PATIENT & CAREGIVER EDUCATION

# Low-Iodine Diet

This information describes dietary (eating and drinking) guidelines to help you follow a low-iodine diet. It also includes a sample low-iodine menu and answers some commonly asked questions about a low-iodine diet. A low-iodine diet is a diet with less than 50 micrograms (mcg) of iodine per day.

## About Iodine

Iodine (I-oh-dine) is a mineral. Minerals are a type of nutrient your body needs to work properly. Your body uses iodine to make certain hormones (such as the hormones made by your thyroid gland) that help regulate other parts of your body.

All of the iodine in your body comes from your diet. Most of the iodine in your diet comes from iodized salt and other products made with added iodine. Only a few foods (such as seaweed, dairy, and some fish) naturally have iodine in them.

## About a Low-Iodine Diet

Following a low-iodine diet before getting radioactive iodine therapy can help the therapy work best. If you have too much iodine in your body during your radioactive iodine therapy, your thyroid gland might use that iodine instead of the radioactive iodine. This keeps the treatment from working as well as it should.

Your healthcare provider will tell you when to start and stop following a low-iodine diet. Most people start 1 to 2 weeks before their dose of radioactive iodine and stop after their radioactive iodine therapy is finished.

Because a low-iodine diet doesn't meet the suggested daily allowance for all nutrients, you'll only follow it for a short time. Don't start following a low-iodine diet unless your healthcare provider tells you to.

## Foods, Drinks, and Other Items Containing Iodine

Before you eat or drink something, read the ingredient list on the Nutrition Facts label to check if the food or drink contains added iodine.

The following things contain added or natural iodine. **Don't eat or use:**

- Iodized salt (such as Morton® Iodized Salt or any commercial salt that has “iodized” on the product label)
- Seasoning mixes made with iodized salt (such as adobo)
- Onion salt, celery salt, garlic salt, or seasoned salt made with iodized salt
- Seaweed (such as kelp, nori, kombu, and wakame)
- Any food that has these listed in its ingredients:
  - Iodates
  - Iodides
  - Algin
  - Alginates
  - Carrageenan
  - Agar-Agar
- Commercial (store-bought) breads and bakery products made with iodate bread conditioners. Read the ingredient list on the Nutrition Facts label to check if the product contains “calcium iodate” or “potassium iodate.”
- Milk (except for 1 ounce per day) and dairy products (such as cheese, yogurt, and cream)
- Egg yolks (the yellow part at the center of an egg)
- Most seafood (except freshwater fish)

- Vitamins and dietary supplements that have iodine. If you aren't sure if a vitamin or supplement contains iodine, don't take it.
- Food, pills, or capsules with food dyes that contain Red Dye #3
- Restaurant and processed foods (such as fast food, frozen meals and TV dinners, and sugar-sweetened drinks)
- Soy products, such as edamame, tofu, and soy burgers (BOCA® burgers)
- Antiseptics (liquid used to kill germs and bacteria), such as iodine (Betadine®) that you put on minor cuts, scrapes, and burns
- Medications that have Red Dye #3 listed in its ingredients
- Liquid nutritional supplements and commercial (store-bought) protein shakes, such as:
    - Ensure®
    - Boost®
    - Glucerna®
    - Nutrament®
    - Orgain®

If you're getting tube feeding formula, ask your clinical dietitian nutritionist or healthcare provider what to do.

## Low-Iodine Diet Guidelines

The following tables include examples of low-iodine foods. **If you have questions about foods not listed in these tables, call your clinical dietitian nutritionist or 212-639-7312 to talk with an outpatient clinical dietitian nutritionist. You can reach a staff member Monday through Friday, from 9:00 a.m. to 5:00 p.m.**

Each food section below lists serving sizes that can help you follow a healthy, well-balanced diet. Serving sizes are suggestions for how much food and drink to have per day. You don't need to follow these suggestions unless your healthcare provider tells you to. **Serving sizes don't give you the iodine content (how much iodine is in a certain food or drink).**

### Breads, cereals, and grains

Eat 4 to 6 servings of breads, cereals, and grains every day. One slice of bread or ½ cup of cooked pasta or grains is 1 serving.

