



The Gill Heart Institute's state-of-the-art facilities further its goal of offering the most advanced cardiovascular care to Kentuckians and others in the region.



LEE THOMAS PHOTOS

HEART OF THE MATTER

UK's Gill Heart Institute is a national leader in the battle against cardiovascular disease



By William A. Bowden

In the 10 years since the University of Kentucky's Linda and Jack Gill Heart Institute opened its doors, heart disease patients in Lexington and the surrounding area have learned they no longer need to travel to distant medical centers to receive the most advanced cardiovascular care.

Whether it's performing the only heart and multiple-organ transplants in the region or replacing a worn-out aortic valve through the latest trans-catheter procedure, the institute has become a national leader in advancing the treatment and prevention of cardiovascular disease.

"No one need leave Kentucky to receive world-class cardiovascular care," said Dr. Susan S. Smyth, medical director of the Gill Heart Institute.

As it celebrated its 10th anniversary in 2014, the institute enhanced its leadership position when it moved into a gleaming new 64-bed intensive and progressive care inpatient unit that occupies the entire eighth floor of the 12-story Pavilion A in UK's Al-

bert B. Chandler Medical Center. One of the largest such facilities in the nation, it features cutting-edge technology in a spacious and attractive setting designed to allow the institute's physicians, nurses, and technicians to work closely together.

"The eighth floor aggregates and unites our team," Smyth said. "We have grown so much that we were providing care in many areas of the hospital. We now have an integrated cardiovascular ICU for both medicine and surgery patients. Patients used to



Dr. Susan S. Smyth is the institute's medical director.

get moved around a lot — they now stay in one place as we integrate the care around them."

The new technology allows the Gill staff to work more efficiently, translating into improved patient care. A series of monitoring stations are located along hallways close to patient rooms, backed up by a central monitoring station. Nurses use a bar code computer application to monitor patient medication, matching the code on a patient's wristband with his or her profile in a handheld smartphone-like device.

Surgical Director Dr. Michael E. Sekela especially appreciates how the technology is tied together, which aids in making his rounds and planning patient care.

"We used to have to go to a variety of computer stations and physically look for X-ray pictures, but now it's all tied together," he said. "I can take a mobile work station and, with the click of a mouse, call up images as I walk from room to room. I can use a voice recognition transcription program to record on a real-time basis what we need for pharmacy, nursing,

physical therapy, diet. I'm instituting a plan of care at the point of care."

There is an imaging suite for echocardiography situated between the 32-bed intensive care and 32-bed progressive care sections, minimizing patient transfers for testing.

The new facilities support the institute's continuing goal of providing minimally invasive procedures that often replace more traumatic ones, such as open-heart surgery. Gill physicians say progress in this area in recent years has been remarkable.

"What used to be done with a 10-inch incision and the breast bone open can now be done with a very small incision in the groin and a catheter, and the patient is up and walking around a few



Bright, well-appointed rooms reflect the desire to help patients feel better physically and psychologically.

hours after the procedure," Smyth said. "Aortic valve replacement, for example, used to involve many days in the hospital. It is now almost an overnight stay."

The patient's inner self

Being a patient in a hospital can be a dehumanizing experience, what with doctors and nurses coming and going, tubes and needles stuck in your body, and the unsettling experience of being wheeled hither and yon for a multitude of diagnostic tests. It might seem that the new technology and expanded facilities in the new Gill unit would only add to that feeling.

However, such is not the case. The Gill has always had compassionate care as a core value, and that perspective is now more im-

**LINDA AND JACK GILL:
THE ART OF PHILANTHROPY**

When Linda and Jack Gill looked around at the alarming rate of cardiovascular disease in Kentucky and decided to do something about it, they carefully thought out a comprehensive approach to the problem based on considerable study about the nature of philanthropy.

The resulting Linda and Jack Gill Heart Institute, founded in 1997 by a \$5 million gift from the couple, goes far beyond the building that bears their name on the University of Kentucky campus. It encompasses a broad range of initiatives, centered on clinical care, cutting-edge research, and educational programs; and featuring endowed chairs and professorships, awards and symposia, and special programs.

