

Chronic Stress — Cortisol And Weight Gain

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The amount of calories being consumed is rising and physical activity is declining. And when it comes to dinner time, many Americans are choosing speed and convenience over nutrient dense food. According to the Office of Disease Prevention and Health Promotion and the U.S. Department of Health and Human Services (HHS), 40 percent of the American family food budget is spent eating in restaurants, on fast food and on meals bought through food services. Add chronic stress to the mix and you have a recipe for metabolic disaster.

Americans are getting fatter, about 64%, or more than 129.6 million people in the United States are either over-weight or obese according to government statistics. Eighty million Americans go on a diet in any given year, and up to 95% of them regain the weight they lose within five years. Unfortunately, a third will gain back more weight than they lost. Obesity has been shown to increase the risk for developing type 2 diabetes, heart disease, some forms of cancer, and other disabling medical conditions.

The total direct and indirect costs, including medical costs and lost productivity, were estimated at \$117 billion nationally for 2000, according to the 2001 Surgeon General's Call to Action on Prevent and Decrease Overweight and Obesity. Childhood obesity is especially disturbing. Earlier onset of obesity-related diseases such as type 2 diabetes, are being reported in children and adolescents with obesity.

CHRONIC STRESS & CORTISOL FACTS

New research reveals the connection between stress and weight problems. Chronic stress is a killer that can make you sick, cause short-term memory loss and destroy brain cells. Groundbreaking research now shows that chronic stress can also make you fat and keep you fat. Cortisol is one of the hormones secreted by the adrenals in response to stress.

Early warning signs of stress:

- Sudden weight loss or weight gain
- Tired but can not sleep, excessive fatigue
- Speech difficulties, impatience
- Headaches, repeated colds, or flu
- Nail biting, teeth grinding
- Low or high blood sugar
- Low or high blood pressure
- High cholesterol or triglycerides

- Ulcers and gastric disturbances
- Chest pains, muscle aches
- Lower back, shoulder, neck pain
- Menstrual problems, hair loss
- Forgetfulness, withdrawal from social life

Chronic stimulation of this defense mechanism can result in continuous, elevated cortisol levels, which can cause increased fat storage, leptin resistance, suppressed thyroid function and immune suppression. After a period of time, this response can ultimately become as injurious as the stressors themselves.

A study conducted by researchers at Yale University and published in the September 2000 issue of *Psychosomatic Medicine* compared 30 women who stored fat primarily in their abdomen with 29 women who stored it mostly in their hips. They found that the women with belly fat reported feeling more threatened by stressful tasks and led more stressful lives.

Cortisol production was also increased in women with fat on their hips. The authors suggested that excessive cortisol is a primary factor in abdominal obesity. Abdominal obesity is now considered to be an independent risk factor for several diseases such as: high blood pressure, raised cholesterol, cardiovascular disease and Type 2 diabetes. As a result, some experts now think that waist-measurement is more important than body mass index in predicting future weight-related disease, at least among people with a body mass index (BMI) of 34 or less.

Recent research has clearly shown that abdominal fat is an organ similar to the heart, kidney, or liver. The purpose of this fat organ is to store calories in times of stress or starvation. Humans are genetically hardwired for starvation, because our ancestors were hunter/gatherers and had periods of feast and famine. However, humans are less well adapted to over nutrition, a common problem in a world in which food is plentiful. The most common cause of death in cases of starvation is infection; thus, it makes sense that this fat organ secretes substances called adipocytokines that stimulate inflammation and defend against invading bacteria. This works extremely well in starvation, but under conditions of over nutrition this fat actually promotes inflammation that can theoretically promote cancer growth.

Breast fat behaves in a similar fashion to abdominal fat and has been shown to stimulate breast cancer cell growth in laboratory studies. Reducing abdominal and breast fat may be an important strategy for breast cancer prevention and for reducing the risk of recurrence in women who have already received treatment for breast cancer. One of the keys to preventing excess belly fat is to balance energy (caloric) intake with energy expenditure. If you are one of the 64% overweight Americans struggling with excess belly fat, your only option is to engage in regular physical activity

and follow a calorie-reduced diet plan that includes fresh colorful vegetables, whole grains, adequate dietary fiber, and a generous servings of omega-3 rich foods.

This will force your body to burn its stored fat as fuel. But do not forget that you cannot spot reduce. So even though you may have a large amount of abdominal fat and only a small amount around your face, your genetic makeup may decide to reduce your facial fat first. Or, it may burn off belly fat, then some from your face, then more from your belly, then some from your thighs or arms, and so on. The point is losing fat from your gut can be a slow process requiring a lot of patience, especially if you have a natural apple-shape.

Hormones definitely determine how fat is distributed. For example, in one study, men who were given estrogen started to develop the classic female "pear" shape. Other medical studies have shown that chronic stress increases visceral fat. Excessive cortisol, it appears, stimulates the storage of fat around the middle.

Post-menopausal women often struggle with weight unrelated to their eating habits. This extra weight is often stored around their middle as a result of declining estrogen production. There are two separate issues here: the weight gain itself, and where it ends up, around the middle. The former may only be stopped by reducing calorie intake and regular exercise. do not forget, as we get older we don't need as many calories due to loss of muscle tissue, while the latter cannot be prevented. Without adequate estrogen production, abdominal obesity will become a problem.

Increasing physical activity is an important way of improving general health, but not because of its direct impact on the fat around your belly. It takes about 9 hours of vigorous activity to burn the equivalent of one pound of body fat, so exercise alone is not an efficient method of losing fat. Neither can you "target" your stomach fat by doing thousands of abdominal exercises. Exercise does build muscle, but does not "convert" fat into muscle. However, tighter muscles do help to "pull in" fatty bulges, so exercise can help to give you an improved "tighter" look.

Certain lifestyle habits promote the development of abdominal obesity. Typical bad habits include: over consumption of takeouts and excessive alcohol intake. Takeouts are notoriously high in fat, MSG and sodium, add a couple glasses (12 fl oz) of beer a day and this adds up to 110,000 calories a year - the equivalent of 31 pounds of body fat tissue.

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