WHAT IS METABOLIC SYNDROME?
Metabolic syndrome, also known as insulin resistance or syndrome X, is a combination of medical conditions that, when they occur together can increase the risk of developing diabetes, stroke and heart disease.

HOW IS METABOLIC SYNDROME DIAGNOSED?
According to American Heart Association guidelines, any three of the following traits in the same person meet the criteria for the metabolic syndrome:

- **Abdominal obesity**: a waist circumference over 102 cm (40 in) in men and over 88 cm (35 inches) in women
- **Elevated serum triglycerides**: 150 mg/dl or above, or taking medication for elevated triglycerides
- **Reduced HDL ("good") cholesterol**: 40mg/dl or lower in men and 50mg/dl or lower in women
- **Elevated blood pressure** of 130/85 or above (or taking medication for high blood pressure)
- **Elevated fasting blood glucose** of 100 mg/dl or above

WHAT CAUSES METABOLIC SYNDROME?
Genetic factors - A family history that includes type 2 diabetes, hypertension, and early heart disease greatly increases the chance that an individual will develop metabolic syndrome.

Environmental issues - Low activity level, sedentary lifestyle, and progressive weight gain also contribute significantly to the risk of developing metabolic syndrome.

Insulin resistance - Insulin is a hormone that helps your body use glucose -- a simple sugar made from the food you eat -- for energy. In people with insulin resistance, the insulin doesn’t work as well so your body keeps making more and more of it to manage the rising level of glucose. Eventually, this can lead to diabetes. Insulin resistance is closely connected to having excess weight in the belly.

WHAT ARE THE DANGERS OF HAVING METABOLIC SYNDROME?
Metabolic syndrome increases the risk of type 2 diabetes (the most common type of diabetes) anywhere from 9 to 30 times over the normal population. As to the risk of heart disease, studies vary, but metabolic syndrome appears to increase the risk 2 to 4 times that of the normal population.
HOW IS METABOLIC SYNDROME TREATED?
Metabolic syndrome treatment is focused on managing each of the risk factors. Unhealthy habits may have led to the problem, so adopting healthy habits may reverse the problem.

- **Change eating habits**- Diets come and go, but more recently, the trend is toward the Mediterranean diet -- one that is rich in "good" fats (olive oil) and contains a reasonable amount of carbohydrates and proteins (i.e. fish and chicken). Keep your diet low in fat with a variety of fruits and vegetables and whole grains.
- **Adopt an exercise plan**- Exercise has a beneficial effect on blood pressure, cholesterol levels, and insulin sensitivity, regardless of whether you lose weight. In itself, exercise is helpful in treating metabolic syndrome.
- **Lose weight** – Weight loss can improve every aspect of metabolic syndrome. Changing your eating habits and increasing your activity level will help you lose weight.
- **Quit Smoking**- Smoking cigarettes increases insulin resistance and worsens the health consequences of metabolic syndrome.

WHAT IF LIFESTYLE CHANGES ARE NOT ENOUGH TO TREAT METABOLIC SYNDROME?
If lifestyle changes are not enough, then medications will need to be used to control the risk factors.

Blood pressure goals are generally set lower than 130/80. Some blood pressure medications have also been found to reduce levels of insulin resistance and to reduce the complications of type 2 diabetes. This is an important consideration when discussing the choice of blood pressure medications with metabolic syndrome.

Medications to manage your blood glucose and lipids would also need to be added.

ADDITIONAL RESOURCES
To enroll in a telephonic or guided self-help tobacco cessation program call **1-800-345-2476**

- Call a Blues On Call Health Coach or Wellness Coach at **1-888-BLUE-428** to learn more about controlling your risk factors.
- Go to [www.highmarkblueshield.com](http://www.highmarkblueshield.com). Log on to the Member website
  - Click on the Health & Wellness tab
  - Click on the Medical Encyclopedia box
  - Under the Health Information tab at the top of the page, select the Health Management Centers, to learn more about these risk factors.
  - Or Under the Healthy Living tab at the top of the page, select My Health Assistant for online programs to manage your risk factors.