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Feces Fossil Sheds Light On Native Americans' High Diabetes Risk

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The ancient Native Americans of the desert Southwest subsisted on a fiber-filled diet of prickly pear, yucca and flour ground from plant seeds, finds a new analysis of fossilized feces that may explain why modern Native Americans are so susceptible to Type II diabetes.

Thousands of years of incredibly fibrous foods, 20 to 30 times more fibrous than today's typical diet, with low impact on the blood sugar likely left this group vulnerable to the illness when richer Anglo foods made their way to North America, said study researcher Karl Reinhard, a professor of forensic sciences at the University of Nebraska-Lincoln.

"When we look at Native American dietary change within the 20th century, the more ancient traditions disappeared." Reinhard told LiveScience. "They were introduced to a whole new spectrum of foods like fry-bread, which has got a super-high glycemic index."

The glycemic index of a food is a measure of how fast its energy is absorbed into the bloodstream. It's measured on a scale of 1 to 100, with 1 being the slowest absorbing with the least effect on blood sugar. The native people who lived in the deserts of Arizona would have likely eaten traditional stews with glycemic indexes around 23, Reinhard found. Foods scoring lower than 55 are considered "low-GI" foods. [7 Foods Your Heart Will Hate]

Modern food and modern disease

Members of Southwest Native American tribes are more susceptible than Caucasians to Type II diabetes, which happens when the body either doesn't produce enough insulin to break down sugar from food, or when the body's cells fail to recognize the insulin it does produce.

Researchers have long hypothesized that a "thrifty gene" (or, more likely, genes) acquired through feast and famine makes Native American populations more prone to this chronic disease. The idea is that people who were able to rapidly adapt to both lean times and times of plenty would have done better in ancient times. Today, the modern diet has rendered famine rare in the developed world, but the body continues to respond to times of plenty as if starvation is around the corner. Diabetes and obesity can result.

Reinhard and his colleagues now suggest that feast and famine may not be necessary for the "thrifty gene" hypothesis to make sense. Basically, Reinhard said, an extremely low-calorie, high-fiber diet made the ancient Native American gut a paragon of efficiency. With the arrival of whites, the diet changed faster than physiology could keep up with it. In other words, the digestive system didn't evolve for abundant, high-GI foods.

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