

Safe and Effective Weight Loss Strategies

Lecture notes by Peter Brodhead CN

Brighter Day Natural Foods Market

www.Brighterdayfoods.com

1102 Bull Street

Savannah, Ga 31401 912-236-4703

Updated May 24, 2004

Notes from the Encyclopedia of Natural Medicine -

Most Americans have a diet that is high in fat and sugar and they get little if any exercise.

Obesity is an excessive amount of body fat. It must be distinguished from overweight, which refers to excess body weight relative to height. A muscular athlete may be overweight yet has a very low body-fat %. Obesity is classically identified as weighting more than 25% over the average desirable weight for men and women of a given height.

See the chart of Metropolitan Life Tables in a health promoting diet. Obesity is considered to be 30% body fat for women and 25% body fat for men. In men male-patterned or android the waist is bigger around than the hips. In women the hips are much larger. TV watching has been associated with obesity the more TV watched the greater degree of obesity. In a study of 4,771 women researcher found 2x as many women watching 3 hours or more of TV a day were obese than women who watched 1 hour of TV a day. TV watching has been shown to lower the metabolic rate.

Physiologically obese individuals appear to be extremely sensitive to specific internal clues:

Brain serotonin levels

Diet induced thermogenesis.

Activity of the sympathetic nervous system

The metabolism of the fat cells

The sensitivity to the hormone insulin

These models all support the notion that obesity is not just a matter of overeating. This explains why some people can eat large quantities of food and not increase their weight substantially while for others the reverse is true.

Low Serotonin Theory

A study done at MIT by Judith and Richard Wurtman PhD. Showed that a diet low in tryptophan leads to low brain serotonin levels as a result the brain stimulates the appetite centers in a powerful way. This stimulation results in a preference for carbohydrates. So low serotonin levels produce carbohydrate craving. It has been demonstrated that concentrations of tryptophan in the bloodstream and brain serotonin levels, plummet when a person is dieting so the body puts out a message to eat. This explains why most diets don't work. High Tryptophan containing foods and 5HTP may help remedy this situation in dieting.

The Set-Point Theory

Each person has a "set point" weight. It has been postulated that individual fat cells control this set point when the fat cell becomes smaller it sends a powerful message to the brain to eat. This can cause rebound eating with individuals often exceeding their previous weight, their set point becomes higher and it makes even more difficult to lose weight. Set point seems to be related to fat cell insulin sensitivity. Insulin sensitivity can cause an impairment of transporting sugar from the blood stream into the cells. The key to overcoming the fat cells set point appears to be increasing the sensitivity of the fat cells to insulin. This sensitivity can be improved and the set point lowered by exercise. The set point theory suggests that a diet that does not improve insulin sensitivity will probably fail to produce long-term results. Increasing the body's sensitivity to insulin results in less insulin being secreted. When the body's fat cells are pumped up with high levels of fat, insulin triggers the body to manufacture more fat cells. Once a fat cell is formed it sends signals to the brain to make the person eat so that it can be filled with fat, thereby producing a long-term stimulus to weight gain. While the body is able to add new fat cells, it is impossible to reduce the number of existing fat cells via natural means.

Diet-Induced Thermogenesis

Is the method by which the body "wastes calories". In lean individuals, a meal may stimulate up to a 40% increase in heat production. In contrast overweight individuals often display only a 10% or less increase in heat production. The major factor contributing to decreased thermogenesis in overweight people is insulin

insensitivity. Therefore insulin sensitivity may go a long way toward reestablishing “normal” thermogenesis and resetting the set point in overweight individuals. The sympathetic nervous system controls many body functions including the metabolism. Plant stimulants can activate the sympathetic nervous system.

Brown Fat

Brown fat vs. white fat contains a high amount of mitochondria. The mitochondria are to the cell what the furnace is to a steam locomotive, these mitochondria burn fat. Brown fat wastes energy by burning higher amounts of fat and giving off more heat. Brown fat only composes 0.5% to 5% of total body weight but because of its profound effect on diet-induced thermogenesis as little as 1 ounce of brown fat could make the difference between maintaining body weight and putting on an extra 10lbs a year. For a lean person to gain weight they have to increase their caloric intake by 50% over their previous intake. An overweight individual who was formerly obese must restrict their food intake to 25% less than the lean person in order to maintain a reduced weight.

