

# LACTOSE INTOLERANCE & MINORITIES:

## THE REAL STORY

**M**inorities who have experienced gastrointestinal problems consuming milk are learning new strategies to enjoy milk and other dairy foods. This means that minorities (and non-minorities) with lactose intolerance no longer need to miss out on essential nutrients provided by dairy foods.

The health consequences of avoiding dairy foods, the major source of dietary calcium, may be especially serious for African Americans, Hispanics, Asians, and Native American Indians. Many minorities are at high risk of hypertension, stroke, colon cancer, and osteoporosis – diseases in which a low calcium intake can be a contributing factor.

Here you'll learn the facts about lactose intolerance and what scientific experts say about various issues related to this subject. This information can help put the issue of lactose intolerance in minorities into perspective.

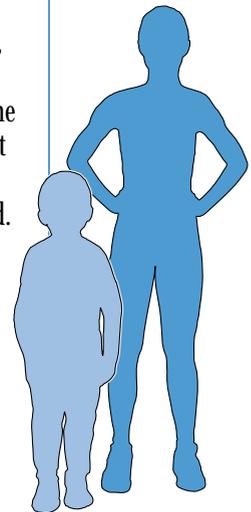


## What is Lactose Intolerance?

Lactose intolerance refers to gastrointestinal symptoms experienced by some individuals who have low levels of lactase, the enzyme necessary to digest lactose. Lactose is the major carbohydrate in milk and some other dairy foods. You may also find small amounts of lactose in non-dairy processed or baked foods. If the activity of lactase is low, undigested lactose may reach the large intestine where naturally residing gas-producing bacteria ferment it. This can lead to symptoms of lactose intolerance. Symptoms generally are nonspecific and may include: gas/flatulence, bloating, abdominal pain, or diarrhea. For the most part, symptoms are mild and highly individual. Also, individuals may experience varying degrees of intolerance to lactose.

In many population groups, the activity of lactase starts to decline sometime between 3 and 5 years of age. This normal, genetically-controlled, decline in intestinal lactase activity is called lactose maldigestion (or lactase non-persistence). Some individuals produce lactase in sufficient amounts throughout life and have no difficulty digesting lactose. Others, however, produce the enzyme only during infancy and early childhood. As these individuals become older, they begin to lose the ability to produce lactase.

Lactose maldigestion is not the same as lactose intolerance. Many people with lactose maldigestion (i.e., low levels of the intestinal enzyme, lactase) do not experience lactose intolerance or gastrointestinal symptoms following intake of lactose or lactose-containing foods.



*“In our study of African American adolescents, 82% were lactose maldigesters, but both lactose digesters and lactose maldigesters reported no or minimal gastrointestinal symptoms following lactose challenges.”*

Dennis Savaiano, Ph.D.  
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## How Is Lactose Maldigestion Diagnosed?

Many people, minorities in particular, often assume that they can't digest milk and other dairy foods. Yet, one can't simply rely on symptoms to self-diagnose lactose maldigestion. Without testing, it's impossible to know if the symptoms are caused by lactose, a learned aversion, or some other gastrointestinal problem. Misdiagnosing lactose maldigestion could lead to unnecessary dietary restrictions, expense, and nutritional shortcomings, or failure to diagnose a gastrointestinal disorder.

Medical experts recommend an objective test, such as the breath hydrogen test, to diagnose lactose maldigestion. Undigested lactose is fermented by bacteria in the colon producing hydrogen gas, a portion of which is absorbed into the blood and exhaled in the breath. The breath hydrogen test, which can be performed on an outpatient basis, involves measuring baseline breath hydrogen levels after an overnight fast and again at regular intervals following intake of a standard dose of lactose. If breath hydrogen levels increase by 10 to 20 ppm above baseline levels, a diagnosis of lactose maldigestion is made.

To diagnose lactose maldigestion, the breath hydrogen test generally uses a challenge dose of lactose equivalent to that in about one quart of milk (i.e., 50g lactose or more than four times the amount of lactose in 1 cup of milk). Using this very large dose of lactose given in water without other foods overestimates the number of individuals who are intolerant to usual intakes of lactose, such as found in one cup of milk (i.e., 12.5g lactose).

