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Metabolic Syndrome Part II
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Remember, we defined the "metabolic syndrome" as a person who has three of the following five conditions:

- Triglycerides above 150
- Waist Circumference greater than 40 for males and 35 for females
- Blood Pressure greater than 130/85
- Fasting Blood Sugar above 110
- HDL below 40 for males and below 50 for females

Three major factors contribute to the "metabolic syndrome; they are:

- Inactivity
- Abdominal fat
- Insulin Resistance

The Amish have a very low incidence of abdominal obesity because they walk 17,000 steps a day. Other Americans have a very high incidence of the metabolic syndrome because their inactive life style leads to abdominal obesity which contributes to insulin resistance and the development of type II Diabetes Mellitus.

If you have abdominal obesity -- that is fat around your abdomen -- you are at very high risk for developing one or more of the following conditions, all of which have negative affects on your health:

- Insulin resistance
- Type 2 Diabetes
- Hypertension
- Hyperinsulinemia
- Endothelial dysfunction -- leading to hardening of the arteries and heart disease
- Elevated levels of C-Reactive Protein -- reflecting a very high risk for heart disease and heart attack
- Other Inflammatory Markers
- Increased blood viscosity -- making you at risk for a stroke or blood clot
- Increased Fibrinogen levels -- this has the same affect as increased blood viscosity
- Premature atherosclerosis

All of these complications are treated effectively by weight reduction and increased activity. While there are medications which can diminish the complications of abdominal obesity, nothing gets rid of it like weight reduction.

The presence of the "metabolic syndrome" has shown increased disease risk as follows:

- The metabolic syndrome increases risk for CHD and stroke 3 fold
- The metabolic syndrome increases risk of cardiovascular death 5 fold
- The metabolic syndrome increases the risk of development or progression of carotid atherosclerosis.

Being sedentary -- inactive -- and being fat are not without serious health consequences. All of us know this, but we must face this fact and determine to something about it.

Treatment of Metabolic Syndrome

The primary goal of treatment for metabolic syndrome is to prevent the development of type 2 diabetes, heart attack and stroke. Usually, this can be accomplished with an aggressive regimen of self-care strategies focusing on diet and exercise. You don't need to battle metabolic syndrome on your own, though. Your doctor may routinely monitor your weight and your blood glucose, cholesterol and blood pressure levels to ensure that lifestyle modifications are working. He or she may also prescribe medications to control the syndrome's individual risk factors, including:

Weight-loss drugs. Some doctors may prescribe weight-loss drugs as part of a complete weight-loss plan that also includes a healthy diet and exercise. The two weight-loss medications most commonly prescribed are sibutramine (Meridia) and orlistat (Xenical). Don't, however, ask your doctor for weight reduction medication unless you are serious about regular participation in an ongoing weight management program. Don't ask your doctor for "diet pills" unless you have seriously decided to take personal responsibility for your own health.

According to the National Heart, Blood, and Lung (NHLBI) Institute Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults and the US Food and Drug Administration (FDA), "diet pills" (pharmacotherapy) is indicated for:

- Obese patients with a BMI ≥ 30 or
- Overweight patients with a BMI or ≥ 27 and concomitant obesity-related risk factors or diseases, such as hypertension, diabetes, or dyslipidemia.
- However, the BMI threshold is only one part of the criteria for medication treatment. For patients who meet BMI criteria, pharmacotherapy should be considered only if they:
- Will be taking the medication in conjunction with an overall weight management program, including a reduced-calorie diet and increased physical activity
- Have realistic expectations of medication therapy
- Do not have other medical conditions or take other medications that are a contraindication for obesity drugs

Successful use of anti-obesity mediations requires that patients deliberately and consciously alter their behavior for weight loss to occur. In other words, the pharmacological action of anti-obesity medications must be translated into behavior change.

Insulin sensitizers. Doctors use thiazolidinediones (Actos and Avandia) and metformin (Glucophage, Glucophage XR) to decrease insulin resistance in people with diabetes. These medications may help improve insulin metabolism in people with metabolic syndrome. If you routine have a blood sugar at or above 130, you have already lost 50% of your insulin-producing capacity in your pancreas and should be on these medications.

Aspirin. Your doctor may prescribe aspirin to reduce your risk of heart attack. Obesity and the metabolic syndrome is an inflammatory process. The most recent research lists prothrombotic (predilection for blood clots and strokes) and proinflammatory (predilection for heart attack and hardening of the arties) as components of the metabolic syndrome. Abdominal obesity is one cause of elevated levels of the inflammatory mark, C - reactive protein (CRP), because excess adipose tissue releases inflammatory cytokines that elicit higher CRP levels. As the number of components of the metabolic syndrome increases from 0-5, the CRP level rises linearly. CRP adds important prognostic information regarding future vascular risk at all levels of severity of the metabolic syndrome.

Medications to lower blood pressure. The major types of medications used to control high blood pressure include diuretics, angiotensin-converting enzyme (ACE) inhibitors, calcium channel blockers and beta blockers. The controlling of the blood pressure is critical. As the blood pressure goes up 20 mm of mercury from 110, the risk for heart disease and stroke goes up over 100%.

Medications to regulate cholesterol. Medications such as niacin, statins and fibrates can improve your cholesterol in the following ways: they can reduce your level of low-density lipoprotein (LDL) cholesterol -- the "bad" cholesterol, increase your level of high-density lipoprotein (HDL) cholesterol -- the "good" cholesterol, and decrease the level of triglycerides -- another "bad" component of cholesterol.

Exercise and weight loss

There are four principles which should guide your exercise which is directed toward weight loss. They are:

- **Regularly incorporate cardiorespiratory workouts that are low intensity for a longer duration.** Rationale: The majority of the research shows that women derive a greater proportion of their energy expenditure from fats during low to moderate intensity exercise, relative to men. Thus, this will improve fat metabolism, particularly for females.
- **Incorporate some cardiorespiratory workouts that are of higher intensity for a shorter period of time**. This may best be realized with high intensity continuous training or perhaps with interval training. Rationale: As exercise intensity increases, the percent of energy derived from fat decreases. However, the absolute amount of energy derived from fat is actually increased, for males and females. As exercise intensity increases, so does total energy expenditure (caloric expenditure). Even though a smaller percentage of the energy expenditure is coming from fat, more kcals of fat are burned, because there is greater absolute energy expenditure.
- **Incorporate various modes of training**, often referred to as cross-training. Rationale: The theory of multi-mode training implies that by training on different modes of exercise, the body is averted from getting overly fatigued and from overuse of the same muscles in the same movement patterns. This helps to thwart the occurrence of musculoskeletal system stress, aiding in the prevention of muscle soreness and injuries. Therefore, theoretically, a person will be able to safely do more work, more frequently, which equates to higher total energy expenditure and fat utilization.
- **Vary the above workout designs regularly!** Endeavor to find a satisfactory method where cardiorespirtory workouts vary either within each week, weekly, bi-weekly, or any combination of all. Rationale: Similar to the above, varying the workouts provides a new stimulus to the body's cardiorespiratory system in an effort to avoid the consequences of overuse exercise fatigue.

If you are overweight, lose weight; if you are obese, consider yourself in an emergency health condition. Get yourself involved immediately in a medically management weight management program which majors on your responsibility for taking charge of your future. SETMA has such a program if you are serious about getting healthy.

Remember, it is your life and it is your health. Ultimately, the person you are hurting with overeating and with a sedentary life style is yourself.