Thyroid Function

The Thyroid controls our metabolic rate – many people are sub clinical or clinically low thyroid. Thyroid hormones are like the foot on the gas pedal with the metabolism. Often supporting thyroid function nutritionally can assist in weight loss momentum. Bladderwrack a type of kelp is the most ideal support for thyroid function. (See info sheet on Underarm Temperature Test for Hypothyroidism and Dr Michael Murray’s sheet on nutritional support for thyroid)

Caloric Requirements

The basic equation for losing weight never changes. In order for an individual to lose weight, energy intake must be less than energy expenditure. This goal can be achieved by decreasing caloric intake or by increasing the rate at which calories are burned. Dieting & Exercise. To lose 1 pound a person must take in 3,500 fewer calories than he or she expends. To lose 1 pound a week there must be a negative caloric balance of 500 calories per day. Most individuals will begin to lose weight if they decrease their caloric intake below 1,500 calories per day and do aerobic exercise for 15 to 20 minutes 3 to 4X a week. The most successful approach to weight loss is gradual weight reduction – to 1 pound per week, through adopting long-term dietary and lifestyle modifications.

To find out what your daily caloric requirement take your desirable weight that you would like to be and divide that weight by 2.2 to get the kilogram amount. Next figure out how much activity you do in a day. Little physical activity 30 calories, Light physical activity 35 calories, Moderate physical activity 40 calories, Heavy physical activity 45 calories. Your weight in Kilograms multiplied by your activity level will equal the number of calories you need to consume to maintain your ideal weight. You will need to consume fewer calories than this level to lose weight to get to this level.

Example: A woman 5’ 5” with a medium frame would like to weigh 135 lbs. She currently weighs 150 and would like to lose 15 lbs. She currently weighs 68 Kilos and her activity level is Light physical activity of 35 calories. By eating 2,380 calories a day she can maintain this weight. In order to get to her goal she needs to consume less than 2,135 calories a day. Remember that it takes consuming 3,500 less calories than you burn to lose 1 pound of weight. So to reach her goal she needs to burn 52,500 calories to lose 15 lbs over whatever period of time she needs to take to lose the weight. 1 – 2 lb a week is excellent for long-term weight loss.

Body Mass Index

To calculate the **BMI or Body Mass Index** multiply your weight X 704.5 and divide by your height in inches. Then divide by your height in inches again. A BMI of 19 – 24 is good, 25 – 29.5 is overweight, 30 – 34.5 is mildly obese, 35 – 39.5 is moderately obese, and < than 40 morbidly obese. www.workoutsforwomen.com/body-mass-index or www.testamerica.com or look in goggle under BMI. Also look at the waist, if you work out your muscle weight could put you in a higher bracket but your smaller waist size will tell you a more accurate story.

A **BMI** of greater than 25 puts you at risk for Type 2 Diabetes, Hypertension, Stroke and Osteoporosis. Mildly Obese Men with a waist size greater than 40 have the risk of lower HDL, High Triglycerides and Hypertension.

Insulin Resistance is a big problem in America now. The hormones Glucagon, Cortisol and Adrenaline all help create the problem.

People under chronic stress – store fat in the belly, men with big belly’s store it there so the fat is near the liver so the body can utilize.

The Importance of Exercise

Regular exercise is a necessary component of weight-loss programs due to the following factors:

- When weight loss is achieved by dieting without exercise, a substantial portion of the total weight lost comes from the lean tissue, primarily as water loss.
- When exercise is included in a weight-loss program, there is usually an improvement in body composition due to a gain in lean body weight because of an increase in muscle mass and a decrease in body fat.
- Exercise helps counter the reduction in basal metabolic rate (BMR) that usually accompanies dieting alone.
- Exercise increases the BMR for an extended period of time following the exercise session.
- Moderate to intense exercise may have a suppressing effect on the appetite.
- People who exercise during and after weight reduction are better able to maintain their weight loss than those who do not exercise.