Information obtained from well controlled, double-blind studies indicates that lactose intolerance among minorities and non-minorities alike is far less prevalent than commonly believed. As you'll learn below, a number of factors, including the amount of lactose consumed at any one time, as well as other factors unrelated to lactose, influence whether or not an individual will be lactose intolerant. A positive diagnosis of lactose maldigestion doesn't mean that milk, dairy products, and other lactose-containing foods should be eliminated from the diet.

### How Common is Lactose Maldigestion in Minorities?

The prevalence of lactose maldigestion (or lactase non-persistence) varies among different ethnic and racial groups in the U.S.:

- 90% of Asian Americans
- 80% of African Americans
- 62-100% of Native Americans
- 53% of Mexican Americans
- 15% of Caucasians.

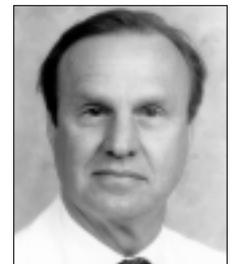
In all, about 25% of the U.S. population – or an estimated 30 to 50 million American adults – have low lactase levels or are lactose maldigesters. A diagnosis of lactose maldigestion doesn't necessarily mean that the individual will experience intolerance symptoms.

Many minorities have low levels of lactase, but stereotyping all minorities as lactose intolerant is inappropriate. Why? Gastrointestinal symptoms that mimic lactose intolerance may be explained by factors unrelated to lactose such as culturally-based attitudes toward milk learned at a young age. Many people who say they have trouble digesting milk have actually never been diagnosed as lactose intolerant by a health professional.

Several studies confirm that lactose intolerance is overestimated. One-third of 45 African American adolescents and adults with diagnosed lactose intolerance had some minor symptoms of intolerance after consuming both lactose-containing and lactose-hydrolyzed milk under double-blind conditions. Clearly, the symptoms in some of these African Americans were not due to lactose intolerance. Rather, the symptoms were most likely explained by

*“What Americans – minorities and non-minorities – don't know is that lactose intolerance is not an ‘all-or-nothing’ condition. It's a matter of degree. Our research shows that many people diagnosed with lactose intolerance can tolerate two cups of milk a day when consumed with meals several hours apart.”*

Michael Levitt, M.D.  
Associate Chief of Staff for Research  
Minneapolis VA Medical Center  
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culturally-determined food preferences developed early in life or learned attitudes that affected their ability to tolerate milk.

In another study, one-half of lactose maldigesters reported gastrointestinal symptoms after consuming a lactose-free milk, or more symptoms after intake of smaller rather than larger intakes of lactose. Again, the symptoms experienced by many of these individuals were due to factors unrelated to lactose intake.

Strong beliefs can contribute to lactose intolerance, according to several studies carried out by a group of Minnesota researchers. When 30 self-described lactose intolerant individuals of diverse ethnic backgrounds (Asians, African Americans, Latinos, as well as Caucasians) received a breath hydrogen test, 30% were diagnosed as lactose digesters. When these same 30 individuals participated in a randomized, double-blind, cross-over trial in which they consumed either 1 cup of lactose-containing milk or lactose-hydrolyzed milk with breakfast for one week, gastrointestinal symptoms were minimal. In fact, there were no significant differences in symptoms when either type of milk was consumed. The researchers concluded that self-described lactose intolerant individuals “may mistakenly attribute a variety of abdominal symptoms to lactose intolerance.” In another study involving adults of varied ethnic background and designed to test tolerance to 2 cups of milk, 31% who said they were severely lactose intolerant comfortably digested lactose.



Self-described “Lactose Intolerant” (LI) Individuals and Lactose Maldigesters Can Tolerate the Amount of Lactose in a Serving or More of Milk and Other Dairy Foods

Study	Subjects*	Lactose Dose (g) Breath Hydrogen Test	Lactose Digesters %	Lactose Maldigesters %	Milk Products Tested	Results
Suarez et al. 1995	30 self-described LI adults	15	30	70	1 cup milk (12 g lactose) with breakfast	All tolerant
Suarez et al. 1997	49 self-described LI adults	15	31	69	2 cups milk/day consumed in divided doses with breakfast and dinner	All tolerant
Suarez et al. 1998	62 female adults	15	50	50	1 cup milk at breakfast; 1 cup milk, 1 ounce cheese, and 8 ounces yogurt at lunch; 1 cup milk and 1 ounce cheese at dinner	All tolerant – increased flatus frequency rated “trivial” in maldigesters

