Lactose Intolerance

On this page:

What is lactose intolerance?

Lactose intolerance is the inability to digest significant amounts of lactose, the major sugar found in milk. Lactose intolerance is caused by a shortage of the enzyme lactase, which is produced by the cells that line the small intestine. Lactase breaks down milk sugar into two simpler forms of sugar called glucose and galactose, which are then absorbed into the bloodstream. Not all people deficient in lactase have the symptoms commonly associated with lactose intolerance, but those who do are said to have lactose intolerance.

People sometimes confuse lactose intolerance with cow's milk intolerance because the symptoms are often the same. However, lactose intolerance and cow's milk intolerance are not related. Being intolerant to cow's milk is an allergic reaction triggered by the immune system. Lactose intolerance is a problem caused by the digestive system.

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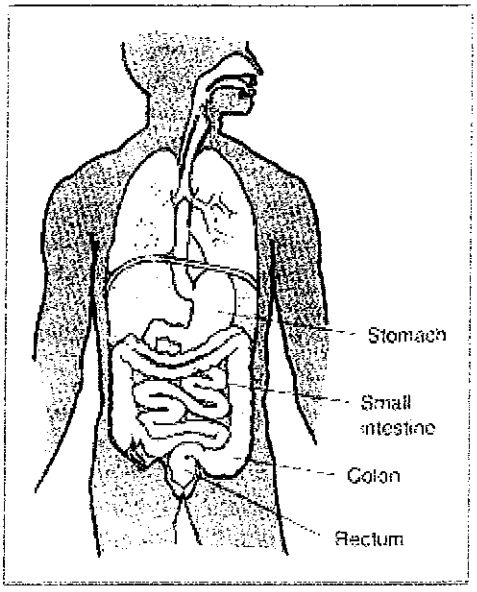
What are the symptoms of lactose intolerance?

People who do not have enough lactase to digest the amount of lactose they consume may feel very uncomfortable when they digest milk products. Common symptoms, which range from mild to severe, include nausea, cramps, bloating, gas, and diarrhea. Symptoms begin about 30 minutes to 2 hours after eating or drinking foods containing lactose. The severity of symptoms depends on many factors, including the amount of lactose a person can tolerate and a person's age, ethnicity, and digestion rate.



The digestive tract

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How is lactose intolerance diagnosed?

Lactose intolerance can be hard to diagnose based on symptoms alone. People sometimes think they suffer from lactose intolerance because they have the symptoms associated with the disorder, not knowing other conditions such as irritable bowel syndrome can cause similar symptoms. A doctor can use tests to diagnose lactose intolerance but may first recommend eliminating cow's milk from the diet to see if the symptoms go away.

The most common tests used to measure the absorption of lactose in the digestive system are the lactose tolerance, hydrogen breath, and stool acidity tests.

- **The Lactose Tolerance Test.** This test requires fasting (not eating) before the test and then drinking a liquid that contains lactose. Several blood samples are then taken over a 2-hour period to measure the person's blood glucose (blood sugar) level. These measures indicate how well the body is able to digest lactose.

  Normally, when lactose reaches the digestive system, the lactase enzyme breaks it down into glucose and galactose. The liver then changes the galactose into glucose, which enters the bloodstream and raises the person's blood glucose level. If, however, lactose is incompletely broken down, the blood glucose level does not rise and a diagnosis of lactose intolerance is confirmed.

- **The Hydrogen Breath Test.** This test measures the amount of hydrogen in a person's breath. Very little hydrogen is normally detectable. However, undigested lactose in the colon is fermented by bacteria and produces various

gases, including hydrogen. The hydrogen is absorbed from the intestines, carried through the bloodstream to the lungs, and exhaled. In this test, the person drinks a lactose-loaded beverage and the breath is analyzed at regular intervals. Raised levels of hydrogen in the breath indicate improper digestion of lactose. Certain foods, medications, and cigarettes can affect the accuracy of the test and should be avoided before taking the test. People should check with their doctor to make sure they are not taking medications that may interfere with test results.

The lactose tolerance and hydrogen breath tests are not given to infants younger than 6 months of age. A large lactose load can be dangerous prior to this age, as infants are more likely to become dehydrated from diarrhea that can be caused by lactose intolerance.

- **Stool Acidity Test.** This test may be used for infants and young children to measure the amount of acid in their stool. Undigested lactose fermented by bacteria in the colon creates lactic acid and other fatty acids that can be detected in a stool sample. Glucose may also be present in the sample as a result of unabsorbed lactose in the colon.

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What causes lactose intolerance?

Some causes of lactose intolerance are well known. Primary lactase deficiency is a condition that develops over time. After about age 2 the body begins to produce less lactase, though most people will not notice symptoms until they are much older.

Secondary lactase deficiency occurs when injury to the small intestine or certain digestive diseases reduce the amount of lactase a person produces. These diseases include celiac disease, inflammatory bowel disease, and Crohn's disease.

Researchers have identified a genetic link for lactose intolerance. Some people are born with a likelihood of developing primary lactase deficiency because it has been passed to them genetically (inherited from their parents). This discovery may be useful in developing a diagnostic test to identify people with the condition.

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Who is at risk for lactose intolerance?

Between 30 and 50 million Americans are lactose intolerant and certain ethnic and racial populations are more affected than others. Up to 80 percent of African Americans, 80 to 100 percent of American Indians, and 90 to 100 percent of Asian Americans are lactose intolerant. The condition is least common among people of northern European descent.

Babies that are born prematurely are also more likely to be lactose intolerant, because lactase levels do not increase until the third trimester of a woman's

pregnancy.

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How is lactose intolerance treated?

Lactose intolerance is easy to treat. No treatment can improve the body's ability to produce lactase, but symptoms can be controlled through diet.

