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GASTROENTEROLOGY AND HEPATOLOGY

Dietary Strategies to Combat Obesity

Obesity, as most everyone knows, is an epidemic in this country and other developed countries worldwide. There are an estimated 60 million obese adult Americans representing 30% of the adult population. These numbers have doubled since 1980 with 15% of Americans obese in 1980 and 31% by 2002. The estimated cost is \$13 billion per year in healthcare, absenteeism and lost productivity.

Obesity is defined by a mathematical term called Body Mass Index, which is the weight in kilograms divided by the square of the height in meters. A value over 25 is considered overweight, over 30 is obese and greater than 40 (35 if Hypertension or Diabetes is present) is morbidly obese.#

How did we get this way? Our diet has changed in the last hundred years, from a “Paleolithic Diet” high in lean meats, fish, fruits and vegetables, to a “Modern Diet” high in high fat meats, carbohydrates and processed foods. Man evolved over a thousand generations with this Paleolithic diet but as a response to population pressures, we started using agriculture, animal husbandry and finally food processing to increase the amount of food necessary to feed our population. In the past 40 years we have evolved to eating more processed foods than fresh foods! Associated with this change in diet has been an increase in coronary heart disease, stroke and a number of cancers including breast, prostate and colon. Modern man is being weeded out of the genetic pool by these diseases.

How does one battle this problem of obesity? How does one reduce the amount of food and lose weight, or prevent an unhealthy gain in weight? Certainly it is not easy. Programmed into our “hard drive” is a desire to eat sufficient calories to sustain the species. We’ve been taught since we exited the womb how important it is to eat. We’ve learned to treat stress with eating and oral gratification, and fat tastes good!

The cornerstone of obesity treatment involves consuming less calories than we use each day. If we do this we will mobilize fat that is stored as triglycerides for fuel. Approximately 75%–85% of weight that is lost by dieting is due to a loss of fat from fat cells. Long term weight loss is thought to result in a decrease in the number of fat cells.

There is considerable data supporting the benefit of a low fat (30%), low carbohydrate(40%), high protein diet (30%) in achieving weight loss. When subjects were changed from a standard fat diet to one low in fat, the number of calories consumed daily dropped by 38%. In over 9000 subjects, there was a ½ pound weight drop for every 1% drop in fat intake.

Calorie (Energy) density is a measure of the calories per gram of food. High energy density foods have a lot of calories in a given volume of food. Such foods are high fat meats, fried foods, pastries, butter and dressings. Low energy density foods are those low in fat, high in water and fiber. Such foods are low fat meats, fish, fruits and vegetables, legumes and salads. Studies in lean subjects that were given diets with high, medium or low density foods show that calorie consumption was 30% less in the low energy density group. It has also been shown that subjects consuming a low energy dense diet lose more weight due to the consumption of fewer calories.

When a low carbohydrate (high fat) diet is compared to a low fat (high carbohydrate) diet, there is evidence that there is more weight loss with the low carbohydrate diet. When a low fat diet is followed, optimum weight loss is achieved with a low carbohydrate, high protein ratio. That is, $\leq 30\%$ fat, $\leq 45\%$ carbohydrate, $\geq 25\%$ protein. Thus, a low fat, low carbohydrate diet is best!

As most people know, portion control is very important in reducing calorie intake. Studies show that when different portions are offered to subjects, even though they can have as much as they want during the meal, the ones with the smaller portions consumed less calories.

Meal variety also has been shown in studies to affect calories consumed. Those offered a larger variety of foods during a meal consume more calories during that meal. A variety of foods offer different sensory properties, is more pleasant to eat and thus more calories are consumed.

Restaurant dining enhances calorie intake because they offer: 1) generous portions; 2) high energy dense foods; 3) considerable variety; 4) often “convivial company” and 5) encourage alcohol consumption. Eating out in restaurants thus provides a challenge to those interested in weight management.

A number of strategies can help individuals eat out without overeating: 1) choose restaurants that offer healthier menu options or low-fat dishes 2) limit fat intake by requesting less fat be used in food preparation, that butter not be served, and salad dressing be served on the side 3) avoid all-you-can-eat buffets 4) plan what will be ordered before arriving at the restaurant 5) eat a low-calorie, low-energy-density snack before arriving at the restaurant to reduce hunger 6) avoid large portions: share an entree or ask for a half order, order just a salad and an appetizer, leave food on the plate or ask for a doggie bag 7) ask the server to remove tempting foods like bread from the table when enough has been consumed.

Behavior modification techniques include evaluating when and why extra calories are consumed and taking steps to avoid putting yourself in that situation. One may snack before bed, eat large quantities of food quickly, eat out in restaurants frequently or skip breakfast and lunch and eat huge dinners. Each one of these habits can be modified and even small changes add up over time.

Self monitoring of progress has been shown to be a successful way to limit calorie intake, by means such as keeping a food diary. Checking your weight on a regular and frequent basis helps keep yourself on track to lose weight. Having someone who is supportive of your efforts assist

you in your battle is very helpful. Weight Watchers, Jenny Craig or physician supervised weight loss programs improve the chances for success.

If weight loss and maintenance is an important goal one must make a decision to change one's eating habits for life, not just "go on a diet."