

Fetal Center Offers Treatment for Complex Pregnancies

Perinatologists and pediatric specialists offer collaborative care plan before birth

Cutting-edge technology and a dedicated team of subspecialists are caring for a unique set of patients at Le Bonheur: those who haven't been born yet.

Now in its third year, Le Bonheur's Fetal Center brings together multiple pediatric subspecialists – along with maternal fetal medicine specialists – to determine the diagnosis and course of treatment for babies diagnosed in utero with congenital anomalies.



"The Fetal Center has coordinated care for more than 250 families with high-risk pregnancies involving congenital anomalies since opening in September 2009," said Fetal Center Medical Director Giancarlo Mari, MD. "Because the Fetal Center is part of Le Bonheur, perinatologists and pediatric specialists are able to work together in a unique collaborative environment"

One of fewer than 30 centers in the country, Le Bonheur's Fetal Center has begun to offer treatments like EXIT procedures, laser for Twin-to-Twin Transfusion Syndrome, Amniotic Band Syndrome

intervention and first trimester fetal echocardiograms. Le Bonheur's maternal fetal medicine specialists recently cared for conjoined twins who were later successfully separated. (*Read more in the enclosed case study.*)

Before babies are born, maternal fetal medicine physicians and other subspecialists develop a clear plan of care for both mother and baby. Subspecialists include neonatologists, pediatric cardiologists, pediatric surgeons, pediatric neurologists and others as appropriate.

"Parents are also connected to resources at Le Bonheur including child life specialists, a palliative care team and social workers early on," said Mari, who is also professor and chair of the Department of Obstetrics and Gynecology at the University of Tennessee Health Science Center. In addition, Mari serves as the director of the High-Risk Obstetrics Center of Excellence at the Regional Medical Center.

Every patient's case is presented at a weekly conference that brings together 35-40 pediatric specialists to discuss the plan of care for the remainder of the pregnancy and the immediate neonatal period. The referring physicians receive a letter after each conference outlining the plan of care, allowing the Fetal Center to co-manage pregnancies along with the referring obstetrician.

Le Bonheur's physicians also have access to diagnostic technology and clinical imagers to help diagnose conditions and determine each patient's care plan. The hospital is the only fetal center in the region with fetal MRI capabilities, which offer a high level of safety and ability to determine the precise diagnosis or severity of an abnormality. Other diagnostic tests available include ultrasound and fetal echocardiogram.

Le Bonheur Receives ACS Trauma Designation

Le Bonheur Children's has been named a Level 1 trauma center from the American College of Surgeons (ACS). Earning this verification has been a guidepost for improving the hospital's care of trauma patients. Le Bonheur is the first accredited pediatric ACS Level 1 trauma center in a 400-mile radius and one of 33 in the country.



Le Bonheur utilized the ACS Committee on Trauma's verification program to identify opportunities for quality improvement. In 2010, trauma leaders reduced the average time it takes to get a patient from the door of the Emergency Department to the Operating Room by 54 percent. Those numbers were helped by the 24/7 presence of anesthesia and an Operating Room team, improved processes in surgery

and a dedicated trauma room in the OR. In addition, general surgeons responded to the highest level of trauma activation in less than 15 minutes in 92 percent of cases.

"With our trauma service line, we strive to be more efficient and more coordinated while using the ACS guidelines as our benchmark," said

Le Bonheur Children's Trauma Director Trey Eubanks, MD. "These guidelines have focused our efforts on quality improvement, intensified research and outreach education."

Le Bonheur is already designated as a children's trauma center on the state level in Tennessee and Arkansas.

THE LANCET PUBLISHES DIABETES RESEARCH



Robert Ferry, MD

Findings from a multinational immunotherapy trial for recent-onset Type 1 diabetes (T1D) will help guide future studies in slowing progression of the disease, says a Le Bonheur researcher. Le Bonheur Chief of Endocrinology Robert Ferry, MD, co-authored these findings in “Teplizumab for treatment of type 1 diabetes (Protégé study),” published in the August issue of *The Lancet*.

