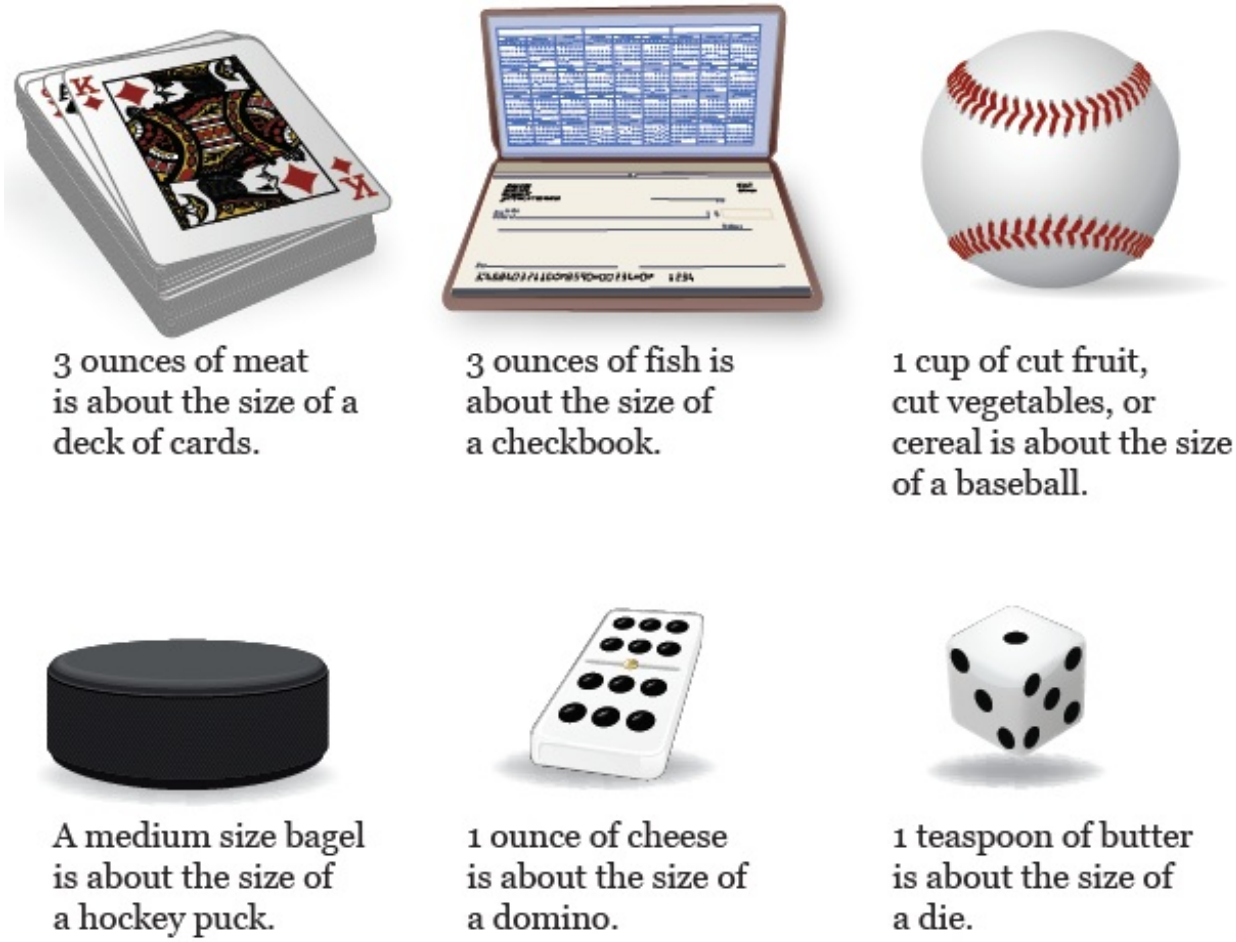


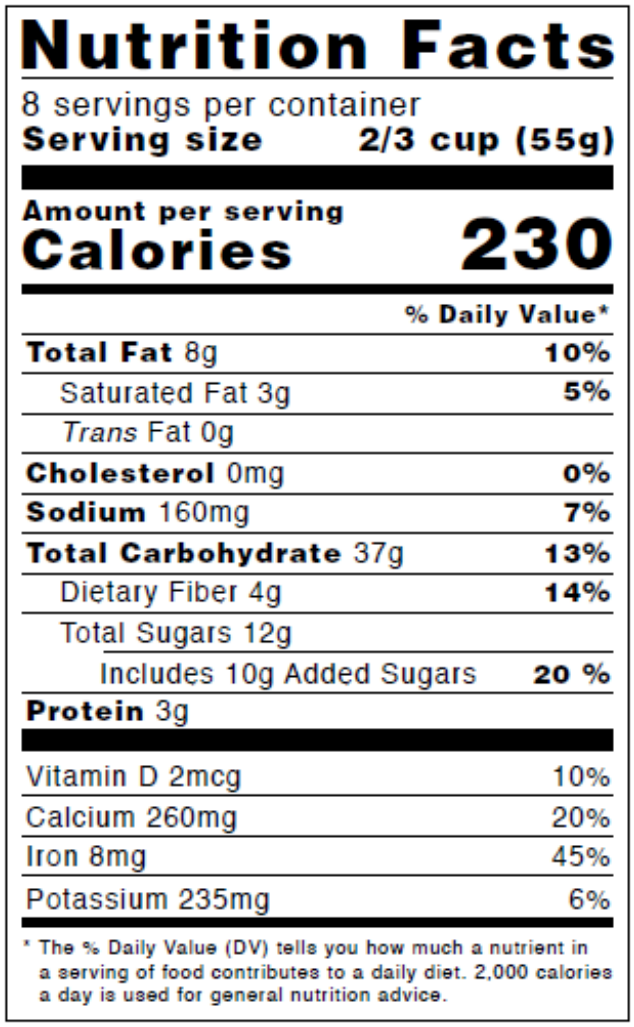
Figure 1. Example portion sizes

Know how to read and understand food labels

Reading and understanding food labels can help you make healthy food choices. Food labels in the United States (see figure 2) show:

- Calories and serving sizes in large, bold font so they're easier to read.
- Serving sizes that reflect amounts people actually eat.
- How many grams of added sugar are in a serving.
- The percentage of daily value for nutrients such as sodium, fiber and vitamin D.

- The amount of vitamin D and potassium in a serving.



Nutrition Facts

8 servings per container
Serving size **2/3 cup (55g)**

Amount per serving
Calories **230**

	% Daily Value*
Total Fat 8g	**10%**
Saturated Fat 3g	**5%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 160mg	**7%**
Total Carbohydrate 37g	**13%**
Dietary Fiber 4g	**14%**
Total Sugars 12g	
Includes 10g Added Sugars	**20 %**
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Servings per container

These can sometimes be misleading. Some packages that look like 1 serving can often be 2 or 3 servings.

Percent (%) daily value

This is a guide to the amount of nutrients in 1 serving of food. For example, a label that lists 20% for calcium says that 1 serving has 20% of the calcium you need each day. This is based on a diet of 2,000-calories per day for healthy adults.

Types of fat

The type of fat in your food is important. Choose products with 3 grams of fat or less per serving and the least amount of saturated or trans fats.

More fiber, vitamins, and minerals

It's best to get up to 100% of the daily value of fiber, vitamins, and minerals. Choose foods that- have at least 25

of 1 or more of these categories.

Grams and % daily value of added sugars

These must now be listed on food labels. 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, and sweets.

Actual amounts of vitamins

The amount of vitamin D, calcium, iron, and potassium are now listed, along with the % daily value. These amounts are listed in micrograms (mcg). 1 microgram equals 40 international units (IU).

Figure 2 is food label from the United States showing the nutritional content of a serving of macaroni and cheese. This food label shows that macaroni and cheese is high in total fat and saturated fat. Due to its high fat content, this food wouldn’t be considered a healthy choice.

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Guidelines for healthy eating

Balance 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 your serving sizes of different foods.