Exercise promotes the development of an efficient method to burn fat. Muscle tissue is the primary user of fat calories in the body; the greater your muscle mass, the greater your fat burning capacity. If you want to be healthy and achieve your ideal body weight you must exercise.

Exercise elevates the enzymes, which pull fat from storage; this process is called lipolysis, and is commonly impaired in those who are overweight. It is not the calories specifically burned by the exercise during its brief duration which is most important but the maintenance of lean tissues, the potentiation of insulin, the raising of the basal metabolic rate which all continue long after exercise is done. Individuals who diet without exercising lose mainly water and some muscle. When you’re not eating enough food, when you’re relying only on dieting to lose weight, your body fights back. It lowers your metabolic rate. If you exercise strenuously for 30 min or more daily you will burn fat and keep muscle faster although you can still lose weight with more moderate exercise.

Eat Breakfast and don’t eat late at night –

Calories eaten in the evening before bedtime are made available after the body has begun to slow down in preparation for sleep, and, hence are stored.

Eating breakfast both warms the body, encouraging thermo genesis, and signals the body that it is free to expend energy without fear of famine. Breakfast eaters tend to snack less and to consume less total fat. Eating the same number of calories, obese subjects who ate 3 full meals have been shown to lose more weight than those who ate only lunch and supper.

12 things you can do to help with weight loss

By Alex Schauss PhD.

- 1 – Eat Breakfast you will consume on average 150 calories less during the day if you do so
- 2 – Eat wet foods
- 3 – Size up your portions of carbohydrate foods, focus on complex carbohydrates i.e. 100% whole grains and beans and vegetables (especially root vegetables – portion control) The Glycemic Index of foods can be a helpful guide on how carbohydrates turn into blood sugar it’s accessed on the www.BrighterDayFoods.com or Glycemic Index Lists by Rick Mendosa on an internet search engine
- 4 – Don’t eliminate fat
- 5 – Eat quality fats, olive oil, flax oil, fish oil ect.
- 6 – Eat Nuts
- 7 – Remove food triggers (hide food)
- 8 – Eat enough calories; eat greater than 1000 calories a day.
- 9 – Burn calories by exercise
- 10 – Eat fiber and drink water – drink green tea it helps the metabolic rate.
- 11 – Lift weights resistance exercise causes the body to burn more calories

12 – Eat Protein and low carbohydrate vegetables for dinner and not too late at night

AIBMR.com is the website for Alex Schauss PhD.

Green tea extract – He feels it's the best thing for weight loss.

If you take Chitosan, as a supplement be sure it is fast acting, that it dissolves in 1 or 2 minutes and take after a no-no meal when you cheat.

Weight Loss Supplements

5HTP – 5-hydroxytryptophan a derivative of the Griffonia Bean grown in Africa is a pre-cursor to serotonin a brain neurotransmitter. 5HTP has been shown to reduce the cravings for carbohydrate foods and promote weight loss by promoting satiety – appetite satisfaction leading to fewer calories being consumed at meals. This supplement may especially benefit night time snacking and binging on high carbohydrate foods.

Thermogenics – Stimulant herbs such as guarana, bitter orange and green tea can stimulate the metabolic rate of fat tissue as well as cut the appetite. Green Tea – in a 1999 study published in the American Journal of Clinical Nutrition a Green Tea supplement containing 90mg of EGCG and 50 mg of caffeine or placebo was given to a group of healthy men. The men ate a normal diet and did not exercise. Results showed that only those who took the green tea supplement experienced a significant increase in calorie burning. Use green tea supplements that are not decaffeinated for weight loss.