The treatment of T1D with immunotherapy is an evolving area and the findings will guide future research, Ferry said. Le Bonheur served as one of the sites in the trial.

The phase 3, placebo-controlled trial of immunotherapy in recent-onset T1D was unique because it included a large sample size (n>500) in a multinational study (sites in U.S., Sweden and India) and used two courses of therapy.

Findings of exploratory analyses suggested that teplizumab could help preserve pancreatic β -cell secretion of insulin (as measured by C-peptide at one year) and might decrease the amount of exogenous insulin needed for glycemic control, particularly in subgroups such as children. Although the primary outcome was not met, treatment of T1D with immunotherapy is an evolving area, and a consensus outcome does not yet exist, said Ferry.

“The findings here could help guide the design of future studies that are needed to assess the short-term and long-term efficacy of such a therapeutic strategy to slow progression of recent-onset T1D,” Ferry said.

The study received support from the Le Bonheur Foundation.

Investigators Develop Genetic Scoliosis Test for African Americans

Researchers at Le Bonheur Children’s and Campbell Clinic are leading studies to develop a genetic test that can predict progression of Adolescent Idiopathic Scoliosis in African Americans.

Genetic testing known as SCOLISCORE tests is currently available for Caucasians and helps physicians predict curve progression for these patients. In turn, physicians are able to determine the most appropriate care for each child.

Le Bonheur serves as a leading center for the project, sponsored by axial biotech, which began this past summer. In the first phase of the study, researchers will study the spinal curvature progression of African-American adolescents who have completed treatment for scoliosis. The study will analyze the genetic profile of those adolescents, comparing it to their progression, to better understand correlations in the profiles. All variances of spinal curvatures will be studied.

In the second phase of research, investigators will gather DNA profiles of new African-American patients and follow their curvature until maturity.

“Our hope is that we will be able to develop

a test that will help us predict spinal curvature progression in African Americans with adolescent idiopathic scoliosis,” said Jeffrey R. Sawyer, MD, an investigator of the project. “This test enables us to cater treatment for each individual patient, giving them the best options for care.”

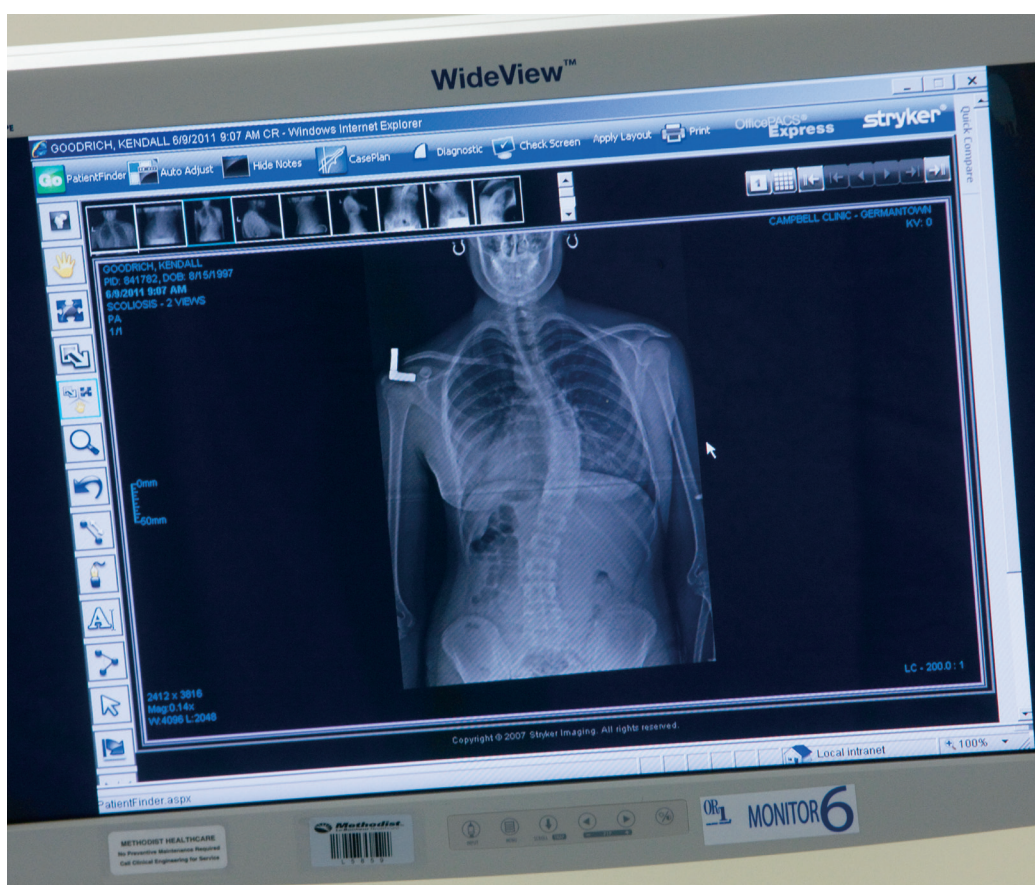
Principal investigators on the study are Jeffrey R. Sawyer, MD; William Warner, Jr., MD; and Derek Kelly, MD.