\*Including minorities of varied race and ethnic backgrounds

*“Individuals vary immensely in their intake of dairy products depending on personal preference and country of origin. Avoidance of milk usually has nothing to do with lactose intolerance. The bottom line is that minorities have a tendency to consume less milk than do Caucasians, but this behavior is not necessarily related to lactose intolerance.”*

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*“The African American participants in the DASH study had no problems consuming three servings of dairy foods/day. Recognizing that some may be lactose intolerant, we used simple dietary strategies to minimize any symptoms. These included offering fluid milk in small portions with meals, low fat cheese, and yogurt. Also, lactose digestive aids were available, if needed.”*

Marlene Most-Windhauser,  
Ph.D., R.D., L.D.N., F.A.D.A.  
Associate Professor of Research  
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## Can Minorities include Milk and Other Dairy Foods in their Diet?

Lactose intolerance doesn't have to be an obstacle to meeting calcium needs through milk and other dairy foods. Researchers in Minnesota found that lactose maldigesters, some of whom described themselves as lactose intolerant, could consume the amount of lactose in 2 cups of milk, one cup at breakfast and another at dinner, without developing symptoms.

Two cups of milk provide about 600mg calcium. This amount falls far short of the 1,500mg calcium/day recommended to reduce the risk of osteoporosis. To determine if lactose maldigesters could tolerate a diet providing 1,500mg calcium/day primarily from dairy products, these same researchers conducted another study. In this double-blind cross-over study, 31 women with lactose maldigestion (more than half of whom were minorities) and 31 women who were not lactose maldigesters (all Caucasians) consumed one of two diets for one week and then switched to the other: a dairy-rich diet containing 2 cups of milk, 1 cup of yogurt, and 56g cheese, or an identical diet containing lactose-reduced versions of milk and yogurt. With the exception of some mild flatulence, no differences in symptoms occurred regardless of whether the women consumed the regular or lactose-reduced dairy products.

Based on their findings, the researchers concluded that lactose maldigestion need not be a major barrier to consuming 1,500mg calcium/day from dairy products. Individuals diagnosed as lactose intolerant can meet current recommendations for calcium from dairy foods. Interestingly, 66% of the women with lactose maldigestion were surprised that their symptoms following intake of dairy foods were “less than expected.”

In the recent landmark DASH (Dietary Approaches to Stop Hypertension) study, African Americans who consumed 3 servings/day of dairy foods as part of the DASH diet experienced blood pressure benefits without any symptoms of lactose intolerance. The DASH study demonstrates that a low fat diet rich in low fat dairy foods, fruits, and vegetables can reduce blood pressure in individuals with high-normal blood pressure. Further, the blood pressure reduction is similar to that achieved with currently available blood pressure medications. In this study, 62% of the participants were African Americans. The blood pressure lowering effect of the DASH diet was twice as great in African Americans as in Caucasians. This finding is important given that African Americans suffer from hypertension in greater numbers, develop the condition earlier in life, and have more serious complications than do Caucasians.

*“Many of the African American adolescent girls who were part of our calcium diet study at Purdue complained about having to drink milk on the first day. They said they didn't like milk, disliked yogurt even more, and were lactose intolerant. Although almost all tested as maldigesters, they had only a very modest level of symptoms, almost incidental. Two weeks later, after they had been consuming a dairy-based, high-calcium diet, we tested them again. Every one of these girls had absolutely no symptoms after consuming several servings of dairy foods a day, mostly milk.”*

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## Why Is It Important that Minorities Include Dairy Foods in their Diets?

Reducing consumption of dairy foods due to concerns about lactose intolerance can result in a lower intake of milk's nutrients, especially calcium. A low calcium intake increases the risk of several chronic diseases. Also, increasing intake of lactose-containing foods such as milk helps lactose maldigesters tolerate lactose.

