

by David C. Nieman, Dr.PH, FACSM

Q: I am 28 years old, female, married with children, and weigh 40 pounds more than I should. Obesity runs in my family, especially on my mom's side. Is it possible for me to achieve normal weight, or am I always going to fight being overweight because of my heredity?

obese (2). Other studies show that even when reared apart as infants and children, the body weights of identical twins by middle age are much closer than those of fraternal twins or siblings (3, 4). A study of adults who had been adopted before the age of one year

A: Yes, you can achieve normal weight, but you will have to work much harder than some people because of your genes. Although you may think this is unfair, dwell on the upside. As you exercise for 60 or more minutes a day (yes, this is what it will take) and are vigilant in consuming a low-fat, healthy diet, not only will you avoid being overweight, you also will experience a lower risk of heart disease, cancer, and diabetes than others who work little for their leanness.

We have numerous genes that have the potential to interact with each other and a poor lifestyle to promote obesity. A certain genetic makeup can favor the development of obesity, especially when diet and exercise habits are less than desirable (1).

The Pima Indians in Arizona, for example, were once of normal weight, living as hardy farmers near the Gila River. Today the majority of Pima Indians are obese and physically inactive and consume a high-fat diet. Although modern Pima Indians have the same genetic makeup of their ancestors, their lifestyles have been drastically altered, allowing the expression of certain genes that favor obesity.

Genetic factors do have a strong effect upon body weight and shape as we grow older. If you have two obese parents, for example, your risk of being obese as an adult is 80% compared with 40% if only one parent is obese or 14% if neither of your parents are



revealed that their body weights and shapes were still more similar to those of their real parents despite being reared by adoptive parents (5).

Yes, genetic influences are real. Nonetheless, when everything is considered, personal lifestyle choices for most people are more powerful than heredity in explaining body weight. As emphasized by James O. Hill, Ph.D., a leading researcher in obesity from the University of Colorado Health Sciences Center, “There is a growing agreement among experts that the environment, rather than biology, is driving the obesity epidemic. . . Factors include reductions in jobs requiring physical labor, reduction in energy expenditures at school and in daily living, and an increase in time spent on sedentary activities such as watching television, surfing the Web, and playing video games” (6).

In other words, our weight has more to do with our diet and exercise habits than with our genes. Some people, however, especially those with obese parents and siblings, are more prone to obesity than others because of genetic factors and will have to be extra careful in their lifestyle habits to counteract these influences.

The real issue is the high-fat U.S. diet, not our genes. The abundance of tasty, energy-rich foods, especially those high in fats, is a major factor explaining the widespread problem of obesity in Western societies (7). When dietary intake of fat is high, most people tend to gain weight rather easily and quickly. When intake of dietary fat is low, and most calories are in the form of carbohydrate, desirable body weight is more readily achieved.

Most overweight people earned their way to an elevated body weight. Overweight people compared with

lean people tend to eat faster and choose more high-fat and energy-rich foods (1, 6, 7). It is difficult to control body weight when eating high-fat foods because they are high in calories and taste good, prompting people to eat a surplus of energy that is easily converted to body fat. And a significant proportion of overweight people, approximately 25% to 50% according to some estimates, experience binge eating, defined as consuming large amounts of food at one sitting while feeling out of control.

Physical inactivity is another more important issue than our genes (8). Overweight men, for example, have been found to walk approximately half the distance during the normal course of their day compared with normal weight men. Overweight people tend to stay in bed longer, spend less time on their feet, and, when given the choice of an escalator or stairs, are more likely than leaner individuals to take the escalator. Overweight compared with lean individuals tend to watch television and play video games more, and overweight children spend 40% less time in general physical activity than lean children.

To maintain a significant weight loss and stay lean, 60 to 90 minutes of physical activity a day is required (8). Although 30 minutes of vigorous exercise several days a week is sufficient for aerobic fitness, leanness comes at a higher cost, more than most of us realize.

Let me put it this way—the extra 40 pounds you are carrying came by eating more calories than you were expending during the past several years. Your genetic background, however, meant that extra calories were channeled into fat storage instead of being burned up as heat through

increased metabolism (a genetic trait enjoyed by some lean individuals). The bottom line is this—you can achieve normal weight no matter what your genetic background. Just be prepared to put in more work than some people, and then enjoy all the healthy outcomes.



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