Le Bonheur and Campbell Clinic surgeons use SCOLISCORE primarily with 9- to 13-year-old children who have a mild curve up to 30 degrees who have recently been diagnosed with adolescent idiopathic scoliosis (AIS), said Sawyer.

“With moderate progression, I can use the SCOLISCORE test in these cases to predict curvature. If the score is high, I will recommend we brace early to prevent deformity,” Sawyer said.

On the other hand, an older child with a low SCOLISCORE may not need bracing, as the test tells Sawyer the curve is unlikely to progress more.

“It also enables us to cut down on X-rays, because we have a good predictor on how fast the curvature will progress,” Sawyer said.



Researchers at Le Bonheur Children’s and Campbell Clinic are working to develop a genetic test for scoliosis in African Americans.

Corkins named Gastroenterology chief; 21 new physicians join Le Bonheur



Mark Corkins, MD

Pediatric gastroenterologist Mark Corkins, MD, CNSP, SPR, FAAP, has joined Le Bonheur Children's Hospital as medical director of Gastroenterology. Corkins comes to Memphis from James Whitcomb Riley Hospital for Children in Indianapolis, where he served as co-director of Nutrition Support.

With special interest in pediatric nutrition, Corkins served as associate professor of Pediatrics at Indiana University School of Medicine. He was recently appointed to the American Academy of

Pediatrics' Committee on Nutrition. His research interests include nutrition as it relates to celiac disease and autism, as well as micro-nutrition in parenteral nutrition (PN).

He has been appointed as professor of Pediatrics and chief of the Division of Gastroenterology for The University of Tennessee Health Science Center, College of Medicine.

Corkins is one of 21 physicians who have joined Le Bonheur this summer and fall. Their specialties include cardiology, critical care, endocrinology, gastroenterology, infectious disease, nephrology, neuroradiology, neurology and pulmonology.

"By adding 21 physicians to our medical staff, Le Bonheur is improving access to critical services and talented physicians for the children and families of the Mid-South. These physicians, many of them new to the Mid-South, bring an expertise in their fields and a passion for pediatric care," said Meri Armour, president and CEO.

SURGERY IMPROVES OUTLOOK WITH EBSTEIN'S ANOMALY

Patients with Ebstein's anomaly, a rare congenital heart defect, have a better long-term outlook if they undergo a complete repair as a neonate and young infant, according to a new study by Le Bonheur Children's Hospital physicians. The study published in the May 2011 issue of *The Journal of Thoracic and Cardiovascular Surgery* is a 16-year study of patients with Ebstein's anomaly.