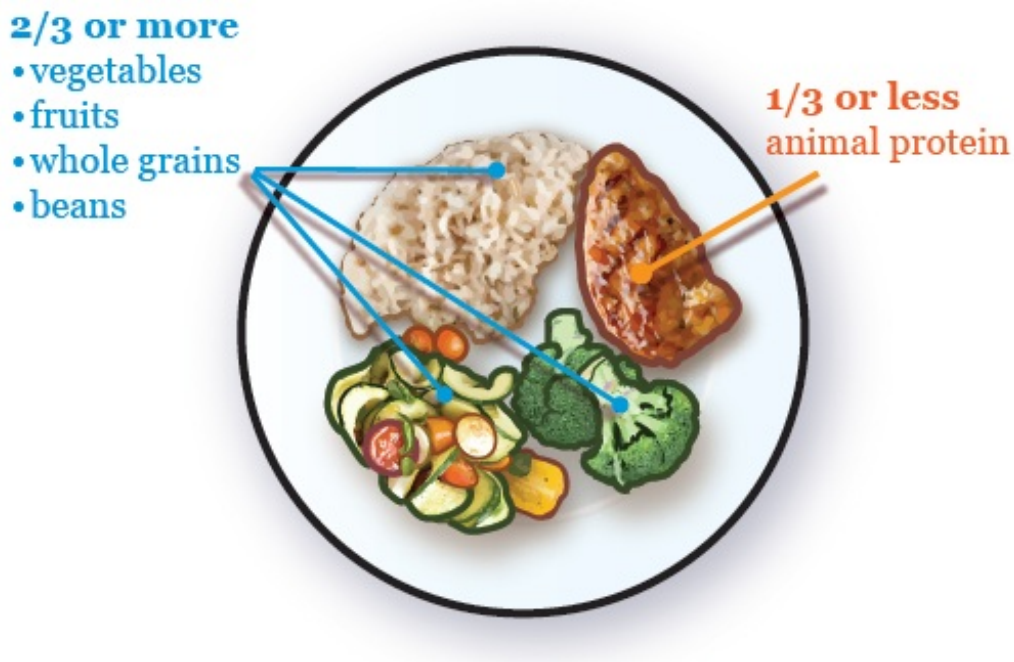

Figure 3. Balancing your plate

At least two-thirds of your plate should be vegetables, fruits, whole grains, or beans. For your vegetables, try to choose non-starchy ones, such as:

- Broccoli, cabbage, and cauliflower.
- Leafy greens, such as spinach, lettuce, kale, collards, and bok choy.
- Mushrooms.

- Asparagus.
- Zucchini.
- Peppers.
- Tomatoes.

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

- Whole grains, such as brown rice, whole-wheat pasta, quinoa, and barley.
- Starchy vegetables, such as potatoes, sweet potatoes, corn, and pumpkin.
- Whole fruits, such as berries, apples, pears, kiwis, and oranges.

No more than ⅓ of your plate should be animal protein, such as:

- Fish.
- Non-fat or low-fat dairy products, such as plain yogurt.
- Eggs.
- Poultry.

You can also substitute plant proteins, such as beans, instead of eating animal protein.

Your meal might not always look exactly like the plate shown here. For example, a cup of lentil and vegetable soup and a small apple are a similar meal and proportion. 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.

Limit sugar in your diet

All the cells in our bodies use glucose (a form of sugar) for growth and energy. Diets high in sugar and calories can lead to increased insulin and hormone levels. This may allow tumors to grow.

Limit sugars from foods and drinks and your total calories. Eating too much sugar, or too much of any food, can also cause you to have extra body weight. This comes in the form of fat. Being overweight or obese can increase your risk of getting cancer.

It's important to eat an overall healthy diet. Having a cookie or treat sometimes won't cause cancer growth. Read the Academy of Nutrition and Dietetics article about sugar and cancer at www.oncologynutrition.org/erfc/healthy-nutritionnow/sugar-and-cancer to learn more.

Monitor the fat in your diet

Some fat in your diet is necessary and healthy. There are different types of fat. Some are healthier than others. The type of fat you eat can be as important as the amount.