Young children and infants with lactase deficiency should not consume lactose-containing formulas or foods until they are able to tolerate lactose digestion. Most older children and adults do not have to avoid lactose completely, but people differ in the amounts and types of foods they can handle. For example, one person may have symptoms after drinking a small glass of milk, while another can drink one glass but not two. Others may be able to manage ice cream and aged cheeses, such as cheddar and Swiss, but not other dairy products. People can also tolerate more lactose by having smaller amounts of it at one time. The level of dietary control needed with lactose intolerance depends on how much lactose a person's body can handle.

For those who react to very small amounts of lactose or have trouble limiting their intake of foods that contain it, the lactase enzyme is available without a prescription to help people digest foods that contain lactose. The tablets are taken with the first bite of dairy food. Lactase enzyme is also available as a liquid. Adding a few drops of the enzyme makes lactose more digestible for people with lactose intolerance.

Lactose-reduced milk and other products are available at most supermarkets. The milk contains all of the nutrients found in regular milk and remains fresh for about the same length of time, or longer if it is super-pasteurized.

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How is nutrition balanced?

Milk and other dairy products are a major source of nutrients in the American diet. One of the most important of these nutrients is calcium. Calcium is essential for the growth and repair of bones throughout life. In the middle and later years, a shortage of calcium may lead to thin, fragile bones that break easily, a condition called osteoporosis. A concern for both children and adults with lactose intolerance is getting enough calcium in a diet that includes little or no dairy products.

The Institute of Medicine released a report listing the requirements for daily calcium intake. How much calcium a person needs to maintain good health varies by age group. Recommendations from the report are shown in the following table.

Age group	Amount of calcium to consume daily, in milligrams (mg)

0–6 months	400 mg
6–12 months	600 mg
1–5 years	800 mg
6–10 years	1,200 mg
11–24 years	1,200–1,500 mg
19–50 years	1,000 mg
51–70+ years	1,500 mg

In addition, pregnant and nursing women need between 1,200 and 1,500 mg of calcium daily.

In planning meals, people with lactose intolerance should make sure that each day's diet includes enough calcium, even if dairy products are not included. Many non-dairy foods are high in calcium, including dark green vegetables such as broccoli, or fish with soft, edible bones, such as salmon and sardines. To help in planning a high-calcium, low-lactose diet, the table that follows lists some common foods that are good sources of dietary calcium and shows how much lactose they contain.

Recent research shows that yogurt with active cultures may be a good source of calcium for many people with lactose intolerance. Even though yogurt is fairly high in lactose, the bacterial cultures used to make it produce some of the lactase enzyme required for proper digestion.

Clearly, many foods can provide the calcium and other nutrients the body needs, even when intake of milk and dairy products is limited. However, factors other than calcium and lactose content should be kept in mind when planning a diet. Some vegetables that are high in calcium (Swiss chard, spinach, and rhubarb, for example) are not listed in the chart because the body cannot use the calcium they contain because these foods also contain substances called oxalates, which stop calcium absorption.

Calcium and Lactose in Common Foods

Vegetables	**Calcium Content**	**Lactose Content**
Soymilk, fortified, 1 cup	200–300 mg	0
Sardines, with edible bones, 3 oz.	270 mg	0
Salmon, canned, with edible bones, 3 oz.	205 mg	0

Broccoli, raw, 1 cup	90 mg	0
Orange, 1 medium	50 mg	0
Pinto beans, 1/2 cup	40 mg	0
Tuna, canned, 3 oz.	10 mg	0
Lettuce greens, 1/2 cup	10 mg	0
Dairy Products		
Yogurt, plain, low-fat, 1 cup	415 mg	5 g
Milk, reduced fat, 1 cup	295 mg	11 g
Swiss cheese, 1 oz.	270 mg	1 g
Ice cream, 1/2 cup	85 mg	6 g
Cottage cheese, 1/2 cup	75 mg	2–3 g

Adapted from *Manual of Clinical Dietetics.* 6th ed. American Dietetic Association, 2000; and Soy Dairy Alternatives. Available at: www.soyfoods.org.

Calcium is absorbed and used only when there is enough vitamin D in the body. A balanced diet should provide an adequate supply of vitamin D from sources such as eggs and liver. Sunlight also helps the body naturally absorb vitamin D, and with enough exposure to the sun, food sources may not be necessary.

Some people with lactose intolerance may think they are not getting enough calcium and vitamin D in their diet. Consultation with a doctor or dietitian may be helpful in deciding whether dietary supplements are needed. Taking vitamins or minerals of the wrong kind or in the wrong amounts can be harmful. A dietitian can help plan meals that will provide the most nutrients with the least chance of causing discomfort.

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What is hidden lactose?

Although milk and foods made from milk are the only natural sources of lactose, it is often added to prepared foods. People with very low tolerance for lactose should know about the many food products that may contain even small amounts of lactose, such as

- bread and other baked goods
- processed breakfast cereals
- instant potatoes, soups, and breakfast drinks

- margarine
- lunch meats (other than kosher)
- salad dressings
- candies and other snacks
- mixes for pancakes, biscuits, and cookies
- powdered meal-replacement supplements

Some products labeled non-dairy, such as powdered coffee creamer and whipped toppings, may actually include ingredients that are derived from milk and therefore contain lactose.

Learn to read food labels with care, looking not only for milk and lactose, but also for words such as whey, curds, milk by-products, dry milk solids, and non-fat dry milk powder. If any of these words are listed on a label, the product contains lactose.

Lactose is also used in more than 20 percent of prescription drugs and about 6 percent of over-the-counter medicines. Many types of birth control pills contain lactose, as do some tablets for stomach acid and gas. However, these products typically affect only people with severe lactose intolerance.