Umar Boston, MD; Steven Goldberg, MD; Thomas Spentzas, MD, MS; Thomas Chin, MD, and Christopher Knott-Craig, MD, co-authored the research with Kent Ward, MD, and Edward Overholt, MD, of University of Oklahoma Health Science Center. Boston, Goldberg, Spentzas, Chin and Knott-Craig are also on staff at The University of Tennessee Health Science Center.

The study followed 32 patients who underwent surgery between March 1994 and March 2010. The researchers measured early and late survival, freedom from reoperation, durability of tricuspid valve repair and functional status. The authors found that biventricular repair of Ebstein's anomaly in symptomatic neonates is feasible with good early and late survival, especially in those without pulmonary atresia. Tricuspid valve repair is durable and functional status is excellent.

"For the last 30 to 40 years, the standard treatment has been to palliate these children in a way that they only use one of the two functioning pumping chambers of the heart. Our Heart Institute has taken up the challenge of creating as structurally normal a heart as possible for these newborns," said Goldberg.

"Instead of converting them to a multi-operation, one-pumping-chamber type of heart, we take even the smallest newborns and repair the valve, and try and create two functional pumping chambers. We've been doing that collectively for 16 years, and some of the kids who would have been written off are now playing football."

The research was also presented at the 2010 Western Thoracic and Cardiovascular Association meeting.

Short Scripts

English Named Interim Chair

B. Keith English, MD, has been named interim pediatrician in chief at Le Bonheur Children's and interim chair of the Department of Pediatrics for The University of Tennessee Health Science Center.

English has been a member of the medical staff at Le Bonheur for 20 years and has served as chief of the division of infectious disease for 15 years.

"Dr. English is an outstanding researcher, teacher and advocate for children," said Le Bonheur CEO Meri Armour.

English stepped in following the retirement of Russell Chesney, MD, who served as the department chair since 1988.



B. Keith English, MD

the United States and Canada. The association works with the Accreditation Council for Graduate Medical Education (ACGME) and the Residency Review Committee (RRC) as well as the American Board of Surgery (ABS) to define standards for contemporary pediatric surgery training.

Pershad Named Pedi-Flite Medical Director

Jay Pershad, MD, has been named medical director of Le Bonheur's Pedi-Flite and Transfer Center. Pershad is an attending physician in the Emergency Department. In his new capacity, Pershad will focus on providing oversight, training and outreach to improve the quality of Pedi-Flite's transports.

Pedi-Flite performed approximately 2,100 transports in 2010, and communication specialists receive nearly 1,200 emergency referral calls each month.

Chesney, Keeton and Bell Recognized by TN AAP

Russell Chesney, MD, Danielle Keeton and Emmett Bell, Jr., MD, received awards from the Tennessee Chapter of the American Academy of Pediatrics in September.

Chesney received the Lifetime Achievement Award. He is a pediatric nephrologist, and recently retired as the chair of the Department of Pediatrics for The University of



Jay Pershad, MD

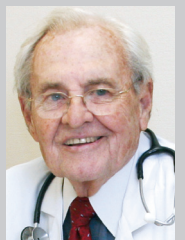
Tennessee Health Science Center. He was the longest-standing Pediatrics Department chairman in the country and has been instrumental in shaping the care at Le Bonheur Children's Hospital and children's hospitals across the country.

Keeton, director of Le Bonheur Early Intervention and Development (LEAD), accepted the Special Achievement Award on behalf of Le Bonheur Early Intervention and Development. Last year, LEAD restructured its program to partner with local child care centers to integrate children with medical needs and developmental delays into typical child care settings. Le Bonheur facilitators are stationed at 35 child care centers throughout the community ensuring children have the chance learn alongside their peers.

Bell received the Senior Pediatrician of the Year Award. Bell sees patients at Memphis Children's Clinic and was the first resident when Le Bonheur opened in 1952. In 1957, he went into practice with Ray Paul, MD, treating children with heart problems. The two were the first to perform heart catheterizations on children in Memphis. Bell held numerous roles at Le Bonheur – including chief of medicine, chief of staff, chairman of the credentialing committee, member of the medical ethics committee and consultant for the division of cardiology.