Avoiding or limiting consumption of dairy foods reduces intake of several key nutrients and virtually guarantees a low calcium intake. Dairy foods are a major source of calcium, providing 73% of the calcium available in the U.S. food supply. In addition to calcium, milk and other dairy foods provide appreciable amounts of other essential nutrients. Intake of a calcium-rich diet through milk and other dairy foods improves the overall nutritional quality of the diet.

Not only is the U.S. facing a calcium crisis, but many minorities are at high risk of chronic diseases in which calcium deficiency can play a contributing role.

*"It's important that minorities, particularly African Americans, include calcium-rich milk and other dairy foods in their diet to reduce their risk of high blood pressure. This was clearly shown in the DASH study. The DASH diet offers an option, without the use of medications, for lowering blood pressure and possibly preventing hypertension. For those who currently avoid dairy foods, effective and simple dietary strategies are available to help include these foods in the diet."*

Marlene Most-Windhauser, Ph.D., R.D., L.D.N., F.A.D.A.  
Associate Professor of Research  
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### Minorities' Risk of Calcium Deficiency-Related Diseases

- **Colon & Rectal Cancer.** African Americans are more likely to develop and die from colon and rectal cancer than any other racial and ethnic group in the U.S.
- **Hypertension and Stroke.** Compared to Caucasians, African Americans develop high blood pressure at an earlier age and it is more severe at any decade of life. Consequently, African Americans have a 1.3 times greater risk of nonfatal stroke, a 1.8 times greater rate of fatal stroke, a 1.5 times greater risk of heart disease death, and a 5 times greater risk of end-stage kidney disease than Caucasians.
- **Overweight and Obesity.** African American and Mexican American adults have a higher prevalence of overweight and obesity than Caucasians.
- **Osteoporosis.** Preliminary data from the National Osteoporosis Risk Assessment (NORA) indicate that low bone density occurs in 65% of Asian women, 59% of American Indian women, 55.6% of Hispanic women, 50.5% of Caucasian women, and 38% of African American women. The National Osteoporosis Foundation estimates that 300,000 African American women have osteoporosis. Additionally, between 80 to 95% of fractures in African American women over age 64 are due to osteoporosis. Also, African American women are more likely than Caucasian women to die following a hip fracture.

*"Since milk and milk products are our primary source of dietary calcium, and calcium is essential for building and maintaining strong bones and reducing the risk of osteoporosis, people who stop drinking milk may be increasing their risk for calcium deficiency, a widespread problem."*

Fabrizio Suarez, M.D., Ph.D., F.A.C.N.  
Assistant Professor, Department of Nutrition  
University of Minnesota Research Fellow  
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### Dietary Calcium Recommendations

Life-Stage Group	Adequate Intake* mg/day
1-3 years	500
4-8 years	800
9-18 years	1,300
19-50 years	1,000
51+ years	1,200
Pregnancy/Lactation	
18 years	1,300
19-50 years	1,000

\* 1997 Dietary Reference Intakes, Food and Nutrition Board, Institute of Medicine, National Academy of Sciences.



Sample Nutrition Facts Label for 1% Lowfat Milk with Vitamins A & D Added

Nutrition Facts		
Serving Size 1 cup (240ml)		
Servings Per Container 8		
Amount Per Serving		
Calories 100	Calories from Fat 25	
% Daily Value*		
Total Fat 2.5g	4%	
Saturated Fat 1.5g	8%	
Cholesterol 10mg	3%	
Sodium 125mg	5%	
Potassium 380mg	11%	
Total Carbohydrate 12g	4%	
Dietary Fiber 0g	0%	
Sugars 12g		
Protein 8g	16%	
Vitamin A 10%	• Vitamin C 4%	
Calcium 30%	• Iron 0%	
Vitamin D 25%	• Thiamin 6%	
Riboflavin 25%	• Vitamin B <sub>6</sub> 6%	
Folate 4%	• Vitamin B <sub>12</sub> 15%	
Pantothenic Acid 8%	• Phosphorus 25%	
Magnesium 8%	• Zinc 6%	
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:		
	Calories: 2,000	2,500
Total Fat	Less than 65 g	80 g
Sat Fat	Less than 20 g	25 g
Cholesterol	Less than 300 g	300 g
Sodium	Less than 2,400 g	2,400 g
Potassium	3,500 g	3,500 g
Total Carbohydrate	300 g	375 g
Dietary Fiber	25 g	30 g
Protein	50 g	65 g

Source: USDA Nutrient Database for Standard Reference, Release 13.  
[www.nal.usda.gov/fnic/foodcomp/Data/index.html](http://www.nal.usda.gov/fnic/foodcomp/Data/index.html)

An adequate intake of calcium can help to reduce the risk of major chronic disorders such as hypertension, colon cancer, stroke, osteoporosis, and perhaps even overweight and obesity.