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Summary

Even though lactose intolerance is common, it is not a threat to good health. People who have trouble digesting lactose can learn which dairy products and other foods they can eat without discomfort and which ones they should avoid. Many people can enjoy milk, ice cream, and other such products if they eat them in small amounts or eat other food at the same time. Others can use lactase liquid or tablets to help digest the lactose. Even older women at risk for osteoporosis and growing children who must avoid milk and foods made with milk can meet most of their dietary needs by eating greens, fish, and other calcium-rich foods that are free of lactose. A carefully chosen diet, with calcium supplements if the doctor or dietitian recommends them, is the key to reducing symptoms.

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Publications produced by the Clearinghouse are carefully reviewed by both NIDDK scientists and outside experts. This publication was originally reviewed by Eric Sibley, M.D., Ph.D., Stanford University School of Medicine.

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COOKING WITHOUT MILK... AND WITH IMAGINATION

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Welcome to the world of milk-free cooking. A diet that's free of cow milk for one or more members of your family doesn't have to be dull. You can still prepare a delicious and nutritious variety of foods. The recipes included here offer a wide selection of delectable dishes in which ProSobee®, a soy formula, replaces milk.

ProSobee is nutritionally complete and supplies all the important nutrition of milk; and ProSobee does not contain the protein or carbohydrate of milk that may cause sensitivity. ProSobee is also free of sucrose (common table sugar), which is used to make other soy formulas. When ProSobee is used to make ProSobee Cookbook foods, they contain only the amount of sugar added by the recipe.

The recipes in this booklet have been edited to eliminate some other ingredients that may cause problems for the food-sensitive person. However, if you have any doubts about the other ingredients, be sure to check with your physician. You may want to list the foods that you or your baby might possibly be sensitive to on the back cover of this book.

Since food sensitivity can affect people of all ages, we've included recipes for all ages. And with a little creative cookery, you'll find that ProSobee can fit deliciously into [illegible] recipes. Feel free to experiment... and *bon appetit!*

ProSobee Ready-To-Use is the form specified in these recipes. It requires no added water... is milklike in whiteness, smoothness, and flavor... and provides nutrients in well-balanced amounts. It's available in 32-fl-oz cans at any retail food or drugstore.

ProSobee Concentrated Liquid can also be used in a one-to-one dilution with water.

COOKIES

Molasses Gems

1 cup vegetable shortening
¾ cup white sugar
¾ cup brown sugar
1 tsp salt
1 tsp baking powder
½ tsp baking soda
2 tsp vanilla
½ cup molasses
½ cup cornstarch
½ cup ProSobee® Ready To Use
3 cups sifted rye flour
1 cup raisins
1 cup chopped nuts*

Cream together vegetable shortening, white sugar, brown sugar, salt, baking powder, soda, and vanilla. Add molasses and cornstarch to mixture and mix well. Then add ProSobee and mix. Gradually stir in rye flour. When flour is thoroughly mixed in, add raisins and or nuts. Chill dough.

Preheat oven to 400°.

Shape dough into balls about the size of small walnuts. Flatten cookies with bottom of small glass dipped in sugar. Bake on a greased cookie sheet for 7 to 10 minutes or until light brown.

Snowballs

1 cup vegetable shortening
1 cup powdered sugar, packed
2 tsp vanilla
1 tsp salt
½ cup ProSobee Ready To Use
½ cup cornstarch
2½ cups sifted rice flour
1 cup broken pecans*
or
¾ cup black walnuts*

Mix vegetable shortening, powdered sugar, vanilla, and salt until [illegible]

*If permitted in the diet

Gradually beat in rice flour and add nuts (
desired). Chill dough.

Preheat oven to 350°.

Shape dough into rough balls the size of s
walnuts and decorate with pieces of maras
cherries or colored pineapple. Bake 20 to
minutes on ungreased cookie sheet. Roll b
powdered sugar while they are still warm.

Raisin Oatmeal Cookies

1 cup vegetable shortening
¾ cup white sugar
1¼ cups light brown sugar
2 tsp cinnamon
½ tsp mace
⅔ cup ProSobee® Ready-To-Use
2 Tbsp cornstarch
1 tsp baking powder
¼ tsp nutmeg
2 cups sifted rye flour
1 tsp salt
2 cups oatmeal
1 cup raisins
¾ cup chopped dates
1 cup chopped black walnuts*
Cream together vegetable shortening, white

*If permitted in the diet

OME
ELPFUL
HINTS

Flours

One cup wheat flour is equal to:
½ cup barley flour
1 cup corn flour
¾ cup cornmeal (coarse)
1 scant cup cornmeal (fine)
⅝ cup potato flour
⅞ cup rice flour
1¼ cups rye flour
1 cup rye meal
1⅓ cups ground rolled oats

To obtain results more like the familiar wheat flour products, use a combination of substitutes.

Examples:

Rye flour – ½ cup
Potato flour – ½ cup

Rye flour – ⅓ cup
Rice flour – ⅝ cup

It is necessary to sift fine flours before measuring. The coarse flours, such as coarse rye, however, need not be sifted.

Arrowroot flour may be used to replace cornstarch. Use ⅔ Tbsp arrowroot for 1 Tbsp of cornstarch.

Baking Powder

Read labels on all baking powders since some contain egg white and cornstarch.

If necessary:
1⅛ tsp cream of tartar and ½ tsp baking soda can be substituted for each teaspoon of baking powder called for in the recipe.

This provides an egg- and cornstarch-free leavening agent. It must be mixed as needed.

These baked goods require unusually long and slow baking times. They will be heavier products than those to which you are accustomed because of the absence of eggs in most recipes. This is partly overcome by increasing the baking powder. In developing a batter or dough recipe, increase the baking powder one teaspoon for each egg omitted.

Fats

Although many persons sensitive to milk can tolerate butter, often butter must be replaced other fats. Many margarines on the market contain varying amounts of nonfat milk solid These must not be used. Margarines and shortenings are available that have been hyd genated... that means they are in a solid for but do not contain any milk solids. These ar particularly suitable for cream sauces, vegeta candies, and frostings. Read the labels.

