

**"AN EMERGING EPIDEMIC OF DIABETES MELLITUS  
IN YOUTH "**

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Diabetes mellitus is a disease, comprised of a group of disorders of bodily functions, that is due either to a lack of insulin production (type I or juvenile diabetes) or is due to factors that block or interfere with the normal actions of insulin (type II or “adult onset” diabetes), making it impossible to use the insulin your body makes. Insulin is a hormone that is produced by the pancreas, an organ that lies near the stomach.

Insulin is secreted when carbohydrates are consumed and is needed to metabolize sugar. When it is lacking or when it does not work, the level of sugar builds up in the blood.

Diabetes has been around since ancient times. The word “diabetes” is of Greek origin, meaning “siphon,” to characterize the passing of large quantities of water that are a hallmark of the disease. The term “mellitus” is of Latin origin and means “honey-sweet.” For centuries, the diagnosis of diabetes was confirmed by tasting the urine of the diabetic, which was sweet because of the large amounts of sugar that spilled through the kidneys.

Special diets had been employed in usually futile attempts to treat diabetics for centuries. In 1550 B.C., the ancient Egyptians recommended a diet of beer, fruits, honey, grains and nuts. In the 15<sup>th</sup>, 16<sup>th</sup> and 17<sup>th</sup> centuries, the diet for diabetics included a lot of fat drippings, butter, cream and rich sugary pastries, but no leafy vegetables. These diets apparently worked no better than the Rockefeller Institute program of the early 20<sup>th</sup> century that provided minimal carbohydrates and about only half the calories required on a daily basis.

The National Center for Chronic Disease Prevention and Health Promotion (CDC) estimates that at least 17 million individuals or over six percent of the population have diabetes. Of that 17 million, though, only about 11 million are diagnosed, leaving six million people with diabetes who are unaware that they have it. For this reason, diabetes is often called “the silent killer.”

The latest information indicates that 450,000 to 500,000 people die each year with diabetes. That represents nearly one in every five deaths in the United States. The risk of premature death if you have diabetes is about two-to-three times greater than if you are not a diabetic. Heart disease and cardiovascular diseases are the major complication of diabetes. Diabetes also causes or contributes to perhaps as many as 25,000 or so new

cases of blindness each year. About 60 percent of all nontraumatic amputations of the lower limbs are due to diabetes.

It is estimated that diabetes costs the country at least \$142 billion a year in direct and indirect expenditures.

Doctors and health experts are with increasing frequency sounding an alarm that we are experiencing an epidemic without precedent of diabetes in children and adolescents. This type of diabetes is known as "type II," a form that generally occurs primarily at older ages. In type II diabetes, insulin is usually made normally but the body becomes resistant to its affects.

The primary cause of these increased rates of diabetes in the young is obesity, with now greater than one out of every four children being overweight or obese. Obesity is closely associated with type II diabetes.

What is the cause of these epidemics of overweight and diabetes in the young? Headlines read that, "Fast food is digging an early grave for children." Our children are living in a "hostile environment," where the enemies are excessive amounts of caloric dense "fast foods" and "junk foods" that are readily available almost everywhere.

Fast foods are defined primarily as commercially available "convenience foods" or foods that have been prepared well in advance to be sold cold or with minimal heating. The most common fast foods are hamburgers, pizza, French fries, chips, Americanized "Mexican foods," hot dogs, and other mass-produced or mass-served "quickest foods."

A definition of junk food has remained more elusive. One definition characterizes junk food as any food that delivers 100 or more calories but less than five percent of the daily recommended dietary allowances (RDAs).

Not all fast foods and junk foods are "bad foods." In fact, some of them are quite nutritious. The problem is that Americans, including our children, have little or no restraint in consuming them.

These foods appeal to younger generations because they are almost always "cheap" or inexpensive, and they fit culturally into their lifestyle as the "norm." Hundreds of billions of dollars are spent each year by children and adolescents, as well as by more and more adults, on these foods.

Fast food outlets are now almost everywhere, with 60 to 75 percent of their sales at “off site” locations – gas stations, convenience stores, malls and just about everywhere else. Fast food companies employ 11.5 million workers, in total number second only to the government. Well over one out of every three meals in the United States is now eaten at fast food establishments, generating an industry of \$408 billion in direct sales and with an impact of over \$1 trillion on the American economy.

The “American way of life” is driving this industry. In addition to its catering to the young, too many too busy parents, with too little time to prepare meals, opt out for the economy of fast foods available with minimal waiting.

The fast food industry has also captured the “American mentality” that “more is better.” A decade ago, for instance, an order of French fries delivered about 200 calories. Today, for only a few cents more, the same order of fries delivers three times as many calories and a lot more fat.

The net result is devastating. In addition to so-called “adult onset” diabetes occurring prematurely in childhood and adolescence, conditions almost unheard of a decade ago, the youth of today are developing high blood pressure, early onset cardiovascular disease, and other disorders. One fourth of children now aged 5 to 10 years already have high blood pressure, high cholesterol levels, or some other identifiable significant risk factor for serious illness in adulthood.

In the past two decades, the annual hospital costs for obesity-related diseases in childhood have risen from \$35 million to \$127 million annually. If you think medical insurance premiums are high now, you will be in for a major shock in the future as the healthcare costs for this generation become a clearer reality.

In addition to eating very poorly, the children and adolescents of today exercise or engage themselves in some kind of meaningful activity less than any other generation in our history. Some studies indicate that the children of today average four hours of watching television or playing video games of one type or another daily. This physical inactivity is an additional risk factor for developing diabetes and other adverse health conditions.

What can we do? The State of Texas has now made it a law that school children must have 135 minutes of physical activity a week in public schools. The USDA has

mandated that, on a weekly basis, public school cafeteria menus cannot offer or deliver more than 30 percent of all calories as fat. As good as these laws are, they will not get the job we need done.

This will be the first time in over a century that our children will die at a younger age than their parents. Unfortunately, matters are going to get a lot worse before they improve. We need to do better.