

Georgia Hormones P.C.

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WEIGHT CONTROL

Food and Energy: We have all heard the expression, “You are what you eat.” Food fills two basic needs, to supply the building blocks to make body parts and to provide fuel to run those parts. We get our fuel by eating other living things, plants and animals, or foods made from them. If we eat more than we need, the excess is stored for the future.

Energy Sources: There are three major food elements. The simplest and most concentrated is **FAT**. Fat consists mostly of long chains of carbon and hydrogen. We get energy by chemically oxidizing or “burning” the carbon, to carbon dioxide and the hydrogen to water. **Sugar and Starch are Carbohydrates**. The word carbohydrate means carbon + water. They are made of carbon, hydrogen and some oxygen, so they already are partially oxidized and don’t yield as much energy. **Protein** has nitrogen also, which must be disposed of as urea. To be used as fuel, all starch, protein and complex sugars must be turned into **Glucose**. Complex fats are turned into **Simple Fats**.

How we use and store food: As we live our daily lives, the most easily accessible fuel is from the food we just ate. After the food is broken down into small units, it is distributed around the body by the blood stream. Every cell of the body takes what it needs. Inside each cell are energy processors called **Mitochondria**. In most cells, the mitochondria can burn either sugar or fat. **The brain and nervous system can only use Glucose (Sugar)**. Inside the **Liver** and to a lesser extent the muscles, the body can store about a **day’s worth of Glucose** in a special form called **Glycogen**. Beyond that, **all excess food is turned into Fat** and stored around the body as fat. **The body can turn any food into fat, but it can’t turn Fat into Glucose**. If you fast and are running out of glycogen, your body will break down your own body proteins, mostly muscle, to make Glucose.

Cash Money v Bank Accounts: Glucose is quick energy. It is easy to use. It is the only thing the brain lives on and a sugar high makes the brain happy, at least for a little while. Muscle will burn sugar first if it has a choice. **Glucose is like cash money. Fat is like money in the bank**. If, every day, you earned hundreds of dollars in cash, you would always have plenty of cash in your wallet. You would never write a check or go to the ATM to take money out of your bank account. If you keep eating enough “cash” carbohydrate to supply your needs each day, **you will never burn any of the Fat in your storage “Bank”**. Eating too much sugar or other carbohydrates raises blood glucose levels. If blood Glucose rises too high, the pancreas makes Insulin to push the extra Glucose into Fat cells, lowering the blood sugar levels, and **you will store the extra glucose as FAT**.

Exercise and Weight Loss: Muscles can burn either fat or sugar, but they would rather burn sugar. If the carbohydrate supply is limited, muscles learn to burn fat and reserve the sugar for the Brain. **It takes about two weeks of restricting carbohydrate intake, regular exercise and going to sleep on an empty stomach to teach the muscles that they must burn Fat**. Glucose is like cash and Fat is money in the bank. Unless you exercise **and** limit your calories, especially carbohydrates, your muscles will never learn to burn Fat. They will never take money out of your Fat bank account. Aerobic, cardio exercises encourage muscle cells to make more mitochondria so food is burned more efficiently. Weight training builds more muscle, but not more mitochondria for endurance. You need both.

Weight Loss Diet: When you eat and how much you eat is more important than what you eat. There are many diet books around with many different philosophies. Farmers know the easiest way to fatten an animal for slaughter. Keep it in a stall so it can’t get much exercise and feed it grains like corn. The high carbohydrate content is turned into sugar and rapidly digested. It is quickly turned into fat and the rapid digestion means the animal is soon hungry again and ready to eat some more. Eating before sleep yields the maximum fat production. **Meals with lots of fiber and some fat are more filling, digested more slowly, postpone hunger better and are less likely to turn into fat**.

As Women Age: Women over 35 frequently don't produce eggs every month. This reduces Progesterone production and may cause irregular periods. **Estrogen** is still produced but it is **Unopposed by Progesterone**. Unopposed estrogen has many effects; among them are increased craving for carbohydrate food and a tendency to deposit fat in the abdominal area. **Insulin resistance** also increases with age and weight. This causes higher levels of insulin, resulting in greater deposition of fat. **Excess insulin** also increases Estrogen levels, making matters worse. **Hypothyroidism** also becomes more common; slowing the rate that food is burned. **Thyroid and Progesterone replacement therapy may help.**

As Men Age: Craving for carbohydrate is stimulated by a high **Estrogen/Testosterone** Ratio. As men age, **Testosterone** levels gradually fall. Abdominal fat can change Testosterone into Estrogen. As abdominal fat increases, **E/T** ratio rises and so do cravings for more carbohydrate. **This makes more abdominal fat.** It is a vicious cycle. Supplementing Testosterone can raise Testosterone levels. Testosterone stimulates an increase in muscle mass, so calories are burned faster. Lowering carbohydrate intake and reducing belly fat lowers Estrogen. The lower E/T ratio can help break the weight gain cycle, speed calorie burning and reduce belly fat.

Stress: Chronic stress raises Cortisol levels from the Adrenal glands. This has many effects. It raises Estrogen, inhibits Progesterone, depresses Thyroid and **increases craving for high calorie "comfort food"**. All this helps to store fat for the coming bad times, which in past human history meant food shortages.

Body Types: Traditional doctors in India describe three body types, each with its own best foods and times to eat. Deepak Chopra in his book *Perfect Health* has charts, tests, and explanations. It is worth a look.

Assess where you are: Step one is to keep a **logbook** of what you are eating for a while. Everything counts, including all beverages and any little snacks. This includes licking the bowl when you are cooking. Look at the times you eat, your food choices and quantities. Do some study. Find a diet you think you could actually live with for an extended period of time. We need life style change, not fad diets. Consider joining Weight Watchers. They are sensible, not too expensive and provide a support group.

Timing: Avoid eating within one to two hours of sleep. Put a solid meal at the start of the day. A breakfast of dinner leftovers with some fat and protein is better than most American's Pop Tart, toast, instant oatmeal or some other high carbohydrate breakfast. **High carbohydrates will leave you hungry again by mid morning.**

Portion Size: Food in America today is cheaper than any time or place in human history. Average restaurant portion size is two to five times what it was 30 or 40 years ago, for about the same money, considering inflation. In 1965 the typical McDonald's lunch was \$1 for about 350 calories. Now it is \$5 but is over 1850 calories for a Supersize meal #1. The "hours worked" cost is about the same. The extra calories come mostly from a huge increase in the number of fries and the amount of Coke; massive carbohydrates.

Caffeine and Sugar Substitutes: Caffeine stimulates extra **insulin** with all the problems described above. Sugar substitutes fool your tongue into thinking it is sugar. They fool the pancreas also, which produces insulin. Since, in neither case, is there actual sugar in the food, blood sugar falls, which causes hunger. Rats given diet Coke ended up 50% fatter than rats on the same diet given only water. **Diet drinks increase hungry.**

Exercise: You don't have to kill yourself or add to your stress. Start with walking. Just getting out there stimulates the muscles. Longer time is more important than faster heart beat or heavy weights.

Supplements: Especially since food is reduced, get on a good vitamin and mineral supplement program.

Make a lifestyle Plan: Losing weight and then maintaining that new set point, represents a change in lifestyle. It has to be something you can live with. Don't worry about short-term setbacks. If you cheat one day, go back on the new eating and exercise habits the next. **The increase in energy, health and strength will be an immediate reward.**