

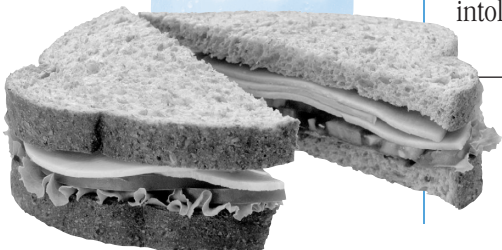
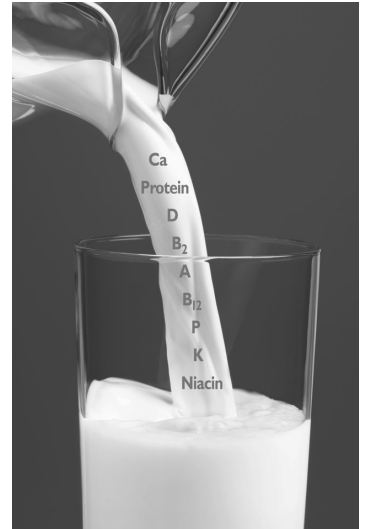
LACTOSE INTOLERANCE & MINORITIES:

THE REAL STORY

Minorities 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 may 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, potassium, and vitamin D as well as providing other essential nutrients, may be especially serious for African Americans, Hispanics, Asians, and Native American Indians. Many minorities are at high risk of hypertension, stroke, osteoporosis, obesity, diabetes, and colon cancer – diseases in which a low intake of dairy and dairy nutrients (e.g., calcium, vitamin D, potassium) 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.

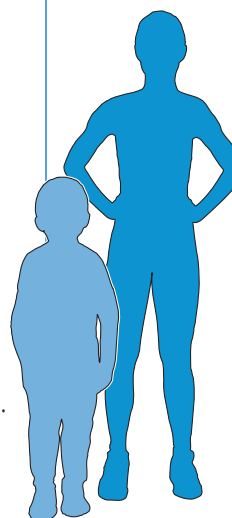


What is Lactose Intolerance?

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 the lactase enzyme 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, if symptoms are experienced, they are mild and vary depending on the individual.

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 primary lactase deficiency 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.



“A test for lactose maldigestion is widely available but very few people are clinically diagnosed. Many people self-diagnose this condition based on false preconceptions.”

Dennis Savaiano, Ph.D.

Professor
Department of Foods and Nutrition
Dean and Professor
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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. The symptoms that may arise from lactose maldigestion, known as lactose intolerance, is often confused with cow's milk protein allergy, which is an immunological reaction to one or several of milk's proteins. Cow's milk allergy is reported in about 2% of infants and young children and tends to be outgrown by 5 years of age. 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

“Primary lactase deficiency is common. However, the incidence varies according to ethnicity and is related to the use of dairy products in the diet. In populations consuming a predominantly “dairy” diet, such as Northern Europeans, the incidence of primary lactase deficiency is low compared to that in Hispanic, Asian, or African American children. Even these children should be able to tolerate small amounts of milk or other dairy products, which is important for bone health and development.”

Jatinder J.S. Bhatia, M.D., FAAP
Professor and Chief
Section of Neonatology
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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 dose of aqueous lactose or milk. The dose can be 50 g, 25 g, or in the range of usual intakes (10-12 g). If breath hydrogen levels increase by 10 to 20ppm above baseline levels (a lower rise is used with a lower dose), a diagnosis of lactose maldigestion is made.

To diagnose lactose maldigestion, the breath hydrogen test generally used today employs a challenge dose of lactose equivalent to the amount in two 8-ounce glasses of milk (i.e., up to 25 g). In the past, breath hydrogen tests used a challenge dose of lactose equivalent to that in about one quart of milk (i.e., 50 g 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., 12.5 g lactose).

A positive diagnosis of lactose maldigestion doesn't mean that milk, dairy products, and other lactose-containing foods should be eliminated from the diet. 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. 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.

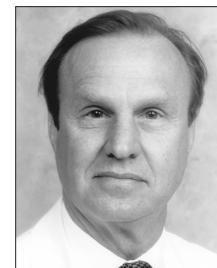
How Common is Lactose Maldigestion in Minorities?