Fiber Supplements – The best fiber supplements for weight loss are: Glucomannan, psyllium husks powder, guar gum, pectin and chitin. When taken with water before meals these fiber sources bind to the water in the stomach to form a gelatinous mass that makes a person feel full. In some clinical studies on weight loss, fiber supplements were shown to reduce the number of calories absorbed by 30 to 180 a day. Although this does not sound like much over a years time it could add up to between 3 and 18lbs lost. Guar Gum was shown to be effective. In a study of 9 women who weighed between 160 and 242 pounds – each person consumed 10 grams of guar gum immediately before lunch and dinner. Each individual made no conscious change in their diet. In 2 months the women lost 9.4 lbs that equates to over 1 pound a week in lost weight. A new fiber has been developed by the University of Toronto in Canada called **PGX** – it is primarily a form of glucomannan that has been modified to increase it's viscosity and fluid holding ability – this may be the best water soluble fiber yet developed. It is being marketed by **Natural Factors** and is sold in capsules and in a Whey protein shake for meal replacement.

L – Carnitine – Transports fatty acids across the cell membranes into the mitochondria where they are burned for energy. It helps rid the liver of stored fat - excellent for lowering cholesterol and triglycerides.

Chromium – works by increasing the effectiveness of insulin. This boost glucose absorption into the cells where it is used as energy rather than stored as fat. In weight loss higher doses than normal appear to work better – taking anywhere from 400 to 1mg a day.

Country Life – Lean Results

We have had very good feedback from customers using this product to help with weight loss. It is designed to specifically help regulate the insulin response by assisting in blood sugar regulation while safely enhancing thyroid function and increasing the metabolic rate without any stimulants. A person normally won't see any major changes for the first 3 weeks but after that will often experience a continuous loss of weight. We've had customers loose 15 – 25 lbs (one customer lost over 40lbs) using this supplement.

Protein – Studies show eating more protein can help people consume fewer calories. In a 6 month trial in the International Journal of Obesity 1999 researchers put 65 obese people on 1 or 2 diets 1) a diet with 12% of calories coming from protein 2) a diet with 25% of the calories coming from protein. None of the subjects exercised – those who ate more protein lost more weight.

Obesity Lecture Notes:

Alexander Schauss PhD.

From a lecture given in 12/02 Orlando FL

Current statistics:

- 1) 15% of teenagers are now Adult Onset Diabetics
- 2) Pot Belly on males is a sign of syndrome X – Type II Diabetes and a host of other problems
- 3) 64.5% of American Adults are obese in the year 2000
- 4) 80% of non-Hispanic Black women are overweight / obese
- 5) In 1960 24% of the US population was overweight 1988 it went to 33% in 1998 55% and in 2000 it's 64%

Fructose

Is the biggest problem in the American food supply now. Since the introduction of Fructose in soda beverages instead of sucrose people have become much fatter. High fructose corn sweeteners used in cola and soda beverages in 1985 were 35% of the total. Now sodas contain 90% fructose

Problems with Fructose

Fructose is particularly noted for stimulating fat storage. Fructose, unlike glucose, does not require insulin for its movement from the blood into the cells, and for this reason it is listed as being very low on the glycemic index (20), an index which rates the degree of blood sugar elevation triggered by foods in comparison with that triggered by glucose (100) on the index. Americans eat it in large amounts; Alexander Schauss believes it is the single largest culprit in the increasing obesity of Americans in the last 10 years. Almost all fructose eaten is converted into glucose (causing a delayed insulin peak), and in animal experiments fructose elevated triglyceride and insulin levels so consistently that researchers concluded that fructose was more damaging than other sugars, not less. Fructose also increases blood uric acid levels, an effect which adds a burden to the kidneys and is involved in promoting gout. Fructose also depletes copper, which is critical for the health of the heart and cardiovascular system. In general the high sugar level of the average American is implicated in chronic liver damage, fructose being perhaps the worst offender. Sugars cause significant increases in liver enzymes and elevates blood triglycerides.

SUCROSE consumption in the US is now at 160lbs a year – that is 8oz a day. _ a pound! Today fructose can be 20-30% of the daily energy intake a day. 1 soda = 200 calories of fructose. All animal studies show that when fructose is added to the diet, they get fat. Fructose is more lipogenic (fat storing) than sucrose. Fructose depletes copper from the body – people who get taccardia and arrhythmia when you add copper back into their diets the heart problems stop.