



The Health Nugget

The New Norm

She struggled for years with off and on dieting, trying various programs. They all worked, for a while, but the weight was too easy to put back on. With every setback, more weight was gained than was initially lost. She thought this time would have to be different. Nearly a year after committing herself to vigorous daily exercise, no white flour and no refined sweeteners, she has lost 56 pounds. Despite her success, there is still an awareness of past failures and the fear that the weight may all come back. Why is rebounding so easy?

It is estimated that 66 percent of the adults in the United States are overweight or obese. About 33 percent of children and adolescents are overweight or are considered at risk. At any given time, some 40 percent of American women are on a diet. The dieting market revenues are \$40 billion a year!

Theoretically, a pound of body fat is gained for every 3,500 calories consumed in excess. With the extra calories, fat cells grow larger. Then, when existing fat cells are filled, they stimulate the production of more fat cells. Obesity is determined by both the number and size of fat cells that grow or shrink based on fat deposits. Interestingly though, “When energy out exceeds energy in, the size of fat cells dwindles, but not their number.”¹ In other words, the body keeps all those extra fat cells even if they become empty through weight loss. This is one factor that makes it easier for some to regain lost weight rapidly. All those empty fat cells are ready and waiting to be refilled.

Another hurdle to maintaining weight loss relates to the body’s set point. The body maintains homeostasis (its normal), by making

all kinds of adjustments. “Researchers have confirmed that after weight gains or losses, the body adjusts its metabolism to restore the original weight. Energy expenditure increases after weight gain and decreases after weight loss.”² But just as with any significant change the body has to accustom itself to, the body will eventually adapt after you’ve faithfully hung in there over a period of time.

Obese individuals have more lipoprotein lipase (LPL) activity. LPL is an enzyme that promotes fat storage. Weight loss will actually signal LPL activity to increase, probably in an effort to again maintain homeostasis. This makes fat storage easier in those who are overweight. “Even modest excesses in calorie intake has more dramatic impact on obese people than on lean people.”³ They gain weight more readily. For example, abdominal fat cells in men produce abundant LPL, encouraging more fat to be stored in the abdomen. Those who have lost the most weight appear to have the most dramatic increase in LPL activity after the loss. So in addition to fighting the visual temptations, of say brownies, the person who has lost weight is doing battle with enzymes within that want to store fat. It will take time to win this battle, but even the enzymes will eventually adjust to the new normal.

Leptin is another factor in the challenge to maintain weight loss. Leptin is a chemical messenger that has been thought of as an appetite suppressant. It also triggers an increase of energy expenditure. Eat less, burn more calories is leptin’s message. This is just what two-thirds of Americans need to hear on a physiological level. The quandary is that, in general, obese

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individuals have high leptin levels. Leptin increases as body fat increases. So why isn't leptin's message getting through? The answer is leptin insensitivity. "Researchers speculate that in obesity, leptin rises in an effort to overcome an insensitivity or resistance to leptin."⁴ Reportedly exercise and diet will eventually correct leptin insensitivity.

To make matters worse, when calories are reduced and weight is lost leptin levels decline and metabolism slows! In their research, Michael Rosenbaum, M.D. and Rudolph Liebel, M.D. found changes in leptin activity, which could account for why people have a hard time keeping the weight from creeping back on. The reduction in leptin tells the brain to fight the loss of fat. Drs. Rosenbaum and Leibel gave leptin to people who had lost weight to see if it could help overcome the tendency to gain the weight back. They injected four individuals who had lost weight with leptin twice a day, bringing their leptin levels to what they were previous to losing weight. "They found that restoring pre-weight loss levels of leptin reversed many of the metabolic changes that make it necessary for people to cut calories or increase activity levels to maintain their reduced weight.... Dr. Leibel says. 'It's plausible that giving low doses of leptin to people trying to maintain a lower weight will trick the brain into thinking that the body has its usual level of fat. But more research needs to be done to test leptin as a potential weight maintenance aid in people who have lost weight.'"⁵

Abdominal fat, diet, inflammation, menopause and not enough REM sleep have been found to be part of the problem in altering leptin function. Omega-3 fatty acids are said to raise leptin levels.

As you can see, the body is subject to powerful biological forces that must be battled to maintain weight loss. Until something like leptin injections become mainstream treatment, Dr. Rosenbaum says,

"Whatever lifestyle changes you make to lose weight must be continued indefinitely beyond the period of weight loss if you want to keep the weight off."⁶

This is the conclusion of my friend. She recognizes that sugar is a trigger for her to lose control. She now enjoys her exercise regime and has learned to reward herself with something other than food. She knows that at any time, she could revert back to her old ways. Understanding that her body is more efficient at storing fat, she cannot enjoy the same flexibility in her food intake and activity level as someone who has never been overweight can. In this arena, her battle will always be greater.

Plato said, "Be kind, for everyone you meet is fighting a battle."

We all have weaknesses, areas where it is easier to fail. For some the war is obvious. Others fight in secret. Some have harder battles than others. My friend's experience inspires me and I hope it inspires you. It doesn't matter what your struggle is. God is big enough. He desires to work victory in your life. "We are more than conquerors through Him that loved us" (Romans 8:37). With determination and God's power we too will experience our new "norm."



¹ Rolfes, Sharon, Whitney, Ellie. Understanding Nutrition. Thomas Wadsworth, 2008. P. 282.

² Ibid., p. 283.

³ Ibid., p. 282.

⁴ Ibid., p. 284.

⁵ Conova, Susan. "The Latest Skinny on Leptin." In Vivo. Vol. 1 No. 9. http://www.cumc.columbia.edu/news/in-vivo/Vol1_Iss9_may15_02/bulge.html.

⁶ Ibid.