Danielle Keeton



Emmett Bell, MD

Max R. Langham, Jr., MD, has been elected President of the Association of Pediatric Surgery Training Program Directors (APSTPD), effective October 2011.

Langham is a professor of Surgery; Chief, Division of Pediatric Surgery; Program Director, Pediatric Surgery Residency Program for The University of Tennessee School of Medicine; and Medical Director of the Department of Pediatric General Surgery at Le Bonheur Children's.

APSTPD is the group of program directors responsible for the curriculum and training of pediatric surgery residents in



Max Langham, MD



Russell Chesney, MD

Le Bonheur Surgeons Successfully Separate Pygopagus Conjoined Twins

Doctors at Le Bonheur Children's Hospital recently separated conjoined twins, Joshua and Jacob Spates. The successful surgery was the result of months of planning that started in the hospital's Fetal Center.

The Spates boys were diagnosed prenatally via ultrasound at 25 weeks gestation and then referred to Le Bonheur's Fetal Center. Dr. Giancarlo Mari, medical director of the Fetal Center, developed a plan of care and delivered the boys at 34 weeks gestation via Caesarean section at The Regional Medical Center. Seven hours later, the boys were transferred to Le Bonheur's Neonatal Intensive Care Unit where they stayed for seven months as Le Bonheur specialists cared for and prepared to separate the boys.

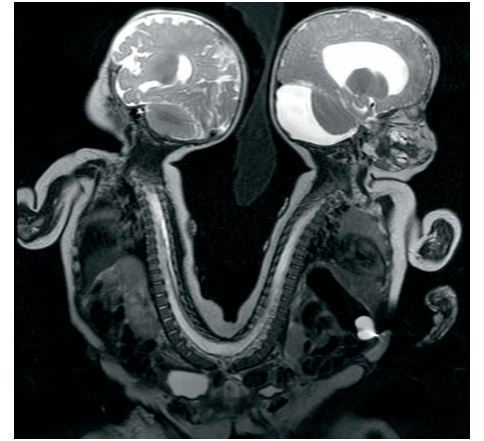


Now separated conjoined twins Joshua, top, and Jacob Spates greet each other for the first time since separation surgery. The two had been recovering in separate rooms since their Aug. 29 surgery.

Joshua and Jacob are pygopagus conjoined twins, which is a rare form of twins joined back to back at the pelvis and lower spine, each with separate hearts, heads and limbs. This type represents only 15 percent of conjoined twins.

"This collaboration of physicians and specialists is the absolute proof of success from years of national recruitment of the best," said Meri Armour, Le Bonheur president and CEO. "For our team to have successfully separated a case of this complexity and do it flawlessly is a major milestone in health care for the city of Memphis and the region."

Read more about how the Le Bonheur team separated the boys during a 13-hour surgery in the inserted case study.



MR images taken of Joshua, left, and Jacob, right, show where the boys were conjoined, in the lower sacral spine.

Stephen Bauch, MD
Mark Bugnitz, MD
James Carter, MD
Russell Chesney, MD
Thomas Chin, MD
Keith English, MD
Barry Gilmore, MD
Jay Hayes, MD
John Hill, MD
Michael Lacy, MD
Linda Lazar, MD
Bill May, MD
Deborah Nelson, MD
Stephanie Storgion, MD
Jerome Thompson, MD

Le Bonheur Children's Medical Center
Physician Advisory Council

Nellann Mettee, Editor
Jennilyn Vitkov, Advisor

Please submit comments or story ideas
by calling (901) 287-6030.

Pediatric Notes is a quarterly publication for
the medical staff for Le Bonheur Children's
Hospital, produced by Le Bonheur Marketing
& Communications Services.

Methodist Healthcare Family
Children's Hospital
Le Bonheur

50 N. Dunlap Street
Memphis, Tennessee 38103

Non-Profit Org.
US POSTAGE
PAID
Memphis, TN
Permit No. 3093