High-fat foods are calorie dense. This means there are a lot of calories in a small amount of high-fat foods. One gram of fat has more than 9 calories. One gram of a carbohydrate or protein has 4 calories. This is important if you're trying to lose weight or maintain weight loss.

It's important to avoid eating too many calories and to choose healthier types of fats. Most people do not need to avoid fat in their diet. For people with certain medical conditions, limiting fat may be helpful.

In the United States, the USDA recommends that 20 to 35 percent of your daily calories come from fat. If your caloric need is 1,800 calories, this is about 40 to 70 grams of fat per day. This could be higher or lower, depending on your caloric need.

Cholesterol

Cholesterol is a fat-like substance. It's 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:

- **Low-density lipoprotein (LDL)**. This is often called “bad” cholesterol. It can clog your arteries and cause heart disease.
- **High-density lipoprotein (HDL)**. This is often called is “good” cholesterol. It attaches to extra cholesterol and takes it out of your body through your stool (poop).

Types of fats

Monounsaturated fats come from plant sources. These fats can lower your total cholesterol and LDL levels. They will not affect your HDL level. Choose mostly monounsaturated fats found in:

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

Polyunsaturated fats also come from plant sources. These fats can lower both your total cholesterol and LDL levels. They are found in:

- Corn oil
- Safflower oil

- Sunflower oil
- Soybean oil
- Hemp oil
- Grape seed oil

Saturated fats are found in:

- Meat and chicken fat
- Whole milk and milk products, such as cheese, yogurt, and sour cream.
- Butter
- Lard
- Coconut, palm, and palm kernel oils

Eating foods with too much saturated fat can raise your total cholesterol and LDL levels. Limit the amount of saturated fat you eat can keep your heart healthy. It can also make it easier to maintain your weight.

Omega-3 fatty acids are needed for good health, especially for heart health. They are found mainly in oily fish, such as:

- Salmon
- Tuna
- Mackerel

Eat at least 2 (4-ounce) servings of omega-3 rich fish per week.

Other foods that have smaller amounts of omega-3 fatty acids include:

- Leafy green vegetables
- Walnuts
- Soybeans
- Flax seeds

Tips for trimming fat from your diet

Having less animal fat in your diet may decrease your risk for prostate cancer. Here are some ways you can reduce the amount of fat in your diet:

- **Read food labels.** Notice the amount of fat your food has in it, 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, and mayonnaise. These also include certain salad dressings. Try lemon juice or balsamic vinegar and herbs instead of high-fat bottled salad dressings.
- **Choose lean cuts of meat.** These include skinless chicken

or turkey and fish.

- **Limit how much red mead you eat each week.** Eat no more than 18 ounces of red meat (beef, lamb and pork) per week.
- **Avoid processed meats**, such as hot dogs, sausage, bacon, and cold cuts.
- **Have more non-meat meals**, such as tofu, lentils, or bean chili.
- **Remove the fat and skin from your meat**. Do this before cooking it.
- **Avoid deep-fried foods.** Prepare foods by baking, broiling, steaming, or pan-frying with non-stick cooking spray instead.
- **Use herbs and spices to flavor food.** Use these instead of butter, oil, or gravies.
- **Use fruit or fruit juice in 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.
- **Use 1 egg yolk per 2 egg whites** when making scrambled

eggs or omelets. You can also use an egg substitute product.

- **Choose canned tuna or sardines packed in water** instead of oil. Drain oil-packed canned tuna or sardines to decrease the fat.
- **Cook with canola or olive oil.** These have less saturated fat than other oils.
- **Choose skim, fat-free, or low-fat milk, yogurt, and cheeses** instead of the full fat versions.
- **Include nuts and avocado in your diet**. These have healthy monounsaturated oils because they are also high in fat and calories.
- **Have sorbets, fruit ices, low fat ice cream, or frozen yogurt** instead of regular ice cream.
- Top baked potatoes, chicken, or fish with salsa, fat-free dressing, or plain low-fat yogurt instead of sour cream, cheese, or bacon.
- **Eat less saturated and trans fats.** Avoid saturated fats found in butter, animal fat, palm and coconut oil.
- **Avoid trans fats** found in stick margarine, fried foods, and baked goods. Any food that has partially hydrogenated oil in the ingredients list has trans-fat.
- **Choose mostly monounsaturated and polyunsaturated**

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

Include fiber in your diet

Fiber helps lower cholesterol and regulate bowel movements (poop) and prevent constipation. It also helps with weight loss. Fiber can help you feel full after eating and can lower the risk for diabetes, heart disease, and obesity.

