



## Prevention of Heart Disease Should Begin in Childhood-Obese Kids Show Early Signs of Damage to Arteries; Metabolic Syndrome on the Rise Among Children and Adults

ALEXANDRIA, Va., Sep 24, 2004 /PRNewswire via COMTEX/ -- The metabolic syndrome, a collection of disorders that often precedes diabetes, has been rising steadily among adolescents and adults over the past two decades and is placing children at higher risk for premature heart disease, according to studies published in the October issue of Diabetes Care.

The metabolic syndrome (also known as insulin resistance syndrome) occurs when several disorders of the body's metabolism are present at the same time - - such as obesity, high blood pressure, and high cholesterol. It affects at least one in every five overweight people and can lead to hardening of the arteries, heart and kidney disease.

While the metabolic syndrome has been studied extensively in adults, far less is known about how it affects children. The studies published this month in Diabetes Care suggest that the metabolic syndrome is as serious a condition among children as it is among adults and that preventive steps should be taken immediately in children who exhibit this condition to ward off premature heart disease.

### Prevalence of the Metabolic Syndrome Among U.S. Adolescents Rising

One study, by researchers at the University of Washington in Seattle, showed that the overall prevalence of the metabolic syndrome among U.S. adolescents increased from 4.2 percent in 1994 to 6.4 percent just six years later. The study showed adolescent boys were more likely to develop the metabolic syndrome, as were children who were overweight (both boys and girls). A disturbing 32 percent of overweight adolescents had developed the metabolic syndrome, compared to just 7 percent of adolescents who were at risk of becoming overweight. The researchers estimated that more than 2 million American adolescents are affected by this syndrome.

The rise in prevalence coincides with an increase in obesity in both children and adults, which is closely associated with the development of type 2 diabetes. The prevalence of type 2 diabetes, historically associated with overweight adults, has greatly increased over the past two decades and is now a growing problem among children.

A separate study published this month shows the metabolic syndrome is also increasing among American adults, especially women. Researchers at the Centers for Disease Control and Prevention found that the prevalence among women jumped by a startling 23.2 percent from 1994 to 2000 but rose just 2.2 percent for the same time period among men. The study did not address why there was such a large discrepancy among genders.

### Metabolic Syndrome Linked to Changes in Arteries In Young Children

Another study, by researchers in Italy, found that obese children as young as six were experiencing changes in their blood vessels that, when present in adults, are associated with coronary artery disease. The researchers concluded that obesity during childhood, especially when combined with high blood pressure or insulin resistance, should be considered a major risk factor for premature heart disease and cause for treatment. They recommended that children who are obese begin treatment plans that include weight loss and control of any other risk factors for heart disease, such as high blood pressure.

"Our observation confirms that obesity, and its associated comorbidities, particularly hypertension and insulin resistance, even in this young age should be regarded as a disease with vascular implications," the researchers wrote.

Obesity is the leading modifiable risk factor for type 2 diabetes and is associated with the increase of type 2 diabetes among children. A study in the May issue of Diabetes Care predicted the number of Americans with diabetes would rise to more than 30 million by 2030.

"The metabolic syndrome is a complex disorder, and there's no simple test for it," said Nathaniel Clark, MD, MS, RD, national vice president, clinical affairs, American Diabetes Association. "The individual components, such as obesity, high blood pressure and high cholesterol are all conditions that are serious and can contribute to disease. **This research underscores the importance of maintaining a healthy lifestyle as early in life as possible by following a healthy diet, maintaining a healthy body weight, increasing physical activity, and avoiding tobacco smoke.**"

Diabetes Care, published by the American Diabetes Association, is the leading peer-reviewed journal of clinical research into the nation's fifth leading cause of death by disease. Diabetes also is a leading cause of heart disease and stroke, as well as the leading cause of adult blindness, kidney failure and non-traumatic amputations. For more information about diabetes, visit the American Diabetes Association Web site <http://www.diabetes.org> or call 1-800-DIABETES (1-800-342-2383). SOURCE American Diabetes Association Copyright (C) 2004 PR Newswire. All Rights Reserved.