Vegetable oils are used as shortening in ma of the recipes. These may be soybean, corn, cottonseed, or other vegetable oils.

Shortening refers to pure vegetable fats avai in solid form.

Milk

Milk or milk products in any form are gener avoided by milk sensitive persons. ProSobe Ready To Use may be used in any way milk used, in any recipe. Use it to cream soups, vegetables, or meats.

ProSobee® Concentrated Liquid may be use as it comes from the can to replace evapora milk; or it may be diluted – one can of ProS Concentrated Liquid to one can of water – replace whole milk.

Cereals

Rice infant cereal may be used without diff by many allergic infants.

Rice infant cereal may be used as a thicken filler in many recipes.

For breakfast cereal, simply mix diluted ProSobee® Ready To Use with rice infant ce [illegible] Sugar or fruit may added.

Corn and oat cereals (hot or cold) may also used in this way.

EVERAGES

Café au ProSobee®

½ cup ProSobee Ready-To-Use
½ cup coffee (strong)

Mix well and chill.*

White Hawaii

½ cup ProSobee Ready-To-Use
½ cup pineapple juice
1½ tsp sugar

Mix well and chill.*

Apricot Frappé

½ cup ProSobee Ready-To-Use
¾ cup apricot nectar

Mix well and chill.*

Banana Whip

1 cup ProSobee Ready-To-Use
1 ripe banana
2 tsp sugar

Mix in a blender or mash well with a fork and stir. Add sugar depending on taste and ripeness of banana.

*ProSobee Ready-To-Use beverages may be chilled with crushed ice if desired

BREADS

Peasant Rye

All ingredients should be lukewarm

1 yeast cake, crumbled, in ¼ cup lukewarm water
¾ cup ProSobee® Ready-To-Use
2 Tbsp vegetable oil
5 tsp sugar
1 tsp salt
3 cups sifted rye flour

Preheat oven to 375°.

Mix together ProSobee, vegetable oil, sugar, salt. Then mix in 1 cup sifted rye flour. Beat smooth. Stir in dissolved yeast and beat wel Gradually work in 2 cups sifted rye flour.

Turn out on floured board and knead, adding as needed (up to ¼ cup) to keep dough fr sticking to board. Knead until dough is smo Dough may be a little moist but should be workable if handled lightly.

Put into a greased bowl. Turn dough once t bring greased side up.

Cover with a damp cloth and let stand in w place (80° to 85°) until dough is doubled i (To tell when dough has doubled, press dee with fingers, then lift fingers. If holes do no close, it's ready to rework.)

Turn out on board and work again for abou minutes.

Shape dough into smooth loaf. Place in grea pan, grease top of loaf with butter or vegeta shortening, cover, and let rise until double i size.

Bake for about 45 minutes, or until well brow

Yield: 1 loaf

Old-Fashioned Biscuits

1½ cups rice flour
½ tsp salt
2 Tbsp baking powder
2 tsp sugar

Preheat oven to 400°.

Mix well the above ingredients and add:
¼ cup all-vegetable margarine
Mix and stir in:
¾ cup ProSobee® Ready-To-Use

Turn dough out on lightly floured board and knead lightly 10 times. The dough will be very moist. Pat into biscuits and bake in greased baking pan on rack slightly above center of oven for 12 minutes or until light brown. Biscuits will be light and fluffy.

Yield: 1 dozen

Ricey Muffins

¼ cup melted margarine
⅓ cup sugar
1 tsp salt
⅓ cup cornstarch
2 Tbsp baking powder

Mix above ingredients until smooth and creamy. Then add alternately and beat until smooth after each addition the following:
2 cups ProSobee Ready-To-Use
1 cup rice flour
Add and stir:
1 cup rice infant cereal

Preheat oven to 400°.

Fill greased muffin tins two-thirds full and bake 25 to 30 minutes, or until brown.

For a delicious variation: Add 1 cup fresh or canned blueberries, well drained.

Fruit Muffins:

Add ½ cup raisins or chopped dates to above recipe.

Pecan Muffins:

Add ½ cup chopped pecans to above recipe.

Yield: 1 dozen

SOUPS

Zesty Potato Soup

6 medium potatoes, peeled and diced
2 Tbsp all-vegetable margarine
1 medium carrot, diced
¼ cup minced onion
2 Tbsp rice flour
1 quart ProSobee® Ready-To-Use
2 Tbsp finely chopped fresh parsley
1 Tbsp salt
½ tsp celery salt
¼ tsp Accent
¼ tsp red pepper
1 chicken bouillon cube

Cook potatoes in boiling salted water until tender. Melt margarine in 3-quart kettle until golden brown. Add carrots and onions. Cover and cook until tender. Remove from heat. Blend in flour; stir in ProSobee. Add half of potatoes. Mash rest of potatoes and add with rest of ingredients. Heat until steaming hot.

Yield: 6 servings

MAIN DISHES

Ham and Potato Casserole

3 cups diced baked ham
4 medium potatoes, pared and sliced thin
2 Tbsp all-vegetable margarine
2 Tbsp rice flour
2½ cups ProSobee Ready-To-Use
3 Tbsp minced onion
3 Tbsp chopped green pepper or
3 Tbsp chopped parsley
Black pepper and garlic salt to taste

Preheat oven to 400°.

Arrange ham and potatoes in alternate layers in greased casserole. Make a thin white sauce with margarine, rice flour, and ProSobee. Add pepper, garlic salt, green pepper and/or parsley to sauce. Pour sauce over potatoes and ham. With a fork gently lift potatoes and ham so sauce reaches bottom of dish.

Bake on center rack of oven for 1 hour or until potatoes are tender.

