



Low Iodine (50 – 100 micrograms) Diet

General Description

This diet severely limits the intake of iodine-rich foods. It is used for those who will be receiving radioactive iodine (I-131).

Indications for Use

For patients with thyroid cancer who receive radioactive iodine as part of their evaluation and treatment, limiting the amount of dietary iodine has been shown to increase I-131 uptake¹. The diet is to be used for a period of approximately 2 weeks prior to receiving I-131 for scanning and/or for therapy, and is continued until patient is released from isolation precautions post-therapy. The median daily iodine intake in the United States is about 190 to 300 micrograms². This diet severely limits iodine intake to approximately 50-100 micrograms/day.

Guidelines

Quantitative data on the iodine content of food is limited and somewhat outdated^{3,4}. Thus, it is impossible to quantify actual intake.

- Foods that should be avoided include:
 - iodized salt and foods containing iodized salt
 - milk and dairy products
 - seafood
 - breads containing iodate dough conditioners
 - FD and C Red # 3 food dye
 - supplements (like vitamins) containing iodine
- See Table of Foods Allowed and Foods Not Allowed.
- In most cases, guidelines for this diet are provided by the NIDDK or Nutrition Department staff to outpatients with directions to begin the diet 2 weeks prior to I-131 administration.
- Since there is no reasonable way to determine which restaurants use iodized salt and which do not, patients should refrain from eating out while on this diet.

Nutritional Adequacy

In comparison to the Dietary Reference Intakes (DRIs), this diet is adequate in all nutrients with the exception of iodine, calcium, and possibly phosphorus and riboflavin. Since the diet is usually only followed for 2-3 weeks, these inadequacies are not considered detrimental. Multivitamin/mineral supplements should not be ordered since these often contain 150 mcg of iodine.

Low Iodine (50 – 100 micrograms) Diet, Cont.

Low-Iodine Diet Guidelines

Food Groups	Servings / Day	Foods Allowed*	Foods Not Allowed
Starches: Breads, Grains, and Cereals	<p><i>Limit to 4 servings per day</i></p> <p>1 serving = 1 slice bread 1 small roll ½ cup pasta 1 cup cereal</p>	<p>Commercial breads and rolls that do not contain any <i>IODATE</i> dough conditioners (check labels). Homemade breads made only with “allowed” ingredients.</p> <p>English muffins, doughnuts, bagels. Pretzels, crackers.</p> <p>Pasta: macaroni, noodles, spaghetti.</p> <p>Cold or hot cereals not containing Red Dye # 3. Allowed cereals include: cream of wheat, oatmeal, shredded wheat, rice krispies, cherrios, raisin bran.</p> <hr/> <p>Not limited: Potato chips, corn chips, plain popcorn.</p>	<p>Breads containing <i>IODATE</i> dough conditioners (such as calcium iodate or potassium iodate). Check labels.</p> <p>Muffins, french toast, pancakes, cornbread, tortillas.</p> <p>Rice.</p> <p>Cereals containing Red Dye # 3, or other not-allowed ingredients.</p> <p>Grits.</p>
Meat and Poultry	Limit 5 oz/day	Plain beef, pork, lamb, veal, chicken. Ham, bacon, hot dogs.	<p>Turkey.</p> <p>Liver and other organ meats.</p> <p>Casseroles, stews, meatloaf, chili, chow mein.</p> <p>Frozen dinners</p> <p>Soy products (tofu, veggie burgers, etc)</p>
Fish and Seafood	None	NONE	All seafood (shellfish, fish, fish sticks, tuna, caviar, seafood soups and chowders). Seaweed, kelp, algae.
Eggs	As desired	Egg whites, egg substitutes made from egg whites. Whole eggs allowed as ingredient only if in very small amts.	Egg yolks, whole eggs.
Milk and Dairy Products	None	<p>NONE</p> <p>(Liquid and powdered non-dairy creamers may be used as milk or cream substitutes if they do not contain carrageenan.)</p> <p>Cheese (limit to 1 oz. per day)</p>	<p>All milk (whole, low, skim, dry powder, buttermilk, chocolate flavored, soy milk).</p> <p>Cream (whipping and half & half)</p> <p>Dairy desserts. Yogurt.</p> <p>Hot chocolate, eggnog, milkshakes, frappes.</p> <p>Cheese and dishes made with cheese such as pizza, macaroni & cheese, lasagna. Cottage cheese.</p>