The estimated prevalence of lactose maldigestion (or lactase non-persistence) varies among different ethnic and racial groups in the U.S. Among Asian Americans, African Americans, Native American Indians, and Hispanics, an estimated 50% to 100% are reported to be lactose maldigesters, compared to 15% of Caucasians. In all, it is estimated that about 25% of the U.S. population and 75% of the world's population have low lactase levels or are lactose maldigesters. These figures are based on studies conducted in the 1970s using a large challenge dose of lactose in water. As such, they tend to overestimate the practical significance of lactose intolerance as experienced by most people with lactose maldigestion.

A diagnosis of lactose maldigestion doesn't necessarily mean that the individual will experience intolerance symptoms. Despite the estimated high prevalence of lactose maldigestion in African Americans and Hispanics, far fewer report being lactose intolerant. For example, a consumer-based survey found that only 24% of African Americans considered

“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.”

Michael Levitt, M.D.
Associate Chief of Staff for Research
Minneapolis VA Medical Center
Minneapolis, MN



“Lactose maldigestion does not necessarily result in lactose intolerance (symptoms). Our meta-analysis of 21 clinical studies, which included African American, Hispanic, Asian, and Caucasian lactose maldigesters, found that lactose was not a major cause of symptoms following consumption of usual intakes of dairy foods such as 1 cup of milk.”

Dennis Savaiano, Ph.D.

Professor
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themselves to be lactose intolerant. In a survey of Hispanics, less than 10% reported avoiding dairy. In fact, Hispanics overwhelmingly said that dairy is central to their culture.

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. When Asian, Hispanic, and Caucasian teenage girls who self-reported milk intolerance completed a breath hydrogen test, more than half (55%) were not lactose maldigesters.

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 culturally-determined food preferences developed early in life or learned attitudes that affected their ability to tolerate milk.

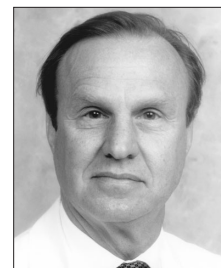
In another study, one-half of lactose maldigesters reported gastrointestinal symptoms after consuming a lactose-free milk, or more symptoms after intake of smaller rather than larger intakes of lactose. Again, the symptoms experienced by many of these individuals were due to factors unrelated to lactose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

“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
Minneapolis, MN



“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, cheese, and yogurt. Also, lactose digestive aids were available, if needed.”

Marlene Most, Ph.D., R.D., L.D.N., F.A.D.A.
Associate Professor of Research
Pennington Biomedical Research Center
Baton Rouge, LA



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 ounce cheese, and 8 ounces yogurt at lunch; 1 cup milk and 1 ounce cheese at dinner	All tolerant – increased flatulence frequency rated “trivial” in maldigesters

*Including minorities of varied race and ethnic backgrounds

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 with food, 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 highest amount of dietary calcium intake recommended (currently 1,300mg/day). In 1998, these same researchers conducted another study to determine if lactose maldigesters could tolerate a diet providing 1,500mg calcium/day (the highest recommended calcium intake at that time) primarily from dairy products. 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 daily, 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. Therefore, individuals diagnosed as lactose intolerant can

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.

meet the highest 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 landmark DASH (Dietary Approaches to Stop Hypertension) study, African Americans who consumed three 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.

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, which increases the risk of several chronic diseases. This is of particular concern for minorities whose intakes of several nutrients fall below recommended levels. According to a recent study, African Americans in all age groups have lower than average intakes of calcium, magnesium, and phosphorus than non-African Americans and consume fewer than three servings of low-fat and fat-free milk and milk products daily, as recommended by the 2005 *Dietary Guidelines for Americans*.

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 72% 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 such as potassium, phosphorus, protein, vitamins A, D, and B₁₂, riboflavin, and niacin. 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.”

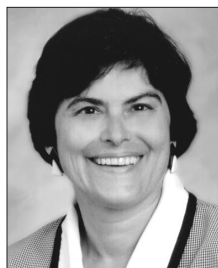
Marlene Most, Ph.D., R.D., L.D.N., F.A.D.A.

Associate Professor of Research
Pennington Biomedical Research Center
Baton Rouge, LA



“Minorities in general don't come close to meeting recommended servings of dairy foods or dietary intakes of calcium. Further, minorities tend to consume less dairy products and dairy nutrients such as calcium than Caucasians. This could increase minorities' risk of major chronic diseases including osteoporosis, hypertension, colon cancer, stroke, and obesity.”