| Foods to include | Foods to avoid |
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| • Plain cooked barley, oats, millet, buckwheat, bulgur wheat, and quinoa<br>• Cereals, pastas, and rice made without ingredients that contain a lot of iodine<br>• Homemade bread made without iodized salt<br>• Plain unsalted rice cakes<br>• Plain unsalted matzo<br>• Plain unsalted popcorn<br>• Thomas'® Original English Muffins<br>• Commercial (store-bought) breads made without iodate bread conditioners (such as Pepperidge Farm® Whole Grain, Arnold® 100% Whole Wheat and Country Style White, Oroweat® 100% Whole Wheat, and Nature's Own® 100% Whole Wheat and Honey Wheat) | • Commercial (store-bought) breads, rolls, bagels, and bialys made with iodate bread conditioners (such as Wonder® Classic White Bread). Read the ingredient list on the Nutrition Facts label carefully. If it lists "potassium iodate" or "calcium iodate," don't buy it.<br>• Commercial (store-bought) bakery products made with iodate bread conditioners. Read the ingredient list on the Nutrition Facts label carefully. If it lists "potassium iodate" or "calcium iodate," don't buy it. |

## Meat, meat substitutes, and proteins

Eat 2 to 3 servings of meat, meat substitutes, and proteins every day. Three ounces of meat or poultry is 1 serving.

| Foods to include | Foods to avoid |
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| • Fresh beef, veal, lamb, and pork<br>• Fresh chicken and turkey<br>• Freshwater fish (such as carp, river bass, lake trout, and river perch)<br>• Fresh egg whites<br>• Unsalted nuts and nut butters (such as peanut, almond, and cashew butter)<br>• Fresh or dried green peas | • Egg yolks (the yellow part at the center of an egg), whole eggs, and any food made with eggs<br>• All canned fish (such as salmon and tuna)<br>• Seafood, including:<br>  ◦ Fish from brackish (slightly salty) water or seawater<br>  ◦ All shellfish (such as clams, crabs, oysters, shrimp, and lobster)<br>  ◦ Any food made with fish stock<br>• All sushi<br>• All processed, canned, dried, salted, or cured meats (such as bacon, sausage, ham, frankfurters, chipped beef, and deli meats such as salami, bologna, and pastrami)<br>• Liver and all organ meats<br>• Kosher meat made with iodized salt |

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| | • Canned or processed poultry (such as turkey and chicken)<br>• Turkey or chicken with injected broth<br>• Tofu and soy products, such as soy burgers (BOCA burgers)<br>• Salted nuts and nut butters<br>• Canned, fresh, or dried beans and lentils (such as red kidney beans, navy beans, pinto beans, lima beans, and black-eyed peas) |

## Drinks

Drink at least 8 to 10 (8-ounce) glasses (about 2 liters) of liquids every day, unless your healthcare provider gives you other instructions.

| Drinks to include | Drinks to avoid |
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| • Water (such as tap water and bottled water. You don't need to drink distilled water.)<br>• Carbonated water<br>• Coconut water<br>• Regular or diet soda made without Red Dye #3<br>• Fruit juices<br>• Lemonade<br>• Coffee made without milk<br>• Tea or iced tea made from tea leaves or tea bags<br>• Nondairy milks (such as coconut milk, hemp milk, oat milk, and nut milks such as almond and cashew) | • Fruit punch and other powdered or commercial (store-bought) drinks that contain Red Dye #3<br>• Soy milk<br>• Milk or cream (dairy) |

## Milk and dairy products

Avoid milk and dairy products. It's okay to have 1 ounce of milk per day (such as in your coffee or tea).

| Foods to include | Foods to avoid |
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| • 1 ounce of milk per day | • More than 1 ounce of milk per day<br>• Dairy products (such as condensed or evaporated milk, cheeses, yogurts, puddings, ice creams, whipped cream, and sour cream)<br>• Food made with cream, milk, or cheese (such as soup, pizza, and macaroni and cheese)<br>• Nondairy creamers |

## Fruits

Eat as many servings of fruit per day as you want. One small piece of fruit or ¾ cup of fruit juice is 1 serving.

| Foods to include | Foods to avoid |
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| • Fresh fruits<br>• Canned or frozen fruits<br>• Dried fruits<br>• Applesauce (both store-bought and homemade)<br>• Fresh fruit juices (including bottles or cartons of fruit juice without artificial coloring or preservatives) | • Canned or bottled cherries made with Red Dye #3 |

