THE KEY TO AN IMPRISONED MIND

Dr. Samuel Wiebe is a professor in the Departments of Clinical Neurosciences, Community Health Sciences and Pediatrics.

Molly Visentin was given her life back when a surgery to treat her temporal lobe epilepsy was successful. And now, because of a generous donation, further research into her form of the disease will be made possible.

By Alison Myers

Molly Visentin isn't exactly sure how it all started. After all, she was just eight months old.

"My skull was bumped and it bruised the inside," she says. "It left scar tissue in my brain, above my left ear."

The attacks started not long after, lurking as possibilities every day since.

It would be fair to say that epilepsy shaped who Visentin became. She grew up on a farm, befriending animals who never judged or teased her like the kids at school. As a young adult, she lied about her disease to get a summer job manning a fire tower lookout. She worked alone, in the forest, surrounded by animals and the silence of nature.

Every now and then that silence was broken by what she calls her inner funny. It started with a ringing in her right ear, signaling an attack was imminent. Later, a short ring in her left ear would let her know it was over, that she was okay. Those signals were her brain's Morse code way of telling her the disease was in control.

"The brain is extremely eloquent," explains Dr. Samuel Wiebe, a neurologist at the Faculty of Medicine and member of the Hotchkiss Brain Institute (HBI). "Whether it's smell or taste or vision, hearing things or feeling something in your hand or foot–those are all governed by different areas of the brain. So it's extremely important to pay attention to the symptoms of a seizure because that tells us which part of the brain is affected."

It's been almost a decade since Wiebe helped change the way doctors around the world treat people with temporal lobe epilepsy, the kind that ruled Molly's life. His successful clinical trial at the turn of the century proved that surgery can actually cure some patients, releasing them from a lifetime of drugs and treatment.

"Epilepsy is produced by abnormal electrical discharges in areas of the brain," says Wiebe, who is also the director of HBI's Clinical Research Unit. "If we can find the area where this is occurring and safely remove it, then we cure the disease."

Doing so is an extremely sophisticated procedure. It requires doctors to extensively map the patient's brain to find out what functions are governed by the tissue surrounding the seizure trigger. Visentin's telltale ringing was like a yellow brick road leading Wiebe and the neurology team right to the epicentre of her disease.

And so, on Jan. 28, 2011, Visentin's life took a dramatic shift. Doctors removed a piece of her brain about the size of a peanut in its shell. When she woke up, much of her life changed.

"All of a sudden, you can figure things out," she marvels even now, a year since her release. "All I can say is, wow!"

Visentin's new lease on life came as a direct result of Wiebe's research into temporal lobe epilepsy. Research in this area is getting a welcome boost at UCalgary thanks to a generous donation from UCB, a global biopharmaceutical company that focuses on epilepsy treatments. Wiebe says the donation will be used to fund a research fellowship for a neurologist in training, whose focus is finding new ways to treat Visentin's form of the disease.

"It's through donations exactly like the one UCB made that these new ideas about treatment and mechanisms of epilepsy can be explored and brought to trials that demonstrate new ways of treating people with this disease."

Seeing Visentin, and patients like her, go through such a radical change is an incredible motivator for Wiebe and the neurology team, especially when all other forms of treatment have failed. While Visentin still has hurdles to overcome, she is well on her way to recovery from a lifetime of disease.

"It just makes my day," he explains with a bright grin on his face. "She's been freed from lifelong shackles into a completely new outlook on life. It's unbelievable!" ✦