Connie M. Weaver, Ph.D.
Distinguished Professor and Head
Department of Foods and Nutrition
Purdue University
West Lafayette, IN



“Milk and milk products are the primary source of dietary calcium and provide other nutrients important for bone health. Self-described ‘lactose intolerant’ individuals often restrict their intake of dairy foods which limits maximum bone density and may lead to increased risk of osteoporosis and bone fractures.”

Dennis Savaiano, Ph.D.

Professor
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Dean and Professor
School of Consumer and Family Science
Purdue University
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Minorities' Risk of Calcium Deficiency-Related Diseases

- **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 4.2 times greater risk of end-stage kidney disease than Caucasians. The prevalence of hypertension in Hispanics is similar to that in Caucasians.
- **Osteoporosis.** This disease is very common among African Americans and Hispanics, although it is less prevalent than among Caucasians and Asians. According to the National Osteoporosis Foundation, 40% of African American women, 59% of Hispanic women, and 72% of Caucasian or Asian women older than 50 have osteoporosis or low bone mass (a risk factor for osteoporosis). A similar pattern is seen among men aged 50 and older. Twenty-three percent of African American, 26% of Hispanic, and 42% of Caucasian or Asian men have osteoporosis or low bone mass. Hip fractures among Hispanics in the U.S. appear to be on the rise.
- **Overweight and Obesity.** African American and Mexican American adults have a higher prevalence of overweight and obesity than Caucasians.
- **Diabetes.** Among adults aged 20 years of age and older, the prevalence of diabetes is about twice as high among African Americans, Hispanic Americans, American Indians, and Asian Americans than among Caucasians.
- **Colon and rectum cancer (colorectal cancer).** African Americans are more likely to develop and die from colorectal cancer than any other racial and ethnic group in the U.S. Among Hispanics, the death rate from colorectal cancer is lower than among Caucasians. However, when Hispanics are diagnosed with colorectal cancer, it is likely to be at an advanced stage which carries a lower probability of survival.

An adequate intake of calcium rich dairy foods and dairy nutrients such as calcium, vitamin D, and potassium may help to reduce the risk of major chronic disorders such as hypertension, stroke, osteoporosis, obesity, diabetes, and colon cancer.

“African Americans suffer disproportionately from both hypertension and obesity, as they experience both increased risk and severity of these diseases. Our research shows that consuming recommended servings of dairy products is effective in helping African Americans achieve a healthy blood pressure and healthy weight.”

Michael B. Zemel, Ph.D.

Professor of Nutrition and Medicine
Director, The Nutrition Institute
Department of Nutrition
The University of Tennessee
Knoxville, TN





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 2005 *Dietary Guidelines for Americans*, the American Academy of Pediatrics, and the National Medical Association, as well as leading nutrition and medical experts.

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 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 other essential nutrients such as potassium, phosphorus, protein, vitamins D (if fortified), A, and B₁₂, riboflavin, and niacin equivalents. USDA's *MyPyramid* (www.mypyramid.gov), a food guidance system to help people implement the 2005 *Dietary Guidelines*, 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.

Do Official Health Recommendations Support Dairy's Benefits for Minorities?

The answer is yes. Several health professional organizations support the health benefits of dairy foods for minorities. A Consensus Report of the National Medical Association (NMA), the nation's oldest and largest organization representing African American physicians, recommends that African Americans, many of whom are lactose maldigesters, consume three to four servings a day of low-fat milk, cheese, or yogurt to improve their health. For individuals who cannot tolerate milk, the NMA recommends lactose-free milk.

"In 2004, the National Medical Association (NMA), founded in 1895 and the voice of physicians of African descent in the U.S., released a Consensus Report on dairy in the diet of African Americans. The NMA recommends that African Americans consume three to four servings a day of low-fat milk, cheese, or yogurt to reduce the risk of common chronic diseases such as hypertension, obesity, and osteoporosis. Lactose-free milk is an alternative option for those who have difficulty digesting lactose."

Wilma J. Wooten, M.D., M.P.H.
Chair, Women's Health
University of California, San Diego
San Diego, CA





“For individuals who are lactose intolerant, the 2005 Dietary Guidelines for Americans states that milk alternatives within the milk food group, such as yogurt and lactose-free milk, are the most reliable and easiest way to derive the health benefits associated with milk and milk products. Intake of the enzyme lactase prior to consumption of milk products is another option.”