## Vegetables

Eat as many servings of vegetables per day as you want. One cup of raw vegetables or ½ cup of cooked vegetables is 1 serving.

| Foods to include | Foods to avoid |
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| • Fresh vegetables<br>• Fresh white or sweet potatoes without skin<br>• Plain frozen vegetables<br>• Fresh or dried green peas<br>• Canned vegetables and vegetable juices<br>• Canned soups without beans or lentils | • Canned, fresh, or dried beans and lentils (such as red kidney beans, navy beans, pinto beans, lima beans, and black-eyed peas)<br>• Frozen vegetables with added salt<br>• Commercially prepared (store-bought) potatoes (such as instant mashed potatoes that may contain milk)<br>• Canned soups with beans or lentils<br>• Seaweed (such as kelp, nori, kombu, and wakame) |

## Fats

Eat 4 to 6 servings of fats every day. One teaspoon of butter or oil is 1 serving.

| Foods to include | Foods to avoid |
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| • Unsalted margarine or sweet butter (no more than 1 teaspoon of each per day)<br>• Oils (such as olive oil, vegetable oil, canola oil, peanut oil, and avocado oil)<br>• Vegetable shortening<br>• Unsalted nuts and nut butters (such as peanut, almond, and cashew butter) | • Salted nuts and nut butters<br>• Salted seeds<br>• Mayonnaise<br>• Lard<br>• Soybean oil |

## Desserts and sweets

Limit to 2 servings per day. Each item in the “include” column is 1 serving.

| Foods to include | Foods to avoid |
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| • 2 tablespoons of sugar<br>• 2 tablespoons of honey<br>• 2 tablespoons of maple syrup<br>• 2 regular-sized marshmallows<br>• ½ cup sorbet<br>• 1 snack Jell-O® gelatin<br>• Food sweeteners (such as Sweet and Low®, Equal®, and Splenda®)<br>• Nondairy or vegan chocolate<br>• Plain cocoa powder | • Commercial (store-bought) bakery products made with iodate bread conditioners (such as pies, cakes, pastries, danishes, muffins, donuts, and cookies). Read the ingredient list on the Nutrition Facts label carefully. If it lists “potassium iodate” or “calcium iodate,” don’t buy it.<br>• Chocolate (including chocolate desserts and candy)<br>• Pudding<br>• Blackstrap molasses (made from sugar cane) |

## Condiments

Eat as many servings of condiments per day as you want.

| Foods to include | Foods to avoid |
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| • Ketchup, mustard, tomato sauce, chili sauce, and gravy made without milk or butter<br>• Oils (such as olive oil)<br>• Vinegars<br>• Plain oil and white vinegar dressing<br>• Non-creamy salad dressings<br>• Jellies, jams, and preserves | • Soy sauce, Worcestershire sauce, and fish sauce<br>• All gravies that contain milk or butter<br>• Iodized salt<br>• All types of seaweed<br>• Any food containing food coloring, iodates, iodides, iodate bread conditioners, or stabilizers such as algin, alginates, carrageenan, and agar-agar<br>• Bouillon cubes, stock, broth, and other soup bases |

## Miscellaneous

| Foods to include | Foods to avoid |
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| • Pepper<br>• Spices (such as cinnamon and nutmeg)<br>• Herbs (such as oregano)<br>• Small amounts of spice mixtures and seasonings made without iodized salt<br>• Baking powder<br>• Baking soda | • Fast food, including Chinese food<br>• Herbal supplements<br>• Multivitamins, vitamins, and supplements that contain iodine<br>• Red or orange food coloring made with Red Dye #3<br>• Oral nutrition supplements including Boost, Ensure, Glucerna, and all other supplements and protein shakes that contain added iodine, carrageenan, or agar-agar |

