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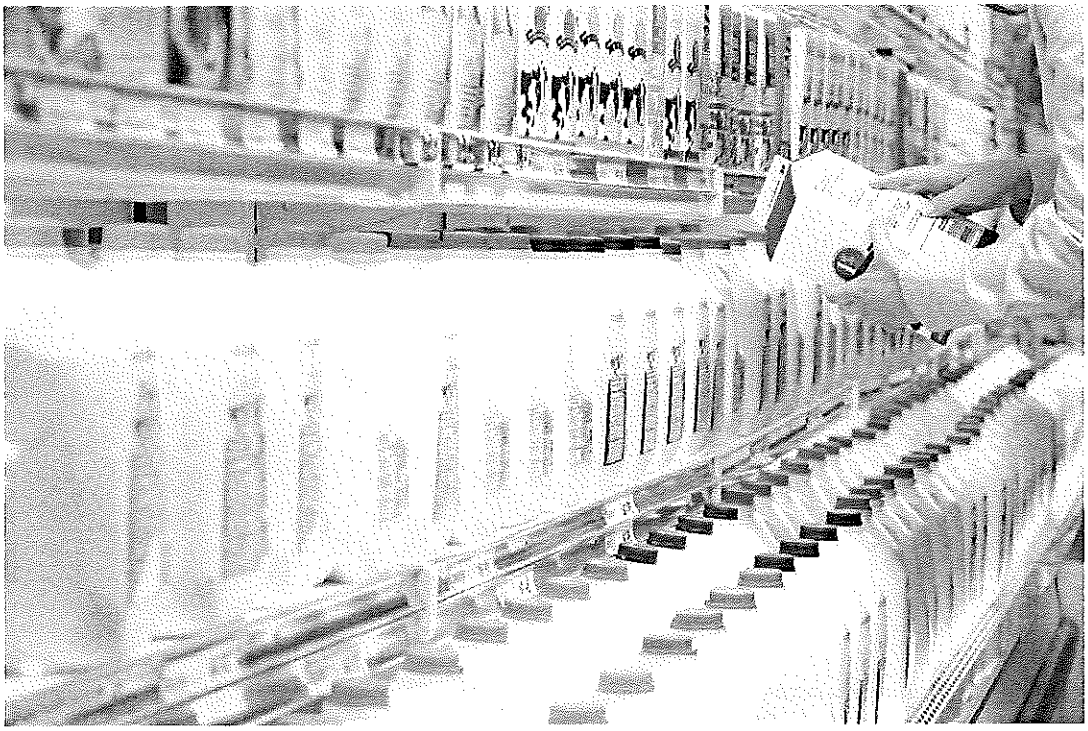
Everything you need to know about lactose intolerance

Not everyone who consumes milk regularly can digest it, and people who think they are lactose intolerant may not be. **New Scientist** puts things in perspective



