
Lactose intolerance

Summary

- Lactose is a milk sugar that is broken down by the enzyme lactase, which is found in the small intestine.
 - Lactose intolerance is the reduced ability to digest milk sugars, due to insufficient amounts of the gut enzyme called lactase.
 - Symptoms include bloating, gas, abdominal pain and diarrhoea.
 - Most people with lactose intolerance can tolerate cheese well, and small amounts of milk and yoghurt.
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Milk and other dairy products contain a sugar or carbohydrate called lactose. Normally, the body breaks down lactose into its simpler components with the help of the enzyme lactase. Most mammals stop producing lactase when they are weaned. Most people of Western European descent, however, continue to produce it throughout life.

Without enough lactase, a person can have digestive problems like abdominal pain and diarrhoea when they consume foods containing lactose. This is known as lactose intolerance or lactase deficiency.

It is rare for Caucasians to develop lactose intolerance. However, a form of lactose intolerance that develops after about five years of age is quite common (and normal) among people from Asia, Africa, the Middle East and some Mediterranean countries, as well as among Aboriginal Australians. Up to five per cent of Caucasians and up to 75 per cent of non-Caucasians living in Australia are lactose intolerant.

Babies of all populations can tolerate lactose. Many Australian babies are unnecessarily weaned because their irritability is wrongly assumed to be lactose intolerance. In reality, the severe form of this condition – known as primary or congenital lactose intolerance (where the infant does not produce lactase from birth) – is very rare.

Secondary lactose intolerance is more common. This can occur temporarily after a bout of **gastroenteritis**, for example, but often improves after several weeks as the lining of the gut heals.

Symptoms of lactose intolerance

Symptoms of lactose intolerance include:

- abdominal pain
- abdominal swelling (bloating)
- flatulence (excessive wind)
- diarrhoea.

If you are experiencing these symptoms and you are concerned, talk to your doctor.

It is important not to eliminate dairy foods completely from your diet if lactose intolerance is suspected, as dairy foods are rich sources of nutrients. Some dairy products (such as hard and mature cheeses) contain no lactose, and others (such as cream, butter, cottage cheese and ricotta) contain very little. Many people with lactose intolerance can tolerate small amounts of lactose with minimal symptoms.

Undigested milk sugars

The enzyme lactase breaks down milk sugar (lactose). Lactase enzymes are found in the lining of the small intestine. They change the milk sugar into absorbable compounds – glucose and galactose.

If your body does not produce enough lactase, lactose is not digested and absorbed in the small intestine in the usual way. Instead, it continues to travel along the digestive tract to the large intestine, where bacteria partially

break it down into acids and gases. This fermentation process causes excessive wind, bloating and associated pain.

Any undigested lactose continues along the intestinal tract. This lactose attracts water molecules. So rather than being absorbed into the bloodstream, water remains in the faecal matter (poo) and watery poo (diarrhoea) is the result.

Causes of lactose intolerance

Lactose intolerance is largely genetically determined – where your genetic make-up causes you to have less lactase than usual. Some other causes include:

- **gastroenteritis** – this can strip the intestines of lactase for a few weeks
- **parasitic infection** – this can temporarily reduce lactase levels
- **coeliac disease** – this also damages the gut lining.

Lactose intolerance in babies

There are two types of lactose intolerance in babies: primary and secondary lactose intolerance.

Primary lactose intolerance (or congenital lactose intolerance) is a very rare genetic condition. Babies with this condition are born without any lactase enzymes at all. They cannot process or absorb lactose. They fail to thrive from birth, and have severe diarrhoea from the day they are born. They are diagnosed straight after birth. Babies with this condition must be fed feeds free of lactose.

Secondary lactose intolerance occurs when the gut lining (where lactase is produced) is damaged. This can occur due to a bout of gastroenteritis or due to chronic irritation (such as that due to food allergy or food intolerance), among other reasons.

Breastfed babies experiencing symptoms of lactose intolerance but who do not have primary lactose intolerance should continue to breastfeed. Once the source of the damage is removed, their gut will heal and produce lactase again.