## Sample Low-Iodine Menu

| Meal | Food Groups | Example Meal |
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| **Breakfast** | • 1 serving of fruit<br>• 3 servings of bread or cereal<br>• 1 serving of protein<br>• 1 drink | • ½ cup of orange juice<br>• ½ cup of oatmeal made with water<br>• 1 plain unsalted matzo or 1 Thomas' Original English Muffin<br>• 1 egg white omelet<br>• 1 cup of brewed coffee (no milk)<br>• 2 teaspoons of sugar |
| **Morning snack** | • 1 serving of bread or cereal<br>• 1 serving of fat<br>• 1 drink | • 2 plain unsalted rice cakes<br>• 1 teaspoon of unsalted butter<br>• 1 cup of water |
| **Lunch** | • 1 serving of meat<br>• 2 servings of fat<br>• 2 servings of bread or cereal<br>• 1 serving of vegetables<br>• 1 serving of fat<br>• 1 drink | • 3 ounces of unsalted turkey breast, cooked at home<br>• 2 teaspoons of oil<br>• 2 slices of homemade bread or store-bought bread that doesn't contain iodate bread conditioners<br>• 1 cup of romaine lettuce with sliced vegetables (cucumbers, carrots, and peppers) dressed with oil and vinegar<br>• 1 cup of fresh lemonade |

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| **Afternoon snack** | • 1 serving of fruit<br>• 1 serving of protein | • 1 fresh apple<br>• 2 tablespoons of unsalted peanut butter |
| **Dinner** | • 1 serving of meat<br>• 4 servings of vegetables<br>• 2 servings of fats<br>• 1 serving of fruit<br>• 1 drink | • 3 ounces of roast beef, cooked at home<br>• 1 baked potato (no skin)<br>• 1 cup of green beans or other non-starchy vegetable<br>• 2 teaspoons of oil (used in cooking)<br>• 1 orange<br>• 1 cup of white tea |
| **Evening snack** | • 1 serving of fruit<br>• 1 drink | • 1 small pear<br>• 1 cup of tea made from fresh tea leaves |

# Frequently Asked Questions

## How do I know if a certain food has iodine?

The iodine content of many foods isn't known. Remember, this is a low-iodine diet, not a non-iodine diet. We encourage you to follow our list of recommended foods to include and foods to avoid as a guide. If you have questions, call your clinical dietitian nutritionist or 212-639-7312 to talk with an outpatient clinical dietitian nutritionist. You can reach a staff member Monday through Friday,

from 9:00 a.m. to 5:00 p.m.

### If a product label says it has sodium (salt), does that mean it also has iodine?

Not always. Sodium and iodine aren't the same thing. Most commercial food manufacturers use non-iodized salt in their products. But, it's hard to know for sure. It's best to choose unsalted products in case a salted product contains iodine.

### I saw dietary guidelines for a low-iodine diet on the Internet that are different than the guidelines in this resource. Which one should I follow?

We encourage you to follow our list of recommended foods to include and foods to avoid. This is because the iodine content of many foods isn't known and not all Internet sources are correct.

### Can I use kosher salt?

Yes. We recommend using only non-iodized salt and only in small amounts because it may still contain a small amount of iodine. If you need salt, choose kosher salt or Morton® Plain Table Salt and use only small amounts.

## My healthcare provider told me to suck on hard candy for dry mouth, but this diet says I can't have candy. Which instructions should I follow?

We recommend that you don't eat any candy that has chocolate in it, because chocolate contains milk. But most hard candies are okay to eat if they don't contain Red Dye #3. Read the ingredient list on the Nutrition Facts label of the candy to check if it contains Red Dye #3. If you aren't sure if the candy contains Red Dye #3, don't eat it. We also recommend GoNaturally™ Organic Honey Lemon hard candies for dry mouth.

## Should I stop taking any of my medications?

Don't stop taking any of your medications unless your healthcare provider tells you to. Talk with your healthcare provider if you have any questions about your medications.

Tell your healthcare provider about any vitamins or supplements you're taking. You'll need to stop taking them if they contain iodine.

Vitamins and supplements aren't regulated (checked for safety, content, or quality) the same way other medications are. This makes it hard to tell if they contain iodine. If you aren't sure if a vitamin or supplement contains iodine, don't take it.

### Can I drink alcohol?

Ask your healthcare provider about drinking alcohol.

## Contact Information

If you want to speak with one of Memorial Sloan Kettering's (MSK's) clinical dietitian nutritionists, call 212-639-7312 to make an appointment. You can reach a staff member Monday through Friday, from 9:00 a.m. to 5:00 p.m.

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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