How to diabetes-proof your child

Rates of diabetes, both Type 1 and Type 2, are on the rise among America's young people.

The Search for Diabetes in Youth Study shows that from 2002 to 2012 the incidence of insulin-dependent diabetes (Type 1) has increased by 1.8 per cent each year; more alarmingly, the incidence of Type 2 diabetes—once virtually unknown among children—has soared by an astounding 4.8 per cent per year.

"Because of the early age of onset and longer diabetes duration, youth are at risk for developing diabetes related complications at a younger age. This profoundly lessens their quality of life, shortens their life expectancy, and increases health care costs," said Giuseppina Imperatore, M.D., Ph.D., epidemiologist in CDC's Division of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion.

This has been a boon for the diabetes industry. A medical business website exults:

"Continuous glucose monitoring has had a truly breakout half-year: We estimate global sales were ~$561 million in 1Q18 (up +55%) and a record-smashing ~$652 million in 2Q18 (up +64%)." (Source)

What's going on? And what can we do to stem the tide of a disorder that's a lifelong health liability for our young people and threatens to swamp our already overburdened health care system?

It's well-acknowledged that Type 2 diabetes is diet-related. A high carbohydrate diet, liberally spiked with sodas, candies, and refined grains is co-implicated with lack of physical exercise and device-dependency to produce obese, insulin resistant kids. In the United States, the percentage of children and adolescents affected by obesity has more than tripled since the 1970s. Data from 2015-2016 shows that nearly one in five school-age children and young people (6 to 19 years) in the United States has obesity.

Prevention begins at preconception and continues throughout pregnancy. A mother's diet has a powerful impact on the diabetes risk of her offspring.

Researchers found that refined-grain intake during pregnancy was positively associated with kids' BMI scores, and overweight and obesity at age seven. Refined grains were defined as "white bread, rice, pasta, bread rolls, crisp bread, crackers and cookies." Substituting just one serving refined grains per day with an equal serving of whole grains—"rye bread, rye flour, whole-wheat bread, whole-wheat flour, barley grouts, wheat kernels, wheat bran and brown rice"—during pregnancy was related to a 10% reduced risk for being overweight or obese at seven years of age. Breast-feeding for six months or more also conferred protection against excess

childhood weight gain.

Once obesity is established in toddlerhood, it's hard to shake. The critical window for reversing childhood overweight appears to be from around age two to three. While 50% of those overweight at two or younger achieved normal weight in adolescence, almost 90% of those who were obese at age three were overweight or obese in adolescence.

But what about preventing Type 1 diabetes, which is an autoimmune disease? Is it still amenable to dietary measures in pregnancy and infancy?

The answer, according to the latest research is a resounding YES!

It turns out that a high gluten intake in pregnancy—irrespective of whether an expectant mom suffers from celiac disease—is associated with increased risk of giving birth to a child who will eventually develop insulin-dependent diabetes.

Over a follow up period of 15.6 years, women who consumed large amounts of gluten during pregnancy were twice as likely to give birth to diabetic children as those who consumed less than seven grams of gluten per day (about the amount of gluten found in a typical slice of white bread).

Additionally, vitamin D might help shield children who are genetically susceptible to diabetes. (Celiac Disease and Type 1 diabetes share certain HLA determinants which can be measured via a blood test). A previous study had shown that women with low levels of vitamin D were twice as likely to give birth to kids who develop Type 1 diabetes as those with sufficient vitamin D.

It was once thought that cow's milk dairy consumption might contribute to diabetes risk in kids, but a large international studyseems to have dispelled that concern.

Should diabetes develop, there's encouraging news about the efficacy of very low carb diets, not just for Type 2, but even for insulin-dependent diabetics. A survey of Type 1 diabetics consuming less than 5% of total calories from carbs showed their hemoglobin A1c averaged 5.76—near normal!

Encouraging results have also been seen with intermittent fasting in Type 1 diabetes; a recent pilot study has shown it to be safe and effective for blood sugar control.

Following a strict low-carb diet or implementing intermittent fasting while taking insulin can be tricky, so be sure that you're supervised by an experienced medical nutritionist if you're exploring this route to optimize your child's blood sugar control.