



## Why Can Some Digest Dairy and Others Cannot?

### VIDEO CLIP: Part 1 Clip

[WELLS:] Around the time young mammals stop drinking milk, almost all of them stop making lactase, so they lose their ability to digest milk. They become “lactose intolerant.” What typically happens when an adult mammal drinks milk? It’s not pretty. The lactose goes undigested straight through the small intestine to the large intestine. Here, bacteria eat the sugar and can cause cramps, gas, and diarrhea. It’s a bad idea to offer a bowl of milk to an adult cat.

We only know of one mammal species in which some adults can drink milk without getting sick. Yes, it’s us. Not all of us, but worldwide, about a third of adults can digest lactose. This minority is called “lactase persistent” because their ability to produce the enzyme that breaks down lactose persists beyond childhood, and in fact throughout their lives. How did lactase persistence come about? Why does it occur only in some people?

### VIDEO CLIP: Part 3 Clip

[WELLS:] What was special about both the Maasai and the early Europeans that might explain why they each independently evolved this trait? Both are pastoralists, people who domesticated animals for food.

[TISHKOFF:] They adore their cows. They are very possessive of their cows. This is their monetary system. Their wealth is determined by their cows. The culture centers around the cow.

[WELLS:] Was the evolution of lactase persistence driven by drinking milk? If so, can we find evidence of early milk use in these cultures?