Yield: 5-6 servings

Favorite Family Meat Loa

1 lb ground chuck
½ cup ProSobee® Ready-To-Use
½ cup oatmeal
½ cup grated fresh carrot
¼ cup finely chopped onion
1 tsp salt
⅛ tsp pepper
1 Tbsp Worcestershire sauce

Topping:
¼ cup catsup
1 Tbsp brown sugar
Mix together

Preheat oven to 325°.

Mix all ingredients thoroughly; shape into
and cover with topping. Bake for 30-35 mi

Yield: 5-6 servings

Tuna or Salmon Casserol

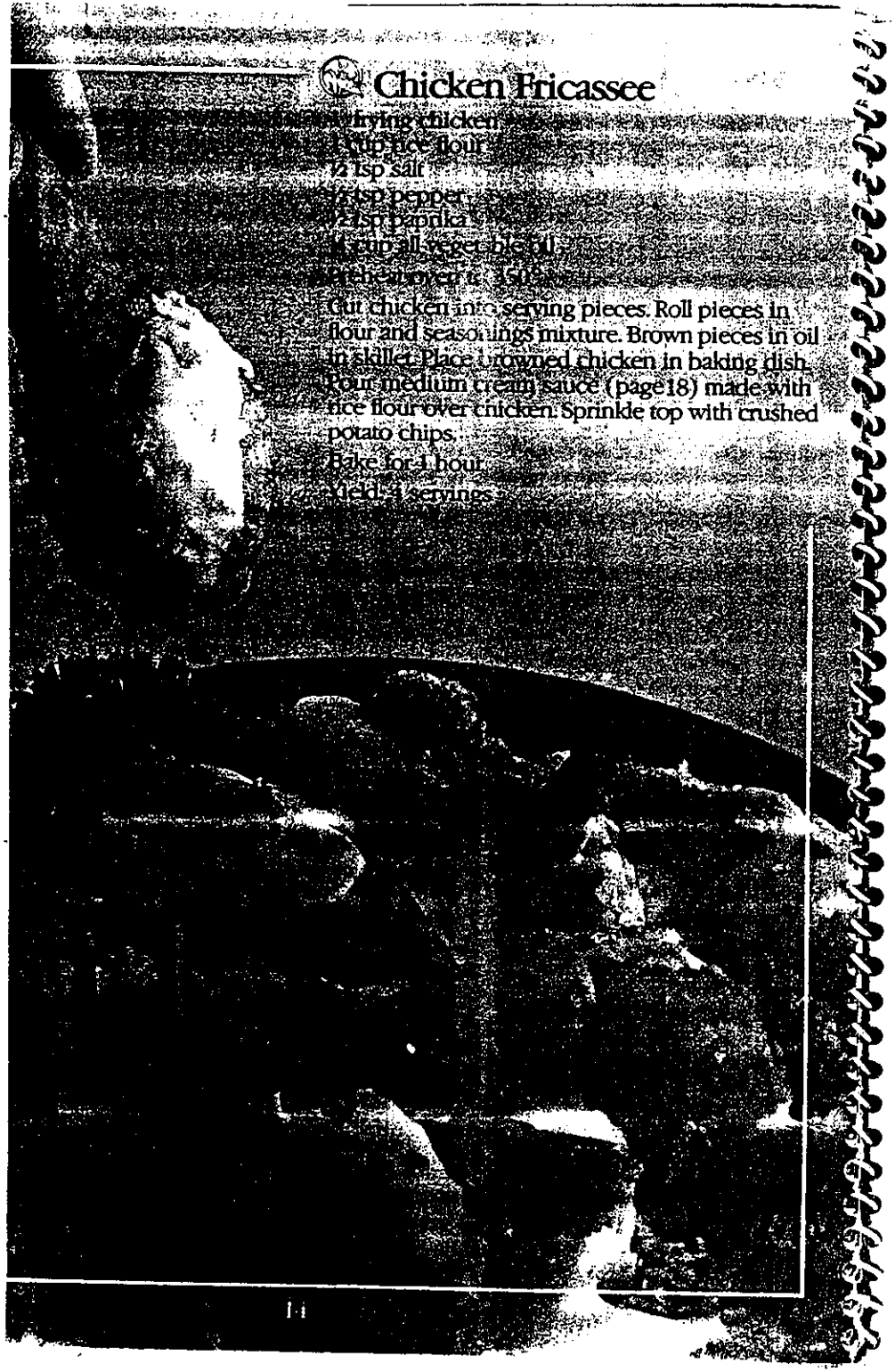
1½ cups ProSobee Ready-To-Use
3 Tbsp cornstarch
¼ cup minced onion
½ tsp celery salt
dash of garlic salt
¼ cup chopped pimientos
1 10-ounce can tuna or salmon, drained, b
into pieces
1 cup chopped celery
1½ cups peas (if frozen are used, use 10-oz
package; cook first, following package direc
1 cup potato chips, crushed

Preheat oven to 350°.

In a saucepan, mix and heat to boiling the
ProSobee and cornstarch, stirring constantl
Continue stirring until thickened. If sauce
too thick, add a little water. Remove sauce
heat and pour into a casserole. Add remain
ingredients and mix lightly. Save some pot
chips for top of casserole.

Bake for 30-40 minutes, or until bubbly an
brown on top.

