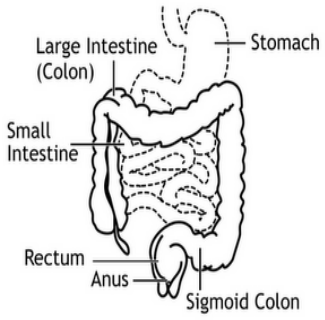
Dairy Free (Lactose Free) Diet

Lactose intolerance is a very common condition. Approximately 30-50 million Americans are lactose intolerant. It is more common among certain ethnicities. Up to 80% of African Americans, 80-100% of American Indians and 90-100% of Asian Americans are lactose intolerant.

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 (lactose) into simpler forms that can be absorbed into the bloodstream.



When the levels of lactase are low, the lactose is not absorbed and passes through the small intestine and into the colon (also known as the large intestine). The colon (large intestine) contains bacteria. This bacteria is normal and feeds on the products our body does not digest. When a large amount of undigested sugar, like lactose, enters the colon, these normal bacteria will break down (ferment) the lactose. During the fermenting process, gas is released.

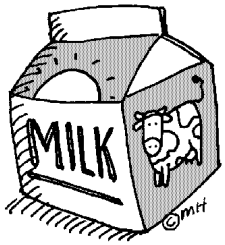
The symptoms that usually result are bloating, flatulence (passing gas), abdominal pain and diarrhea. Symptoms typically begin about 30 minutes to 2 hours after eating or drinking foods containing lactose. The severity of the symptoms depends on many factors, including the amount of lactose a person can tolerate, a person's age, ethnicity, and digestion rate.

Lactose intolerance can be difficult to diagnose. Providers will usually have the patient eliminate all dairy from the diet to determine if symptoms resolve. This can be difficult since lactose is in many common products. Patients can also have a hydrogen breath test. This test measures the amount of hydrogen in a person's breath. Normally, very little hydrogen is detected. However, as undigested lactose is broken down in the colon, various gases are produced, including hydrogen. The hydrogen is absorbed from the intestine into the blood stream, carried to the lungs and exhaled. During this test, the patient drinks a lactose-loaded beverage and the breath is analyzed at certain intervals. A raised level of hydrogen in the breath suggests improper digestion of lactose.

What causes lactose intolerance? During infancy and childhood, most people have the enzyme lactase in the lining of the small intestine which breaks down the lactose in milk. After the age of 2, the body begins producing less lactase enzyme; therefore many people do not have enough of the enzyme to break down the lactose as they age. Sometimes this enzyme is lost after an acute intestinal illness and may gradually return. Lactase deficiency also occurs when injury to the small intestine or certain digestive diseases reduce the amount of lactase a person produces. These diseases include celiac disease and inflammatory bowel disease.

The solution to this problem is often to eliminate milk from the diet. However, this can be difficult as many foods contain milk products. Some patients can tolerate small amounts of milk products while others cannot tolerate any milk products.

The most obvious source of lactose is milk. Patients with lactose intolerance should avoid milk, including skim milk, buttermilk, powdered milk, milkshakes, malts, ice cream, cream and cream substitutes. There are a number of lactose free milks available on the market including Silk, Mootopia, lactose free and soy milk.



Other lactose containing foods include cheese, cottage cheese, cream cheese and sour cream. Patients should also consider party dips, pudding, custard, salad dressings and cream soups. Rich casseroles or sauces often contain milk products as well. Occasionally patients will have difficulty with foods made from milk batter such as doughnuts, pancakes, rich pastries or buttermilk bread.

Patients may also try the lactase enzyme. This is a medication available without a prescription to help people digest foods that contain lactose. Tablets are taken with the first bite of dairy food to help break down the lactose in the food being consumed.

Milk and other dairy products are a major source of nutrients in the American diet. One important nutrient is calcium. Calcium is essential for the growth and repair of bones and is important as we age to prevent osteoporosis. Many non-dairy foods are high in calcium, including dark green vegetables, or fish with soft, edible bones such as salmon and sardines. Yogurt is also a good source of calcium. The active cultures in yogurt help break down the lactose and aid in proper digestion.

Calcium and Lactose in Common Foods

Food	Calcium	Lactose
Sardines, with edible bones 3 oz	270 mg	0
Salmon, canned, with edible bones 3 oz	205 mg	0
Orange, 1 medium	50 mg	0
Tuna, canned 3 oz	10 mg	0
Yogurt, plain, 1 cup	415 mg	5 g
Swiss cheese 1 oz	270 mg	1 g
Soy milk, 1 cup	200-300 mg	0
Oysters, raw, 1 cup	226 mg	0
Broccoli, cooked, 1 cup	94-177 mg	0

Lactose intolerance is very common. It is important to remember that while it can cause great discomfort, it is not a threat to your health. Most people can learn to adjust their diet to avoid discomfort.