At a recent, first-ever, national Calcium Summit, low calcium intake was identified among many minority groups in the U.S., including African Americans and Hispanics. Nearly 250 representatives from national health and nutrition organizations attended the Summit. Summit participants recommended new approaches to increase the public's access to a variety of calcium-rich foods such as milk and other dairy foods to help combat the nation's calcium crisis among both minorities and non-minorities alike.

### Can't Minorities Meet Their Calcium Needs Without Consuming Dairy Foods?

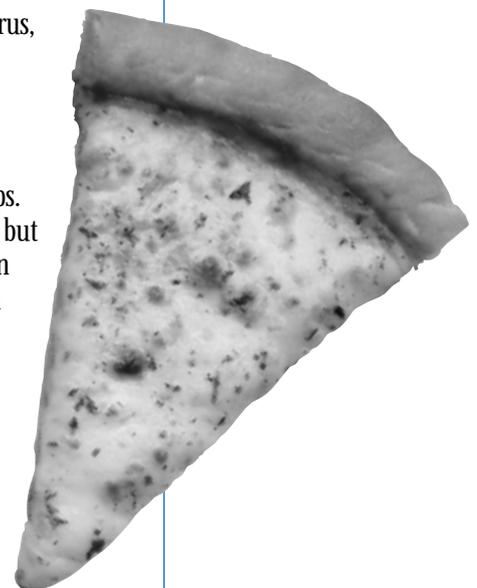
Milk and other dairy foods are the preferred source of calcium. This opinion is supported by the National Institutes of Health Expert Panel on Optimal Calcium Intake, as well by other health and nutrition organizations.

Intake of foods such as salmon with bones, legumes, and some green leafy vegetables may help meet calcium needs. These foods generally contain less calcium/serving or in some cases the calcium may be less bioavailable than from milk and milk products. For example, a recent study by Dr. Connie Weaver indicated a person would need to consume 8 cups of spinach, nearly 5 cups of red beans, or 2 1/4 cups of broccoli to get the same amount of calcium absorbed from 1 cup of milk.

A number of calcium-fortified foods including juices, fruit drinks, soy beverages, breads, cereals, and snack foods are available to help meet calcium needs. Although all of these sources provide calcium, they are not nutritionally equivalent to dairy foods. In addition to calcium, dairy foods provide high quality protein, phosphorus, potassium, riboflavin, vitamin B<sub>12</sub>, vitamin A, magnesium, vitamin B<sub>6</sub>, thiamin, vitamin D (if fortified), and niacin equivalents. The Food Guide Pyramid indicates the relative amounts of food to eat from each of the five major food groups. Because each of these food groups provides some, but not all, of the nutrients needed for health, foods in one group (e.g., vegetables) can't replace those in another group (e.g., dairy foods). Health experts regard calcium supplements as a supplement to, not a substitute for, a nutritionally adequate diet.

*"Adolescents in general don't come close to meeting recommended dietary intakes of calcium, and minorities tend to consume less calcium from their diets than Caucasians. This could increase adolescent minorities' risk of major chronic diseases in later life such as osteoporosis, hypertension, colon cancer, and stroke."*

Connie Weaver, Ph.D.  
 Professor and Head  
 Department of Foods and Nutrition  
 Purdue University  
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## Should Dairy Food Recommendations in Dietary Guidelines and Child Nutrition Programs Be Modified for Minorities?

The Dietary Guidelines for Americans recommend two to three servings/day of foods from the milk group (e.g., milk, yogurt, cheese). These guidelines “provide advice for healthy Americans 2 years and over about food choices that promote health and prevent disease.” Health professionals such as registered dietitians and physicians can adapt these general guidelines for individuals with specific disorders. For individuals with lactose intolerance who have difficulty consuming regular dairy foods such as milk, lactose-reduced or lactose-free dairy foods may be an option. However, as many researchers have demonstrated, lactose intolerance is not a problem for the majority of Americans and can be easily managed for those with this condition.

