



## PATIENT & CAREGIVER EDUCATION

# Low-Iodine Diet

This information will help you follow a low-iodine diet. A low-iodine diet is a diet with less than 50 micrograms (mcg) of iodine per day.

## About Iodine

Iodine 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.

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 contain iodine.

## 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 doctor 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 complete.

A low-iodine diet doesn't meet the suggested daily allowance for all nutrients. You will only follow it for a short time. Don't start following it unless your doctor tells you to.

## **Foods, Drinks, and Other Items Containing Iodine**

Read the ingredients list on all nutrition facts labels 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
- 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:
  - Iodates
  - Iodides
  - Algin
  - Alginates

- Carrageen
- Agar
- Commercial breads and bakery products that contain iodate bread conditioners (such as calcium iodate or potassium iodate)
- Milk (except for 1 ounce a day) and milk products (such as cheese, yogurt, and cream)
- Egg yolks
- Most seafood (except fresh-water fish)
- Vitamins and dietary supplements that have iodine. If you aren't sure if a vitamin or supplement has iodine, don't take it.
- Food, pills, or capsules with food dyes that contain Red Dye #3
- Restaurant and processed foods
- Soy products, such as edamame, tofu, and soy burgers (Boca<sup>®</sup> burgers)
- Antiseptics, such as iodine (Betadine<sup>®</sup>) applied on a cut
- Cough medications that contain Red Dye #3
- Liquid nutritional supplements and commercial shakes, such as:
  - Ensure<sup>®</sup>
  - Boost<sup>®</sup>

- Glucerna®
- Nutrament®
- Orgain®

It's okay to use very small amounts of non-iodized salt (such as sea salt), but be careful not to use too much. Even non-iodized salt may contain small amounts of iodine.

If you're getting tube feeding formula, ask your dietitian or doctor what to do.

## Low-Iodine Diet Guidelines

### Breads and cereals

Eat 4 to 6 servings of breads and cereals every day. One slice of bread or 1/2 cup of cooked pasta or grains is 1 serving.

<b>Foods to include</b>	<b>Foods to avoid</b>
<ul style="list-style-type: none"> <li>• Plain cooked barley, oats, millet, buckwheat, bulgur wheat, and quinoa</li> <li>• Cereals, pastas, and rice made without high iodine containing ingredients</li> <li>• Homemade bread made without iodized salt</li> <li>• Unsalted plain matzoh</li> <li>• Plain unsalted popcorn</li> <li>• Thomas' Original English Muffins®</li> </ul>	<ul style="list-style-type: none"> <li>• All commercial breads, rolls, bagels, and bialy made with iodate bread conditioners</li> <li>• Other commercially prepared baked goods that are made with iodate bread conditioners</li> </ul>

## Meat and meat substitutes

Eat 2 to 3 servings of meat and meat substitutes every day.

Three ounces of meat or poultry is 1 serving.

<b>Foods to include</b>	<b>Foods to avoid</b>
<ul style="list-style-type: none"><li>• Fresh beef, veal, lamb, and pork</li><li>• Fresh chicken and turkey</li><li>• Fresh-water fish (such as carp, river bass, lake trout, and river perch)</li><li>• Fresh egg whites</li><li>• Unsalted nuts and unsalted nut butters (such as peanut, almond, and cashew butter)</li><li>• Fresh or dried green peas</li></ul>	<ul style="list-style-type: none"><li>• Egg yolks, whole eggs, and any foods made with eggs</li><li>• All canned fish (such as salmon and tuna)</li><li>• Seafood, including fish from brackish or seawater, all shellfish (such as clams, crabs, oyster, and lobster), or any food made with fish stock</li><li>• All sushi</li><li>• 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)</li><li>• Liver and all organ meats</li><li>• Canned or processed poultry (such as turkey or chicken)</li><li>• Turkey or chicken with injected broth</li><li>• Tofu and soy products, such as soy burgers (Boca® burgers)</li><li>• Salted nuts and nut butters</li><li>• Canned, fresh, or dried beans and lentils (such as red kidney beans, navy beans, pinto beans,</li></ul>

## Drinks

Drink at least 8 to 10 (8-ounce) cups of liquid a day, unless your doctor gives you other instructions.