Sources of fiber

Plant foods, such as fruits and vegetables, are the best sources of fiber. Whole grains, cereals, nuts, seeds, and legumes, such as beans, peas, and lentils can also 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.”

Tips for adding fiber and whole grains to 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.
- Add a small amount of dried fruit or toasted nuts to a whole grain, such as barley.
- Add beans to rice, pasta, salad, and soups.
- Choose fresh fruits and vegetables instead of juices.

Slowly increase how much fiber you eat and drink. Have at least 8 (8-ounce) glasses of liquids each day. This helps prevent constipation. Read *A Guide to High Fiber Foods* (www.mskcc.org/pe/high-fiber-foods) to learn more about how to include fiber in your diet.

Limit salt and sodium

Eating foods with a lot of salt may raise your blood pressure. It can also increase your risk for stroke, heart failure, and kidney disease. Eat less than 2,300 milligrams (mg) of sodium (about 1 teaspoon of salt) per day.

Fresh food that isn't processed usually has less 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."

Tips for limiting sodium in your diet

- Do not add salt to food at the table.
- Pay attention to ingredients. Sometimes the name of a food can be misleading. Lemon pepper, spice rubs, and adobo may have a lot of salt. This includes sodium, or other sources of salt, such as monosodium glutamate (MSG).
- When cooking, flavor foods with fresh herbs and spices instead of salt.
- Limit canned, packaged, processed, pickled, and cured foods.
- Be aware that both fast food and restaurant food often have large amounts of salt. It can be helpful to plan your meals ahead of time when going out to eat. Some restaurants offer nutrition information for the items on their menu. If possible, look at the serving sizes of menu items before you order them.

Include calcium and vitamin D in your diet

Having calcium in your diet every day keeps your bones and teeth strong and your muscles and nerves healthy. When you do not get enough calcium from your diet, your body takes calcium from your bones. This can make your bones weak and brittle and cause a disease called osteoporosis. Osteoporosis puts you at greater risk for

bone fractures.

Sources of calcium

Skim or low-fat dairy, such as milk, yogurt, or cheese, are good sources of calcium. If you have trouble eating lactose, try soy products or lactose-free products, such as Lactaid® milk. Lactose is a sugar found in milk products. Almonds, leafy greens, soybeans, canned sardines, and salmon are also good sources of calcium.

Tips for adding calcium to your diet

Have at least 2 to 3 servings of skim or low-fat dairy every day. If you have trouble eating lactose, have 2 to 3 servings of lactose-free products every day. Have foods with added calcium, such as orange juice and certain cereals.

If you cannot get enough calcium from food or drinks, you may need calcium supplements. Talk with your doctor or a clinical dietitian-nutritionist to learn more about your calcium needs.

Vitamin D

Vitamin D helps your body absorb the calcium in your diet. Vitamin D is found in dairy products and some fatty fishes. Your body can also make vitamin D from sunlight. Most people get all the vitamin D they need from sunlight. Some people may need to take a vitamin D supplement.

You may need to take a vitamin D supplement if:

- You don’t get enough vitamin D in your diet.
- You don’t spend much time outside in sunlight.
- You usually keep your skin covered, such as for religious reasons.

Daily recommended intake

This table lists how much calcium and vitamin D you need each day based on your age.

Age	Calcium (mg)	Vitamin D (IU)
0 to 6 months	200 mg	400 IU
7 to 12 months	260 mg	400 IU
1 to 3 years	700 mg	600 IU
4 to 8 years	1,000 mg	600 IU
9 to 18 years	1,300 mg	600 IU
19 to 50 years	1,000 mg	600 IU
51 to 70 years	1,200 mg for women and 1,000 for men	600 IU
70 years and older	1,200 mg	800 IU

IU=International Units

Most of your bone mass is made during childhood and early

adulthood. You can still improve your bone health as you age. Eat foods that are rich in calcium and vitamin D and take part in daily weight-bearing activities. This includes walking, jogging, lifting weights, or jumping rope. All of these things can help make your bones stronger.

