

KENDALL LEE: Hello, my name is Dr. Kendall Lee. I'm a neurosurgeon at the Mayo Clinic. I do the deep brain stimulation neurosurgeries here. And in particular, I would like to tell you about Tourette syndrome and deep brain stimulation.

Tourette syndrome is a disorder that is characterized by tics. These tics can be simple or complex. They can be motor tics, or sensory tics, or even vocal tics, where patients might blurt out certain words, sometimes swear words even. There are many treatments for Tourette syndrome including behavioral therapy as well as medications. But in a certain subset of Tourette's patients, these more conservative measures do not help. And therefore, for very severe Tourette syndrome patients, we have been offering deep brain stimulation neurosurgery.

The history of neurosurgery for Tourette's syndrome really started out with lesioning surgery. This involves going into the brain and removing, or lesioning, very small specific areas of the brain. As it turned out, a small lesion in an area of the brain known as the thalamus was found to be very helpful for Tourette syndrome. And based on this early experience and the fact that now deep brain stimulation is widely available for other neurologic disorders, such as tremor, Parkinson's disease, and dystonia, neurosurgeons are now beginning to look into the effectiveness of deep brain stimulation for Tourette's.

In particular, deep brain stimulation in the area of the thalamus called centromedian parafascicular nucleus has recently been demonstrated to be effective for the treatment of severe Tourette's syndrome. Based on these reports, we at Mayo Clinic have now offered deep brain stimulation for Tourette's syndrome. Because it is experimental, all of our patients undergo a very careful evaluation by our Neuromodulation Deep Brain Stimulation Committee. This committee is composed of neurologists, psychiatrists, expert pediatric neurologist in Tourette syndrome, as well as neuropsychologists, and, of course, neurosurgeons. And as a team, we decide whether or not we can offer the surgery to our patients.

We have found that in the patients that we have implanted for Tourette syndrome that, indeed, the deep brain stimulation is very effective in controlling the tics. The deep brain stimulation for Tourette syndrome is still somewhat experimental. However, we beginning to find out much more about the effectiveness of this modality of therapy. It is important to note that this does involve neurosurgery. And therefore, there are some risks associated with this. And therefore, we only currently offer this surgery to patients who are quite severely debilitated by their Tourette syndrome. The risks of surgery involves stroke, hemorrhage, as well as infection because the surgery involves implanting a electrode connection system and a battery that goes just under the clavicle.