By **Linda Geddes**

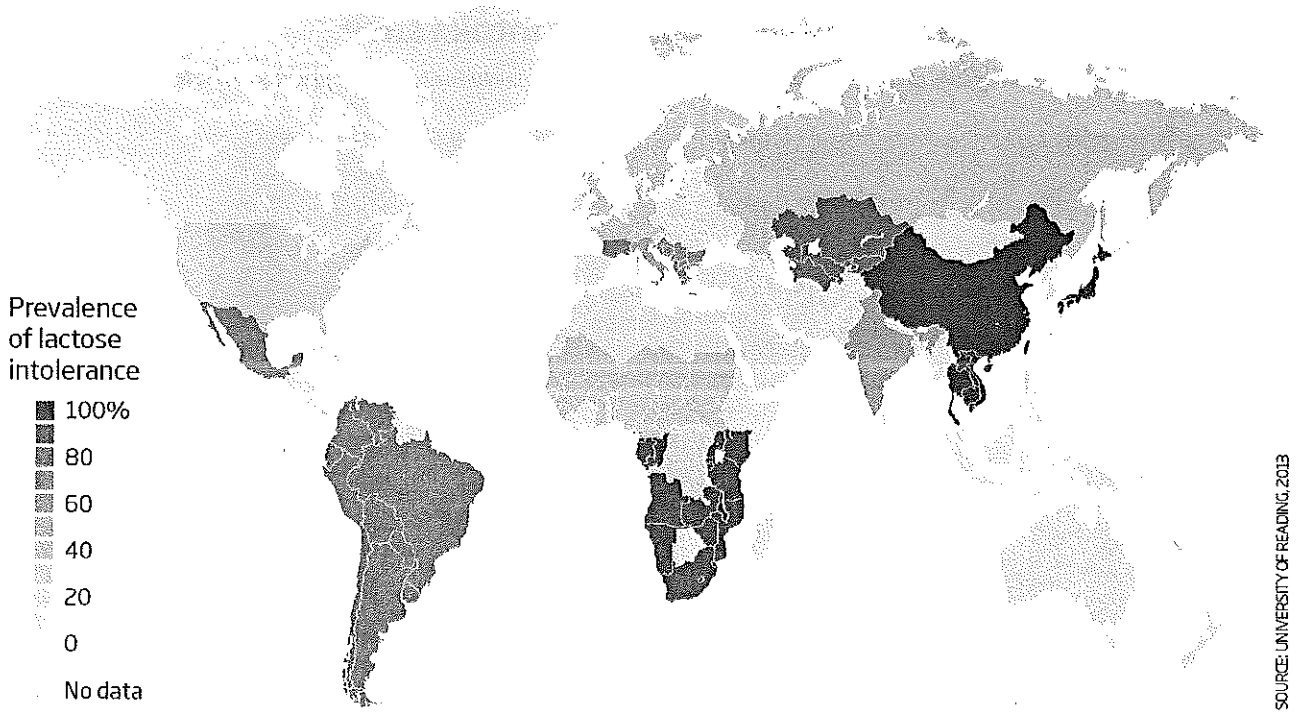
People who are lactose intolerant may be able to enjoy milk in modest quantities without symptoms (Image: Paul Burns/Gallerystock)

The ability to digest lactose, the main sugar in milk, requires an enzyme called lactase. All baby mammals produce it, but it is normally switched off around the time of weaning. In people who lack this enzyme, lactose passes into the colon where it feeds bacteria that generate gas and fluid, resulting in painful bloating, cramps and diarrhoea – a condition known as lactose intolerance or malabsorption.

A mutation which allowed adults to keep producing lactase emerged around 7000 years ago, and now 35 per cent of people can digest milk as adults – although there are marked geographical variations (see map below). In China and South-East Asia, more than 90 per cent of people are thought to be lactose intolerant, compared with between 2 and 20 per cent of those of northern European descent.

Lactose breakdown

Only one-third of adults can digest milk. The rest stop making the enzyme needed to process milk sugar



But among those who are lactose intolerant, most have symptoms before they are 16. That's not to say that adults can't develop the condition – people can become temporarily lactose intolerant as a result of gastroenteritis, bowel injury and some other conditions.

"Our bowels are very sensitive organs," says Sioned Quirk of the British Dietetic Association. "If we've been ill, or if we're stressed or run down, we often will have some type of bowel symptom. It's not necessarily lactose intolerance."

Numerous test kits claim to detect it, but not all are reliable or based on solid science. If you suspect you are lactose intolerant, Quirk advises that you get your doctor to perform a clinical test – usually a breath test that detects the fermentation of lactose by gut bacteria.

There are other misconceptions about the condition. For one thing, people who genuinely can't absorb lactose can drink moderate amounts of milk – up to around 250 millilitres – in a sitting without symptoms, and they may be able to drink twice this amount if it is spread throughout the day . They can also usually consume yoghurt and hard cheese without problems, as most of the lactose is broken down by bacteria during their production. But they should avoid goat's, buffalo's, sheep's or yak's milk, all of which contain similar levels of lactose to cow's milk.

Finally, although some celebrities love to blame lactose intolerance for skin complaints, weight gain and other health conditions like asthma, none of these is likely to result from failing to absorb lactose in the gut.

Read more: "Time to ditch milk? Exploring the dairy dilemma"

Answer the following questions on a separate sheet of paper. Number your responses, and include a title for the page (e.g. "Lactose Intolerance Article")

1. What enzyme is required to digest lactose, the main sugar in milk?
2. What normally happens to lactase in human babies as they get older?
3. What happens to the lactose in people who don't have lactase?
4. What causes some humans to keep producing lactase into adulthood?
5. Describe the geographical variations in lactose intolerance.
6. What advice would you give someone who thinks they might be lactose intolerant, but loves dairy.