Connie M. Weaver, Ph.D.
Member 2005 Dietary Guidelines
Advisory Committee
Distinguished Professor and Head
Department of Foods and Nutrition
Purdue University
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Likewise, the 2005 *Dietary Guidelines for Americans* states that the easiest way for those with lactose intolerance to derive the health benefits associated with consumption of milk and milk products is “to choose alternatives within the milk food group, such as yogurt or lactose-free milk, or to consume the enzyme lactase prior to the consumption of milk products.” Recognizing minorities’ and non-minorities’ low intake of dairy products, the *Dietary Guidelines* identifies milk and other dairy products as a food group to encourage and recommends three cups of fat-free or low-fat milk or equivalent milk products (i.e., cheese, yogurt) a day.

The American Academy of Pediatrics, in its report on lactose intolerance in infants, children, and adolescents, encourages children with lactose intolerance to still consume dairy foods in order to get enough calcium, vitamin D, protein, and other nutrients essential for bone health and overall growth.

According to the report, lactose intolerance does not require avoiding dairy foods. Many children sensitive to lactose can drink small amounts of milk without discomfort, especially when consumed with other foods. The report identifies other dairy options which are often well tolerated such as hard cheese, yogurt containing live active cultures, or lactose-free or lactose-reduced milk.

Are considerations given to students who are lactose intolerant, many of whom are minorities, in schools? Yes, lactose-free milk can be offered in school cafeterias as a result of a law passed by Congress in 2004. No permission or paperwork is necessary for schools to offer this option. The year after Congress passed this law, the 2005 *Dietary Guidelines for Americans* recommended that people with lactose intolerance look for “alternatives within the milk food group, such as yogurt or lactose-free milk...” In some circumstances, the current law allows schools to offer a substitute beverage instead of milk. However, regulations to implement this initiative had not been finalized as of fall 2007. For a substitute beverage other than milk to be offered, either a parent’s note or a medical professional’s letter is required, and the student must have a special dietary need (e.g., lactose maldigestion) that justifies the substitution.

“The American Academy of Pediatrics supports the use of dairy products as an important source of calcium and other nutrients to facilitate bone mineral health and growth in children and adolescents. If dairy products are eliminated, other dietary sources of calcium need to be sought.”

Jatinder J.S. Bhatia, M.D., FAAP
Professor and Chief
Section of Neonatology
Department of Pediatrics
Medical College of Georgia
Augusta, GA



“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 with “live, active cultures” and hard cheeses are well tolerated.”

Dennis Savaiano, Ph.D.

Professor
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“Offering lactose-free milk in child nutrition programs provides an excellent option for children with lactose intolerance. It is also important for children with lactose intolerance to consume some dairy products in order to get enough nutrients for bone development and overall growth. Research shows that those who have difficulty digesting lactose can still enjoy dairy foods on a daily basis, by starting with small portions of milk and increasing slowly as tolerated, or by choosing other dairy foods such as some cheeses and yogurts.”

Arianne Corbett, R.D., LD/N

Manager of Nutrition Advocacy
Child Nutrition and Policy Center
School Nutrition Association
Alexandria, VA.

New regulations regarding the WIC (Special Supplemental Nutrition Program for Women, Infants and Children) food packages recommend lactose-reduced and lactose-free milk as a first choice before non-dairy options for those with lactose intolerance. Also, additional cheese is allowed for lactose intolerant individuals who obtain medical documentation. USDA’s WIC program is a supplemental feeding program that provides nutritious foods, nutrition counseling, and referrals to health and other social services for more than eight million eligible low-income pregnant, postpartum and breast-feeding women, infants and children up to age 5.

What Can Health Professionals Do to Help Minorities Include Dairy Foods in their Diets?

Health professionals can take the following steps to help minorities include dairy foods in their diets and increase their intake of dairy nutrients such as calcium:

- Understand cultural differences in how dairy foods are consumed.
- Increase minorities’ familiarity with dairy foods, beginning in the early years.
- Educate minorities about the importance of dairy foods and dairy nutrients in health and disease prevention.
- Be sensitive to clients’ concerns about lactose intolerance.
- Identify minority role models who may help encourage minorities to give dairy foods a try.

