Kelly Smith had always suffered from a minor tremor. When she was nine years old, her parents attributed her “shake” to brain trauma. As the years went on, however, and her symptoms worsened, doctors diagnosed Kelly with an essential tremor, a nervous system disorder that causes a rhythmic shaking and is sometimes mistaken for Parkinson’s disease. Essential tremors affect approximately 10 million people in the U.S., and while not life-threatening, they can significantly reduce quality of life.

Despite minor tremors in both hands early on in her life, Kelly served 10 years in the U.S. Navy and built her life around a career as an ER nurse. When she was discharged from duty in her 20’s, the condition progressed, and eventually the medication she was prescribed was no longer effective in controlling her symptoms. “My fine motor skills were affected and once simple tasks for me, particularly tasks like giving injections at work, became burdensome. I was forced to quit my job,” she says.

In fact, the condition progressed so quickly that Kelly had to give up most activities she once enjoyed, including golfing and knitting. She says, “I gave up everything, my job, my hobbies, everything. I could not eat in public. I literally did not leave my house for three years. The tremor was an embarrassment to me, and I felt like I had to hide it.”

**LIVING WITH CONSTANT TREMORS**

TRYING TO COPE

During that three year period, Kelly turned to alcohol to help ease her symptoms and developed a severe drinking problem that would later require treatment. “I drank to brush my teeth, to do even the smallest of things to get me through the day.” According to the Mayo Clinic, some people with the condition notice that their tremors improve slightly after they drink alcohol, but alcohol is not a viable treatment option, and can often compound health issues, as in Kelly’s case.

“I used to feel very sorry for myself;” Kelly says. “But now, I feel so blessed. I don’t think I’d be alive today without this device.”
FINDING HOPE

It wasn’t until June 2003 when she met Dr. David Roberts, chief of neurosurgery at Dartmouth-Hitchcock Medical Center in New Hampshire, that Kelly’s life started to change for the better. She learned about a new implantable medical device called a deep brain stimulator that could provide significant relief from her symptoms. A deep brain stimulator is a battery-operated medical device that produces electrical impulses that regulate abnormal signals in the brain.

The two-stage surgery to implant the DBS system starts with a procedure where a small opening in the skull is created so a thin wire, called a “lead,” may be carefully placed in a targeted area of the brain. Roughly two weeks later, during the second stage of the surgery, doctors implant a neurostimulator in the patient’s chest (which is a medical device roughly the size of a deck of cards) along with an extension (a wire that connects the neurostimulator to the lead that was placed during the first stage of the surgery). Typically a couple of weeks following this second procedure, an in-office visit is scheduled so the device can be programmed. Upon this final procedure, Kelly recalls, “All of a sudden it [the tremor] stopped. It was like an epiphany! I could do all of the things that I used to do. I could type, I could talk on the phone and I eventually returned to work as a nurse. It literally changed my life.” Kelly is able to turn the device on and off and change the levels of stimulation as needed to control her tremor.

Kelly is now back to work as a nurse four days a week in an ambulatory care setting at an internal medicine clinic in New Hampshire. She regularly speaks to neurology patients at support groups and other venues throughout the year, spreading the word about the value of life-changing medical technology to save lives and improve quality of life. “I used to feel very sorry for myself,” Kelly says. “But now, I feel so blessed. I don’t think I’d be alive today without this device.”

DISEASE & TREATMENT

Essential tremors (ET) affect approximately 10 million people in the U.S., and while not life-threatening, they can significantly reduce quality of life.

The condition is a disorder of the nervous system that causes a rhythmic shaking of a part of the body, most commonly hands. However, ET can also affect a person’s head, voice, arms, or legs.

For patients with ET that cannot be controlled by medication, a medical device called a deep-brain stimulator (DBS) can provide relief.

In DBS therapy, a small, pacemaker-like device sends electronic signals to the thalamus, the part of the brain responsible for the tremors. These pulses interrupt signals that may be causing tremors.

Eighty to ninety percent of patients get very significant reduction in their tremor following DBS surgery.

3. Ibid