

# ALWAYS INVOLVED

## Markham Stouffville Hospital clinic helps kids manage diabetes

Ethan Fleming was only two-and-a-half years old when his parents started to feel that things weren't quite right. For one thing, recalls his father, Brian, the boy was drinking water "like it was going out of style" and, as result, going to the bathroom a lot — even peeing through his diapers. He was cranky and just not himself. His dad chalked it up to a hot summer but his mother, Nancy, wasn't so sure. The family's pediatrician didn't think there was anything to be concerned about but checked Ethan's urine. "He called us back into his office," recalls Brian Fleming, "and he said, 'You guys have to get to the emergency room right now.'"

Ninety per cent of Canadian children who are diagnosed, as Ethan was, with diabetes have Type 1, or the insulin-dependent form of the disease. The less common Type 2 can often be resolved with changes to diet, exercise and lifestyle plus medication. Type 1 requires insulin administration and careful blood glucose monitoring at various times during the day, every day, for life.

According to Dr. Susan Kirsch, a pediatric endocrinologist at Markham Stouffville Hospital (MSH) — known for having one of the best pediatric diabetes teams in the broader area — about 26,000 children across the country have diabetes, but there is an increase in the incidence of the disease in children younger than five years of age. Approximately one in every 400 to 600 children and adolescents has Type 1 diabetes. "Whether it's something related to our diet, infection, or something else in our environment or genetics, we really don't know," Dr. Kirsch says.

Dr. Cheryl Osborne, patient care manager of the neonatal intensive care unit and pediatric services at MSH, concurs. Since she started at MSH, the number of children diagnosed with diabetes has increased 25 per cent. Over the past two-and-a-half weeks, 10 new children were diagnosed with diabetes at MSH. "That's high," Dr. Kirsch says.

Once children start exhibiting symptoms — excessive thirst, frequent urination, weight loss, generally unwell — they are into the disease, Dr. Kirsch says. If diabetes goes further unrecognized, children can develop ketoacidosis, a serious problem that can cause vomiting and dehydration and is considered a medical emergency. Type 1 diabetes can be fatal if it's not treated.

But if symptoms are picked up earlier, children typically visit the hospital as a day admission, where they and their parents are taught the basic skills: How to poke a finger to gather blood to check the blood sugar level; how to use insulin; how to create and follow a schedule; and so on. Once they start their insulin injections they return each day until stable.

And they are not alone after the daily visits. Doctors and nurses take calls throughout the day and night to respond to urgent requests, and time and experience almost always lead to good self- (or child) management. As children grow older, they learn to do more and more for themselves, something referred to as "graded responsibilities." The MSH team is involved all the way through with the families.

According to Dr. Kirsch, children are on multiple daily injections of insulin, either with a needle and syringe, pen device or insulin pump, the latter of which is the most flexible in terms of fitting into daily life. At MSH, about 60 per cent of the patients are using the pump, which means they are using new technologies to manage their blood sugars.

Clinics are held three to four days a week, with up to 12 patients in each clinic. Currently, there are about 500 kids checking in to the clinic every three months. The clinic itself is about 19 years old and is one of the first community-based pediatric diabetes clinics, Dr. Kirsch says, that aimed for academic quality. "All of us come from Sick Kids originally," she says. "We have an excellent staff." At each visit, kids see the full range of specialists — doctors, nurses, dietitians, social workers. "It's one-stop shopping," Dr. Kirsch says. "We grow with them, they grow with us."