“It is essential to reach African Americans, Hispanics, and other minority groups about the benefits of nutrient-rich dairy foods, as well as the differences between lactose maldigestion and lactose intolerance. Strategies to reach these populations must include educational materials that are culturally sensitive and formatted to effectively connect with each group.”

Wilma J. Wooten, M.D., M.P.H.

Chair, Women’s Health
University of California, San Diego
San Diego, CA



Tips to Improve Tolerance to Dairy Foods

In some 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 needs for dairy nutrients such as calcium, vitamin D, and potassium:

- **Adjust the amount of lactose consumed.**

Individuals differ according to how much lactose they can consume without symptoms. 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. Slightly less than that amount is the starting tolerance point.

- **Train for tolerance.** Starting at the tolerance point, gradually increase the intake of milk to improve tolerance to lactose. Continued exposure to lactose enhances adaptation of colonic bacteria, thereby producing fewer intolerance symptoms.
- **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.** Studies have shown that some dairy foods are better tolerated than others.
 - Yogurts with “live, active cultures” are well tolerated.
 - While whole milk may be better tolerated than lower fat milk, choosing lower fat milk more often is recommended.
 - Chocolate milk may be better tolerated than unflavored milk and is available in low-fat and fat-free varieties.
 - Many cheeses, especially hard cheeses like Cheddar, Colby, Swiss, and Parmesan, are low in lactose and are generally well tolerated.
 - Sweet acidophilus milk, yogurt milk, kefir, and other fermented dairy foods are tolerated at least as well as milk.
- **Try lactose-free or lactose-reduced milk products.** Lactose-hydrolyzed milk and other dairy foods contain all the same nutrients, including calcium, as their regular counterparts. Use commercial lactase preparations (capsules, chewable tablets, solutions) with the first sip or bite of lactose-containing foods. Or drops of liquid lactase can be added to milk to break down much or all of its lactose.



“By using simple dietary strategies such as modifying the amount and types of dairy products consumed, most minorities (and non-minorities) with lactose maldigestion can comfortably consume three servings of dairy foods (milk, cheese, yogurt) a day, as recommended by the Dietary Guidelines for Americans.”

Robert Heaney, M.D.

John A. Creighton University Professor
Creighton University
Omaha, NE



THE BOTTOM LINE

Many minorities avoid milk and other dairy foods because of lactose intolerance. As a result, they may be depriving themselves of milk's nutrients, such as calcium, vitamin D, and potassium, and increasing their risk of chronic diseases such as hypertension, stroke, osteoporosis, obesity, diabetes, and colon cancer.

While individuals vary, the good news is that many people with lactose intolerance can learn new strategies to help them enjoy the taste and health benefits of consuming three servings a day of dairy foods such as milk, cheese and yogurt, as recommended by the *Dietary Guidelines for Americans* and *MyPyramid*.



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Resources

View online or download from the following websites:

National Dairy Council

www.nationaldairycouncil.org

- *Calcium Counseling Resource*. This material provides health professionals with current research linking calcium and dairy foods to reduced risk of several disorders and provides educational strategies to improve dairy food intake and calcium status.
- *Cow's Milk Allergy vs. Lactose Intolerance*. Dairy Council Digest 77 (3): 13-18, 2006.
- *The Lowdown on Lactose Intolerance: Making the Most of Milk*. This updated brochure provides tips for consumers with lactose intolerance on how to keep dairy foods in their diets.
- *Lactose Intolerance Advertorial*.
- *Lactose Intolerance And Your Child* (handout).

The American Academy of Pediatrics

www.aap.org

- Heyman, M.B. for the Committee on Nutrition, American Academy of Pediatrics. Lactose intolerance in infants, children, and adolescents. *Pediatrics* 118: 1279-1286, 2006.
- Bhatia, J.J.S., and F.R. Greer. Clearing up confusion on role of dairy in children's diets. *AAP News* 28(6): 15, June 2007.
- *Lactose Intolerance and Your Child* (brochure).

The American Institute of Child Health & Human Development

www.nichd.nih.gov/health/topics/lactose_intolerance

- *Lactose Intolerance*
- *Milk Matters, Lactose Intolerance: Information for Health Care Providers*