Yield: 4-5 servings



Chicken Fricassee

frying chicken
1 cup rice flour
½ tsp salt
½ tsp pepper
½ tsp paprika
½ cup all vegetable oil
Preheat oven to 350°
Cut chicken into serving pieces. Roll pieces in flour and seasonings mixture. Brown pieces in oil in skillet. Place browned chicken in baking dish. Pour medium cream sauce (page 18) made with rice flour over chicken. Sprinkle top with crushed potato chips.
Bake for 1 hour.
Yield: 4 servings

*Check Label if allergic to eggs

Hearty Beef Stroganoff

2 pounds beef sirloin, cut into 2-inch strips
1 tsp salt
4 Tbsp rye or rice flour
4 Tbsp all vegetable margarine
1 4-ounce can sliced mushrooms or ½ pou
fresh sliced mushrooms
½ cup onion, chopped
2 Tbsp catsup
1 10½ ounce can beef broth
1 cup ProSobee* Ready To Use
2 Tbsp sherry
1 Tbsp fresh dill, minced, or 1 tsp dried dil

Dredge meat in mixture of salt and 1 Tbsp
Melt 2 Tbsp margarine in hot skillet, add m
and brown. Add mushrooms and onion. Co
minutes or until onion is tender. Transfer s
contents to a bowl and keep warm. Add 2 T
margarine to pan drippings. Blend in 3 Tbsp
and catsup. Slowly add beef broth. Cook, sti
until mixture thickens. Stir in ProSobee an
sherry and heat until thick; add meat mixtu
and heat briefly. Serve over rice.

Yield: 6 servings

Chicken and Asparagus B

1 5 pound hen, stewed with celery tops, 2
salt, peppercorns
½ cup all vegetable margarine
½ cup rice flour
1 cup ProSobee Ready To Use
2 cups chicken broth
½ cup salad dressing or mayonnaise*
1 Tbsp lemon juice
1 tsp curry powder
2 15 ounce cans of asparagus spears

Preheat oven to 350°

Remove meat in slices. Melt margarine; add
flour, stirring until smooth. Gradually add
ProSobee and chicken broth. Cook over
thickened. Remove from heat; add salad dre
or mayonnaise, lemon juice and curry powe
Layer chicken and asparagus in 9"x 12"
casserole. Cover with sauce.
Bake
Yield: 8-10 servings

EGETABLES

Carrot Rice Casserole

3 cups cooked sliced carrots—save ¾ cup of cooking liquid
2 cups cooked rice
¼ cup finely chopped parsley
2 Tbsp finely chopped onion
2-ounce jar chopped pimiento, drained
1 cup ProSobee® Ready-To-Use
2 Tbsp rice flour
1 tsp seasoned salt
¼ tsp monosodium glutamate
¼ tsp pepper
1 tsp dillweed
1 tsp salt

Preheat oven to 350°.

Drain carrots, saving ¾ cup of cooking liquid. Place sliced carrots into 2-quart casserole with rice, parsley, onion, and pimiento. Heat ProSobee slightly and gradually stir in 2 Tbsp rice flour. Continue to heat until slightly thick. Remove from heat and mix carrot liquid and seasoning into ProSobee mixture. Pour liquid mixture over vegetables in casserole and mix lightly. Sprinkle with paprika.

Bake for 20 minutes.

Yield: 6-8 servings

Mashed Potatoes

4-5 medium potatoes, pared, quartered, and covered with salted water. Boil covered for 25 minutes or until tender. Drain off water and mash potatoes. Gradually beat in *heated* ProSobee Ready-To-Use until potatoes are light and fluffy. Add 1 Tbsp all-vegetable margarine and dash of pepper. Sprinkle paprika on top to serve.

Sweet Potato Puff

Good served with poultry or ham

½ cup raisins soaked in ¼ cup hot water
5 medium sweet potatoes, cooked, peeled, and mashed
⅔ cup melted all-vegetable margarine
½ cup granulated sugar
1 tsp cinnamon
1 tsp ground ginger
½ cup ProSobee® Ready-To-Use
Marshmallows

Preheat oven to 400°.

Mix potatoes with raisins.

Stir in margarine, seasonings, and ProSobee
into 1½-quart greased casserole. Top with m
mallows. Bake for 10 minutes.

Yield: 6-8 servings

Corn Pudding

¼ cup cornmeal
3 Tbsp brown sugar
¾ tsp salt
1 egg
¾ cup ProSobee Ready-To-Use
3 Tbsp all-vegetable margarine
1 1-pound can creamed corn

Preheat oven to 325°.

Mix all ingredients and pour into casserole.

Bake for 1 hour, stirring several times durin
the last 20 minutes of baking.

Yield: 6 servings

Gourmet Spinach Bake

1 10-ounce package frozen chopped spinac
cooked, and drained
1 cup cooked rice (for the gourmet touch u
brown rice or wild rice)
2 eggs, lightly beaten
1 Tbsp soft all-vegetable margarine
2 Tbsp rye or rice flour
⅓ cup ProSobee Ready-To-Use
2 Tbsp minced onion
½ tsp Worcestershire sauce
1 tsp salt
½ tsp grated lemon peel
¼ tsp crushed rosemary

Preheat oven to 350°.

Continued on next page

Pumpkin Pie

2 eggs, slightly beaten
2 cups canned pumpkin
⅔ cup brown sugar
½ tsp salt
1 tsp ground cinnamon
½ tsp ground ginger
½ tsp allspice
1⅔ cups ProSobee® Ready-To-Use
1 9-inch pie shell, unbaked

Preheat oven to 425°.

Combine all ingredients in the order listed; pour into pie shell. Bake 15 minutes. Reduce heat to 350° and bake an additional 35-40 minutes or until knife inserted into center comes out clean. Cool and garnish with nondairy topping*

Basic Gelatin Mixture

Used in the following three recipes

1. Soften 1 envelope unflavored gelatin by sprinkling it on ½ cup water.
2. Place over low heat and stir until gelatin is dissolved.
3. Remove from heat.

Lemon Sherbet

Basic gelatin mixture
4 cups ProSobee Ready-To-Use
½ cup lemon juice
1 cup sugar
1 tsp grated lemon rind
yellow food coloring

Mix all ingredients *except gelatin mixture* in 2-quart bowl until sugar is dissolved. Then add gelatin mixture. Pour mixture into freezer trays and place in freezer. When mixture is partially frozen, remove from freezer, beat until smooth but not melted, then replace trays in freezer and freeze until firm.

* Look Label for ingredients.

