

Dairy's Role in Lactose Intolerance

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Complimentary 1-Credit Continuing Education Webinar



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Disclosure: Toby is a member of Dannon's Yogurt Board and the National Dairy Council's Lactose Intolerance Speakers Bureau.



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About Me



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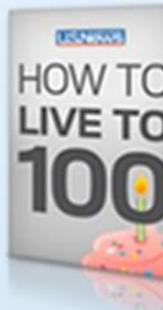
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Lactose Intolerance: Let Them Drink Milk

By **TOBY AMDOR**

November 1, 2013 | [RSS Feed](#) | [Print](#)

You read it right! Folks with lactose intolerance should be drinking milk. But let's not stop there – cheese and yogurt should be on the menu, too. Recent research found that folks with lactose intolerance can tolerate up to 1 cup of milk in one sitting. But let's start from the beginning.



Toby Amidor

What is Lactose Intolerance?

Lactose intolerance is a [gastrointestinal disturbance](#) that happens after consuming more lactose than your body can handle. Milk and dairy products contain a natural milk sugar called lactose, made from two sugar components, glucose and galactose. The body needs to separate lactose into its two sugar components is that it can be absorbed into your bloodstream. If these two sugars stay connected, uncomfortable symptoms like bloating, gas, loose stools and stomach pain can result.

Lactose intolerance is different from a milk allergy. A cow's milk allergy is triggered by the immune system, not the digestive system like in lactose intolerance. Someone with a milk allergy must avoid all milk and dairy products. Those with a cow's milk allergy should get retested regularly,

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Have lactose intolerance? You can still drink milk and eat cheese

People with lactose intolerance don't have to cut milk and dairy products completely from their diets because they can tolerate some lactose, and eating those products with another food makes them easier to digest.

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BY [TOBY AMIDOR](#) / U.S. NEWS & WORLD REPORT

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FACTS ABOUT LACTOSE INTOLERANCE

By Toby Amidor, MS, RD, CDN

Q: I've learned that people with lactose intolerance can tolerate some dairy in their diet. Are certain dairy foods better tolerated than others?

A: There are an estimated 30 million Americans who are lactose intolerant.¹ However, there are many misconceptions about lactose intolerance. The National Medical Association and National Institutes of Health expert panels recommend

Including Dairy

The amount of lactose found in a food can determine how well it will be tolerated. The lower the lactose level, the better the person will tolerate the food. Here are the lactose levels of some common foods:

- 1 cup of yogurt: 13 g
- 1 cup of milk: 12 g
- 1 cup of Greek yogurt: 7 to 9 g
- 1 oz of hard cheese (eg, asiago, cheddar, Edam): less than 0.1 g

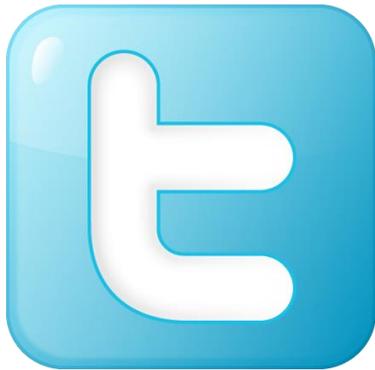
Both traditional and Greek yogurts have live and active cultures that help digest the lactose and make it easier to tolerate. Lactose-free milk and dairy products such as cottage cheese and ice cream will enable clients to get the recommended servings of dairy per day without the gastrointestinal symptoms.

Moreover, when milk or dairy products are mixed with solid food (eg, using low-fat milk to thicken soup, garnishing pasta with grated Parmesan cheese), it helps slow digestion and gives the body more time to digest lactose. The issue with lactose intolerance isn't a lack of the lactase enzyme; it's consuming more lactose than the body can break down at one time. Studies have shown that up to 12 g of lactose can be tolerated in one sitting, especially when it's eaten with other foods.³

Counseling Clients

It's important to explain to clients the difference between lactose intolerance and maldigestion and remind them to get an accurate diagnosis. Milk and dairy should be recommended as part of a healthful diet. Those with lactose intolerance should include small amounts of milk and dairy foods to help meet the recommended three servings of dairy per day. To

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Today's Objectives

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Suggested CDR Learning Codes: 5000, 5090, 5110; Level 2

Attendees will be able to:

1. Explain to clients with lactose intolerance the importance of including dairy as part of lactose intolerance management.
2. Debunk common myths surrounding dairy avoidance.
3. Provide clients with practical lactose intolerance management tips and techniques.
4. Respond to client questions regarding lactose intolerance.

