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## The Inuit Paradox

A basic guideline for good physical health is to eat a balanced diet make up of food from different sources, such as fruit, vegetables, grains, meat, dairy products and fish. This ensures an intake of nutrients which, if lacking, can lead to serious health conditions. For example, a shortage of vitamin C, found in fruit and vegetables, can cause scurvy, a disease resulting in symptoms including muscle weakness and tooth loss. Eating one particular kind of food in excess can be harmful to one's health as well. Diets high in red meat contain large amounts of saturated fat, which has been linked to heart disease. Most experts recommend limiting fat consumption to 20 percent of one's daily calories.

According to biochemist Harold Draper, however, "there are no essential foods - only essential nutrients." This principle is demonstrated by the Inuit peoples of northern Canada and Greenland. They have one of the most restricted diets in the world owing to climatic conditions that make agriculture impossible, but they are able to take in the vitamins, minerals, proteins and other nutrients they need to healthy. They survive largely on the meat of animals such as seals, caribou and fish. Greens and berries are only available briefly in the summer, grains are in short supply and the amount of fat in their diet is much higher than in other cultures. Based on this, one might expect the Inuit to suffer high rates of scurvy, heart disease and other nutrition-related illnesses, but they do not. In fact, residents of Nunavik villages of northern Canada suffer half as many heart attacks as other Canadians, even though more than half of the Inuit's calories come from fat. The term "Inuit paradox" has been used to describe these findings.

The absence of scurvy, upon investigation, turns out to be fairly straightforward. Raw organ meats such as caribou liver, regularly consumed by the Inuit, contain enough vitamin C to prevent the disease. The low rate of heart disease, however, is less easily explained. In the 1970s, researchers analyzed blood samples from Inuit adults and found that the level of omega-3 fats - a type of fat found in oily cold-water fish - was unusually high. The researchers proposed that omega-3 fats might be a factor in the Inuit's heart health. Medical authorities used these findings to create guidelines suggesting, that consuming foods high in omega-3 fats could help prevent heart attacks. Sales of supplements containing fish oil greatly increased in response, and have remained steady for the past few decades.

Studies of the effectiveness of these supplements have been inconclusive, however. Meanwhile, recent research on the Inuit genome suggests another factor may explain the mystery. It appears genetic adaptations that evolved in response to their consumption of omega-3 fats allow Inuit peoples to process them more effectively than other peoples do, lessening the dangers posed by a high-fat diet. As University of California, Berkeley, geneticist Rasmus Nielsen commented, "The same diet may have different effects on different people." Rather than trying to ensure heart health by eating as the Inuit do, a wiser course would seem to be eating a balanced diet.

Is it realistic to compare diets of different countries?