



## The Greatest Health Crisis in America

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The steadily increasing prevalence of those who are overweight or frankly obese is without doubt the greatest health crisis in the United States. This will have a profoundly negative effect on the longevity and health of a vast number of Americans as they enter the middle years of life. When this vast multitude of individuals develops severe medical conditions as a result of their significantly overweight condition they will flood the medical clinics and hospitals of North America, requiring treatment for their problems. Many will die at a young age.

The figures that verify this crisis are astounding. In 1985, less than 10 percent of Americans were obese and about the same percentage were significantly overweight, for a total of about 20 percent. Now, in 2013, the combined total of those overweight or obese has reached 74 percent, according to World Health Organization, with about half of these individuals overweight and the half obese. All these individuals are at increased risk for developing diabetes, as well as for acquiring hypertension, heart disease, cancer, and strokes.

### Some Definitions

Obesity is defined as greater than 20 percent more body weight than normal, if it is mostly fat. This definition does not apply to those who are very muscular and are overweight as a result. Overweight persons: have 10% - 20% more body weight than normal. Usually it is also mostly fat. Morbid obesity is defined as being 40% or more above ideal weight for age and height.

### Ideal Weight Tables

Life insurance companies have developed tables for ideal weight, based on their accumulated statistics of those who live the longest. This information has been compiled over the past 100 years. These tables have determined the ideal weight for males and for females, based on their height, and also

their frame size. These were first compiled by the Metropolitan Life Insurance Company of New York in 1954, based on many years of collecting data. They were revised in 1980. Separate charts have been drawn up for younger adults (25 through 59) and older adults (60 and older). It's a good idea to look up these charts online and check one's weight against the tables. Based on our height, they tell us what our weight needs to be to grant us the best chances of living the longest.

### Body Mass Index (BMI)

The body mass index scale is also used to determine those who are overweight and to estimate their health risks as a result. An adult who has a BMI between 20 and 25 kg/m<sup>2</sup> is considered to be in the ideal weight range. A BMI between 25-29.9 kg/m<sup>2</sup> is considered overweight. This designation begins at about 10% over a person's ideal weight. An adult who has a BMI of more than 30 is considered obese. This designation begins at about 20% over ideal weight.

#### Determination of BMI:

Body mass index: weight (kgs.) / height (meters)<sup>2</sup>

Example: My weight: 182lbs/2.2 = 83 kg. My height: 75 inches x 2.54 centimeters per inch = 190 centimeters, which equals 1.90 meters.  $1.9^2 = 3.6$ .  $83/3.6 = 23$  BMI. Again, the BMI is generally a good way for determining the influence of a person's weight on their health risks. It may be thrown off by a heavily muscled individual, suggesting a higher risk than the person actually has.

#### BMI rating and health risk:

- Less than 16.5 (severely underweight): high risk
- 16.5-20: (underweight): moderate risk
- 20-25: most healthy weight
- 25-26: slight additional health risk
- 27-29: moderate additional risk
- 30-34: high additional risk
- 35-39: very high risk
- 40+: extremely high risk

#### Bioelectrical impedance analysis:

This measures the impedance, or resistance to electrical flow, through body tissues from one point to another. A caliper-like device is usually placed on the forearm and a low-grade current is turned on. Fatty tissue creates a higher resistance to flow than water or muscle, and this can be measured to determine the percentage of fat in the tissue. Higher impedance means the person has more fat. This is a popular test in gyms and fitness spas to document levels of adipose tissue in those who sign up, with a follow-up comparison after the person works out for several months.

### Body volume index

The Body Volume Index (BVI) was introduced in February 2000 as a new computer-based measurement for measuring obesity; an alternative to the Body Mass Index (BMI). BMI is based on height and weight only, but the new BVI system automatically measures BMI, plus waist circumference and waist-hip ratio. In addition there is a sophisticated volumetric and body composition analysis of a 3-D computer total body scan. It can determine the amount of truncal (abdominal) obesity, which correlates with the greatest health risk. It is projected that the scientific and technical development of BVI may take a similar period to BMI, so 2020 is the current projected

date for adoption and delivery on a national scale.

#### Causes of dramatic weight increase

There are many factors working together that account for the dramatic increase in weight of Americans. Restaurant meals serve larger portions than they did in the past. Many if not most people are eating more of their meals in fast food restaurants, which feature rich foods, loaded with fats and carbohydrates, with larger servings than before. McDonalds increased the French fries portion from 200 calories per meal in the 1980s to 600 calories per meal at present to make their meals.

Much of our food intake now comes from boxed heavily processed meals, often with MSG, with large amounts of refined sugar or high fructose syrup. We must also add to this the consumption of sodas containing high levels of fructose, and the popularity of tea and coffee specialty drinks, high in calories.

