

# Dairy's Role in Lactose Intolerance

Presented by Toby Amidor, MS, RD, CDN

Moderated by Constance Brown-Riggs MSeD, RD, CDE, CDN



Complimentary 1-Credit Continuing Education Webinar

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**Toby Amidor**  
MS, RD, CDN

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

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**Constance Brown-Riggs**  
MSeD, RD, CDE, CDN

**Disclosure:** Constance is nutrition advisor for Dannon's One Yogurt Everyday initiative.

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## About Me

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- \* Author *The Greek Yogurt Kitchen*
- \* Nutrition Expert, FoodNetwork.com
- \* Contributor US News Eat + Run blog
- \* Columnist, Today's Dietitian Magazine
- \* Mom of 3
- \* Tennis-aholic

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# Twitter 7



- \* @TodaysDietitian
- \* @tobyamidor

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# Today's Objectives 8

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.

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# Part 1

## What is Lactose Intolerance?

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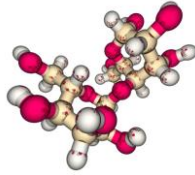
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## Clinical Definition of Lactose Intolerance <sup>10</sup>

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



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## Lactose Intolerance vs. Milk Allergy <sup>11</sup>

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)

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## Prevalence of Lactose Intolerance <sup>12</sup>

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

(NIH Publication, 2006)



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# Prevalence of Lactose Intolerance <sup>13</sup>

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

(Dairy Council Digest, 2010)



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# Prevalence of Lactose Intolerance <sup>14</sup>

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

(Suchy et al, NIH Consens State Sci Statements, 2010)



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# Common Food Intolerances <sup>15</sup>

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

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## Common Symptoms of Lactose Intolerance

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Symptoms vary on the individual and may include:

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



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## Common Symptoms of Lactose Intolerance

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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



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## Common Symptoms of Lactose Intolerance

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Severity of LI discomfort differ:

- \* Perception of abdominal pain
- \* Psychological impact of pain
- \* Perceived social discomfort



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## Dietary Contributions of Dairy <sup>19</sup>



\* 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

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## Dairy, Lactose Intolerance & the Dietary Guidelines <sup>20</sup>

\* 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



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## Health Outcomes of Adequate Dairy <sup>21</sup>

- ✓ 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

(McCullough et al, Cancer Causes Control, 2003)

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## NMA's New Lactose Intolerance Consensus Statement on Dairy <sup>22</sup>

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; Cocella Pozo Flierl, MS, RD, FAND; Jeanette Keith, MD; Susanne Tropez-Sims, MD, MPH; Winston Plice, 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 <sup>23</sup>

- \* 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



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## Testing for Lactose Intolerance: Hydrogen Breath Test <sup>24</sup>

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

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## Testing for Lactose Intolerance: Lactose Tolerance Test <sup>25</sup>

### 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



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## Practices of Health Care Professionals <sup>26</sup>

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%)

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# Part 2

## Strategies for Management

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## 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

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## 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



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## 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

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## NMA Recommended Strategies <sup>31</sup>

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

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## Lactose Intolerance-Friendly Dairy Foods <sup>32</sup>

- \* 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

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## Amount of Lactose in Common Dairy Foods <sup>33</sup>

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

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## 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



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## 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



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## Lactose-Free Dairy Products

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

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# 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



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## 38

# 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



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# Milk Alternatives

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

**Consider:** Nutrition, Flavor, Appearance, Cost, Use

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## 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)

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## Part 3

### Lactose Intolerant-Friendly Dishes

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## 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



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## Kefir, Fruit & Oatmeal Smoothie <sup>43</sup>



www.nationaldairyCouncil.org

- \* Serves: 2
- \* 1 cup lactose-free, fat free milk
- \* ¼ cup vanilla kefir

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## Quiche Cups <sup>44</sup>



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

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## Oatmeal Crème Brulee <sup>45</sup>



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- \* Serves: 4
- \* 4½ cups lactose-free, fat free milk

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## Cauliflower Cheese Puffs

46



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- \* Serves: 10
- \* 10 oz reduced fat sharp Cheddar
- \* ¼ cup grated Parmesan (optional)
- \* 2 cup Greek yogurt (dip)

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## Blue Cheese Deviled Eggs

47



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

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## Cheesy Guacamole

48



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

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### Twitter Snapshot!



Photo courtesy of  
Amanda Soled, RD, CDN

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### Lactose-Free Paneer



[www.nationaldairyCouncil.org](http://www.nationaldairyCouncil.org)

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

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### Creamy Carrot Soup



[www.nationaldairyCouncil.org](http://www.nationaldairyCouncil.org)

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

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## Milk-Braised pork Shoulder

52



www.nationaldairyCouncil.org

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

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## Almond Twist Bread

53



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

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## Eggs Benedict with Lighter Hollandaise Sauce

54



Photo courtesy of © Hollan Publishing, Inc.

- \* Serves: 4
- \* ½ cup nonfat plain Greek yogurt

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## Grilled Asian Shrimp Skewers

55



Photo courtesy of © Holian Publishing, Inc.

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

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## Peanut Butter-Banana Icebox Bars

56



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

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# Part 4

## Common Client Questions

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### Question #1

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



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### Answer #1

59

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

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### Question #2

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



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## Answer #2

61

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

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## Question #3

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



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## Answer #3

63

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

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### Question #4

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



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### Answer #4

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Answer: Absolutely!

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

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### Question #5

66

Can I cook with lactose-free milk?



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## Answer #5

67

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

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## Please raise your glass of milk...

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Here's to enjoying dairy again!

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# Thank you!

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 Facebook: Toby Amidor Nutrition  
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## Questions?

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## Credit Claiming

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You must complete a brief evaluation of the program in order to obtain your certificate. The evaluation will be available for 3 months; you do not have to complete it today.

### Credit Claiming Instructions:

1. Go to [www.CE.TodaysDietitian.com/LactoseIntolerance](http://www.CE.TodaysDietitian.com/LactoseIntolerance) OR Log in to [www.CE.TodaysDietitian.com](http://www.CE.TodaysDietitian.com) and go to My Account → My Activities → Courses (in Progress) and click on the webinar title.
2. Click "Continue" on the webinar description page. Note: You must be logged-in to see the "Continue" button.
3. Select the Evaluation icon to complete and submit the evaluation.
4. Download and print your certificate.

**Please Note: If you access the Evaluation between 3-4 pm ET on 10-1 you may experience a slow connection due to a high volume of users**

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