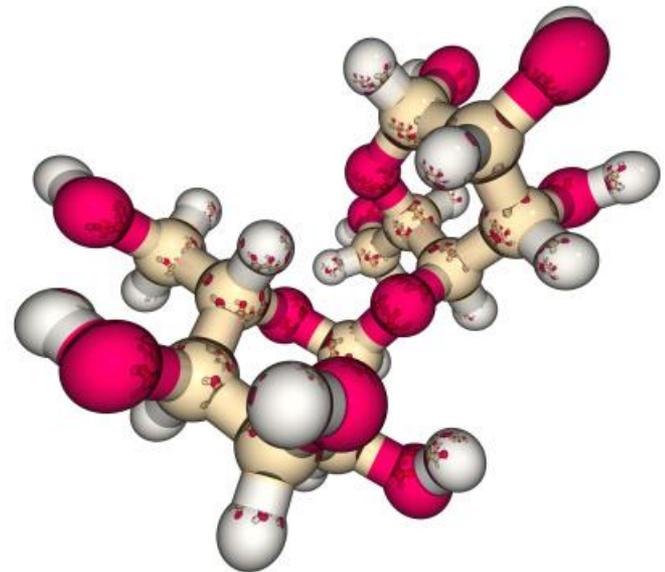
Part 1

What is Lactose Intolerance?

Clinical Definition of Lactose Intolerance

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GI disturbances that may be experienced following intake of an amount of lactose greater than the body's ability to absorb it



Lactose Intolerance vs. Milk Allergy

Lactose Intolerance	Milk Allergy
Sensitivity	Allergy
Occurs in gastrointestinal system	Triggered by immune system
A sensitivity to milk carbohydrate (lactose)	A reaction to milk protein
Rare in young children	Generally impacts young children; May be outgrown
Can enjoy milk and milk products with simple management strategies	Should avoid milk and milk products (unless allergy is outgrown)

Prevalence of Lactose Intolerance

- * An estimated 30-50 million Americans identify as being lactose intolerant
- * Rare in children

(NIH Publication, 2006)



Prevalence of Lactose Intolerance

- * By ethnic groups, data from a 2009 study reveal:
 - * ~19.5% African Americans
 - * ~10% Hispanic Americans
 - * ~8% European Americans

(Dairy Council Digest, 2010)



Prevalence of Lactose Intolerance

- * By gender:
 - * Both men & women can be affected
 - * Insufficient data to show a difference in prevalence between gender



(Suchy et al, *NIH Consensus State Sci Statements*, 2010)

Common Food Intolerances

- * Lactose (dairy foods) and gluten (wheat)
- * Many people self-diagnose
- * Those who avoid gluten tend to avoid dairy foods too

Common Symptoms of Lactose Intolerance

Symptoms vary on the individual and may include:

- * Gas/flatulence
- * Bloating
- * Abdominal pain
- * Diarrhea



Common Symptoms of Lactose Intolerance

- Symptoms following lactose consumption vary based on:
 - * Level of lactase enzyme activity
 - * Gastric emptying rates
 - * Fecal bacterial metabolites
 - * Colonic mucosal absorptive capacity
 - * Intestinal transit time



Common Symptoms of Lactose Intolerance

- * Severity of LI discomfort differ:
 - * Perception of abdominal pain
 - * Psychological impact of pain
 - * Perceived social discomfort



Dietary Contributions of Dairy



- * Dairy foods contribute 9 essential nutrients

Vitamin B12	Riboflavin	Protein
Calcium	Potassium	Zinc
Magnesium	Vitamin A	Vitamin D

- * Many people self-diagnosed and properly diagnosed with LI avoid dairy

Dairy, Lactose Intolerance & the Dietary Guidelines

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- * 2010 Dietary Guidelines for Americans recommends:
 - * 3 daily servings of low-fat or fat-free milk and milk products every day including those with LI
 - * ≥ 9 years of age
 - * As part of a healthy, balanced diet