Orange Sherbet

Basic gelatin mixture
1½ cups cold water
1½ cups sugar
2 cups orange juice
3 Tbsp lemon juice
2 cups ProSobee® Ready-To-Use
orange food coloring

Mix all ingredients *except gelatin mixture* in 3-quart bowl until sugar is dissolved. Then add gelatin mixture. Pour into freezer trays and place in freezer. When mixture is partially frozen, remove from freezer, beat until smooth but melted, then replace trays in freezer and freeze until firm.

ProSobee Ice Cream

Basic gelatin mixture
1 cup cold water
1 cup ProSobee Ready-To-Use
2 cups fresh strawberries
¾ cup sugar
(1 package of frozen strawberries may be substituted for fresh berries and sugar.)

To gelatin mixture add cold water, ProSobee, strawberries, and sugar. Beat and turn into pan. Place in freezer until partially frozen. Then beat until smooth but not melted. Freeze until firm.

Coffee, vanilla, chocolate, and peppermint flavors may be made. Add to basic ProSobee gelatin mixture. Add flavoring and sugar to taste. Beat and proceed as in ProSobee Ice Cream recipe.

sugar, brown sugar, cinnamon, and mace. Then add ¼ *cup* ProSobee, cornstarch, baking powder, and nutmeg. Beat well. Then beat in ¼ *cup* ProSobee, rye flour, and salt. When thoroughly beaten, add oatmeal, raisins, dates, and walnuts. If dough seems too stiff, add a few drops of ProSobee. Chill dough.

Preheat oven to 375°.

Shape dough into balls the size of small walnuts. Bake on greased cookie sheet for 15 minutes or until light brown.

Spicey Cake with Pineapple Icing

1 cup sugar
½ cup vegetable shortening
2 cups ProSobee® Ready To Use
1 tsp cinnamon
1 tsp mace
½ tsp salt
1 tsp baking soda
1 tsp baking powder
½ cup cornstarch
2 cups sifted rye flour
2 tsp vanilla

Preheat oven to 375°.

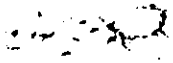
Cream together sugar and vegetable shortening. Add ProSobee. In a separate bowl, mix remaining ingredients. Gradually add this mixture to the sugar/shortening/ProSobee mixture. Beat well.

Pour batter into 2 8 inch cake pans. Bake for 25 to 30 minutes or until cake is springy in the center. Cool before icing.

Pineapple Icing

Cream well:
½ cup all vegetable margarine/ soft
4 cups powdered sugar
4 Tbsp well drained crushed pineapple
1 tsp vanilla
1-2 drops yellow food coloring

IPS FOR Y TASTES



When Feeding Preschoolers Remember...

Children like colorful foods, food free of tough fibers or seeds, and finger foods that are in strips and can be easily picked up and eaten. As a general guide for the preschool child: one Tablespoon of each food per year of age.

Example:

Lunch for a two-year-old child would consist of:

2 Tbsp ground beef
2 Tbsp baked potato
Two 3-inch raw carrot strips
¼ cup fruit
½ slice bread*
1 tsp spread
ProSobee® Beverage

Children's appetites vary from day to day, and if a variety of wholesome foods is offered, most children will eat a sufficient amount.

Some children between the ages of one and four do not require three full meals per day. Again, the child's appetite is the best guide to how much and how often the child should be fed. The following is a sample meal plan for children of this age group:

Morning

- Fruit or juice
- Cereal with ProSobee Ready-To-Use
- Meat
- Toast* with spread
- Jelly

*Egg-, milk-, and wheat-free

FOODS TO AVOID

Noon

- Meat, fish, or poultry in sandwich or strips
- Vegetable – as raw finger foods
- Bread* with spread
- Dessert
- ProSobee® Beverage

Evening

- Meat, fish, or poultry
- Potato or substitute
- Vegetable
- Bread* with spread
- Fruit
- ProSobee Beverage

Between meals – fruit and ProSobee

*Egg-, milk-, and wheat-free

LACTOSE FREE ANTIBIOTICS

ZITHROMAX	Oral suspension 100 mg/5ml, 200/5 ml
BIAXIN	Granules for oral suspension 125 mg, 250 mg Tablet 250 mg, 500 mg
ILOSONE	Capsule 250 mg Chewable tablet 125 mg, 250 mg Oral drops 100 mg/ml Oral suspension 125 mg/5 ml, 250 mg/5 ml
AUGMENTIN	Chewable tablet 125 mg, 250 mg Powder for oral suspension 125 mg, 250 mg
AMOXIL	Chewable tablet 125 mg, 250 mg Pediatric drops 50 mg (m) Capsule 250 mg, 500 mg Powder for oral suspension
ERYTHROMYCIN ETHYLSUCCINATE	Oral suspension
KEFLEX	Powder for oral suspension 100 mg/ml, 125 mg/5ml, 250 mg/5ml Capsules 250 mg, 500 mg
DURICEF	Powder for oral suspension 125 mg/5 ml, 250, 500 Capsule 500 mg
CECLOR	Powder for oral suspension 125 mg/5 ml, 250, 375 Capsules 250 mg, 500 mg
SUPRAX	Powder for oral suspension Tablets 400, 200 mg
CIPRO	Tablets 250 mg, 500 mg
CLEOCIN PEDIATRIC	Granules for oral suspension 75 mg/5 ml
BACTRIM	Oral suspension Tablets

Lactose Facts

How much lactose is in your favorite foods and beverages?

Use this chart to help you plan your intake of lactose. Everyone responds to lactose differently because their bodies produce different amounts of the enzyme lactase. Symptom severity varies, depending upon how much lactose is consumed and whether it is consumed with other foods.

Foods like hard or aged cheeses-Cheddar and Swiss, for example-contain less lactose than milk, so they may be easier to tolerate. Yogurt with active cultures is often well tolerated because the cultures (healthy bacteria) in the yogurt contain enzymes that digest lactose.

