

Lactose-Free Low-Lactose Diet

Purpose

Lactose is the simple sugar found in milk and milk products. It can also be found in a variety of other foods and even as a filler in some pills and capsules. The enzyme lactase, present in the lining of the small intestine, splits lactose into two simple sugars. These simple sugars can then be absorbed by the body and used as nourishment.

In infants, milk is the main part of the diet, so it is natural and normal for lactase production to gradually decrease as the diet becomes more varied. This tends to occur in childhood and adolescence in African Americans, Native American Indians, Hispanics, Arabs, Jews, and Asians. Northern European white races seem to keep lactase production the longest.

When lactase is absent, lactose passes through the intestine to the colon (large bowel), carrying extra fluid with it. In the colon, bacteria break down lactose into lactic acid and certain gases. Lactic acid is an irritant and laxative. It can cause symptoms such as bloating, diarrhea, abdominal cramps, and gas or flatus.

Lactase activity is reduced in people with certain intestinal conditions such as Crohn's disease and celiac disease (gluten enteropathy). Patients taking certain drugs and alcoholic patients may also be lactose intolerant. Finally, patients with surgical removal of part of the stomach or a large portion of the small intestine may need to reduce lactose in the diet.

It is important to remember that while lactose intolerance can cause quite uncomfortable symptoms, it does not cause damage to the intestine. The purpose of this diet is to eliminate lactose or reduce it to tolerable levels.

Nutrition Facts

Dairy products are important sources of calcium, riboflavin, and vitamin D. Some lactose-intolerant people are able to tolerate certain dairy products in small amounts, and their diets may provide enough of these nutrients. However, the physician or registered dietitian may recommend certain vitamin supplements and/or a calcium supplement for some patients.

Special Considerations

Tolerance of lactose is variable. Some people can eat small amounts of lactose without having symptoms while others need to avoid it completely.

- **Low-lactose diet:** generally eliminates only milk and milk products. However, some can tolerate milk in small amounts (2 oz) throughout the day or as part of a meal. Some can tolerate small amounts of yogurt. These patients can experiment to find a level of lactose they can tolerate. Some people can build up their level of tolerance by gradually introducing the lactose-containing foods.
- **Lactose-free diet:** all lactose products must be eliminated, including foods that are prepared with milk, both at home and in commercially packaged foods. These people may be able to use 100% lactose-free milk or soy milk.

Labels should always be read carefully

Lactase Digestive Aids and Products: Many people can drink milk in which the lactase has been partially or completely broken down. The following products may be available at a pharmacy or grocery store.

LACTAID and Dairy Ease enzyme products - check with a pharmacist, registered dietitian, or a physician for individual guidance on the use of these products.

- Drops: These are added to milk. Five, 10, or 15 drops per quart of milk will generally reduce lactose content by 70%, 90%, or 99% respectively over a 24-hour period
- Caplets/Capsules: A person chews or swallows 1 to 6 of these when starting to eat foods containing lactose

LACTAID Milk

- Non-fat or 1% low-fat is 70% lactose reduced
- Non-fat calcium-fortified is 70% lactose reduced and 500 mg of calcium per cup has been added
- Non-fat LACTAID 100 is completely lactose free

DAIRY Ease Milk

- Available in non-fat, 1%, or 2% low-fat - all are 70% lactose reduced

SOY Milk

- Calcium-fortified soy milk has no lactose, is low in fat and is a good source of Vitamin D.