Many individuals with lactose intolerance can tolerate two servings of dairy foods/day with meals such as breakfast and dinner. Furthermore, intake of lactose-containing foods may actually improve tolerance to lactose. Many minorities consume diets low in calcium and are at risk of calcium deficiency-related diseases. For these reasons, intake of dairy foods, regular or lactose-reduced, should be a priority for minorities – and nonminorities – alike.

Government and school food service personnel are currently discussing whether lactose-free milk should be offered in school cafeterias, particularly for minorities. Milk is an important food to include in children’s diets. A system is in place to offer lactose-free milk to students participating in federally-sponsored child nutrition programs. Also, the same tips that apply to adults to improve tolerance to milk also apply to children.

*“Offering lactose-free milk provides another choice for those students who are lactose intolerant. But, lactose-free milk costs more than other milk products, and recent studies have shown that lactose intolerant individuals may be able to consume some regular dairy products such as milk with meals, yogurt, and cheese, without experiencing adverse side effects.”*

Diane Bierbauer, M.S., R.D.,  
 Manager of Nutrition and Education for the American School Food Service Association in Alexandria, VA.

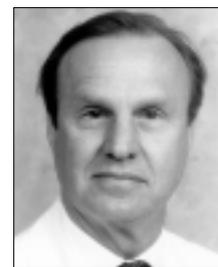
*“The beauty of the DASH diet is that it so closely follows the Dietary Guidelines which are for the general healthy population. The DASH study results are so overwhelmingly supportive of the need for two to three servings of dairy foods a day for blood pressure reduction, it’s to everyone’s benefit, especially African Americans, to follow the Dietary Guidelines.”*

Marlene Most-Windhauser,  
 Ph.D., R.D., L.D.N., F.A.D.A.  
 Associate Professor of Research  
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*“If you drink milk in 1 cup quantities or less, you may not need lactose-free milk. Well controlled trials have shown that the vast majority of people who are lactose intolerant report no significant difference in symptoms when drinking one cup of regular milk compared to lactose-free milk.”*

Michael Levitt, M.D.  
 Associate Chief of Staff for Research  
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*The American Academy of Pediatrics, Committee on Nutrition, recognizes the importance of calcium for children and that lactose intolerance is more common in minorities than in Caucasians. “Many children with lactose intolerance can drink small amounts of milk without discomfort. Other alternatives include the use of other dairy products, such as solid cheeses and yogurts that may be better tolerated than milk. Lactose-free and low-lactose milks are available.”*

American Academy  
 of Pediatrics  
 Committee on Nutrition

## How Can Health Professionals Convince Minorities to Try Dairy Foods?

Increasing minorities' familiarity with dairy foods, beginning in the early years, may increase their consumption of these foods and their calcium intake. Also, minority role models may help to encourage minorities to give dairy foods a try.



*“Good medicine for lactose intolerance is a glass of milk. Drinking a little milk helps the digestive system learn to digest dairy foods without unpleasant side effects. If you only consume dairy foods once in a while, you are more likely to have symptoms from them. Here’s some advice to improve tolerance to lactose. Drink 1/4 to 1/2 cup of milk two to three times a day and gradually increase the amount. Avoid eating dairy foods in large quantities at one sitting, and eat dairy foods as part of a meal. Also, yogurt, which contains the enzyme lactase that helps the body digest lactose, is well tolerated.”*

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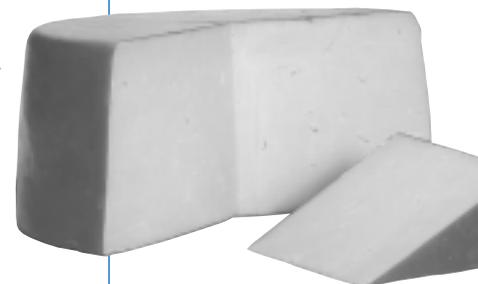
## Tips to Improve Tolerance to Dairy Foods