Drinks to include	Drinks to avoid
<ul style="list-style-type: none"> <li>• Water (tap water, bottled water, and carbonated water are all okay to drink. You don't need to drink distilled water.)</li> <li>• Carbonated water</li> <li>• Regular and diet soda (without Red Dye #3)</li> <li>• Fruit juices</li> <li>• Lemonade</li> <li>• Coffee (made without milk)</li> <li>• Tea or iced tea made from tea leaves or tea bags</li> <li>• Coconut milk and coconut water</li> </ul>	<ul style="list-style-type: none"> <li>• Fruit punch and other powdered or commercial drinks that contain Red Dye #3</li> <li>• Soy milk</li> <li>• Milk or cream</li> </ul>

## Milk and milk products

Avoid milk and milk 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
<ul style="list-style-type: none"> <li>• One ounce of milk per day</li> </ul>	<ul style="list-style-type: none"> <li>• More than 1 ounce of milk per day</li> <li>• Milk products (such as condensed or evaporated milk,</li> </ul>

nondairy creamers, cheeses, yogurts, puddings, ice creams, whipped cream, and sour cream)

- Foods made with cream, milk or cheese (such as soup, pizza, and macaroni and cheese)

## Fruits

You can eat as many servings of fruit as you want. One small piece of fruit or  $\frac{3}{4}$  cup of fruit juice is 1 serving.

Foods to include	Foods to avoid
<ul style="list-style-type: none"> <li>• Fresh fruits</li> <li>• Canned or frozen fruits</li> <li>• Dried fruits</li> <li>• Applesauce (both commercially prepared and homemade)</li> <li>• Fresh fruit juices (including bottles or cartons of fruit juice without artificial coloring or preservatives)</li> </ul>	<ul style="list-style-type: none"> <li>• Canned or bottled cherries (made with Red Dye #3)</li> </ul>

## Vegetables

You can eat as many servings of vegetables as you want. One cup of raw vegetables or  $\frac{1}{2}$  cup of cooked vegetables is 1 serving.

Foods to include	Foods to avoid
<ul style="list-style-type: none"> <li>• Fresh vegetables</li> <li>• Fresh white and sweet potatoes</li> </ul>	<ul style="list-style-type: none"> <li>• Canned, fresh, or dried beans and lentils (such as red kidney</li> </ul>

without skin <ul style="list-style-type: none"> <li>• Plain frozen vegetables without added salt</li> <li>• Fresh or dried green peas</li> <li>• Canned vegetables and vegetable juices</li> <li>• Canned soups without beans or lentils</li> </ul>	beans, navy beans, pinto beans, lima beans, and cow peas). <ul style="list-style-type: none"> <li>• Frozen vegetables with added salt</li> <li>• Commercially prepared potatoes (such as instant mashed potatoes that may contain milk)</li> <li>• Canned soups with beans or lentils</li> <li>• Seaweed (such as kelp, nori, kombu, and wakame)</li> </ul>
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## 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
<ul style="list-style-type: none"> <li>• Unsalted margarine or sweet butter (no more than 1 teaspoon of each per day)</li> <li>• Oils</li> <li>• Vegetable shortening</li> <li>• Unsalted nuts</li> <li>• Unsalted nut butters (such as peanut, almond, and cashew butter)</li> </ul>	<ul style="list-style-type: none"> <li>• Salted nuts</li> <li>• Salted nut butters</li> <li>• Salted seeds</li> <li>• Mayonnaise</li> <li>• Lard</li> </ul>

## Desserts and Sweets

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



Foods to include	Foods to avoid
<ul style="list-style-type: none"> <li>• 2 tbsp of sugar</li> <li>• 2 tbsp of honey</li> <li>• 2 tbsp or maple syrup</li> <li>• 2 regular size marshmallows</li> <li>• 1/2 cup sorbet</li> <li>• 1 snack Jell-O® gelatin</li> </ul>	<ul style="list-style-type: none"> <li>• All commercially baked products (such as pies, cakes, pastries, danishes, muffins, donuts, and cookies) made with iodate bread conditioners</li> <li>• Chocolate (including chocolate desserts and candy)</li> <li>• Pudding</li> <li>• Blackstrap molasses</li> </ul>

## Condiments

You can eat as many servings of condiments as you want.

Foods to include	Foods to avoid
<ul style="list-style-type: none"> <li>• Ketchup, mustard, tomato sauce, chili sauce, gravy made without milk or butter</li> <li>• Oils</li> <li>• Vinegars</li> <li>• Plain oil and white vinegar dressing</li> <li>• Non-creamy salad dressings</li> </ul>	<ul style="list-style-type: none"> <li>• Soy sauce, Worcestershire sauce, and fish sauce</li> <li>• All gravies (that contain milk or butter)</li> <li>• Iodized salt</li> <li>• All types of seaweed</li> <li>• Any food containing food coloring, iodates, iodides, iodate bread conditioners, or stabilizers, algin, alginate, carrageenan, and agar-agar</li> <li>• Bouillon cubes, stock, broth, and other soup bases</li> </ul>

