

Health Effects of Visceral Fat

Background:

- A person can have up to 100 billion fat cells. The average person has 40 billion. (Newsweek, 2004)
- Visceral Fat is different from subcutaneous fat. Subcutaneous Fat is the fat that is located directly under the skin. Visceral Fat, however, is located in the abdomen underneath the muscle and around vital organs. (WebMD, 2003)
- Overweight or obese people are at a substantially higher risk for high blood pressure, high cholesterol, type 2 diabetes, heart disease, stroke, gallbladder disease, arthritis, problems breathing, sleep apnea, and certain cancers. (Healthy People 2010, 2007)
- Fat is not an inactive storage unit as was once believed. It produces many chemicals and hormones, both good and bad, which are circulated through the bloodstream. One such good hormone is leptin, a substance that signals a feeling of fullness. (Newsweek, 2004)
- Visceral Fat is more metabolically active than subcutaneous fat. It produces more harmful hormones and enzymes such as interleukin(IL)-6, and suppresses positive ones such as leptin. (MSN Health and Fitness, 2007)
- It secretes inflammatory adipokines such as interleukin (IL)-6, macrophage chemoattractant protein-1 (MCP-1), and resistin. These chemicals can induce insulin resistance. (American Diabetes Association, 2007)
- Having excess visceral fat greatly increases one's chance of having diabetes and heart disease. (American Heart Association, 2007)
- Visceral Fat causes impairments in blood sugar metabolism and causes insulin resistance, which can lead to Type 2 Diabetes. (American Heart Association, 2003)
- Visceral Fat is broken down by the liver to create low-density lipoproteins (LDL), which circulates throughout the blood stream. LDL is commonly referred to as "bad" cholesterol. This cholesterol builds up as plaque in the arteries, constricting the flow of blood. This buildup is known as atherosclerosis. (WebMD, 2003)
- Measuring Waist Circumference (WC) is considered a more accurate way to measure central adiposity, or visceral fat, than Body Mass Index (BMI). There is a direct correlation between a person's waist circumference and their chance of having diabetes and heart disease. (American Heart Association,

2007)

- A Waist Circumference of 32 inches for a woman and 37 inches for a man indicates a significantly raised risk of developing heart disease or diabetes. A Waist circumference of 35 inches for a woman and 40 inches for a man is considered high risk for developing both conditions (BBC, 2007)
- While heredity is a factor, what you eat also contributes to visceral fat. In studies where all the participants consumed the same number of calories, people who ate more refined carbohydrates (such as white bread, rice, pasta) developed more fat around the waist than those that ate fruits, vegetables and whole grains. (Newsweek, 2004)
- People who receive more than 30 percent of calories a day from fat are more likely to have measurable visceral fat (WebMD, 2003)
- The Dietary Guidelines for Americans recommends that individuals eat a healthy assortment of foods including vegetables, fruits, whole grains, fat-free or low-fat dairy products, beans, fish, poultry, or other lean meats. Always eat sensible portion sizes no matter what the food, and choose foods low in saturated fat and added sugars. (Healthy People 2010, 2007)
- Visceral Fat cannot be removed through liposuction. That process removes only the subcutaneous fat of the stomach. (Newsweek, 2004)
- The best way to rid oneself of both subcutaneous fat and visceral fat is through diet and exercise. Even a small increase in exercise and a small decrease in calories consumed can prove to be beneficial over time. (Healthy People 2010, 2007)
- Visceral Fat is consumed more quickly by the body than subcutaneous fat when undergoing regular exercise due to the fact that it is more metabolically active. (Newsweek, 2004)
- The Dietary Guidelines for Americans suggests that all adults get at least 30 minutes of moderate physical activity every day if possible. It also suggests that children get at least an hour of physical activity every day. Children are also advised to limit inactive forms of entertainment such as watching television and playing video games. (Healthy People 2010, 2007)

Statement of the Problem:

- Healthy People states their primary goal is to "Promote health and reduce chronic disease associated with diet and weight." (Healthy People 2010, 2007)