Calories in popular drinks (this may surprise you):

- SoBe Green Tea: I bottle: 240 calories, 61 gms sugar. = 4 slices Sara Lee Cherry Pie
- Rockstar Energy Drink: 280 Calories, 62 gms sugar = 6 crispy cream glazed doughnuts
- Starbucks Vanilla Frappuccino: I bottle: 290 calories, 4.5 gms fat, 45 gms sugar
- Starbucks peppermint white chocolate mocha with whipped cream: 660 calories, 22 grams fat, 95 grams sugar. This is the equivalent of eating 8.5 scoops of Edy's Rich 'n Creamy coffee ice cream
- Worst drink of all in the U.S. : Coldstone Peanut Butter and Chocolate Shake, Gotta have it size (24 oz). It contains 2010 calories, 131 gms fat (equal to 68 strips of bacon) and 153 gms sugar (equal to 30 Chewy Chips Ahoy chocolate chip cookies).

#### Our Sedentary Society

Americans are more sedentary these days than they were in the past. They are viewing more television and videos than before. Large flat screen TVs are fun to watch, and observing professional and college sports on them are especially inviting. Jobs are also more sedentary: there is less farming, less mining and factory work, and more online jobs and data processing. Many people now shop online rather than in stores.

#### Metabolic syndrome

Over half of overweight people suffer from Syndrome X, also referred to as the metabolic syndrome. This syndrome is extremely common in the industrialized world today, far more so than ever before, due to the epidemic of obesity.

The characteristics of the metabolic syndrome include: truncal obesity (excess weight in the abdomen and hips, rather than in the thighs and buttocks), fatty infiltration of the liver, hypertension, or pre-hypertension, high cholesterol, with increased LDL (bad cholesterol) and high triglycerides, insulin resistance, with glucose levels above 100 mg/dL and high serum insulin levels. Such insulin resistance is a common precursor to actual diabetes. It means that the body has become less responsive to insulin's effect of driving glucose into the cells, where it fuels metabolism. Thus following a meal the insulin rises to high levels as it attempts to force glucose into the cells, because it has become less efficient than normal in doing so. The excess insulin causes fat deposition, especially in the trunk of the body and in the liver, and causes the build-up of high cholesterol and triglyceride levels.

People with insulin resistance have a difficult time losing weight and tend to continue to gain it instead. Actual diabetes is likely to follow. Last year, for the first time, the life expectancy of children born in the United States was predicted to be shorter than their parents. This is mostly due to the increased incidence of diabetes.

#### Diabetes and its effects on health

Perhaps no other disease has such widespread damaging effects throughout the body as diabetes. We love and support our diabetics, but this is a disease you do not want to get. Here is what can happen:

- Visual problems leading to blindness
- Kidney disease leading to kidney failure
- Vascular insufficiency leading to gangrene of hands and feet
- Damaged nerves leading to severe neuropathy
- Increased susceptibility to dangerous infections
- Potential wide swings of glucose levels which may lead to loss of consciousness if it is too low or too high
- Many more problems that shorten life.

#### Other dangers of obesity and an unhealthy diet:

Our American diet which is high in animal fats and refined starches, plus lack of adequate exercise leads to estrogen levels at least twice as high in the US and other industrialized countries as in women in agrarian third-world countries. The natural balance of estrogens and progesterone is lost. This is why women in industrialized countries have so many menopausal problems, plus the highest incidence of breast cancer in the world (the United States leads all other countries in incidence of breast cancer).

There is also more exposure to xenoestrogens, many of which come from phenols and other organic compounds in plastic bottles and packaging materials in processed foods. "Xeno" means foreign; these unwanted chemical we are exposed to attach to estrogen receptors in the body and create undesirable estrogenic effects.

#### Xenoestrogens and estrogen disruptors in the environment:

- Insecticides, such as lindane, heptachlor
- Weed killers, such as atrazine
- Sunscreen lotions such as parabens with 4MBC (methylbenzalidine camphor)
- Bisphenol A, found in plastic water bottles and the lining in many canned food containers
- Pthalates, widely found in plastics as a softener
- There is also increased estrogen intake from consuming fish, poultry, or livestock that have been fed estrogen or growth hormone enriched feed.

The current epidemic of obesity also leads to production of excess estradiol (much more potent than estrone in its toxic effects). Precursors to estradiol are converted to estrogen hormones (estradiol and estrone) in fat cells. Anovulatory cycles: (where no ovulation occurred) are more common during the perimenopause in obese women (ages 40 to 50) and they happen sooner in those going through actual menopause. Anovulatory cycles deprive the woman of her progesterone, which normally balances her estrogen, and minimizes its harmful effects. This helps set the stage for estrogen dominance.

All these factors taken together: unhealthy diet, lack of adequate exercise (30 minutes of fast walking every day or most days is considered adequate), increased incidence of obesity, plus the presence of multiple xenoestrogens in the environment when taken together cause severe estrogen dominance in women in the industrialized countries of North America, Europe, Australia, New Zealand, and, to some extent, Japan.

