



# Innovators *at* Heart

A publication for those who support heart-related research, education, and care at the University of Minnesota

## Keeping failing hearts pumping

For hundreds of people, the University’s world-renowned ventricular assist device program is nothing short of a lifesaver

In 1995, Jean Loken’s health was deteriorating quickly. Within days of suffering a highly damaging heart attack, she learned that she’d need a new heart to survive.

Finding a donor organ for transplantation would likely take months that Loken did not have. So her doctors at the University of Minnesota Medical Center did the next best thing—they implanted into Loken’s failing heart a ventricular assist device (VAD), which could keep blood pumping in and out of the organ until a new heart became available. That day, Loken became the first person to be implanted with a VAD in Minnesota.

Three months later, Loken had her transplant. Her new heart has been pumping strong ever since.

Loken is one of more than 350 people who have benefited from the University’s expertise in VADs. About 5 million people in the United States have heart failure, and in severe cases, treatment considerations can become a race against time. While heart transplantation is often the best treatment for end-stage heart failure, a paucity of heart donors—particularly in the Midwest—makes that option often impractical or even impossible.

“Here, finding a [heart for] transplant can take as long as 12 months,” says Kenneth Liao, M.D., Ph.D., surgical director of the University’s heart transplant program and associate professor of surgery. “Most patients with severe heart failure would die if they had to wait that long.”

Enter the University’s VAD program. VADs, mechanical devices that can replace the pumping action of a failing heart, can keep a patient stable until a transplantable organ is available (which

Photo by Richard Anderson



A ventricular assist device kept Jean Loken’s heart pumping until she could get a transplant. Today Loken, here with her husband, Steve, enjoys walking, sewing, and playing with her grandchildren.

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## Keeping failing hearts pumping continued from cover



*Ranjit John, M.D., directs the University's Ventricular Assist Device Program.*

doctors call “bridge to transplant”), supported until the heart heals on its own (“bridge to recovery”), or alive long-term if a transplant is not possible (“destination therapy”).

People who have received VADs at the University electively have a 96 percent chance of survival—well above the national average of 85 percent.

“We continue to be a top VAD program in the world because we select the appropriate patients for VAD at the optimal time, then give them the appropriate device and treat them appropriately,” says cardiologist and associate professor of medicine Andrew Boyle, M.D.

Patients here often have access to new, improved devices first through clinical trials.

A University team took part in a national trial finding that the HeartMate II® device could safely and effectively be used as a bridge to transplant. About 84 percent of participants receiving the device, which got Food and Drug Administration (FDA) approval for this use in

April 2008, survived until transplantation or were discharged from the hospital.

Another University-led trial evaluated the use of the VentrAssist® device for the same purpose. After six months, 86 percent of the patients enrolled in the trial received a heart transplant or were alive on device support. The VentrAssist is now awaiting FDA approval.

Ranjit John, M.D., the University's VAD program director, says devices such as the HeartMate II and VentrAssist are the future of VADs. “They are smaller, much more durable, much more reliable, and they represent the next generation of pumps,” he says.

Loken says she's thankful that she is among hundreds of lucky people to have received a VAD at the University. She now walks a brisk two miles every day, plays with her grandchildren, and enjoys volunteering for transplant groups.

“I've competed in the Transplant Games, I traveled to Europe ... I sew,” says Loken. “I can do every activity that a 64-year-old would want to do.”

## Online resources

Please visit our Web site for comprehensive information as you evaluate various giving options.

1. Go to [www.mmf.umn.edu](http://www.mmf.umn.edu)
2. Click on “Gift Planning”
3. Select from the list of resources on the left side of the page

## A recession-proof investment Charitable bequests ensure a healthy future

In tough economic times, significant choices are inspired by our priorities. By leaving a legacy for generations to come, you help create a future that will improve the quality of life for people with cardiovascular diseases. The need is great and the time to act is now.

Making a testamentary gift provides you the opportunity to make a statement about what matters most to you—without affecting your quality of life or using assets that are uncertain. A charitable bequest to support heart-related research, education, and care at the University of Minnesota through the Minnesota Medical Foundation will strengthen these programs while minimizing your estate taxes and reducing the tax burden for your heirs.

To make a bequest to heart-related research,

education, and care, provide the following sample language to your legal counsel:

**I give the Minnesota Medical Foundation, currently located at 200 Oak Street SE, Suite 300, Minneapolis, Minnesota 55455, Federal ID 41-6027707, ( \_\_\_\_\_ % of the residue of my estate) or (the sum of \$ \_\_\_\_\_ ), for the benefit of heart-related research, education, and care at the University of Minnesota.**

*For more information on charitable bequests and other gift planning opportunities, contact Tom Cierzan at 612-625-8676, 800-922-1663 (toll free), or [t.cierzan@mmf.umn.edu](mailto:t.cierzan@mmf.umn.edu).*

# A cause for collaboration

## Companies show their support for an academic discussion

It's not all that common for a multi-institution group of physicians, scientists, and medical device manufacturers to get together and talk about how to best solve complex medical problems. But thanks to a University of Minnesota symposium series, these conversations are flourishing.

