

Neuroscience Web site update highlights Le Bonheur research

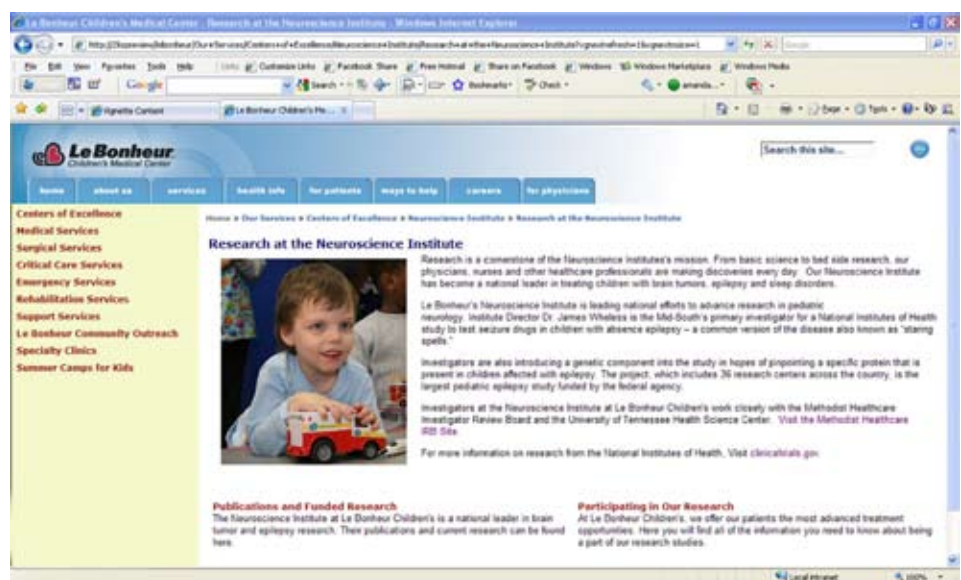
A new addition to Le Bonheur's Neuroscience Institute's Web site will give physicians and families insight into approved research studies underway at the hospital.

The updated Neuroscience research site, www.lebonheur.org/neuroscience, now includes active and closed investigations on everything from new antiepileptic drugs to traumatic brain injuries. The information gives physicians, and even patient families, a chance to inquire and eventually enroll in studies that may be applicable to them.

"We are committed to advancing the field of pediatric neurology, and want to share that effort with patients and fellow physicians, when possible," said James Wheless, MD, director of Le Bonheur's Neuroscience Institute. "We hope the Web site will help spread good information about discoveries that are changing the quality of life for children."

Specifically, the site lists studies that are currently recruiting, recruiting by invitation, active and closed. It also gives physicians and patients information about how to learn more about a trial and eventually join a study. A research volunteer registry form is posted on the site.

Currently, the site lists more than a dozen trials, including one that tests the use of hypothermia in treating children with severe traumatic brain injury, another that tests the effectiveness of clobazam in patients with Lennox-Gastaut Syndrome and still another



that looks at the use of perampanel in patients with refractory partial seizures.

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James Wheless, MD
 Le Bonheur Neuroscience Institute

"The site will allow families and physicians better access to our studies – and hopefully give them a chance to

participate in cutting-edge research," said Michelle Ellis, research coordinator for the Neuroscience Institute.

The site provides a link to the National Institutes of Health's Children and Clinical Studies Web site for parents, which teaches families more about pediatric research, why it's important, and what rights families have when entering into studies.

The Neuroscience Institute's Web site also lists publications and funded research in the field of neurology, neuropsychology and neurosurgery. Physicians and families can also learn more about the Institute at the Web site – which lists comprehensive information on the various aspects of the program.

Craniofacial fellowship begins this summer

Le Bonheur Children's will host its first pediatric craniofacial plastic surgical fellowship beginning this summer.

The fellowship is one year in length – with nine months spent at Le Bonheur and three months in Paris, France, with the Craniofacial Unit at Hopital Necker Enfants Malides, under the direction of Dr. Eric Arnaud.

"The fellowship will combine both our pediatric plastic surgical and craniofacial services," said Robert Wallace, MD, associate professor and chairman of the Division of Plastic Surgery at the University of Tennessee Health Science Center (UTHSC). "This fellowship will allow us to develop new surgeons in the field of pediatric

craniofacial surgery, as we expand our services."

Le Bonheur's craniofacial team specializes in a variety of craniofacial anomalies – including cleft lip and palate, craniosynostosis, congenital mandibular and maxillary deformities, as well other craniofacial syndromes.

In conjunction with UTHSC, Le Bonheur's multidisciplinary team consists of a pediatric neurosurgeon, pediatric craniofacial plastic surgeon, pediatric dentists, orthodontists, therapists and other specialists.



Robert Wallace, MD, (left), helps lead Le Bonheur Children's craniofacial surgical team.

MEG attracts patients from across the U.S.

In its first full year at Le Bonheur Children's, the hospital's Magnetoencephalography Lab – one of the first of its kind in mapping brain activity – drew patients from across the country.

In 2008, more than 60 percent of the patients seen in the lab came from outside of Tennessee with the largest numbers coming from Mississippi, Arkansas, Oklahoma and Texas. Seventy percent of patients were evaluated at another medical facility before coming to Le Bonheur.

