Le Bonheur First to Use New VNS Therapy on Epileptic Patients

Neuroscientists at Le Bonheur Children's Medical Center are the first to use the latest advancement in Vagus Nerve Stimulation (VNS) Therapy for epileptic patients.

The new VNS Demipulse 103 is an updated model on therapy that has been used since 1997 to treat uncontrollable seizures. VNS therapy is the only device approved for epilepsy and is often used when medicines aren't effective in controlling seizures. VNS Therapy delivers stimulation via a device implanted just under the skin in the left chest area. The small pacemaker-like device sends precisely timed and measured mild electrical impulses to the left vagus nerve, which then activates various areas of the brain. The patient or caregiver also has the ability to initiate or abort stimulation with a hand-held magnet.

Dr. James Wheless, director of the Le Bonheur Neuroscience Center and Comprehensive Epilepsy Program, was involved in the development of VNS Therapy. VNS Therapy manufacturer Cyberonics approached Wheless and his team to implant the newest model.

“We selected Le Bonheur as one of the first facilities in the country to implant the new Demipulse 103 because of the center's reputation as one of the South's leading neurological institutes,” said Dan Moore, Cyberonics’ president and chief executive officer. “Since VNS Therapy was FDA-approved in 1999, Dr. James Wheless has been a believer in finding the right treatment to reduce seizures and offer a better quality of life for the countless patients he’s treated, as well as their families.”

The latest implant features advanced internal monitoring of its electronic system and has the future capability of seizure detection, once software is developed and approved. Neurologists also have more capabilities to program this device specifically for the patient who wears it.

The device is about half the size of previous models, making it less noticeable under the skin. It also alerts the physician when the battery is about to expire.

“VNS Therapy is the only approved device for epilepsy, and after medicine, it is the second most commonly used treatment,” Wheless says.
EMU Coordinator Works with Families, Physicians to Facilitate Care

When parents feel lost and unsure of what the future holds for their children, Karen Butler brings comfort. Whether she’s explaining the intricacies of epilepsy or helping them find a hotel room, Butler is a resource to families in Le Bonheur’s Epilepsy Monitoring Unit, or EMU.

A self-proclaimed jack of all trades, Butler is the EMU’s point person for referring physicians, families and neuroscientists in Le Bonheur’s Neuroscience Institute. “I’m fortunate that this sort of fell in my lap,” Butler says. “It’s a wonderful opportunity to learn and to grow and to be part of this team.”

Le Bonheur’s EMU has seven specially equipped rooms with 24-hour video/EEG monitoring. Butler has held a handful of roles at Le Bonheur in more than 20 years at the hospital – from staff nurse to PediFlite flight nurse to Pediatric Intensive Care clinical director. She landed her relatively new role as EMU coordinator with some coaxing and just three days of training.

“From the first day I met Karen, I knew she had the right combination of professional and people skills to excel in this position,” Butler says. “This position requires a person who can explain to families the complicated diagnostic testing their child will receive, and to be able to adapt this to that family’s level of medical sophistication,” said Dr. James Wheless, director of Le Bonheur’s Comprehensive Epilepsy Program. “She must also be responsive to the referring physician’s office, and work well with their office staff. She is always looking for ways to improve our communication with the families and physicians we serve.”

Butler has also proven to be an invaluable resource to referring physicians by sending them any discharge information and other important information about the patient. “Referring physicians are a key piece to a patient’s consistent care,” she says. For her, though, Butler is most impressed with watching physicians change the course of their patients’ lives.

“It is a very impressive physician group,” says Butler. “They work together well, are very interested in research and are well-respected. What their expertise is doing for these kids is life-changing.”

Butler can be reached by phone at 888-890-0818 or 901-287-5916. Her fax number is 901-287-5330.

NIH Study Tests Seizure Drugs for Children with Epilepsy

Researchers at Le Bonheur Children’s Medical Center are helping lead a National Institutes of Health (NIH) study to test new seizure drugs in children with absence epilepsy.

The study, which is the largest pediatric epilepsy study funded by the NIH, includes 36 study centers across the country. Dr. James Wheless, director of Le Bonheur’s Neuroscience Institute, is the Mid-South’s primary investigator for the program.

Absence epilepsy, also known as staring spells, is a subtle version of the disease in which children “zone out” for a period of time.

The NIH study is studying three drugs that are used to treat the disease – Depakote (valproate), Lamotrigine and Zanotin – to see which works best for the population, says Michelle Ellis, research coordinator for the Neuroscience Institute.

The study, which is in its second year, was originally scheduled to last five years but has been extended because of its success and the NIH’s desire to gather more data.

Of the 436 children in the study, ages 2 to 18, Le Bonheur has enrolled eight, Ellis says.

Ellis adds that investigators are also conducting a genetic component as part of the study in hopes of pinpointing a specific protein that is found in children with epilepsy.

“It’s such an honor to be a part of this study,” Ellis says. “You have to have a good research reputation to be selected.”

For more information, contact Ellis at 901-287-5330.

Epilepsy Monitoring Unit Coordinator Karen Butler (right) with Le Bonheur patient Olivia Jones

Dr. Dave Clarke, an epileptologist and sleep neurophysiologist at Le Bonheur Children’s Neuroscience Institute, was recently selected by the International League Against Epilepsy, or ILAE, to share his expertise with epilepsy centers in the Caribbean.

Clarke will serve as a visiting professor at the University of the West Indies and will also work to establish a telemedicine program between Le Bonheur’s Neuroscience Institute and the university.

Clarke is one of four visiting professionals selected by ILAE from North American Epilepsy Centers to travel to Latin America or the Caribbean to assist in teaching medical professionals, students and residents about developments in epilepsy research and treatment. Clarke will focus his work with the Jamaican Chapter of ILAE. He will travel to the Caribbean at least four times the first year to teach. He hopes to include physicians from neurosurgery, psychiatry and the entire epilepsy team.

“Part of Le Bonheur’s mission to provide exceptional health care to children is to reach beyond our walls and help share our knowledge with other health care professionals. Dr. Clarke and the Neuroscience Institute are leaders in treating epilepsy and are the ideal ambassadors for sharing their expertise,” said Meri Armour, president of Le Bonheur Children’s.

Clarke says his goal is to foster joint research projects and help epileptologists in Jamaica and the Caribbean set up a pediatric surgical epilepsy component to their program.

“This should not be perceived as a one-way mentorship program. The idea is to foster a both clinical and academic interrelationship in which both centers may learn and benefit from each other’s different cultural environments and patient populations and possibly foster new research opportunities for both institutions,” Clarke says.

Clarke was also selected to establish a telemedicine program between Le Bonheur Children’s and physicians in Jamaica. This program will provide pediatric neurologists in Jamaica with the knowledge and resources of Le Bonheur’s team in dealing with difficult-to-treat epilepsy cases.

Clarke is co-director of neurophysiology at Le Bonheur. He has a special interest in pediatric epilepsy, sleep-related disorders in patients with epilepsy and the neurological complications of sickle-cell disease.