RIVER CITY
GASTROENTEROLOGY

Lactose Intolerance

Understanding causes, symptoms, and management

WHAT IS LACTOSE INTOLERANCE?

Lactose intolerance is when the body cannot fully digest lactose, a sugar found in milk and dairy products. It is caused by a shortage of the enzyme lactase, which the small intestine normally uses to break lactose down into simpler sugars (glucose and galactose) for absorption.[1,2]

Lactose intolerance is not the same as a cow's milk allergy. A milk allergy is an immune response that can be life-threatening even in tiny amounts and usually appears in the first year of life. Lactose intolerance is far more common and typically develops in adolescence or adulthood.

WHAT CAUSES IT?

- **Primary lactase deficiency**: the most common type. The body naturally produces less lactase over time, starting around age 2. Symptoms usually appear in adolescence or adulthood. There is a genetic link.[1,2]
- **Secondary lactase deficiency**: caused by damage to the small intestine from severe diarrhoea, coeliac disease, Crohn's disease, or chemotherapy. Can occur at any age.[2]

WHO IS MORE AT RISK?

- Older adults
- People of African American, Hispanic, American Indian, or Asian heritage
- Premature babies, whose lactase levels are still developing

Lactose intolerance is least common in people of Northern European heritage.[1]

SYMPTOMS

Symptoms usually appear 30 minutes to 2 hours after consuming dairy. Common symptoms include:[1,4]

- Abdominal pain or cramping
- Bloating
- Gas
- Diarrhoea
- Nausea

The severity depends on how much lactose was consumed and how sensitive the person is.

DIAGNOSIS

A doctor may first suggest eliminating dairy temporarily to see if symptoms resolve. Two tests are commonly used to confirm:[2]

- **Hydrogen breath test**: you drink a lactose solution, then breath samples are taken at regular intervals. Undigested lactose produces high levels of hydrogen in the breath. Smoking and some foods or medications can affect accuracy.
- **Stool acidity test**: mainly used for infants and young children. Undigested lactose creates acids detectable in a stool sample.

MANAGEMENT

While the body cannot be made to produce more lactase, symptoms can be well managed through diet:[1,2]

- Eat dairy in small amounts spread throughout the day rather than all at once.
- Have dairy with meals; food slows digestion and may reduce symptoms.
- Choose lower-lactose dairy: hard cheeses, yogurt with live cultures, and lactose-free milk.
- Use lactase enzyme drops or tablets (e.g. Lactaid) just before eating foods with lactose.
- Try dairy-free alternatives: soy, almond, rice, or oat milk.

CALCIUM AND VITAMIN D

Dairy is a major source of calcium and vitamin D. If dairy is reduced, ensure adequate intake from other sources:[3]

FOOD	SERVING	CALCIUM
Yogurt with active cultures, low-fat	1 cup	415 mg
Milk, reduced fat	1 cup	285 mg
Sardines with bones	3 oz	325 mg
Spinach, frozen, cooked	1 cup	291 mg
Salmon, canned with bones	3 oz	181 mg
Soy milk, unfortified	1 cup	61 mg
Broccoli, raw	1 cup	41 mg
Pinto beans, cooked	1/2 cup	40 mg

Vitamin D helps the body absorb calcium. Sources include sunlight, eggs, liver, fatty fish, and fortified dairy-free beverages. Adults need 600 IU (15 mcg) daily. Ask your doctor about supplementation.

HIDDEN SOURCES OF LACTOSE

Lactose is often added to processed foods. Check labels for: milk, lactose, whey, curds, milk by-products, dry milk solids. Common hidden sources include:

- Breads and baked goods
- Breakfast cereals, waffles, pancakes, and biscuit mixes
- Instant potatoes, soups, and breakfast drinks
- Processed meats (bacon, sausage, luncheon meats)
- Margarine, salad dressings, protein bars and powders
- Lollies and chocolates

MEDICATIONS

Lactose is used as a filler in some prescription and over-the-counter medications. Ask your pharmacist if you are concerned.

AUSTRALIAN RESOURCES AND SUPPORT

- **Dietitians Australia:** www.dietitiansaustralia.org.au - Find an Accredited Practising Dietitian
- **Osteoporosis Australia:** 1800 242 141 | www.osteoporosis.org.au - Calcium, vitamin D, and bone health resources
- **Dairy Australia:** www.dairy.com.au - Information on lactose-free dairy products available in Australia
- **Jean Hailes for Women's Health:** www.jeanhailes.org.au - Digestive health resources for women

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2. Misselwitz B, et al. (2019). Update on lactose malabsorption and intolerance: pathogenesis, diagnosis and clinical management. Gut, 68(11), 2080-2091.
3. National Health and Medical Research Council (NHMRC). (2013). Australian Dietary Guidelines. https://www.eatforhealth.gov.au
4. Matthews SB, et al. (2005). Systemic lactose intolerance: a new perspective on an old problem. Postgraduate Medical Journal, 81(953), 167-173.