For more information about these products, call the consumer information number listed on the food label. The physician, pharmacist, or registered dietitian may also have information about these products or any newer products now available

Food Groups		
Group	Lactose-Free	Lactose-Containing
Milk & milk products	100% lactose-free milk, soy milk	milk: whole, skim, 1%, 2%; buttermilk; sweet acidophilus milk; lactose-reduced milk; evaporated milk; acidophilus milk; sweetened condensed milk; instant hot chocolate and cocoa mixes; cheese
Vegetables	fresh, frozen, and canned vegetables without added milk or milk products; tomato paste and purée; tomato and spaghetti sauces without	creamed or breaded vegetables, packaged dried potato mixes, tomato and spaghetti sauce with cheese

	cheese	
Fruits	fresh, frozen, canned, and dried fruits	none
Breads & grains	water-based breads (Italian, French, Jewish rye), rice and popcorn cakes, graham crackers, rusks, Pareve-Jewish bakery products, cooked and dry cereals without added milk solids, pasta, rice, oats, barley, cornmeal, bulgar, and other plain grains	the following made with milk or milk products, breads, rolls, biscuits, muffins, pancakes, sweet rolls, waffles, crackers, instant and dry cereals with added milk products, some packaged grain mixes, packaged macaroni mixes
Meat or meat substitutes	plain beef; lamb; veal; pork; wild game; poultry; fish; shellfish; eggs; kosher prepared meat products; peanut butter; peas, beans, or lentils (dried, canned or frozen); all nuts and seeds; tofu	eggs, fish, meat, or poultry (breaded or creamed); luncheon meats; sausage; frankfurters; some brands of egg substitutes and powdered eggs
Fats & oils	bacon, butter, margarine without milk derivatives (whey), salad dressing without cheese or milk, vegetable oils, olives, most non-dairy creamers, mayonnaise, gravy made without milk or milk products	cream, half & half, sour cream, cream cheese, chip dips, some types of margarine, salad dressing with cheese or milk, whipped toppings
Sweets & desserts	angel food cake, gelatin, fruit ice, fruit popsicles, fruit roll ups, hard candy, gum drops, jelly beans, licorice, fruit pie fillings	ice cream, ice milk, some brands of sherbet, soufflé, mousse, pudding, custard, packaged dessert mixes, milk chocolate, toffee, caramel, butterscotch
Beverages	Postum, lactose-free nutritional supplements (Sustacal, Ensure, Nutren), vegetable juice, fruit juices and drinks, tea, carbonated beverages, beer, wine, distilled spirits (gin, rum, etc.), cocoa powder, most coffee	instant iced tea, instant coffee, Ovaltine, chocolate drink mixes, cordials, liqueurs, milk-based nutritional supplements (Carnation Instant Breakfast)
Soups	bouillon, broth, meat, or vegetable stock soups; bisques and chowders made with water	cream soup, canned and dehydrated soup mixes containing milk products

	soy milk, or 100% lactose-free milk	
Miscellaneous	popcorn, plain pretzels, plain potato and corn tortilla chips, salsa, mustard, ketchup, pickles, uncreamed horseradish, relish, sauces made without milk or milk products, sugar, honey, jams and jellies, maple and corn syrup, molasses, herbs, spices, salt, pepper	cream or cheese sauces, ranch-style or cheese-flavored snack pretzels or chips, cheese curls, sugar substitutes with lactose added, medications and vitamin/mineral supplements with lactose added

Sample Menu		
Breakfast	Lunch	Dinner
<ul style="list-style-type: none"> ▪ orange juice, calcium fortified 1/2 cup ▪ oatmeal 1 cup ▪ Italian bread 2 slices ▪ jelly 2 tsp ▪ margarine 2 tsp ▪ coffee 1 cup ▪ sugar 1 tsp ▪ nondairy creamer 	<ul style="list-style-type: none"> ▪ turkey 2 oz ▪ Italian bread 2 slices ▪ mayonnaise 1/2 Tbsp ▪ tossed green salad 1 cup oil & vinegar 2 tsp tomato 2 slices carrot 1 celery 1 stalk ▪ banana 1 ▪ lactose-free milk 1 cup 	<ul style="list-style-type: none"> ▪ consommé 3/4 cup ▪ strained fruit juice 1 cup ▪ fruit ice 1/2 cup ▪ gelatin 1/2 cup ▪ hot tea with sugar & lemon

This Sample Diet Provides the Following			
Calories	1800	Fat	48 gm
Protein	93 gm	Sodium	1700 mg
Carbohydrates	261 gm	Potassium	3533 mg