

Dog is scent-sensitive to blood sugar levels

BY BARB PACHOLIK, LEADER-POST MARCH 28, 2012



Taeghan Rice, 7, with Keeva, a specially trained diabetic dog that alerts Taeghan to changing blood-sugar levels.

Photograph by: Don Healy, Leader-Post, Leader-Post

Even when a spike in Taeghan Rice's blood-sugar levels goes unnoticed by the seven-year-old Regina boy, Keeva's nose knows.

Rice has type 1 diabetes; Keeva, his new, four-month-old black Labrador retriever, has the ability to sniff out the highs and lows of Rice's diabetes.

The active Grade 1 student is pretty definite about two things right now: Diabetes? "I don't really like it." Keeva? "I just like her."

The scent-sensitive Lab joined the busy Rice household a week ago and has made a big impression in that short time.

"You can tell this dog knows what she's doing," said Rice's mother Pam.

When Keeva smells the subtle scent changes of a rise or fall in Taeghan's blood sugars, she quickly gets someone's attention. At present, that's by barking, nudging or acting out of character. But honing the skill means Keeva will give a "high-five" with her paw for a high or bow down for a low.

Controlling those peaks and valleys is crucial to avoiding diabetic coma or insulin shock.

Taeghan's father Bryan (also a type 1 diabetic, who may soon have his disease firmly in check with an islet transplant) and Pam were quick to recognize the telltale diabetic symptoms, including excessive thirst and frequent urination, when their son was age 2 1/2.

"It was still a big learning curve for us," added Pam. Managing diabetes in an active toddler in that pickyfood stage coupled with the usual childhood illnesses wasn't easy.

Taeghan currently gets about four to six insulin injections a day, although sometimes it's up to nine. His mom is up a minimum of twice through the night to check his levels and give injections.

"With a young child, their blood sugars change so quickly," said Pam. Taeghan is "hypoglycemic unaware," unable to sense the changes. Even weather and activity can cause fluctuations.

"You're constantly worrying," Pam added. "You can't just let your child go play at a friend's house for 1-1/2 or two hours."

She heard about diabetic alert dogs, which have been around since 2003, after her mother saw a television program. Pam connected with Virginia-based, non-profit Guardian Angel Service Dogs in November, then waited to be matched with a dog.

Dan Warren, a type 1 diabetic who founded Guardian, said Keeva is the first diabetes service dog to come to Canada. The organization places 300 to 360 dogs worldwide annually.

"It's a security blanket," he said, explaining the highly trained dogs give an alert 20 to 45 minutes before a blood-sugar change would register on a meter. That is particularly important for a child at night.

When blood sugars are high, diabetics emit a sweet, fruity, candy floss-like smell. A low is synonymous with the smell of the acetone in nail polish. Whereas a human can smell a teaspoon of sugar in a cup of tea, a trained dog - with scent detection a hundred times that of a human - can sniff a teaspoon of sugar in a chlorinated, Olympic-sized swimming pool. "They're scenting from the core of the body," said Warren.

The dogs detect the scent even at a distance, which is important for Taeghan, who plays hockey, soccer, football and lacrosse.

"(Keeva) will give us the peace of mind so he can participate in all the things he wants to in life," said Pam.

With the first stage of training under her collar, Keeva was placed in the Rice home to bond with Taeghan and get to know his smell, but her training continues.

Warren said Guardian has weekly followup with recipients by phone or the Internet, then a trainer will go to the dog every 90 days to complete the training over two years. In time, Keeva will be able to fetch juice, a glucometer or insulin, and to use a special phone pad to call for help if Taeghan became unresponsive and no other assistance was available. Recertification as a service dog then continues every two years.

It means Keeva doesn't come cheap, at \$19,000. Pam said the family has already had two charitable groups offer financial help. Anyone wishing to donate can do so at guardianangelservedogs.org. More information is also available at www.diabetesalertdogs.com and www.warrenretrievers.com.

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