Lactose intolerance

What is lactose intolerance?

People who are lactose intolerant can't properly digest lactose, the sugar found naturally in milk and other dairy products. Babies' bodies make an enzyme that digests lactose — called lactase — so they can digest milk, including breast milk, but many people stop producing enough lactase at between two and five years of age.

Lactose intolerance is very common in adults and is not dangerous – merely uncomfortable. Common symptoms of the condition include nausea, stomach cramps, bloating, excess gas and diarrhoea.

Lactose accounts for about 5% of whole milk, it is found in most fresh dairy products and is too much for people with lactase enzyme deficiencies to tolerate. Lactose is also found in crisps, biscuits, crackers, fruit bars, pasta mixes, iced tea and also some coatings on oral medicines.

Lactose intolerance is not necessarily an all-or-nothing condition. A 2011 study of 182 Chinese adults found most Chinese adults with the condition may tolerate moderate milk consumption of <160 mL per sitting while a study in 2010 found "most individuals with presumed lactose intolerance or malabsorption can tolerate 12 to 15 g of lactose".

Who is lactose intolerant?

If you're not lactose-intolerant, you're in the minority. Most of the world – perhaps as many as three-quarters of people – don't produce enough lactase to digest lactose.

That minority of people who can tolerate lactose as adults can do so as the result of a genetic mutation that means they continue producing lactase beyond childhood. This fact has lead some scientists to argue that lactose intolerance should more accurately be called lactase persistence, since it's the persistence that's the abnormal condition.

Lactose intolerance is more common in people with Asian, African, Native American, or Mediterranean ancestry than it is among northern and western Europeans. Sweden has one of the world's lowest percentages of lactose-intolerant people at just 5% while as many as 95% of Asians are lactose-intolerant.

Lactose intolerance can begin at different times in life. In Caucasians, it usually affects children older than age 5. In African Americans, lactose intolerance often occurs as early as age 2. Approximately 30 million American adults have some amount of lactose intolerance by age 20 – about 15% of the population.

BOX 1: METHODS OF LACTOSE-REMOVAL

The companies profiled in this report use two different methods for removing lactose from milk:

1. The enzyme lactase is added during production to degrade lactose into glucose and galactose, which give the resulting milk a slightly sweet taste. This is the method used by Fonterra for its new Anchor Zero Lacto milk and by Lactaid in the US. This method increases the sweetness of the milk compared with regular milk.

2. A combination of physical lactose removal using ultrafiltration, and enzymes. Valio, for example, uses membrane filtration technology to separate out part of the lactos followed by enzymes, which remove the remainder of the lactose by breaking the sugars up. According to Valio, this dual method results in a milk containing less than 0.01% lactose but which looks, smells, tastes and performs exactly like conventional milk – that is, it is not sweet like milks processed using the enzyme method alone. Arla uses a similar method.