



## LACTOSE INTOLERANCE

Dairy products are an important source of calcium, protein and other nutrients for many people. Approximately 30 to 50 million American adults, however, have a limited ability to digest lactose, the main sugar in milk and other dairy foods. People who have trouble digesting lactose usually make too little of the enzyme lactase in their small intestine. This enzyme is necessary to digest the lactose in milk and dairy products. Although not all persons with lactase deficiency have symptoms, those who do are considered to have lactose intolerance. Alternative names are lactase deficiency, milk intolerance, dairy product intolerance and disaccharidase deficiency.

Lactose intolerance is usually an inherited condition that develops naturally over time. Certain ethnic groups such as African-Americans, Native Americans and Asian-Americans are more likely to be lactose intolerant. It is common in Hispanics too, while people of northern European descent are least likely to be affected. Lactose intolerance can also be caused by certain medical conditions and some medications. It is a different condition than a milk allergy, which is an allergic reaction caused by an immune response to the protein in milk.

Mild to severe symptoms of lactose intolerance include nausea, stomach pains or cramps, gas, bloating and diarrhea. These usually appear 30 minutes to two hours after eating or drinking foods containing lactose.

Lactose is added to some prepared foods to provide sweetness, but many people are not aware of these "hidden" sources of lactose. Foods that may contain added lactose include the following:

- baked goods including bread

- breakfast cereals
- candies
- instant potatoes, soups and breakfast drinks
- lunch meats (other than Kosher)
- margarine
- milk chocolate
- mixes for biscuits, cakes, cookies and pancakes
- salad dressings

Reading the product label can help determine whether lactose is an ingredient in these and other foods. Even some products labeled "nondairy" may contain ingredients derived from milk. If the ingredient list includes buttermilk, dry milk solids, milk byproducts, malted milk, nonfat dry milk powder or whey, then the food item likely contains lactose.

Because the symptoms of lactose intolerance can occur in people who do not have lactase deficiency, careful diagnosis is necessary. Lactose intolerance often can be identified by the elimination of lactose-containing foods. If symptoms continue, tests to measure lactose absorption can be done on an out-patient basis in a hospital, clinic or doctor's office. The most common of these diagnostic tests are the lactose tolerance test, the hydrogen breath test and the stool acidity test. For the lactose tolerance test, a patient does not eat before the test and then drinks a liquid that contains lactose. Several blood samples are taken over a two-hour period to measure the blood sugar level, which reveals how well the body is able to digest lactose. For the hydrogen breath test, the patient drinks a beverage containing lactose, and the exhaled breath is analyzed at regular intervals. A stool acidity test is done on a sample provided by the patient.

While there is no treatment to increase the

body's ability to produce lactase, lactose intolerance can be managed by dietary changes. A lactose-restricted diet is a very individualized diet, as the type and amount of food that causes problems vary from person to person. Many people do not need to avoid dairy products completely, but can use trial and error to determine how much lactose they can tolerate. Keeping a food diary with the types and quantities of foods as well as symptoms can help identify foods that cause problems.

Lactase enzymes, in liquid and as a chewable tablet, are available without a prescription for people who react to very small amounts of lactose or do not want to limit dairy products. Lactose-reduced milk and other products are widely available in supermarkets. Some people can tolerate cheese, which has much of the lactose removed during processing, or yogurt with active cultures, because the bacterial cultures used in making yogurt produce lactase enzyme. Drinking milk in small quantities with meals or snacks can decrease the symptoms of lactose intolerance for some people.

If dairy products are reduced or eliminated in the diet, other sources of calcium can be used to meet essential calcium require-

ments. Nondairy foods that are good sources of calcium include the following:

- calcium fortified cereal
- calcium fortified orange juice
- dried figs
- fish such as salmon and sardines with edible bones
- green vegetables such as bok choy, broccoli, kale and turnip greens
- oranges
- sesame and sunflower seeds
- soy milk and rice milk (certain types)
- tofu processed with calcium salts

Although almonds, beans, collards, spinach and sweet potatoes contain calcium, the calcium in these foods may not be completely absorbed by the body. Calcium supplements can be taken if the diet does not provide an adequate daily source of calcium.

Vitamin D is needed for the body to absorb calcium. Because most brands of milk are fortified with vitamin D, persons obtaining their daily calcium requirements from nondairy sources and who are not outdoors in the sun may need to take a vitamin D supplement. Egg yolks, liver and saltwater fish are among the few food sources of vitamin D.