Limit your alcohol intake

The amount of alcohol you drink can affect your risk for cancer of the esophagus, mouth, and head and neck. It can also affect your risk for cirrhosis of the liver. Alcohol is also high in calories. If you drink alcohol, do so in moderation.

Each of the following is 1 serving of alcohol:

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

Pay attention to the size of the wine glasses you use at home or in restaurants. Some wine glasses hold up to 5 times (20 ounces) the amount of wine in 1 serving. “Light beer” has fewer calories compared to regular beer, but not less alcohol. To help dilute alcohol, use club soda as a mixer.

If you have any questions about alcohol, talk with your doctor, nurse, or clinical dietitian-nutritionist.

Sample meal plans

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

Meal	Sample Menu #1
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
Lunch	Tuna salad (4 ounces of tuna packed in water, 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
Snack	15 almonds 1 orange

Dinner	4 ounces of whole-wheat pasta ½ cup of tomato sauce with no added salt 1 tablespoon of grated Parmesan cheese 4 ounces of grilled chicken breast 6 steamed asparagus spears 1 cup of mixed greens with tomato, red onion, and 4 black olives 2 tablespoons of low-fat dressing
Snack	1 fresh pear topped with 1 crumbled graham cracker and 2 tablespoons of low-fat yogurt
Nutritional Content	Calories: 1,780 Total Fat: 58 g Polyunsaturated fat: 10 g Saturated fat: 12 g Monounsaturated fat: 30 g Cholesterol: 211 mg Sodium: 1,800 mg Fiber: 37 g Calcium: 933 mg Potassium: 3,370 mg

Meal	Sample Menu #2
Breakfast	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

Lunch	Turkey sandwich: • 3 ounces of roasted turkey breast • 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
Snack	2 cups of air-popped popcorn (no added butter)
Dinner	2 cups of vegetarian chili 2 slices of whole-wheat bread or 1 medium whole-wheat dinner roll 1 cup of mixed-greens salad Salad dressing: • 1 tablespoon of olive oil • 1 tablespoon of balsamic vinegar 2 slices of watermelon
Snack	½ cup of fruit sorbet topped with 1 cup of fresh or frozen strawberries or raspberries

Nutritional Content	Calories: 1,800 Total fat: 28 g Polyunsaturated fat: 5 g Saturated fat: 8 g Monounsaturated fat: 9 g Cholesterol: 81 mg Sodium: 1,600 mg Fiber: 47 g Calcium: 1,300 mg Potassium: 4,200 mg

Meal	Sample Menu #3
Breakfast	Vegetable frittata: • 1 egg and 2 egg whites • 1 cup of julienned vegetables 1 cup of cantaloupe cubes Coffee or tea with skim milk
Lunch	1 ½ cups of black bean and corn soup (see reciple below) Whole-grain roll with 1 slice of low-sodium cheese 1 cup of mixed-greens salad Salad dressing: • 1 tablespoon of olive oil • 1 tablespoon of balsamic vinegar

Snack	½ cup of 1% cottage cheese ½ cup of fresh fruit
Dinner	6 ounces of broiled salmon 1 cup of spinach and mushrooms sautéed in 2 tablespoons of oil and garlic 1 sweet potato, sliced and roasted in the oven 1 cup of cooked mushrooms 1 cup of brown rice
Snack	1 cup of sugar-free cocoa made with skim milk 1 baked apple topped with cinnamon
Nutritional Content	Calories: 1,700 Total Fat: 47 g Polyunsaturated fat: 6 g Saturated fat: 13 g Monounsaturated fat: 20 g Cholesterol: 320 mg Sodium: 2,300 mg Fiber: 44 g Calcium: 1,050 mg Potassium: 3,300 mg

Recipe for Black Bean and Corn Soup (serves 4)

- 28-ounce can low-sodium crushed tomato and basil
- 8 ounces low-sodium tomato juice
- 16-ounce can rinsed black beans
- 16-ounce can rinsed white beans

- 16-ounce can rinsed kidney beans
- 16-ounce can sweet corn
- 1 teaspoon dry oregano
- ½ teaspoon rosemary
- ½ teaspoon cracked red pepper flakes (optional)

Mix ingredients in a large pot and bring to a boil. Reduce heat and let simmer for 10 minutes.

