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Calories Out

If I asked 100 people what they thought caused the rise in obesity in the past 50 years, I would wager that most would say we eat too much. In fact, I would predict it would be over 90%. But some recent research suggests that the surge in body weight might be explained by the lack of physical activity—not exercise as you might expect but a declining amount of physical activity in our jobs. Let's take a look at a recent study that suggests maybe declining everyday activity could explain the obesity epidemic (1).

The Study

Researchers from a variety of organizations sought an explanation for the increase in body weight over the past 50 years. They used data from the National Health and Nutrition Examination Survey (NHANES). The data were collected periodically from 1960 through 2006 and used to track Body Mass Index. They also obtained employment data from the Current Employment Statistics for goods and service jobs and the Current Population Survey for agricultural jobs for the same years. The researchers assigned physical activity intensity in METs to every occupation based on prior research. MET is short for Metabolic Equivalent Task, a scientific measure of the energy cost of physical activities expressed as multiples of the standard resting metabolic rate; for example, strolling would have a MET of two, meaning it takes twice as much energy to stroll as to sit quietly. There's an explanation of METs in the 30 Pound Club section of drchet.com and more info on METs in the Health Info section: the American Heart Association Exercise Intensity Table.

Researchers then analyzed occupation data to estimate energy expenditure for every year as a population. There was a shift in manufacturing jobs from 30% in 1960 down to 12% by 2008. There was a concomitant increase in service jobs with the largest increase in professional service, healthcare, education, and leisure and hospitality.

Energy Expenditure
The most striking graph showed the decline in moderate-activity jobs from 48% down to 18%, with a 14% increase in light activity and 5% increase in sedentary jobs over 50 years. The result was a consistent decline in physical activity from 2.55 METs down to 2.3 METs. Okay, so what does that mean?

The decline in occupational energy activity declined 140 calories per day for men and 124 calories per day for women. Doesn't really seem like a whole lot, does it?

Weight Gain
The researchers then predicted the increase in body weight for men and women for every year the NHANES data were available. Simply put, they multiplied the calories per day that were not being spent and multiplied it by work days. The predicted increase in body weight mirrored the actual data for both men and women.

The Bottom Line

This study explains the increase in body weight over the past 50 years. True, the researchers estimated caloric expenditure of the various occupations, but the bottom line is that we've had a shift to more sedentary jobs and it's cost us. When you combine that with a shift from foods that had to be prepared, which also burned calories, to foods that we buy in drive-thrus or heat in microwaves, it's a wonder that we don't weigh even more then we do.

What can we do about it? We have to do those simple things that we've heard over the years: park further away from the grocery and for sure the health club, and take the stairs when possible. I know 100 calories per day doesn't seem like a lot, but they add up to about 10 pounds a year. More exercise alone won't do it for most of us—we don't have the hours it would take to compensate for our sedentary lives. We have to be more active all day long. How will you do that? It's going to take some hard thinking because you know your life and your job, and you'll have to find the nooks and crannies where you can make lots of small changes and maybe a few big ones that will add up to more activity. It just depends on one thing:

What are you prepared to do today?

Dr. Chet

P.S. I've only gotten a handful of photos of your plates based on the graphic from last week. Let's go, people.

Reference: PLoS ONE 6(5): e19657. doi:10.1371/journal.pone.0019657.