

# Lactose Intolerance

## What is Lactose Intolerance?

Lactose intolerance is the **inability** to digest significant amounts of lactose, the predominant sugar of **milk**. This inability results from a shortage of the enzyme **lactase**, which is normally produced by the cells that line the small intestine. Lactase breaks down milk sugar into simpler forms that can then be absorbed into the bloodstream. When there is not enough lactase to digest the amount of lactose consumed, the results, although not usually dangerous, may be very distressing. While not all persons deficient in lactase have symptoms, those who do are considered to be lactose intolerant (see side bar).

Between **30 and 50 million** Americans are lactose intolerant. Certain ethnic and racial populations are more widely affected than others. As many as **75 percent** of all African-Americans and Native Americans and **90 percent** of Asian-Americans are lactose intolerant. The condition is **least common** among persons of northern European descent.

## Treating Lactose Intolerance!

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

Young children with lactase deficiency should not eat any foods containing lactose. Most older children and adults need not avoid lactose completely, but individuals differ in the amounts of lactose they can handle. For example, one person may suffer 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. Dietary control of lactose intolerance depends on each person's learning through trial and error how much lactose he or she can handle.

For those who react to very small amounts of lactose or have trouble limiting their intake of foods that contain lactose, **liquid lactase enzymes** are available without a prescription. This liquid form is for use with milk. A few drops are added to a quart of milk, and after 24 hours in the refrigerator, the lactose content is reduced by 70 percent. The process works faster if the milk is heated first, and adding a double amount of lactase liquid produces milk that is 90 percent lactose free. A more recent development is a **chewable lactase enzyme tablet** that helps people digest solid foods that contain lactose. Three to six tablets are taken just before a meal or snack.

### Symptoms

Common symptoms include **nausea, cramps, bloating, gas, and diarrhea**, which begin about 30 minutes to 2 hours after eating or drinking foods containing lactose. The severity of symptoms **varies depending on the amount of lactose** each individual can tolerate.

Some causes of lactose intolerance are well known. For instance, certain **digestive diseases and injuries** to the small intestine can **reduce** the amount of enzymes produced. In rare cases, children are **born without the ability** to produce lactase. For most people, though, lactase deficiency is a condition that **develops naturally over time**. After about the age of 2 years, the body begins to produce less lactase. However, many people may not experience symptoms until they are much older.

**Lactose-reduced** milk and other products are available at many 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.

## **What Do Dairy Products Do for Our Bodies?**

Milk and other dairy products are a major source of nutrients in the American diet. 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, then, for both children and adults with lactose intolerance, is getting enough calcium in a diet that includes little or no milk.

In planning meals, making sure that each day's diet includes enough calcium is important, even if the diet does not contain dairy products. Many non-dairy foods are high in calcium. Green vegetables, such as **broccoli and kale**, and fish with soft, edible bones, such as **salmon and sardines**, are excellent sources of calcium.

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 instance) are not listed because the body cannot use their calcium content. They contain substances called **oxalates**, which **stop calcium absorption**. 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. Sources of vitamin D include **eggs and liver**. However, **sunlight helps the body naturally absorb or synthesize vitamin D**, and with enough exposure to the sun, food sources may not be necessary.

## **Finding Lactose in Foods**

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

- 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.

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

Smart shoppers learn to read food labels with care, looking not only for milk and lactose among the contents but also for such words as whey, curds, milk by-

products, dry milk solids, and non-fat dry milk powder. If any of these are listed on a label, the item contains lactose.

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

Even though lactose intolerance is widespread, it need not pose a serious 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 will be able to enjoy milk, ice cream, and other such products if they take 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 special 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 dietician recommends them) is the key to reducing symptoms and protecting future health.

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**Review Questions:** Answer the following questions based on the above article.

- 1) What does it mean to be lactose intolerant?
  
  
  
  
  
  
  
  
  
  
- 2) Where in the body is lactase produced?
  
  
  
  
  
  
  
  
  
  
- 3) What are the main symptoms of lactose intolerance?
  
  
  
  
  
  
  
  
  
  
- 4) Describe 2 ways a person can be lactose intolerant.
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