Health Outcomes of Adequate Dairy

- ✓ Higher nutrient intake
- ✓ Better diet quality
- ✓ Ensure intake of nutrients of concern for Americans (Ca, K, Mg)
- ✓ May help maintain a healthy weight
- ✓ Associated with reduced risk of osteoporosis, hypertension, colon cancer, metabolic syndrome & diabetes

NMA's New Lactose Intolerance Consensus Statement on Dairy

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N M A C O N S E N S U S S T A T E M E N T

Lactose Intolerance and Health Disparities Among African Americans and Hispanic Americans: An Updated Consensus Statement

Rahn K. Bailey, MD, FAPA; Cecelia Pozo Fileti, MS, RD, FAND; Jeanette Keith, MD; Susanne Tropez-Sims, MD, MPH; Winston Price, MD; Sharon Denise Allison-Otley, MD

New research conducted among African Americans & Hispanic Americans found those who considered themselves to be lactose intolerant:

- * Calcium intake from dairy was lower
- * Incidence for doctor-diagnosed DM & HTN was higher

(Bailey et al, *J Nat Med Assoc.*, 2013)

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Identifying Lactose Intolerance

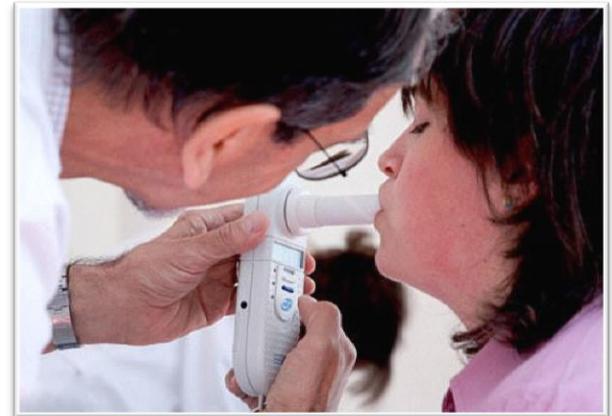
- * Many people self-diagnose based on uncomfortable symptoms
- * Clients should be:
 - * Referred to a physician for proper testing
 - * Referred to a RDN to ensure a well-balanced diet



Testing for Lactose Intolerance: Hydrogen Breath Test

Measures ability of the intestines to break down lactose

- * Measures the amount of hydrogen in the air breathed out



Normal: very little hydrogen in breath

- * If the body has trouble breaking down & absorbing lactose → higher breath hydrogen levels

Testing for Lactose Intolerance: Lactose Tolerance Test

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How It Works

- * Looks for glucose in your blood
 - * Your body creates glucose when lactose breaks down
- * Several blood samples taken before and after consuming a lactose-containing drink



Practices of Health Care Professionals

In 2013, the National Dairy Council conducted a survey on health professionals to get a better understanding of their knowledge and practice when dealing with patients who experience lactose intolerance. They found that:

- * Physicians assistants asked patients about lactose intolerance often, more often than family practitioners, internists and nurses (57% sometimes, 43% always)
- * They also refer mostly to Gastroenterologists (43%), RDNs (29%), family practitioners (14%) and nurse practitioners (14%)

Part 2

Strategies for Management

Recommendations for Management

- * The National Institute of Health (NIH)
 - * Expert panel suggests that adults & adolescents diagnosed with LI can tolerate ~12 g of lactose in a single dose = 1 cup of milk or yogurt
- * NMA & NIH
 - * Expert panel recommend folks with lactose intolerance try to keep dairy foods in their diet



NMA Recommended Strategies

- * The nation's largest and oldest organization representing African American physicians
- * Recommends that African Americans and other with lactose intolerance make efforts to keep dairy foods in their diets to help meet nutrient recommendations



NMA Recommended Strategies

In its most recent statement, the NMA suggests health professionals:

- * Provide health education regarding the beneficial role of dairy nutrients and chronic diseases
- * Educate about the critical role 3 daily servings of dairy foods play in a healthy diet
- * Encouraging patients to be formally tested