Nutritional supplements

Vitamin, mineral, and herbal supplements may interfere with certain treatments for prostate cancer. Always check with your healthcare provider before taking any nutritional supplements. Visit www.aboutherbs.com to learn more about herbs and minerals.

These nutrients are being studied for possible effects on prostate cancer.

Multivitamins and 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 get the vitamins you need without interfering with your treatment. Fruits and vegetables have fiber not found in a vitamin pills. They also have compounds from plants that

benefit your health.

Carotenoids

Carotenoids give certain fruits and vegetables their colors. Two common carotenoids are lycopene and beta-carotene.

Lycopene is found in tomatoes, guava, pineapple, and watermelon. Studies suggests that lycopene from foods may reduce prostate cancer risk.

Beta-carotene is found in dark green leafy vegetables, and yellow or orange vegetables like carrots and sweet potatoes. Beta-carotene rich foods and supplements are unlikely to have any significant effects on the risk of prostate cancer. It's safe to eat foods with beta-carotene. Avoid taking beta-carotene supplements and juicing foods rich in beta-carotene.

Flaxseed

Flaxseed has can help reduce the growth and spread of prostate cancer. It is a good source of omega-3 fatty acids and fiber.

Ground flaxseeds give the best health benefits. Your body cannot absorb whole flaxseeds. Flaxseed oil does not have the same benefits as ground flaxseeds.

Folate

It's important to take the right amount of folate. Adding just the right amount of folate (400 micrograms) in your diet can slightly lower your risk for prostate cancer. Taking folic acid supplements can make it twice as likely to develop prostate cancer.

Eat a balanced diet with folate-rich foods, such as fortified breakfast cereals and grain products. This also includes asparagus, avocado, legumes, liver, nuts, and dark green leafy vegetables.

Green Tea

Green tea is unlikely to reduce the risk of prostate cancer, but more research is needed.

Selenium and vitamin E

Selenium and vitamin E are antioxidants. They are found in seafood, whole grains, vegetable oil, margarine, nuts, seeds, eggs, whole grain breads, and cereals. It's best to get selenium and vitamin E from your diet.

We do not recommend taking selenium or vitamin E supplements. People who take vitamin E supplements alone have a higher risk of developing prostate cancer. Selenium and vitamin E supplements do not prevent prostate cancer whether they are taken alone or together.

Soy

Soy products make a good heart-healthy addition to your diet when eaten in moderation. They can replace foods that are high in animal proteins and saturated fat. Sources of soy include tofu, soy milk, soybeans (edamame), soy nuts, soy nut butter, miso (soy paste), and soy burgers.

We do not recommend soy supplements and soy bars. They are high in calories, sugar, and fat. They do not have the same nutrients found in whole foods.

Zinc

Zinc helps your cells function normally, signal nerves, and help your body protect itself against infection or disease. Sources of zinc include meat, fish, poultry, beans, and whole grains.

Having more than 100 mg of zinc daily may increase your risk for prostate cancer. It can also increase your LDL levels, decrease HDL levels, and slow down your immune system. We do not recommend taking zinc supplements.

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. Ask your healthcare provider for the

resource *Eating Well During Your Cancer Treatment* (www.mskcc.org/pe/eating-cancer-treatment) *to learn more.*

Brachytherapy

Brachytherapy is a procedure used to treat prostate and other types of cancer. During brachytherapy for prostate cancer, a radiation oncologist inserts radioactive devices into your prostate near the cancer cells. A radiation oncologist is a cancer doctor with special training in using radiation therapy (RT) to treat cancer with radiation. These devices are used to kill the cancer cells. You can continue with your regular diet during brachytherapy.

