



STRONG

Lake Forest's Heather Milligan is a fierce advocate for LENS, an innovative treatment of post-concussion symptoms.

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eather Milligan loves
skulls. A half-skull swings
from a long, slender chain
around her neck. A set of
black and white Fornasetti "Skull with Flower"
plates hang on the rich
brown walls of her Lake
Forest dining room. Silver
"Day of the Dead" skulls

rest on top of tidy stacks of design books in her light-filled home office. Her very favorite skulls, however, aren't lacquered or gilded but crown the necks of her blonde-haired daughters. In an effort to protect these most precious of skulls, Heather has become an ardent advocate for the use of LENS, a neurofeedback system, to treat post-concussion symptoms.

On September 17, 2015, Claire Milligan, then a freshman at Lake Forest High School, was playing her first season of field hockey. Heather was cheering the team on when Claire suffered her first concussion. "We were new to field hockey. I just wasn't aware it was a dangerous sport at all. I was sitting there in my lawn chair, talking to the other moms when I saw the hit. It was a line drive that went straight into the back of Claire's head and then bounced up in the air almost three stories," Heather recalls. After examining Claire, the team trainer suggested the hit wasn't severe. The family followed the standard treatment protocol for concussions by limiting sensory overload and removing all stimuli - no phone, no television, low light, lots of rest. "Once a concussion has been evaluated and isn't deemed dire, there is nothing medical personnel can do. You, as the parent, are supposed to manage the recovery process," explains Heather.





Three weeks later, motivated by her desire to be with her team and able to mask her lingering symptoms, Claire was back on the field. On February 4, 2016, Claire suffered her second concussion from a blow to her temple during field hockey. On August 1, 2016, a third concussion occurred when Claire smashed her head on an underwater rock after being pulled under by a rogue wave off the coast of a Mexican beach. The family's physician then told Claire she could no longer participate in contact sports because the risk for long-term damage was too great. Instead, he suggested she take up "baking or something equally docile as your next sport."

The concussions didn't just sideline Claire from sports. Suffering from chronic headaches, dizziness, and nausea, she was sidelined from life. Formerly a strong and motivated student, her grades plummeted. Changing classes became so disorienting that Claire would cling to the walls until the halls cleared. Rather than catching up with her homework and friends during study hall, Claire had to retreat to the school nurse's office each day because the stimuli of a "normal" day was physically overwhelming. "My freshman year was brutal. I couldn't focus, I couldn't think. I didn't go to class for a full day for months," Claire recounts. "She couldn't read or memorize or even write without feeling sick or dizzy," Heather recalls. Claire's challenges were compounded by the fact her injury was not visible to the eye. "I was constantly emailing her teachers to remind them that while she looked fine, she was anything but fine," Heather explains. As her symptoms

worsened rather than improved with time, Claire grew increasingly depressed and anxious. Her world was no longer defined by time with friends and teammates. Her world was now defined by pain so constant and severe she had to take Zofran, an anti-nausea medication, simply to eat.

Claire's physical and emotional struggles took a toll on her tightknit family. As the owner of HM Design, a successful design and wardrobing business, Heather's days had formerly been spent curating closets and creating beautiful interiors. Heather now put her business to the side as she desperately sought a solution to Claire's mounting problems. Appointment after appointment were made with an array of medical professionals ranging from a certified neuropsychologist to a development optometrist to a pediatric psychologist to a physical therapist to a pediatric neurologist. Unfortunately, these appointments yielded referrals rather than answers. Claire's final appointment was

with a pediatric neurologist specializing in traumatic brain injuries. While Claire and Heathor entered this appointment with high hopes, those hopes were quickly dashed when the doctor referring them to another doctor after saying "I am not your guy." After Heather pressed the doctor regarding her concerns about the long-term impact of daily pain, the doctor prescribed the powerful antidepressant drug amitriptyline and told Claire that "your life is going to be hard." Heather remembers that day as an especially painful one. "Claire was

just inconsolable. When we left that appointment, Claire said 'I am never going back to another doctor again because not one of them has accomplished anything.' We were so low," Heather recalls. "Then my husband, Scott, had this conversation and everything changed."

That conversation took place in an unlikely setting – during a meeting with an investment banker regarding Scott Milligan's new business, PetCure Oncology. "When Scott described what our family was going through, the banker said you need to see this man, make an appointment with him immediately," says Heather. That man was Bob Kauffman, a neurofeedback specialist and licensed therapist who had successfully treated the banker's child for post-concussion symptoms using LENS (Low Energy Neurofeedback System). Kaufmann was first introduced to this noninvasive and drug-free system in 1990. "A client told me about the great results he had gotten with neurofeed-

back. As I am always interested in innovative treatments, I decided to check it out," Kauffman recounts. "Part of the training process was to undergo about twenty treatments myself. I had been suffering from PTSD symptoms resulting from the death of my wife and daughter in a fire. I became a true believer after the LENS treatments helped me overcome my own symptoms."

LENS is administered from the Northbrook-based offices of Kaufmann's companies – Critical Thinking for Success and Chicago Mind Solutions. The first step is a mapping of the brain – a process that identifies problem areas after collecting data from 21 sites in the brain. Concussions create problem areas because a jolt to the head or blow to the body causes the head and brain to move rapidly back and forth, literally bouncing the brain around in the skull. This sudden movement stretches and damages the brain cells, creating chemical changes that result in a kind of neurological gridlock. While under-

going LENS treatment, a patient sits comfortably in a chair as electrodes applied to the scalp treat the problem areas via faint electromagnetic radio waves. The waves help the brain break free from gridlock by "rewiring" itself. Kaufmann observes that many of his patients report improvement after just a few sessions.

Heather will always remember the results of Claire's second treatment. "Scott and I were relaxing at home when we got a text from Claire. The text was in all-caps and read I DON'T KNOW WHAT TO DO



I DON'T HAVE A HEADACHE.' Never, never, never have we been so grateful for a text message in our lives!"

After three months of twice-weekly treatments, Claire has finished treatment. She shares, "I feel 100% better. I have been doing so much better in school. My grades have gone up at least two letters but the very best part is that I am happy again. I was just in this insane depression for so long. It feels so good to be free of the pain." These amazing results have bolstered Heather's belief in the power of LENS. She concludes, "I truly believe while everything is not good, good can come from everything. Claire came out successfully from this experience but the opposite is so often the case. I feel an obligation to warn people that not treating a concussion properly can have terrible consequences. With that warning, I also want to convey hope; hope for a good, drugfree outcome does exist with the use of LENS."