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Food Groups	Servings / Day	Foods Allowed*	Foods Not Allowed
Vegetables	As Desired	Raw, fresh-cooked, and canned or frozen without added iodized salt, except those listed as not allowed. Potatoes: Plain without skin, sweet potatoes.	Creamed vegetables. Rhubarb. Beans: pinto, lima, navy, kidney, red, cowpeas. Chili. Soy products (tofu, veggie burgers, etc) Potatoes: with skin, instant, scalloped. French fries, fried onion rings.
Nuts	As desired	Peanuts, walnuts, pecans. Peanut butter.	
Fruits and Juices	As desired	All except those listed as not allowed.	Fruit cocktail, maraschino cherries if contains Red # 3.
Beverages	As desired	Cola, diet cola, lemonade, lemon-lime sodas, coffee, tea. Beer, wine, alcohol as allowed by MD.	Red or pink drinks if they contain Red # 3. Milk, soy milk, beverages containing milk.
Fats	As desired	Margarine, butter, vegetable oils, mayonnaise, Italian dressing, oil and vinegar dressing. Gravies made with ingredients on "Allowed" list, such as Au Jus or brown (from mix)	Salad dressings made from any ingredients on "Not Allowed" list (such as buttermilk, ranch). Gravies made with milk or cream.
Soups	As desired	Broth-based soups (like chicken noodle or vegetable beef). Homemade from items on "Allowed" list.	Soups made with milk or cream.
Desserts and Sweets	As desired	Flavored gelatin , fruit ice, popsicles Gum-drops and hard candy (not containing Red Dye # 3). Marshmallows. Any homemade from items on "Allowed" list (such as fruit salads, fruit sorbets).	Dairy desserts, such as ice cream, frozen yogurt, sherbet, puddings, custards. Milk chocolate candy, caramels. Cakes, cookies, pies.

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Food Groups	Servings / Day	Foods Allowed*	Foods Not Allowed
Miscellaneous (Condiments, Sweets, Food Additives and Preservatives)	As Desired	Seasonings: NON-IODIZED SALT, onion, garlic, black pepper, fresh or dried herbs, lemon or lime juice Soy sauce (in very small amounts only) Catsup, mustard, salsa. Sugar, sugar substitute, jelly, honey, maple syrup.	IODIZED SALT, seasoning salts, sea salt. Special dietary products (liquids, powder, bars, etc.) like Slimfast, Ensure, Boost. Sulfured molasses, pancake syrup. Any food or medicine that contains Red dye # 3. Foods with ingredients listed as "iodine", "iodates" or "iodides" on label. Alginate, algin, agar-agar, carrageenan, nori (additives made from seaweed).

* Check ingredient labels on all foods to assure they do not contain any non-allowed items.

Low Iodine (50 – 100 micrograms) Diet, Cont.**Suggested Meal Plans***Day 1*

BREAKFAST

Juice
Cream of wheat or oatmeal
Margarine and/or sugar
Scrambled egg whites
2 strips bacon
Coffee
Non-dairy creamer
Sugar

LUNCH

Roast chicken sandwich:
2 slices bread
2 oz sliced chicken
lettuce, tomato
mayonnaise
Salad with Italian salad dressing
Fresh grapes
Lemonade, tea, or juice

DINNER

2 oz roast beef
Plain potato (no skin)
Mixed vegetables
Dinner roll
Margarine
Fresh Strawberries
Iced tea with lemon and sugar

Day 2

BREAKFAST

Juice
Rice Krispies
Non-dairy creamer for cereal
Banana
Coffee
Non-dairy creamer
Sugar

LUNCH

Chicken noodle soup
Peanut butter and jelly sandwich
Carrot/celery sticks
Fresh apple
Flavored gelatin
Cola or tea
Sugar/lemon

DINNER

5 oz broiled chicken
Sweet potatoes
Broccoli
Bread
Margarine
Lemon Sorbet
Juice or tea

Low Iodine (50 – 100 micrograms) Diet, Cont.

References

1. Lakeshmanan M, Schaffer A, Robbins J, Reynolds J, Norton J. 1988. A simplified low iodine diet in I-131 scanning and therapy of thyroid cancer. *Clin Nucl Med* 13:866-868.
2. Food and Nutrition Board, Institute of Medicine. *Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc*. Washington: National Academy Press; 2001.
3. Pennington JA, Young B, Johnson RD, and Vanderveen JE. 1986. Mineral content of foods and total diets: the selected minerals in foods survey, 1982-1984. *J Amer Diet Assn* 86, 876-890.
4. Pennington JA, Schoen SA, Salmon GD, Young B, Johnson RD, and Marts RW. 1995. Composition of core foods of the US food supply, 1982-1991. III. Copper, manganese, selenium, and iodine. *J Food Compos Anal* 8, 171-217.