Well-documented health risks of obesity: (U.S. National Cancer Institute Report, Jan 2012)

- Diabetes
- Hypertension
- Atherosclerosis, with heart attacks, strokes, gangrene of the legs and feet
- Gallbladder disease (gallstones with obstruction, inflammation)
- GERD: gastro-esophageal reflux disease
- Arthritis
- Cancer: especially prostate, colon, breast, rectum
- Increased risks of pregnancy and childbirth
- Increased anesthesia risks

Obesity is also associated with increased risks of the following cancer types, and possibly others as well: esophagus, pancreas, colon and rectum, breast, endometrium (lining of the uterus), kidney, thyroid, gallbladder

The treatment for obesity includes:

- Healthy diets
- Exercise
- Behavior Modification: individual and group therapy
- Acupuncture and herbal therapy
- Journaling
- Diet Drugs
- Homeopathic remedies (e.g. HCG drops)
- Weight reduction Surgery

### Healthy Diet

A healthy diet includes about 1,500 calories a day, or less if the person is not active. Most people will lose weight if they consume a 1,500 calorie balanced diet that limits the amount of sugar to 10-15 teaspoons per day. They will lose more reliably and faster if they consume a lower calorie diet: as low as 750 calories during the weight loss period, if the diet is well balanced and the person can manage his/her hunger.

Being aware of your carbohydrate intake:

To figure out the amount of sugar in foods, look up the grams of carbohydrates in processed foods, usually given per serving. Subtract the grams of fiber in the serving and divide the remainder by five to get the teaspoons of sugar. For example if there are 28 grams of carbs per serving, and this includes 3 grams of fiber, you get 25 grams of sugar carbohydrates. Divided by five this gives 5 teaspoons of sugar.

Many people who do this figuring are amazed how much sugar they consume. You can get a small booklet at a drugstore that has this information for all common foods. A cup of pasta, without any

sauce on it, has 8 teaspoons of sugar! Eat complex carbohydrates rather than simple carbohydrates such as sucrose and fructose. Complex carbs are found in fruits, vegetables, legumes, and whole grains. A good concept to remember is to seek foods with nutritional density: foods that have not only calories but fiber, vitamins, phytochemicals, protein, minerals and other nutritious substances. Eat foods with a low glycemic index whenever possible.

#### Glycemic index (GI):

The GI is a measure of the effects of carbohydrates in food on blood sugar levels. It estimates how much each gram of available carbohydrate (total carbohydrate minus fiber) in a food raises a person's blood glucose level following consumption of the food, relative to consumption of glucose. Glucose has a glycemic index of 100, by definition, and other foods have a lower glycemic index. Glycemic index is defined for each type of food, independent of the amount of food consumed, relative to the glycemic index of glucose. Foods with a lower glycemic index are metabolized slower in the gut, cause less insulin secretion, and often favor metabolism into glycogen and other cross metabolic pathways that favor healthy body processes.

Research has shown that individuals who followed a low-glycemic index diet over many years were at a significantly lower risk for developing both type 2 diabetes, coronary heart disease, strokes, and age-related macular degeneration. A study from the University of Sydney suggests that having a breakfast of white bread and sugar-rich cereals every day, over time, may make a person susceptible to diabetes, heart disease, and even cancer.

#### Glycemic index: list of carbohydrate foods:

- Low: 55 or less: most fruits and vegetables, legumes/pulses, some whole, intact grains, nuts, kidney beans, beets, chick peas
- Medium: 56-69: whole wheat products, basmati rice, sweet potato, sucrose, baked potatoes, many pastas
- High: 70 and above: white bread, most white rices, corn flakes, other breakfast cereals, glucose, maltose (some drinks; candy in Asia) maltodextrins (found in sodas and candy in the US).

Being aware of your overall fat intake is also important. A balanced diet should be less than 30% fat. Calculate the percentage of fat calories in processed food, as most labels only include fat grams. To determine the percentage of calories from fat grams in any given food, first calculate the number of fat calories by multiplying fat grams by nine. Divide that number by the total number of calories in your dietary intake to get the ratio of fat to your overall diet for that day. Multiply by 100 for your final percentage. Watch out for the amount of fat you consume, as well as the type of fat. Avoid trans fats when possible: they promote atherosclerosis and inflammation. Saturated fats, in spite of 50 years of bad press, can actually be good for you in moderation.

Our modern Western diet has too high a ratio of omega-6 to omega-3s. Try to reduce your intake of omega-6 fatty acids (most fats in our diet) and increase your intake of omega-3 fatty acids (cold water fish or fish oil supplements)

Protein in your diet: take your ideal weight in pounds and divide by two to get the grams of protein you should consume in a day. For example,  $140 \text{ lbs} / 2 = 70$  grams of protein a day. In kilograms it is roughly 1 Kg per gram of protein. 70 grams of protein is a piece of steak or a pork chop about the size of a deck of cards. Those who are vegetarians know about the protein sources they should eat.

Being passionate about eating a healthy diet will prolong your healthy life. Then enhance your likelihood of this taking place by getting enough exercise on a daily basis (or on most days!). Get enough sleep every night (7 to 8 hours is best for most people), manage your stress, reach out to close relationships in your life... and enjoy what you do!

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