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The mixed sense

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Sarah Biggs, left, and Megan Newcomb, right, lead 3-year-old Keelan Irving-Gass on Waldo as part of the boy's therapy for sensory integration disorder at HETRA (Heartland Equine Therapeutic Riding Academy) in Omaha.

Three-year-old Keelan Irving-Gass walks into the kitchen, up to his mother, Melissa, and gives her a smile, his blue eyes bright with happiness.

The blond little boy, dressed in shorts and a T-shirt, folds his right hand into a fist and moves it up and down from his chest to his tummy, a gesture that says he's hungry.

"Momma, momma," Keelan says, still smiling at his mother who wraps him in her arms and gives him a warm hug.

"Now, go back and watch your video," Melissa says to Keelan, who obeys without argument, walking beside his sister, Hunter, 15, and returning to the living room to watch TV.

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Keelan takes his place on the couch to watch himself on TV. The videotape is a newscast about him and his medical condition, sensory integration disorder, also known as sensory processing disorder and sensory integration dysfunction. It's a condition that exists when sensory signals don't get organized into appropriate responses.

"Basically, it is the way that the brain perceives a stimulus and processes it," said Melissa, 40, an Omaha mother of three and a registered nurse in pediatrics.

A person with the disorder finds it difficult to process and act upon information received through the senses, which creates challenges in performing everyday tasks, according to the Sensory Processing Disorder Foundation.

The foundation's research indicates one in every 20 children experience symptoms that are significant enough to affect their ability to participate fully in everyday life. Clumsiness, behavioral problems, anxiety, depression, school failure and other impacts may result if the disorder is not treated effectively, the foundation states.

Keelan's story

For Keelan, the disorder affects his ability to tolerate light touch, among other things.

Parents support group

Melissa Irving-Gass is forming a support group for parents of children with sensory integration disorder. For more information, call 290-2568 or e-mail irvinggass5@msn.com.

"He doesn't like feathers, pom-poms, people just very lightly tickling him. It really bothers him," Melissa said.

For a while, sitting or walking with bare feet on grass would "totally freak him out, feeling like pins and needles on his feet.

On the other hand, Keelan likes very deep touch like massage, Melissa said. He also has a high tolerance for pain. If he runs into a wall or falls down and bumps his head, it doesn't bother him. It's the same with getting a shot. He doesn't even flinch.

Food, noise and bright light issues also come into play. Keelan doesn't like soft foods such as pudding or peaches but he'll eat spicy foods such as salsa and dishes flavored with Indian curry.

"He likes very spicy and very tart. He'll eat a whole lemon. He craves the heightened senses," Melissa said.

Restaurants and family gatherings where there are a lot of people talking also bother Keelan. At family events, Keelan wears headphones that play calming music or he goes into another room by himself.

On bright, sunny days, he wears sunglasses to shade his eyes.

Something's going on

Melissa and her husband, Hugh, 43, suspected something was wrong when Keelan was 6 to 8 months old. He would gag and choke on soft baby food. He wasn't sitting up or rolling over like their other children, Hunter, who has a mild form of sensory integration disorder, and Ian, 6, did when they were babies.

"He wasn't doing the normal baby things," Melissa said. "We took him to his pediatrician for his checkup and said, 'There's something going on with him,'" she said.

Keelan was diagnosed with sensory integration disorder when he was about 1½ years old. He was seeing a physical therapist at the time for a prenatal condition that affected the shape of his head. The physical therapist noticed some sensory issues and suggested Keelan see an occupational therapist.

Since his diagnosis, Keelan has undergone occupational therapy to help him adjust and cope with the sensations that cause him distress. Part of his therapy has included touching and running his hands through dried beans and rice and eating pudding mixed with a crunchy cereal like Fruit Loops. He also participates in speech therapy and physical therapy, and is enrolled in horse-riding therapy at HETRA (Heartland Equine Therapeutic Riding Academy) in Omaha.

Keelan has made vast improvements since starting therapy, Melissa said. He'll walk barefooted on grass and is able to sit and focus better on tasks.

"When we first started, he wouldn't sit and watch TV. He would not do a puzzle. He would not focus on any one task very long because his senses were just being bombarded by all these noxious stimuli. Now, he'll focus on things," she said.

Another diagnosis

Along with sensory integration disorder, Keelan has been clinically diagnosed with Angelman syndrome, Melissa said. Clinical features in Angelman syndrome, a genetic disorder, include developmental delay, severe speech impairment, none or minimal use of words, and receptive and nonverbal communication skills higher than verbal ones. Other features are movement or balance disorder and wobbliness of gait and/or tremulous movement of limbs.

Behaviors include frequent laughter and smiling, an apparently happy demeanor, easily excitable personality often with hand flapping, hypermotoric behavior and short attention span, according to the Angelman Syndrome Foundation.

Developmentally, Keelan is at a 2-year-old's level, Melissa said, adding that Keelan is nonverbal and uses sign language and a computer to communicate.

"But cognitively, he's at a 3-year-old level," she said.

The Irving-Gass family has had to make many adjustments in their lives for Keelan, such as paying medical bills and making sure he gets the therapy he needs. Future educational, financial and care needs also are being planned.

"You just do what you have to do. It's your child. It's like having a child who was born with any other genetic or unfortunate condition. You deal with it and move on," Melissa said.

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