## Miscellaneous

Foods to include	Foods to avoid

- Pepper
- Spices (such as cinnamon and nutmeg)
- Herbs such as oregano
- Very small amounts of non-iodized salt (such as sea salt)
- Small amounts of spice mixtures and seasonings made without iodized salt

- Fast food, including Chinese food
- Herbal supplements
- Multivitamins and supplements that contain iodine
- Red or orange food coloring made with Red Dye #3
- Oral nutrition supplements including Boost, Ensure, Glucerna, and all other supplements and protein shakes that contain added iodine, carrageenan, or agar

## Sample Low-Iodine Menu

Meal	Food Groups	Example Meal
<b>Breakfast</b>	<ul style="list-style-type: none"> <li>• 1 serving of fruit</li> <li>• 3 servings of breads or cereals</li> <li>• 1 serving of meat substitute</li> <li>• 1 drink</li> </ul>	<ul style="list-style-type: none"> <li>• 1/2 cup of orange juice</li> <li>• 1/2 cup of oatmeal (made with water)</li> <li>• 1 plain, unsalted matzah or 1 Thomas' Original English Muffin</li> <li>• 1 egg-white omelet</li> <li>• 1 cup of brewed coffee</li> <li>• 2 teaspoons of sugar</li> </ul>
<b>Morning snack</b>	<ul style="list-style-type: none"> <li>• 1 serving of breads or cereals</li> <li>• 1 serving of fat</li> <li>• 1 drink</li> </ul>	<ul style="list-style-type: none"> <li>• 2 unsalted rice cakes</li> <li>• 1 teaspoon of unsalted butter</li> <li>• 1 cup of water</li> </ul>

<p><b>Lunch</b></p>	<ul style="list-style-type: none"> <li>• 1 serving of meat</li> <li>• 2 servings of fat</li> <li>• 2 servings of breads or cereals</li> <li>• 1 serving of vegetables</li> <li>• 1 serving of fat</li> <li>• 1 drink</li> </ul>	<ul style="list-style-type: none"> <li>• 3 ounces of unsalted turkey breast, cooked at home</li> <li>• 2 teaspoons of oil</li> <li>• 2 slices of homemade bread or store-bought bread that doesn't contain iodate bread conditioners</li> <li>• 1 cup of romaine lettuce with sliced vegetables (cucumbers, carrots, peppers) dressed with oil and vinegar</li> <li>• 1 cup of fresh lemonade</li> </ul>
<p><b>Afternoon snack</b></p>	<ul style="list-style-type: none"> <li>• 1 serving of fruit</li> <li>• 1 serving of meat substitute</li> </ul>	<ul style="list-style-type: none"> <li>• 1 fresh apple</li> <li>• 2 tablespoons of unsalted peanut butter</li> </ul>
<p><b>Dinner</b></p>	<ul style="list-style-type: none"> <li>• 1 serving of meat</li> <li>• 4 servings of vegetables</li> <li>• 2 servings of fats</li> <li>• 1 serving of fruit</li> <li>• 1 drink</li> </ul>	<ul style="list-style-type: none"> <li>• 3 ounces of roast beef, cooked at home</li> <li>• 1 baked potato (no skin)</li> <li>• 1 cup of green beans or other non-starchy vegetable</li> <li>• 2 teaspoons of oil (used in cooking)</li> <li>• 1 orange</li> <li>• 1 cup of white tea</li> </ul>
<p><b>Evening snack</b></p>	<ul style="list-style-type: none"> <li>• 1 serving of fruit</li> <li>• 1 drink</li> </ul>	<ul style="list-style-type: none"> <li>• 1 small pear</li> <li>• 1 cup of tea made from fresh tea leaves</li> </ul>

# 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 this list of recommended foods as a guide. If you have questions, call your clinical dietitian nutritionist.

## **If a product label says it has sodium, 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 the salt does contain iodine.

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

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

## **Can I use kosher salt?**

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 Morton's® Plain Table Salt and use only small amounts.

## **My doctor 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 avoid any candy that contains chocolate, because chocolate contains milk. But, most hard candies are okay to have if they don't contain Red Dye #3. Check the ingredient list on the nutrition facts label of the candy. If you're not 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 doctor tells you to. Call your doctor or nurse if you have any questions about your medications.

Tell your doctor about any vitamins or supplements that you're taking. You will need to stop taking them if they contain iodine.

Because vitamins and supplements aren't regulated the same way other medications are, it may be 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 doctor or nurse about drinking alcohol.

## **Contact Information**

If you want to speak with one of Memorial Sloan Kettering (MSK)'s clinical dietitian nutritionists, call 212-639-7312 to make an appointment.

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](http://www.mskcc.org/pe) to search our virtual library.

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