"I read books on self-made wealth in America and what people do with it," Jack Gill said. "Linda and I came to understand that you can simply make a gift for a good program, and that's fine, but, on the other hand, it's far more rewarding and helpful to get involved and understand the bigger issues people are trying to accomplish."

That's why the Gill Heart Institute still benefits today from the continuing involvement and guidance of the Gills, a talented

and highly successful couple whose philanthropic interests are spread far and wide. They established the Gill Foundation of Texas in 1997 to coordinate initiatives in Texas, California, Indiana, and Virginia, as well as Kentucky.

Linda Gill, a UK graduate and Kentucky native, is a former teacher whose career also included nine years with American Airlines. Her continuing involvement as a professional volunteer at hospitals and medical schools has included stints at Stanford Medical Center, Methodist Hospital in Houston, and Massachusetts General Hospital in Boston. She was awarded an honorary doctorate degree from UK in 2001.

Jack Gill has found success as a scientist, entrepreneur, corporate executive, venture capitalist, and university professor. In 1981 he founded Vanguard Venture Partners, a venture capital firm in Palo Alto, California, and Houston that focused on funding high technology and medical/life science startup companies. He has been a faculty member at Harvard Medical School and the Massachusetts Institute of Technology and currently is professor of the practice of entrepreneurship at Rice University. In recognition of his



COURTESY OF LINDA AND JACK GILL

rise from humble beginnings, he received the Horatio Alger Award for Distinguished Americans in 1999.

Dr. Michael E. Sekela, surgical director for the Gill Heart Institute, understands and appreciates the thoughtfulness of the Gills' approach to supporting the institute.

"Linda and Jack researched the problem and made an informed decision to put seed money into cardiovascular care and prevention in Kentucky," he said. "They committed themselves to influencing that problem, and they've done just that. The technology that's been acquired and the spin-off ability to attract the brightest and best young minds, in both a clinical and basic science setting, is going to echo into the future for decades."

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GILL HEART INSTITUTE



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Left, Dr. Michael E. Sekela, with physician's assistant William Joseph Meadors, appreciates the consolidation of technical functions that is a key feature of the new facility.

portant than ever. The design of the new unit reflects that human value.

Sekela thinks the new environment does many things to support a patient's morale, which he believes is a key ingredient in the healing process.

"Our new facility was designed to effect not only a physical change in the hospital but a cultural change that emphasizes that our patients are real people," he said. "To help them get better, they have to feel better psychologically. Their inner self has to come along on the journey to good health."

To that end, patient rooms are now furnished with a futon, closet space, and a full bathroom and shower that allow a family member to spend the night literally at the patient's bedside. The Keeneland family waiting area, sponsored by Keeneland, provides a comfortable and spacious gathering place for visitors. Colorful artwork throughout the facility lifts the spirit, and picture windows let the patients stay in touch with the outside world they came from and plan to return to. Consolidation of technical functions such as diagnostic tests in a more compact area lessens the feeling of being trundled about through hallways and elevators.

As but one example of how the staff practices everyday compassionate care, Sekela relates his habit of giving patients a personal touch while making his rounds. He may typically be playing a Pied Piper role as medical students and interns follow him from patient to patient, absorbing the insights and wisdom concerning patient care that come from his decades of experience.

After being duly observed by what to him or her is essentially a gaggle of strangers, a patient is gratified when Sekela lingers behind a moment to soften that rather institutional exercise.

"I always find something positive to say about their treatment, tell them they're doing well, and take the edge off the experience of being so closely observed," Sekela said.

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GILL HEART INSTITUTE

Cutting-edge research

In addition to patient care, the institute takes great pride in its role as a leading heart research facility. During the past 10 years Gill has received more than \$100 million in outside funding for research. It recently received grants totaling \$1.26 million from the American Heart Association for nine projects underway at the institute's Saha Cardiovascular Research Center and in the UK College of Medicine.

