

# The secret to middle management

A few key hormones that affect ab fat can dictate whether you cinch your belt or let it out a few notches.

By LESLEY ROTCHFORD

So what is it about the mid-section that makes flab want to hang around it so much? You have a cadre of hormones always at the ready to usher fat into the most convenient storage units—that is, those in your core, close to your organs, explains Aaron M. Cypess, M.D., Ph.D., a researcher at the National Institutes of Health. But here's the upside: You can manipulate your hormones and get them to work in your waistline's favor. You're about to learn how.

## Know your fat hoarders

They are cortisol, insulin, and testosterone. At normal levels, however, they don't actually cause belly fat. It's when their levels are consistently high that the flab gets stockpiled. "In fact, having belly fat is a key indicator of hormonal imbalance," says Sara Gottfried, M.D., the author of *The Hormone Reset Diet*.

When you're stressed, your body starts cranking out cortisol, which releases fat from fat stores and dumps it into the bloodstream to give the liver and other organs energy to deal with the perceived threat. Whatever fat isn't used gets stored in ab tissue, which houses *four times* as many cortisol receptors as fat-storage units in other areas of the body, meaning that *with chronic stress, cortisol just keeps parking fat in your middle.*

## HIIT IT

Push the intensity of your workout periodically to activate fat-freezing growth and catecholamine hormones.

The situation then becomes a vicious circle—the more belly fat you have, the more cortisol you naturally produce. At times when you can lessen your stress, the cortisol circulating in your system becomes inactive and is eventually filtered out by the liver and kidneys. "But fat tissue contains an enzyme called HSD that can switch on inactive cortisol before your organs can get rid of it," says Shawn Talbott, Ph.D., the author of *The Cortisol Connection*. ➔





## get fit the belly shrink

Insulin also packs on belly fat. Its job is to shuttle glucose (sugar) out of the bloodstream and to store it, either in the liver to be used as energy or in fat tissue. Eat more calories than your body needs and insulin stashes the excess in ab fat stores, says Martha Belury, Ph.D., a professor of human nutrition at Ohio State University.

Then there's testosterone, the male sex hormone. In men, it has been shown to help release fat from abdominal fat stores so it can be used for energy. But in women, high levels are associated with belly fat, a study in the journal *Metabolism* found. Researchers aren't sure why this occurs, but studies of women with polycystic ovary syndrome—a condition that involves high levels of testosterone and ab fat accumulation—suggests that insulin may play a role in the process.

The good news: All of these culprits can be tamed more easily than you think.

### Get more sleep and tea

"One night of poor sleep and you already disrupt your cortisol production. Miss as little as two hours of sleep a night for three nights and you can increase cortisol by 50 percent," Talbott explains. (The body reads sleep deprivation as stress and jacks up cortisol to deal with it.) Talbott recommends getting eight hours of sleep a night or, at the very least, making sure that the six hours you do get is as deep and restful as possible and that you take a nap during the day. A Penn State study found that a two-hour nap reverses the cortisol effects of crappy sleep the night before. Even an hour has benefits, Talbott says.

Drinking tea can help curtail cortisol too. British researchers found that drinking caffeinated black tea four times a day for



**DRINK UP**  
Black tea and green tea contain flavonoids, which may help lower cortisol.

**"Getting enough sleep is probably the most effective and the most overlooked way to drop belly fat," Talbott says.**

six weeks lowered cortisol. "We don't know what is responsible for this effect, but it could be the theaflavins or another flavonoid," says study researcher Andrew Steptoe, the director of the Institute of Epidemiology and Health Care University College London. Other ways to add flavonoids to your diet include eating at least five daily servings of brightly colored fruits and vegetables.

### Cut back on carbs

The best way to lower insulin is to eat a low-carbohydrate diet, which helps prevent fat storage and encourages fat burning. Insulin wants your body to use sugar instead of fat for energy, so it locks up fat stores. "But if you follow a low-carb diet, your body will produce less insulin, allowing fat to be released into the blood so it can be burned off," Belury says. Aim for a diet in which your daily calories come from 50 percent healthy carbs, 30 percent healthy fats, and 20 percent lean protein.

Fill your plate with satiating low-carb foods like lean meat, fish, poultry, and eggs; non-starchy veggies like lettuce, asparagus, and broccoli; high-fiber fruits like apples and berries; and whole grains like bulgur and oats, Belury suggests.

According to Dr. Gottfried, that low-carb diet is also key to lowering testosterone. And because zinc deficiency is associated with high testosterone levels in women, she suggests eating foods high in this mineral, such as green beans, sesame seeds, and pumpkin seeds.

Another tactic: Eat small meals throughout the day. New research from Ohio State University found that skipping meals can lead to a greater accumulation of belly fat. In the study, one group of mice had unlimited access to food, while

another group fasted and then gorged themselves. The fasting group gained more abdominal fat even though both groups of mice ultimately ended up consuming the same amount. Why? The fasting group's insulin spiked so highly that it led to insulin resistance, which causes fat storage in the abdominal area. "Eating small meals could help some people maintain steadier levels of insulin throughout the day," says Belury, the study's author.

### Flip on your fat burners

As much as you want to lower fat-storing hormones, you also need to boost fat-springing chemicals. Catecholamine hormones (these elicit the fight-or-flight response) and growth hormone (this promotes muscle growth) release fat from stores so it can be delivered to the muscles for energy. You can trigger the production of these hormones by doing high-intensity training (HIIT) workouts.

One last piece of the puzzle: The hormone adiponectin helps ensure that freed fats are actually burned off by muscles, a process called fat oxidation. A study at the National Institute of Cardiology in Mexico City found that low levels of adiponectin are associated with belly fat and insulin resistance. "The most effective way to normalize your adiponectin is to lose weight, because the more fat you have, the lower your levels of it are," says Dr. Gottfried, who also suggests eating one or more servings a day of magnesium-packed foods, including kale and spinach. (A study in the *Journal of Nutrition* found that consuming magnesium had a positive effect on adiponectin.)

Lace up and stop letting your hormones call the shots. You'll slim your belly like never before. ★