Operation can help kids with epilepsy

January 25 2010, By Fernando Quintero

Just a few months ago, 2-year-old Jesse Eaton was having up to 20 epileptic seizures a day. His thin arms flung out while his knees pulled up and his body bent forward like a jackknife.

Medical experts tried eight different drugs, including potentially dangerous anti-seizure medications. They even put the boy on a high-fat, low-carbohydrate diet, which has been proven to help lessen seizures in some children. But nothing worked.

Then, in October, Jesse underwent a radical new surgery at Arnold Palmer Hospital in which his brain was literally split in half to stop the signal that causes the seizures to travel from one side of the brain to the other.

Jesse has been relatively seizure-free for more than two months.

"When we brought him home, within a couple of weeks he was laughing out loud," said his mother, Mary Ann Eaton. "I hadn't heard his laughter in over a year."

The epilepsy had left Jesse developmentally disabled. The procedure he underwent offers hope that with therapy, his motor skills and other functions will improve dramatically.

"He can distinguish sights and sounds now. He recognizes people and things," Eaton said. "People take for granted a baby touching his mother's face. A baby smiling. Now every time he laughs, I laugh."

Jesse's surgery, called a corpus callosotomy, is helping put Arnold Palmer Hospital on the map as a center of excellence for care of epileptic children. The procedure is not offered anywhere else in Central Florida.

"It is estimated that 1 to 3 percent of the population has epilepsy," said Dr. Jasna Kojic, medical director of neurology at Arnold Palmer. "I see an average of one to three patients with new onset of seizures daily, and that's just my practice."

Epilepsy is a brain disorder characterized by repeated, spontaneous seizures and is diagnosed in 125,000 Americans each year. Kojic said because of advancements in pediatric and post-natal care, many children who may not have survived with epilepsy are now living with the condition and requiring medical care.

Jesse's procedure -- usually performed as a last resort -- severs the corpus callosum, a band of nerve fibers located deep in the brain that connects the left hemisphere with the right. Although the corpus callosum helps the two sides of the brain share information, it also sends seizure impulses from one side of the brain to the other.

Jesse, who had been diagnosed early on with infantile spasms, one of the most severe pediatric conditions, was initially treated with a type of hormone to stop the spasms. Although the drug relieved his symptoms, they returned after about four months. Other approaches failed to deliver results.

At Arnold Palmer, doctors reviewed the literature on the novel procedure, and experts from the hospital's neurology and neurosurgery conferred before deciding surgery was the best way to go.

"The parents also did their own research, talking to other parents with

children who underwent the procedure," said Dr. Christopher Gegg, who performed Jesse's operation and is medical director of neurosurgery at Arnold Palmer. "The corpus surgery was more effective, but there was the possibility of complications and more risk."

Such risks include increase in partial seizures, stroke, loss of coordination and lethargy.

Gegg said another option to the surgery was a vagus nerve stimulator, which is essentially a type of pacemaker surgically embedded in the neck. But with that procedure, it could be up to a year before a patient sees results.

"Jesse's parents felt he didn't have a year to wait," Kojic said. "He had already experienced developmental setbacks as a result of the epilepsy."

Following extensive pre-surgery evaluation that included seizure monitoring, an EEG and other surveillance, Jesse was found to be a good candidate for the surgery. Gegg cut into Jesse's skull, pulled back a tough membrane that covers the brain and inserted a cauterizing instrument that sliced through pink brain tissue to the corpus callosum, which appears milky white.

The surgery lasted about two hours. Jesse was home after five days in the hospital.

"I was definitely terrified about having my son's brain split in half, but everything else had failed," Eaton said. "Jesse is my only child. And everything he's gone through has made me stronger. I had confidence in Dr. Gegg, but I guess I also had confidence in my son that he would get through this all right. And he has."

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