In most cases, lactose intolerant individuals do not have to give up milk and other dairy foods. Here are some easy tips to help people with lactose intolerance manage their condition, include dairy foods in their diet, and meet their calcium needs:

- **Adjust the amount of lactose consumed.** Individuals differ according to how much lactose they can tolerate at any one time. To determine how much lactose is well tolerated, individuals should consume a small amount of milk (less than 1 cup) with food and gradually increase the serving size until symptoms just begin to develop.
- **Drink milk with a meal or snack.** This slows gastric emptying and/or delivery of lactose to the colon, allowing more time for any remaining lactase enzyme to digest lactose. Also, when lactose is consumed with food, relatively little undigested lactose reaches the colon at any one time.
- **Choose wisely.** Some dairy foods are better tolerated than others.
  - Yogurts* with “live, active cultures” are well tolerated.
  - Whole milk* may be better tolerated than lower fat milk. Chocolate milk may be better tolerated than unflavored milk.
  - Many cheeses*, especially aged cheeses like Cheddar, Colby, Swiss, and Parmesan, are low in lactose and generally well tolerated.
  - Sweet acidophilus milk, yogurt milk, and other *fermented dairy foods* are tolerated as least as well as milk.
- **Try lactose-free or lactose-reduced products.** Lactose-hydrolyzed milk and other dairy foods contain all the same nutrients, including calcium, as their regular counterparts. You can also use commercial lactase preparations (capsules, chewable tablets, solutions). Drops of liquid lactase can be added to milk to break down much or all of its lactose. Or, oral lactase tablets can be taken before consuming lactose-containing foods.
- **Train for tolerance.** Gradually increasing intake of lactose-containing foods improves tolerance to lactose. Continued exposure to lactose may enhance the efficiency of colonic bacteria to metabolize lactose, thereby producing fewer intolerance symptoms.

*“Minority educators could help people in their community learn about the nutritional and health benefits of dairy foods, as well as the differences between lactose maldigestion and lactose intolerance.”*

Michael Levitt, M.D.  
Associate Chief of Staff for Research  
Minneapolis VA Medical Center  
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## THE BOTTOM LINE

*“Once [lactose intolerant minorities] become unaccustomed to drinking milk, they can experience intestinal discomfort when starting again. But those who never stop drinking milk have no such distress, and those who start again, but slowly, can handle dairy products perfectly well.”*

Robert Heaney, M.D.  
John A. Creighton University Professor  
Creighton University  
Omaha, NE



Many minorities avoid milk and other dairy foods due to lactose intolerance. As a result, they may be depriving themselves of milk’s nutrients, particularly calcium, and increasing their risk of calcium deficiency-related diseases such as hypertension, stroke, colon cancer, and osteoporosis.

The good news is that minorities are learning new strategies to help them enjoy dairy foods. For minorities and non-minorities alike, lactose intolerance doesn’t have to be an obstacle to meeting calcium needs through milk and other dairy foods.



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## Materials and Resources

View online or download from this website,  
[www.nationaldairycouncil.org](http://www.nationaldairycouncil.org)

- **National Dairy Council. *Calcium Counseling Resource.*** This material provides health professionals with current research linking calcium to reduced risk of several disorders and provides educational strategies to improve calcium status.
- ***Calcium Summit.*** Developing a public health strategy to ensure America's optimal calcium intake. This resource is a synopsis of the June 25th 1999 conference sponsored by National Dairy Council and MilkPEP.

## Available to order

- ***The Lowdown on Lactose Intolerance: Making the Most of Milk.*** This 8-page brochure provides tips for consumers with lactose intolerance on how to keep dairy foods in their diets.
- ***Lactose Intolerant? Make the Most of Milk.*** This tear pad for health professional offices – one side in English, the other in Spanish – helps consumers with lactose intolerance understand that they don't need to give up dairy foods.
- ***Lactose Intolerance. A Cafeteria Concern.*** This tear pad is designed for use by school foodservice staff.
- ***Lactose Intolerance And Your Child.*** This tear pad is designed for use by health professionals and others interacting with parents of young children.

These materials can be obtained from your local Dairy Council. Call 1-800-426-8271 for the number of the Dairy Council nearest to you.

For related information, go to the [American Council on Science and Health](#).