There is no need for women who are breastfeeding to reduce or cut out dairy foods if their baby is showing signs of lactose intolerance. This is because the amount of lactose in breastmilk is not affected by the mother's diet. Regardless of what they eat or drink, the level of lactose in breastmilk stays at around seven per cent. An exception may be if secondary lactose intolerance is being caused by allergy or intolerance to cows' milk protein, where cutting out dairy foods will prevent ongoing damage to the gut lining.

For formula-fed babies, there is no benefit in using lactose-free formula unless the baby is losing weight. Lactase drops are available from pharmacies, but are not always helpful.

If your baby is showing signs of lactose intolerance, such as excessive bowel motions, wind in the bowel, and pain, have your baby checked by your GP for any medical problems such as infection. Check that your baby is gaining weight and growing normally.

If all this is okay, speak to an Australian Breastfeeding Association counsellor, lactation consultant or child health nurse, to check if your baby has a **lactose overload**. This is common in the early weeks and can happen when a baby is taking in more milk than they can digest easily. Breastfeeding advice is helpful in this situation.

If the situation is more complex, such as if your baby has poor weight gain or blood in their bowel motions, then this needs further investigation. See your GP.

Vomiting is not a symptom of lactose intolerance in babies. Note that vomiting in the early weeks of life is quite normal, as long as the baby is not distressed by it and they are keeping down sufficient milk to gain weight and grow normally. If weight gains are normal and there are normal amounts of urine and bowel motions in the baby's nappies, then the vomiting is not a medical problem.

If your baby is vomiting excessively and unsettled, this could be due to an allergy to cows' milk protein or another food in your diet if you are breastfeeding, or another health condition, and should be assessed by a doctor.

Diagnosis of lactose intolerance

Various methods may be used to diagnose lactose intolerance, including:

- hydrogen breath test – this tests the amount of hydrogen that is breathed out. When lactose is fermented by bacteria in the bowel, instead of being converted by lactase, more hydrogen is produced
- elimination diet – this involves removing foods that contain lactose to see if the symptoms improve. If the symptoms reappear once the foods are reintroduced, then lactose intolerance is most likely the cause.

Another cheap and simple ‘test’ is to compare whether the person can tolerate lactose-free milk rather than ordinary milk.

Management of lactose intolerance

Most people with lactose intolerance can handle small amounts of lactose, such as a glass of milk, which contains 8–10 grams of lactose.

Some helpful tips include:

- Don't give up milk products entirely. They are an important source of nutrients, especially calcium.
- Hard and matured cheeses such as cheddar, Edam, Swiss, mozzarella, brie and fetta contain no lactose and are tolerated by people with lactose intolerance.
- Similarly, butter and cream contain very low levels of lactose and are well tolerated.
- Yoghurt is usually well tolerated because the lactose content decreases each day as the bacteria use lactose for energy.
- Fresh cheeses such as cottage cheese and ricotta have very low levels of lactose and are usually well tolerated in small amounts.
- Drink milk in moderate quantities. Most people with this condition can tolerate 240 ml of milk per day, but you need to work out your own tolerance level. You can buy milk that has had the lactose broken down, which makes it lactose free.
- Drink full-fat milk because the fats slow the journey of the milk through the intestines and allow the lactase enzymes more time to break down the sugars.
- Avoid low-fat or non-fat milks – they travel quickly through the gut and tend to cause symptoms in lactose intolerant people. Also, many low-fat milk products may contain skim milk powder, which provides a higher dose of lactose.
- Eat foods that contain lactose in combination with other foods or spread them out over the day, rather than eating a large amount at once.
- Soy foods such as soy milk and yoghurt are lactose free, a good source of calcium and a good substitute for milk or milk products.

Hidden lactose

Foods that may contain hidden lactose include:

- biscuits and cakes (if milk or milk solids are added)
- processed breakfast cereals
- cheese sauce
- cream soups
- custard
- milk chocolate
- pancakes and pikelets
- scrambled eggs
- quiche
- muesli bars
- some breads and margarine (containing milk).

Checking food labels for lactose

If you are trying to avoid lactose, ingredients to look for in lists on food labels include:

- milk solids
- non-fat milk solids
- whey
- milk sugar.

Where to get help

- Your doctor
- **Dietitians Association of Australia** Tel. 1800 812 942

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