

THE TRUTH ABOUT FAT

Evolutionary speaking, our fat cells are fit. They perform their main function, for energy storage, without fail throughout our lifespan, while also insulating and cushioning our vital organs. Adipocytes, or fat cells, perform a variety of other functions, such as hormone/chemical secretion for certain regulatory and body developmental functions.

But in our society, too much of a good thing has villainized the humble adipocyte. Fat has become the social public enemy number one. There is a \$60+ billion dollar industry developed now for weight loss to try to fight, trick, destroy, or cut out this unsightly layer of our bodies. Have we been underestimating the powers of this cell all along?

The average adult has about 30 billion fat cells, or about 30 pounds of fat. Adipocytes can hold up to four times their normal volume of triglycerides and/or cholesteryl esters before needing to divide. And we are horrified to realize that they do not decrease in number even when we lose the weight.

Fat is metabolically active. It does not lay dormant until its energy stores are suddenly needed. Rather, it constantly obtains and releases triglycerides from and into the blood stream to maintain a steady level of fatty acids in the bloodstream for energy for other body organs. In addition to a multitude of hormones and regulatory chemicals, fat is also a source of estrogen and leptin (a hormone that regulates appetite and energy metabolism) and plays a role in insulin homeostasis (for the regulation of blood glucose levels).

As our diets and lifestyles becomes “hypercaloric,” over 1.1 billion people in the world are now overweight, with almost 400 million people fitting the definition of obesity. We are newly amidst an intense epidemic of our own lifestyle-driven health issues, from heart disease to diabetes and its many complications.

Even our children are being affected by the “Diabesity” epidemic. Medically, there has been a sharp increase in the incidence of juvenile-onset diabetes, high cholesterol, early puberty in girls, hypertension, and cardiovascular disease. Psychosocially, poor self-image, body consciousness, eating disorders, and social ostracism is facing the younger overweight generation. Our children are getting mixed messages from the food industry and the entertainment industry – should they hide how much they are eating, eat nothing and become food- or exercise-bulimics, or eat only one hamburger all day as a compromise?

How do we get control back and fight this public health threat? As usual knowledge is power. Talk to your primary doctor to get started. Your physician can do basic blood work and vital sign measurements, with height and weight measurements to also ascertain the body mass index. Waist circumference above 35 inches for women and 40 inches for men, blood pressure above 130/85, triglyceride levels about 150mg/dL, “good” HDL levels below 40mg/dL for men and 50mg/dL for women, and fasting blood glucose level above 100mg/dL increase the risk for something called the Metabolic Syndrome (aka Insulin Resistance Syndrome). If you meet three of the above criteria, you may have the metabolic syndrome, which represents level of risk of an individual for coronary artery disease and diabetes.

Weight loss to decrease the BMI to below 25 via diets low in saturated and trans fats and cholesterol and routine exercise should dramatically decrease the risk of the metabolic syndrome by decreasing abdominal circumference, blood pressure, triglyceride and “bad” LDLs, and blood sugar levels. It is of course much easier said than done, but *this* is the month to start taking control.

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