- Healthy People wishes to "Increase the proportion of adults who are at a healthy weight". Their target is 60 percent of the population. As of 1988-1994, 42 percent of adults were at a healthy weight. (Healthy People 2010, 2007)
- Healthy People hopes to "Reduce the proportion of adults who are obese". Their target is to reduce the obesity percentage to 15 percent of adults. As of 1988-1994, 23 percent of adult were considered obese. (Healthy People 2010, 2007)
- Healthy People aims to "Reduce the proportion of children and adolescents who are overweight or obese. Their target is to reduce the percentage to 5 percent of children in the United States. As of 1988-1994, 11 percent of children and adolescents were overweight or obese. The primary way to combat this is to promote good eating habits and encourage physical activity. (Healthy People 2010, 2007)
- Healthy People also hopes to "Increase the proportions of persons aged 2 years and older who consume at least two servings of fruit". Their target is 75 percent. As of 1994-1996, only 28 percent consumed those two servings. (Healthy People 2010, 2007)
- Healthy People aims to "Increase the proportion of persons aged 2 years and older who consume at least three daily servings of vegetables". Their goal is 50 percent. As of 1994-1996, only 3 percent consumed those 3 servings. They wish to see more people choose leafy dark green vegetables, dried beans, and peas. 32 percent of vegetable servings consumed by people aged 2-19 were fried potatoes. (Healthy People 2010, 2007)
- Healthy People looks to "Increase the proportion of persons aged 2 years and older who consume at least six daily servings of grain products, with at least three being whole grains". Their goal is 50 percent. As of 1994-1996, only 7 percent were meeting those guidelines. The average daily intake was 7 servings, but only 14-15 percent of those servings were from whole grains. (Healthy People 2010, 2007)
- Healthy People hopes to "increase the proportion of persons aged 2 years and older who consume less than 10 percent of calories from saturated fat". Their goal is 75 percent. As of 1994-1996, only 36 percent of people met those guidelines. (Healthy People 2010, 2007)
- Healthy People is aiming to "Increase the proportion of persons aged 2 years and older who consume no more than 30 percent of calories from total fat". Their goal is 75 percent. As of 1994-1996, 33 percent met those guidelines. They hope to achieve this by having people obtain more calories from healthy products such as fruits, vegetables, and whole grains. They also want people to pay more attention to serving size and choose low-fat meats

and dairy products. (Healthy People 2010, 2007)

Epidemiological Picture:

- Everyone has both subcutaneous and visceral fat. Also, everyone is susceptible to gaining too much visceral fat by overeating and by inactivity. (American Heart Association, 2007)
- In 1995, the total costs attributable to obesity in the nation, both in losses of productivity and in medical expense, are estimated to be \$99 billion. (Healthy People 2010, 2007)
- Studies have found that globally 40 percent of men and 30 percent of women are overweight. In addition, 24 percent of men and 27 percent of women are obese. (American Heart Association, 2007)
- According to Healthy People, between 1988-1994, 11 percent of children aged 6-19 years were overweight or obese. During that same time frame, 23 percent of adults 20 years or older were obese. Healthy People's goals for 2010 are to reduce the number of overweight or obese children to 5 percent and to reduce the number of obese adults to only 15 percent. (Healthy People 2010, 2007)
- Healthy People estimates that now more than half of the nation's adult population is overweight or obese. (Healthy People 2010, 2007)
- The number of overweight or obese adolescents from low-income households is twice that of adolescents from middle to high income households. In addition, obesity is more prevalent amongst women with lower incomes. (Healthy People 2010, 2007)
- Obesity is more common among African American and Mexican American women than it is among white women. The amount of African American women who are obese is 80 percent higher than obese African American men. The same holds true for Mexican American men and women. However, the percentage of white men and women who are obese is about the same. (Healthy People 2010, 2007)

Solutions to the Problem:

The American Heart Association (www.americanheart.org)

The American Heart Association is a non-profit organization that states their mission as "Building healthier lives, free of cardiovascular diseases and stroke". This specifically relates to the management of excess subcutaneous and visceral fat, as these prove to increase the risk of heart diseases and

complications dramatically. The organization takes active part in funding research as well as facilitating the spread of information in order to help prevent heart related diseases and ailments.

The American Diabetes Association (www.diabetes.org)

The American Diabetes Association is a non-profit organization that states their mission "is to prevent and cure diabetes and to improve the lives of all people affected by diabetes". They fund research on how to prevent diabetes as well as publish the fruits of such research. A major component of preventing adult onset diabetes is the management of fat, especially visceral fat, as it has been found to secrete hormones that promote insulin resistance.

The Center for Disease Control and Prevention (www.cdc.gov)

The Center for Disease Control and Prevention is a government-affiliated organization that states their mission is "to promote health and quality of life by preventing and controlling disease, injury, and disability". They actively take part in the fight against disease by funding research as well as promoting the exchange of medical information on a worldwide basis. They are involved in the battle against visceral fat, as many of the diseases they face can be prevented through healthful habits early on. The first step toward treating such illnesses as diabetes and heart disease is prevention, and that is achieved by maintaining a healthy weight and keeping visceral fat to a minimum.

Internet Resources:

Websites that contain additional information regarding visceral fat are...

-Newsweek, www.newsweek.com

-Duke University Medical News, www.dukemednews.duke.edu

-The British Broadcasting Corporation News, news.bbc.co.uk

You can find great articles relating to visceral fat and the effects it has on the body from these sources. Be sure to search for visceral fat.

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