You may find it helpful to monitor your body's response to lactose-containing products in order to determine how much lactose you can ingest comfortably.

Lactose Content of Food and Beverages

Food and Beverages	Serving Size	Lactose(g)
Milk: whole, low-fat, skim	1 cup	9-12
Buttermilk	1 cup	9-12
Goat milk	1 cup	9
Fat Free dry milk	1/3 cup	12
Half and half	2 tbsp.	1
Light cream	2 tbsp.	1
Whipped cream	2 tbsp.	<1
Sour cream	2 tbsp.	trace
Condensed milk, whole	2 tbsp.	4
Evaporated milk	2 tbsp.	3
Butter, margarine	1 tbsp.	trace
Yogurt, low-fat	1 cup	5
Cottage cheese	1/2 cup	2-3
Ice cream	1/2 cup	6-9
Sherbet	1/2 cup	2
Cheese:		
American	1 oz.	1-2
Swiss	1 oz.	trace
Blue	1 oz.	trace
Cheddar	1 oz.	trace
Parmesan	1 oz	trace
Cream cheese	1 oz.	1-2
Mozzarella cheese	1 oz.	trace
Goat cheese	1 oz.	trace

Close Window

Dietary Supplements

Go ahead...
dig in and enjoy
a big bowl of
your favorite
ice cream.

Go ahead...dig in and enjoy a big bowl of your favorite ice cream. You can eat with confidence with LACTAID® Fast Act.

LACTAID® Fast Act
LACTAID® Fast Act is the most convenient LACTAID® Supplement that's perfect at home or dining out. Simply have one LACTAID® Fast Act **with your first bite of dairy food** and enjoy! It's available in easy-to-swallow caplets and delicious Vanilla Twist-flavored chewable tablets and can be used every day, every time you eat any dairy food. LACTAID® Fast Act works naturally to make dairy foods more digestible, giving you the freedom to enjoy the foods you want, when you want.

Take LACTAID® Fast Act with you everywhere and never miss out again.

LACTAID® Fast Act is the most convenient LACTAID® Supplement that's perfect at home or when dining out. Simply take one (1) easy-to-swallow LACTAID® Fast Act with your first bite of dairy food and enjoy!

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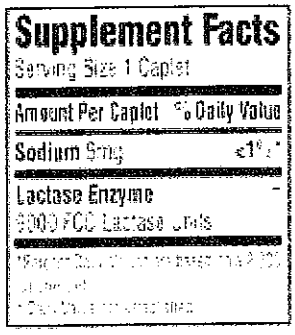

Supplement Facts
Serving Size 1 Caplet

Amount Per Caplet	% Daily Value
Sodium 5mg	<1%
Lactase Enzyme	*
9000 FCC Lactase Units	

Vanilla Twist flavored LACTAID® Fast Act Chewables have a great taste and offer the ultimate in convenience for your dairy distress. Just chew one (1) LACTAID® Fast Act Chewable with the first bite of any snack or meal containing dairy foods.

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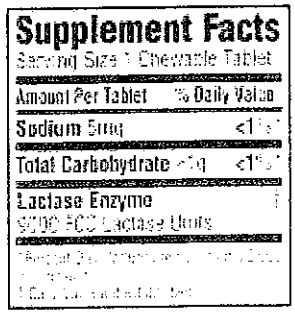

Supplement Facts
Serving Size 1 Chewable Tablet

Amount Per Tablet	% Daily Value
Sodium 5mg	<1%
Total Carbohydrate 1g	<1%
Lactase Enzyme	*
9000 FCC Lactase Units	

LACTAID® Original contains 1/3 the level of the natural enzyme lactase found in LACTAID® Fast Act. Just swallow three (3) Original Strength caplets with your first bite of any dairy product and dig in, without the worry.

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Supplement Facts

Serving Size	3 Caplets
Amount Per Serving	% Daily Value
Sodium 5mg	<1%*
Lactase Enzyme 9000 FCC Lactase Units	†

*Percent Daily Values are based on a 2,000 calorie diet.
† Daily Value not established.

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http://www.lactaid.com/products/index.jhtml?id=lactaid/products/dietsup.inc

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PEDIATRIC GASTROENTEROLOGY CENTER

CELIA Z. PADRON, M.D., F.A.A.P.

DIRECTIONS

From I- 295 north and south

Take exit 34A (route 70 East) at 0.5 mile take the jug handle/u-turn to your right. (Malkrees Rd., Greentree Rd. Springdale), then turn left towards Greentree Road. Keep going straight on Greentree rd. crossing rt. 70 (dunkin doughnuts to your right) Next light is Springdale, stay on Greentree road, cross thru Springdale and the building is ¼ block to your right.

From the NJ turnpike north and south

Get off exit 4 toward route 73 South. Drive 1.5 miles on route 73 until Greentree road. Turn right on Greentree road and drive 1.4 miles on Greentree road. The building is to your left, ¼ block before Springdale road.

From Atlantic City

Take the AC expressway east. Get off exit 31 (route 73) drive on Route 73 for aprox 15 minutes. Here you have 2 choices

1- At the Marlton circle (intersection of 73 with 70) take route 70 west. Continue on route 70 until Springdale road, turn a right into Springdale and the next light is Greentree road. Turn right into Greentree road and the building is ¼ of a block to your right.
2- Or continue on route 73 north, cross thru the Marlton circle. The light after the Movie Theater and TGI Friday is Greentree road. Cross Greentre road to take the u turn to your right (follow the signs to Springdale) Turn right into Greentree road, cross route 73 and continue to drive on Greentree road for 1.3 miles. The building is to your left, ¼ block before Springdale.

Health & Wellness Building • 1919 Greentree Road • Suite C • Cherry Hill, NJ 08003
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