Magnetoencephalography (MEG) uses magnetic fields generated by neuronal activity of the brain to locate sources of activity, and in turn, helps neuroscientists diagnose and treat patients. MEG can be used to determine if surgery is appropriate for epilepsy patients whose seizures cannot be controlled by drug therapy, as well as for patients scheduled for other

neurosurgical procedures. The MEG is used to determine the best surgical route to keep functions intact. These images guide the neurosurgeons and help provide the best outcomes possible.

"Le Bonheur has an interest and dedication in providing neurological care and the results are better than other institutions I previously referred my patients to"

**Dr. G. Steve Miller
Tulsa, Okla.**

Almost 80 percent of Le Bonheur MEG patients had a principle diagnosis of epilepsy. This advanced technology coupled

with the Epilepsy Monitoring Unit, allows Le Bonheur to provide families with a strategic advantage in their child's treatment.

"Le Bonheur has an interest and dedication in providing neurological care and the results are better than other institutions I previously referred my patients to," said Dr. G. Steve Miller, a pediatric neurologist in Tulsa, Okla., who has sent many patients to Le Bonheur's Neuroscience Institute. He cites excellent patient care and good communication as other reasons why he refers to Le Bonheur.

Physicians at Le Bonheur are also using the MEG for clinical research. Two studies are underway and two are awaiting funding.

Residency program attracts wealth of applicants



Fred Perkins, MD

A pediatric neurology residency program that launched two years ago is proving successful for Le Bonheur Children's Neuroscience Institute.

The program – which is approved by the Accreditation Council for Graduate Medical Education – had more than 20 applicants for two open slots this year. Le Bonheur was able to match two residents to the program.

Those residents are expected to come on board in June 2011. The first physician is completing pediatric residency training now. The second will spend a year in research.

"For a young program, we're doing well," said Fred Perkins, MD, program director for the residency.

Le Bonheur is currently training two pediatric neurologists, who are in their second of three years. Both have already completed their pediatric residency training requirements.

In any given year, Perkins expects that there are 30-50 applicants for pediatric neurology residencies nationwide. For Le Bonheur to have had such a large percentage of those applicants is a credit to the program, Perkins said.

Perkins hopes the program will provide a pipeline to getting the word out about Le Bonheur – if residents should choose to work other places after finishing their residencies in Memphis.

Neurologist to study autism

A Le Bonheur Children's neurologist has launched a study to identify biomarkers in children diagnosed on the autistic spectrum.

Kathryn McVicar, MD, is specifically looking to identify biomarkers in children with autism occurring in the setting of language regression and, separately, those with family members having a diagnosis of auto-immune disease. The study is being funded by the University of Tennessee Health Science Center's Neuroscience Institute.

McVicar has a special interest in the field of autism, language regression, and their possible interaction with immunology.

In the first IRB-approved study, McVicar will look at banked serum samples of children with autism and language regression – looking for protein markers that would allow better understanding of subgroups of children with autism. About one third of children with autism experience language regression, McVicar explained. She and Larry Reiter, PhD, a neurogeneticist in the UTHSC's Department of Neurology, are working together to characterize abnormal

serum antibodies previously described in these children.

"If we can identify the component that these children have in common, and figure out what's happening, I believe we could potentially intervene and help these children regain some function," McVicar said.

Pending IRB approval, McVicar soon will begin recruiting children with autism whose family members have auto-immune diseases like lupus and rheumatoid arthritis. Using the same techniques, she and Reiter intend to study biomarkers in these children.

Both projects are expected to be completed by December.

Additionally, McVicar hopes to conduct a future study to characterize sleep disturbances in children with autism. She plans to work on the study with Le Bonheur epileptologist Dave Clarke, MD, who has a special interest in sleep disturbances in children.

The team's hope is to characterize sleep in children with autism, allowing better treatment in the future.



Kathryn McVicar, MD

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Brain Waves is a quarterly publication of the Neuroscience Institute at Le Bonheur Children's Medical Center. The institute is a nationally recognized center for evaluation and treatment of nervous system disorders in children and adolescents, ranging from birth defects and learning and behavioral disorders to brain tumors, epilepsy and traumatic injuries.

James W. Wheless, MD, *Medical Director, Le Bonheur Comprehensive Epilepsy Program and Neuroscience Institute*

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Michael S. Muhlbauer, MD

F. Fred Perkins Jr., MD

Robert Sanford, MD

Namrata Shah, MD

Patient featured in *New York Times* story



North Carolinian Avery Catherwood, a former Le Bonheur Children's patient with epilepsy, was recently featured on the New York Times' Web site.

Le Bonheur Neuroscience Institute patient Avery Catherwood and her mother, Laura, are featured on the *New York Times'* Web site in the Patient Voices section.

Avery was diagnosed with epilepsy in October 2007. By May 2008, physicians in North Carolina determined that Avery had a dysembryoplastic neuroepithelial tumor (DENT). Because of the location of the tumor, her neurosurgeon didn't feel comfortable operating. By the end of August, Avery and her family were on their way to Le Bonheur for a second opinion. In less than a week, neurosurgeons removed the tumor and Avery is now seizure free.

"For almost a year, I watched my child disappear in a fog of seizures and side effects from medications ... she was slowly slipping away from us," Laura said.

"Le Bonheur gave Avery her life back."

Listen to Avery and Laura share their story at http://www.nytimes.com/interactive/2009/02/12/health/healthguide/TE_EPILEPSY.html