External beam radiation therapy

External beam radiation therapy sends radiation to your prostate. It can cause diarrhea (loose or watery bowel movements). Your healthcare provider will tell you if you should follow a low fiber diet during external beam radiation therapy.

Hormonal therapy

Androgen deprivation therapy (ADT)

ADT is a hormone therapy that uses medicine, such as leuprolide (Lupron®), to block testosterone. Testosterone is a hormone that helps keep your bones strong, but also allows prostate cancer cells to grow. Lower levels of

testosterone may lead to increased risk of osteoporosis and broken bones. Getting enough calcium in your daily diet can help you protect your bones.

Orchiectomy

Orchiectomy is surgery to remove one or both testicles. This can also reduce testosterone levels. Orchiectomy may cause weight gain. Maintain a healthy weight by following the healthy diet guidelines in this resource. This includes watching portion sizes, and exercising if you can.

Chemotherapy

Chemotherapy can cause include loss of appetite, nausea (feeling like you're going to throw up) and vomiting (throwing up). While you're getting chemotherapy, try to eat small, soft, and bland meals often.

Chemotherapy can also cause mouth sores that can make it hard to eat. Dietary supplements such as Ensure® or milkshakes between meals may help you add calories to your diet.

Talk with your healthcare provider or clinical dietician-nutritionist if you have any questions or concerns about diet or supplements. To find a clinical dietitian-nutritionist that is right for you and your treatment, call 212-639-7312 to make an appointment.

Get regular physical activity

Physical activity and exercise are part of a healthy lifestyle. You can stay fit by doing at least 30 minutes of moderate exercise most days of the week.

Moderate exercise is when your breathing gets faster but you aren't out of breath. For example, you can have a conversation but can't sing. Some people start to sweat after 10 minutes.

During **vigorous exercise**, your breathing is fast, and you cannot say more than a few words without taking a break. Some people start to sweat in a few minutes.

Staying active can lower the risk for other types of cancer and many chronic (long-lasting) health conditions and diseases. It can improve heart health joint pain, and overall health. Staying active can keep your bones strong, build lean muscle mass, and reduce fat tissue. It can also reduce and give you energy.

Regular activity can improve cognitive function, including memory, thought processing, and speech. It can reduce fatigue (feeling more tired or weak than usual) and depression or anxiety (strong feelings of worry or fear). It can also help prevent falls and prevent or relieve constipation (having fewer bowel movements than usual).

There are other benefits of exercise for people with cancer. If you're getting chemotherapy, you may feel tired during the day. Exercise can help lower 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 example, 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.
- Get off the bus or subway 1 stop early and walk the rest of the way.
- Walk to work, class, or the store or walk your pets.
- Take a 2-mile brisk walk in 30 minutes.
- Increase your time spent on household tasks, such as vacuuming, mopping, dusting, and washing dishes (45

to 60 minutes).

- Take “activity breaks” at work.
- Swim laps for 20 minutes.
- Take a 4-mile bike ride in 15 minutes.
- Play volleyball for 45 minutes.
- Play basketball for 15 to 20 minutes.
- Dance for 30 minutes.
- Rake leaves or do other yard work for 30 minutes.

MSK resources

Integrative Medicine and Wellness Service: About Herbs

646-888-0880
www.aboutherbs.com

Has information of different herbs, botanicals, and other products.

Nutrition Services

www.msk.org/nutrition
212-639-7312

Our Nutrition Service offers nutritional counseling with one of our clinical dietitian nutritionists. Your clinical dietitian nutritionist will talk with you about your eating habits. They can also give advice on what to eat during and after

treatment. Ask a member of your care team for a referral or call the number above to make an appointment.

External resources

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. It can help you find a clinical dietitian-nutritionist in your area. The academy also publishes *The Complete Food and Nutrition Guide* with 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. They also published the AICR CUP (Continuous Update Project) Report on Diet, Nutrition, Physical Activity, and Prostate Cancer in 2018.

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, and clinical trial listings. It also has links to medical literature, and more.

National Institutes of Health Office of Dietary Supplements
301-435-2920
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 MSK nutrition services

Call the Department of Food and Nutrition a 212-639-7312 to learn more about Nutrition Services at MSK.

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

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

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