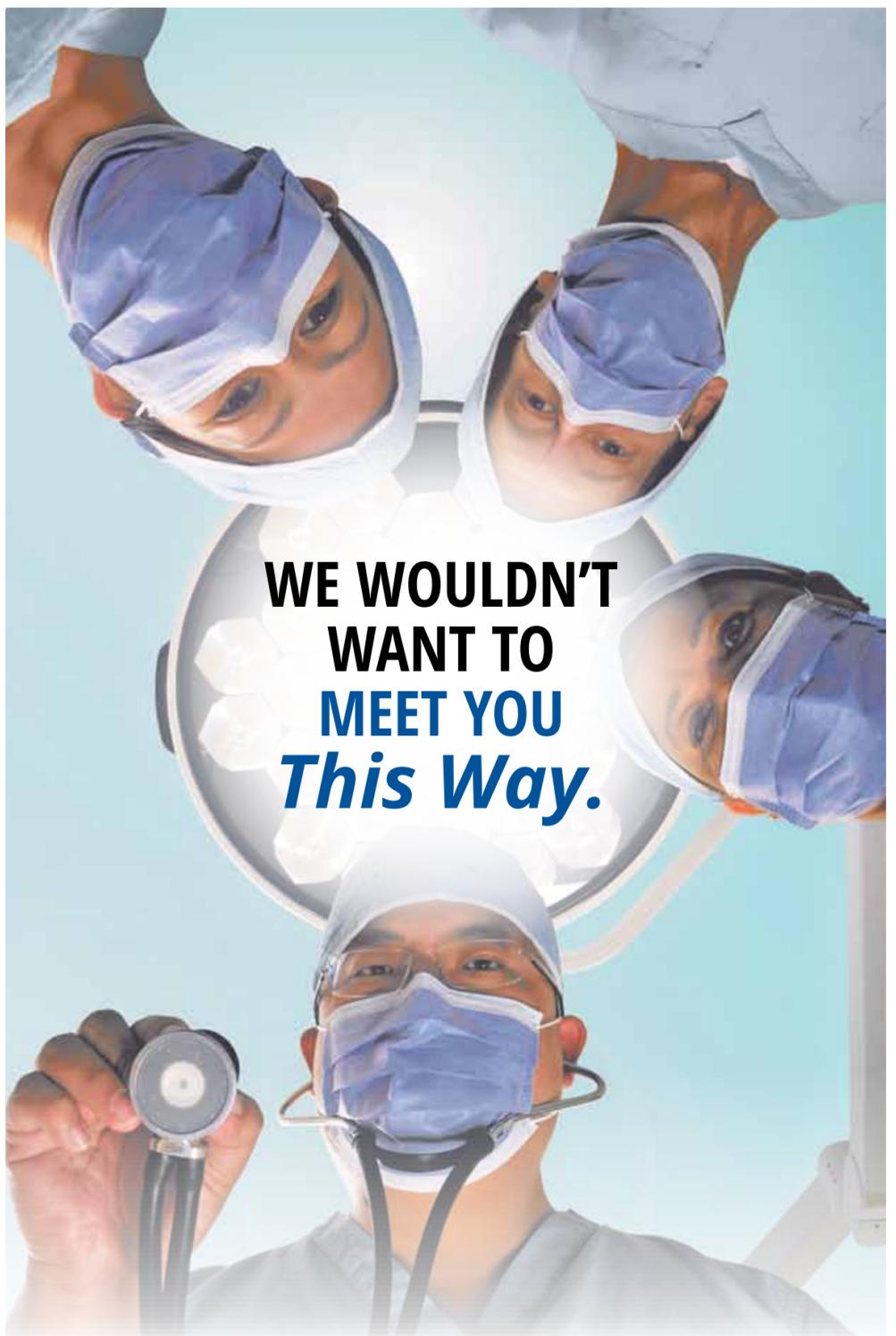
MSH's pediatric diabetes clinic was early out of the gate with introducing pump technology. Now, doctors there are involved in an Ontario-based nationwide trial of continuous glucose monitors. These are sensors that measure blood sugar through the day and transmit the numbers to a screen — great if a patient is exercising and with the potential to decrease the number of times blood sugar is checked with a finger poke.

Once diabetes is consistently managed, patients can expect a normal life, though they are at higher risk for developing complications to the eyes, kidneys, nerves or heart. But, as Brian Fleming can attest, no matter how well managed, diabetes is not something you can ever treat casually. "It's one of those things where until you've walked a mile in someone else's shoes, it's really tough to understand what the impact is," he says. "We're constantly worried: Did he eat all his lunch? Did he do more than the usual running around? It's always something."

Still, the family has learned to manage Ethan's diabetes with trips several times a year to the MSH clinic for checkups. "It's almost like going to see friends," Fleming says. "The way they set up the clinic and the way they interact with us and the kids, you feel very included and part of a community. And they really do care about you and want what's best for our kid. It's been really good for us and for him."



Dr. Susan Kirsch jokes around with her patient, Ethan Fleming, 7, in the Tracey Rubinoff Paediatric Diabetes Clinic at Markham Stouffville Hospital. Nick Kozak photo



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## VITAL SIGNS

According to the Public Health Agency of Canada:

- 90 per cent of all cases of diabetes are Type 1, or insulin-dependent;
- Diabetes is one of the most common chronic conditions in children to age 19;
- About 26,000 Canadian children, or about 0.3 per cent of the population, have the disease;
- Among children younger than 19, Type 2 diabetes has been increasing over the past two decades, along with an increase in obesity in the same age group;
- Parents, children and siblings of someone with Type 1 diabetes have 10 times the risk of developing the disease as those with no family connection.

You know what they say about an ounce of prevention. And that's at the heart of our highly successful Lifestyle Education and Exercise Program (LEEP). It's a 3-month program to help prevent strokes. And it's working. Markham Stouffville Hospital has one of the lowest rates of admission for stroke care due to this innovative program. The government can't fund all of our hospital's needs. Your hospital needs your help.



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