NMA Recommended Strategies

In its most recent statement, the NMA suggests health professionals:

- * Gradually increasing regular exposure to lactose-containing foods
- * Recommending other milk or milk products to reduce the risk of nutritional shortcomings
 - * Yogurts, lactose-free dairy milk & low dairy lactose products
 - * Lactase enzyme supplements

Lactose Intolerance-Friendly Dairy Foods

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- * The amount of lactose varies in dairy foods (milk, yogurt, cheese)
- * Lower lactose foods include Greek yogurt, cottage cheese, Swiss cheese, mozzarella
- * Greek and traditional yogurt contain live and active cultures to help digest yogurt



Amount of Lactose in Common Dairy Foods

Product	Lactose (grams)
LACTAID® Milk, low-fat, lactose-free (1 cup)	0
Butter (1 tablespoon)	0.01
Cheddar Cheese, sharp (1 oz)	<0.1
Swiss Cheese, Cheddar Cheese (sharp), Mozzarella (1 oz)	<0.1
American Cheese, pasteurized, processed (1 oz)	1
Cottage Cheese (1/2 cup)	3
Yogurt, Greek-style (6 oz)	4
Ice Cream (1/2 cup)	4
Whole, 2%, 1%, Skim Dairy Milk (1 cup)	12
Yogurt, low-fat (6 oz)	13

Strategies for Dietary Management

* Try It

- * Opt for lactose-free & milk products

* Sip It

- * Start with small amounts of milk daily
- * Increase slowly over several days/weeks



* Stir It

- * Mix milk with other foods to help slow digestion
- * Allows the body more time to digest lactose

Strategies for Dietary Management

* Slice It

- * Top sandwiches/crackers with natural cheeses
- * Cheddar, Colby, Monterey Jack, Swiss mozzarella



* Shred It

- * Shred natural cheeses onto veggies, pastas, salads and soups

* Spoon It

- * Live & active cultures in yogurt make it easier to digest

Lactose-Free Dairy Products

- * Milk (low fat, fat free, low fat chocolate, half-and-half)
- * Yogurt
- * Ice cream
- * Eggnog
- * Cottage cheese

How is Lactose-Free Dairy Milk Made?

- * A natural lactase enzyme is added to help breakdown lactose into its monosaccharide components
- * May have a slightly sweeter taste due to the process of breaking down the sugars



Lactose-Free ≠ Dairy Free

- * Lactose-free milk/dairy are made from cow's milk
- * Lactose-free dairy provides the same essential nutrients as traditional dairy products
- * Cooks just like cow's milk
 - * Puddings
 - * Oatmeal



Milk Alternatives

Soy Milk	<ul style="list-style-type: none"> * Off-white/yellowish color * Carrageenan (CSPI “caution”)
Coconut Milk	<ul style="list-style-type: none"> * Thick/creamy flavor * ? Saturated fat (MCT)
Rice Milk	<ul style="list-style-type: none"> * Made from unsweetened brown rice * Mild flavor * Watery texture
Almond Milk	<ul style="list-style-type: none"> * Made from ground, soaked almonds * Texture similar to low fat cow’s milk * Sweet flavor
Hemp Milk	<ul style="list-style-type: none"> * Made from ground, soaked hemp seeds * Creamy, nutty flavor

Consider: Nutrition, Flavor, Appearance, Cost, Use

WIC & Lactose-Free Milk

- * WIC supports lactose-free milk before non-dairy options
- * Soy can be substituted for cow's milk
 - * Children need medical documentation
- * 2009 large scale study of ~900 adult consumers (Caucasian, African American, Hispanics) found:
 - * Lactose-free cow's milk scored significantly higher for overall liking/acceptability over soy-products
 - * Participants included lactose tolerant & intolerant individuals



(Palacios et al. *J. Sensory Studies*, 2009)

Part 3

Lactose Intolerant- Friendly Dishes

Cooking with Lactose-Free Milk

- * Baking & Cooking
- * Curdling
 - * Casein proteins curdle when exposed to heat
 - * Soups/sauces
 - * Prevention: careful control of heat
- * Scorching
 - * AKA burning of milk
 - * Casein micelles and whey protein drop to bottom of pan, stick & burn
 - * Heating milk can cause scorching
 - * Prevention: medium-low flame or double boiler