Dr. John C. Gurley, professor of medicine and leader of the structural heart interventions program at the Gill Heart Institute, said the research function is vital to fulfilling the institute's overall mission.

"The purpose of a university is to go out to the very leading edge of technology and bring that back to our community and make it available not just to Lexington but to the state and region," he said. "To do that, you have to be part of the pioneer group willing to put in long hours and do a lot of work that enhances the state of the art. This is what makes our community and state part of that international club of leading researchers."

Gurley said the institute's trans-catheter aortic ventricular replacement procedure is an example of recent advances in the treatment of heart disease, yet also illustrates an area where groundbreaking research is taking place in tissue engineering. The goal is to

produce a replacement valve — grown from cells taken from the patient — that has the potential to last much longer than current valves derived from animal tissue.

Another research area is the investigation into coronary stents made of a polymer that holds the artery open until it heals, then is absorbed into the body, leaving an open artery with no artificial hardware. Clinical trials allow patients access to evolving techniques, such as a bone marrow procedure that can help to regenerate damaged heart muscle.

The institute's educational mission is fulfilled through a variety of programs, including rotation of medical students and interns through inpatient and outpatient settings. Training is also offered to those seeking to become cardiovascular nurses or nurse practitioners, as well as students in residence studying cardiovascular pharmacy. Endowed chairs and professorships further academic initiatives, and the institute hosts a number of educational conferences for physicians.

The institute's outreach program is coordinated through the Gill

Heart Network, which places cardiologists in communities around the state who practice under the Gill brand. Maker's Mark and Keeneland committed approximately \$500,000 in proceeds from a three-year commemorative bottle series (2012-2014) to support the institute's outreach clinics in eastern Kentucky as well as cardiovascular programs with UK HealthCare. The institute is also affiliated with regional medical centers and is a referral center for patients from southern Ohio, West Virginia, and northern Tennessee who are brought to Lexington for the highest levels of care.

Everything the Gill Heart Institute does eventually comes down to treating and helping to prevent heart disease in Kentucky and throughout the region.

"Kentucky has some of the highest rates of cardiovascular disease in the country," Smyth said. "Our mission is to bring all of the advances in treatment and prevention to bear upon the goal of lowering the rate and the burden of cardiovascular disease in our state. We are doing that through clinical care, research and education." KM

**GILL HEART INSTITUTE GIVES
MARY LOU BLAIR A NEW LEASE ON LIFE**

The SilverSneakers exercise program for active older adults at the Beaumont Centre FamilyYMCA in Lexington has a newly energized member, thanks to the innovative treatment offered by the Gill Heart Institute's structural heart interventions program.

Mary Lou Blair, 88, was suffering the symptoms of a worn-out aortic valve. Because of her age and her osteoporosis, she was not a candidate for open-heart surgery.

"By last September I was having a lot of trouble," she said. "My ankles were swollen, and I had difficulty breathing at night."

Her problem was solved by the transcatheter aortic ventricular replacement procedure that installs a new valve via a catheter inserted through the groin area. The replacement valve is maneuvered into place and opened up, pushing the old valve aside. It begins working immediately.

"As we age, the aortic valve can become stiff with calcium and cholesterol deposits, so it won't open properly to let the heart pump blood out," said Dr. John C. Gurley, head of the institute's structural heart interventions program, who performed



JOSEPH REY AU

Blair's operation. "Traditionally, you would have to open the chest up and remove the old valve. With the transcatheter procedure, the patient is ready to go home the next day. They don't have to heal because we haven't hurt any tissue."

Blair was amazed at how efficient and effective the procedure was.

"Everything went great. I went home the next day, which was a Thursday. Sunday I was at church, and the following Monday I was back at the Y for my SilverSneakers class. My ankles weren't swelling anymore, and I could breathe more easily, which is a very comforting thing. The Gill staff is so thoughtful and caring of its patients."

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