

## What is Lactose?

Lactose is the carbohydrate naturally found in all kinds of milk, including human milk. It can also be used as an ingredient in some foods.

## What is lactose intolerance?

To digest lactose your body contains the enzyme lactase. Lactase splits the lactose into two smaller sugars, glucose and galactose. These smaller sugars are absorbed by your body to provide energy.

When a person doesn't have enough of the lactase enzyme to break down all of the lactose, they are said to have lactose maldigestion. The undigested lactose passes through the small intestine to the colon. In the colon, natural bacteria ferment the lactose and produce acids and gas. This combination of events can cause the symptoms of lactose intolerance, which may include abdominal pain, bloating or diarrhoea.

Lactose maldigestion does not necessarily result in symptoms of lactose intolerance. Most people with lactose maldigestion can eat some lactose-containing foods, such as dairy, without feeling unwell.

There is a simple medical test to check if you are lactose intolerant. Do not self diagnose lactose intolerance, as there could be other medical issues causing similar symptoms. If you are concerned, ask your doctor to test you for lactose intolerance.

## Causes of lactose intolerance

Most people are born with the ability to produce the lactase enzyme because breast milk, like cow's milk, contains lactose. Your chance of developing lactose intolerance later in life is influenced by a range of factors, including:

### 1) Genetic predisposition

The ability to digest lactose varies between different races. The tendency to produce less lactase enzyme with age is more common in people of Asian, African, South American, Southern European, and Australian Aboriginal heritage than in people of Northern European descent.

### 2) Medical conditions

Temporary lactose intolerance may also occur in response to malnutrition or gastrointestinal infections, particularly in infants. These causes of lactose intolerance are usually only temporary, and milk and other dairy products can be slowly reintroduced into the diet.

## Dairy foods and lactose intolerance

As one of the five food groups, dairy foods such as milk, cheese and yogurt are important for good nutrition throughout childhood and adulthood. Milk, cheese and yogurt provide over ten essential nutrients, including:

- Protein;
- Carbohydrate (lactose);
- Vitamins (A, B12 and riboflavin); and
- Minerals (calcium, phosphorus, magnesium, potassium and zinc).

People with lactose maldigestion DO NOT need to eliminate dairy foods from their diet. Many dairy foods do not contain large amounts of lactose. For example, most cheeses contain virtually no lactose and are usually well tolerated. Yogurt is also generally well digested as it contains bacteria that ferment (or consume) the lactose.

Research has shown that the majority of people with low lactase enzyme levels can consume at least one cup of milk (about 12 grams of lactose) a day. Research has also shown that if people with lactose maldigestion drink milk with different meals over the day, up to 2 cups of milk a day can be drunk without experiencing symptoms of lactose intolerance.

### Lactose content of various dairy foods<sup>+</sup>

Dairy food	Lactose content (g)
Regular milk, 250mL	15.8
Cheddar cheese, 40g	0.04
Swiss style cheese, 40g	0.04
Parmesan cheese, 40g	0
Brie, 40g	0.04
Ricotta cheese, low fat, 20g	0.4
Cream cheese, 22g	0.6
Yogurt (natural), 200g	9.6 <sup>*</sup>
Ice cream, 50g	2.9
Butter, 18g (1 tblspn)	0
Cream, 20g (1 tblspn)	0.4

<sup>+</sup> Source: NUTTAB 2010 (Food Standards Australia New Zealand); The University of New South Wales; Professor Heather Greenfield and co-workers at the University of New South Wales; *Tables of composition of Australian Aboriginal Foods* (J Brand-Miller, KW James and PMA Maggioro).

<sup>\*</sup> The lactose content in yogurt decreases each day, even while it sits in the fridge, because its natural bacteria use lactose for energy.

# Lactose Intolerance

Dairy foods such as milk, cheese and yogurt play an important role in a balanced diet. Three serves a day will provide enough calcium for most people. One serve is equal to 1 glass (250mL) of milk, a tub (200g) of yogurt or 2 slices (40g) of cheese.

People who remove dairy foods from their diet to treat lactose intolerance, have an increased risk of low bone mineral content and perhaps of developing osteoporosis (brittle bone disease) later in life. That's because dairy foods are rich in calcium and other bone building nutrients which play an essential role in building and maintaining strong healthy bones.

## Tips for people with lactose intolerance

While dairy foods do not need to be eliminated from your diet if you are lactose intolerant, the amount of lactose that can be tolerated will vary from person to person. Check ingredient lists on foods and pharmaceutical products for the presence of lactose. Here are some tips to help you include your 3 serves of dairy every day:

- Drink milk with other foods and not on an empty stomach
- Distribute milk intake into small serves spread out over the day
- Build up your tolerance. Start small and gradually increase your milk consumption
- Regular fat milk may be better tolerated than low fat or skim milk. Fat slows the passage of lactose through your digestive system giving you more time to digest it
- Yogurt is often better tolerated than milk; and
- Cheese is low in lactose and is well tolerated.

If you still have problems, try low lactose milk or a lactose digesting preparation (available from chemists).

With dairy being a rich source of calcium in the Australian diet, the good news is everyone can still enjoy the great taste and nutritional benefits that dairy foods have to offer.



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