Kefir, Fruit & Oatmeal Smoothie



www.nationaldairycouncil.org

- * Serves: 2
- * 1 cup lactose-free, fat free milk
- * $\frac{3}{4}$ cup vanilla kefir

Quiche Cups



- * Serves: 12
- * 1 cup nonfat plain Greek yogurt
- * 12 oz reduced fat Cheddar

Oatmeal Crème Brulee



* Serves: 4

* 4½ cups
lactose-free,
fat free milk

Cauliflower Cheese Puffs



www.nationaldairycouncil.org

- * Serves: 10
- * 10 oz reduced fat sharp Cheddar
- * $\frac{1}{4}$ cup grated Parmesan (optional)
- * 2 cup Greek yogurt (dip)

Blue Cheese Deviled Eggs



www.nationaldairycouncil.org

- * Serves: 6
- * 1 cup lactose-free low fat cottage cheese
- * 2.5 oz reduced fat crumbled blue cheese

Cheesy Guacamole



www.nationaldairycouncil.org

- * Serves: 8
- * 16 oz lactose-free, low-fat cottage cheese
- * 4 oz sharp reduced fat Cheddar

Twitter Snapshot!

*Photo courtesy of
Amanda Soled, RD, CDN*



Lactose-Free Paneer



- * Serves: 4
- * 8 cups lactose-free, fat free milk

Creamy Carrot Soup



- * Serves: 10
- * 3 cups lactose-free, fat free milk

Milk-Braised pork Shoulder



www.nationaldairyCouncil.org

- * Serves: 16
- * 12 cups lactose-free, low fat milk

Almond Twist Bread



- * Serves: 18
- * 1 cup lactose-free, reduced fat milk + 3 tsp (icing)
- * Butter

Eggs Benedict with Lighter Hollandaise Sauce

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- * Serves: 4
- * $\frac{1}{2}$ cup nonfat plain Greek yogurt

Photo courtesy of © Hollan Publishing, Inc.

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Grilled Asian Shrimp Skewers



Photo courtesy of © Hollan Publishing, Inc.

- * Serves: 4
- * 1 ½ cups nonfat plain Greek yogurt
- * Marinade
- * Dipping sauce

Peanut Butter-Banana Icebox Bars



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- * Makes: 16 bars
- * 2 tablespoons butter
- * 1 cup nonfat vanilla Greek yogurt

Part 4

Common Client Questions

Question #1

Does full fat milk have more lactose than low fat or fat free milk?



Answer #1

Answer: No

- * The lactose content is the same no matter the fat content
- * Same goes for cottage cheese, yogurt, and other dairy foods with varying levels of fat

Question #2

Are lactose-free dairy products REALLY
made from cow's milk?



Answer #2

Answer: Yes!

- * Lactose-free dairy products are made with real cow's milk
- * Traditionally have been made by adding a natural enzyme that breaks down the lactose to make milk lactose free

Question #3

I was diagnosed with lactose intolerance.
Should I avoid all milk and dairy?



Answer #3

Answer: No

- * Many people with LI can still enjoy lactose-containing dairy foods without discomfort.
- * Here are some tips to help you:
 - * Start with a small amount of milk daily and increase slowly
 - * Opt for lactose-free dairy milk & milk products
 - * Mix milk with other foods
 - * Try natural cheeses like Cheddar, Colby, mozzarella or Swiss
 - * Choose yogurt with live and active cultures

Question #4

Are lactose-free dairy products just as nutritious as cow's milk products?



Answer #4

Answer: Absolutely!

- * Lactose-free dairy foods provide the same essential nutrients as the equivalent form of regular dairy products

Question #5

Can I cook with lactose-free milk?



Answer #5

Answer: Yes!

- * Lactose-free milk and dairy cook just like cow's milk
- * Use in puddings, oatmeal, and in baking.
- * Substitute 1:1 for cow's milk

Please raise your glass of milk...



Here's to enjoying dairy again!

Thank you!

Website: tobyamidornutrition.com

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Questions?



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