The annual Bakken Surgical Device Symposium—named for University alumnus Earl Bakken, who invented the pacemaker and cofounded Medtronic, Inc.—began in 2007. The symposia build on the University's rich legacy of cardiovascular breakthroughs, cover present treatments and technologies, and provide insight into the future of cardiac care through innovation.

Naturally, the first symposium was focused on pacemakers. The most recent Bakken symposium, held December 8 and 9, 2008, covered heart valve disease and therapies.

"The topics are [chosen] for a reason—they have an immediate clinical need," says associate professor of surgery Richard Bianco, who directed the 2008 event.

The 2009 Bakken symposium, slated for December 7 and 8, will highlight the current and evolving technologies used in minimally invasive surgery involving the heart, lungs, great vessels (main vessels off of the heart), and esophagus.

"In the last five years, we have seen a virtual revolution in the ability to diagnose and treat diseases of the chest with the advanced technologies currently available," says Michael



*This year's Bakken symposium will highlight the evolving technologies used in minimally invasive surgery.*

*Photo by Jerry Vincent*

Maddaus, M.D., codirector of the University's Minimally Invasive Surgery Center, who is directing this year's event with Kenneth Liao, M.D., Ph.D., head of the center's robotic and minimally invasive cardiac surgery program.

"The symposium will highlight the current state-of-the-art technologies with a glimpse into the potential future developments in this rapidly evolving field," Liao adds.

Medical device and technology companies have supported this symposium throughout the years by funding everything from keynote speaker honoraria to program grants.

Many of these sponsors—which last year included Medtronic; St. Jude Medical Foundation; ATS Medical, Inc.; and Sorin Biomedical, Inc.—also sent their executives and salespeople to the symposium as attendees.

"It enhances technology and treatments, and everybody benefits from that," Bianco says.

For more information about the 2009 Bakken Surgical Device Symposium or to learn how you or your company can support it, contact Andrea Fahrenkrug of the Minnesota Medical Foundation at 612-273-8595 or [a.fahrenkrug@mmf.umn.edu](mailto:a.fahrenkrug@mmf.umn.edu).

**As part of Heart Health Month in February, women had their questions about heart disease answered by University of Minnesota experts—while enjoying wine and chocolate.**

The women-only Take Heart event, presented by the Minnesota Medical Foundation and the University's Lillehei Heart Institute, provided attendees with an open Q&A session with a health-care professional and a scientist.

Lynn Hoke, N.P., R.N., M.S.N., a nurse at the

University's Rasmussen Center for Cardiovascular Disease Prevention, answered questions about early detection and management of heart disease in women. And internationally renowned researcher Doris Taylor, Ph.D., director of the University's Center for Cardiovascular Repair, discussed her cell therapy research and how it might be a factor in the future of women's heart health.

Planning for the next Take Heart event is currently under way. Women, watch your mailboxes this fall for an invitation!

**Sharing the secrets of women's heart health**

Internationally  
renowned  
cardiologist  
returns to  
the University



Gary Francis, M.D.

Gary Francis, M.D., describes his recent return to the University of Minnesota's cardiology faculty as "a homecoming of sorts."

Francis joined the University faculty in October as an adult clinical cardiologist and associate director of the Lillehei Heart Institute's Clinical Trials Center. But he first came to the University professionally in 1977 and stayed for 20 years, serving at the end of that tenure as a professor of medicine and research director of the Rasmussen Center for Cardiovascular Disease Prevention.

Then, after a decade away, serving as head of clinical cardiology at Cleveland Clinic, Francis felt a near-gravitational pull to return to the University, primarily because of the renewed energy in the cardiology program.

"I'm attracted by the direction that [cardiology chief] Dr. [Daniel] Garry is bringing to the University," Francis says. "The cardiology group has been rejuvenated. There are new resources, a lot of recruiting going on, lots of young people, a

fellowship program on the upswing. All of these things factored into my decision."

Francis and his wife also grew up in the Twin Cities, and Francis had attended the University as an undergraduate.

Through his clinical work, Francis became interested in studying the interaction between renal function and heart failure and at Cleveland Clinic took part in a long series of studies on this connection. He also participates in large national and international clinical trials as a steering committee member and data and safety monitoring board member.

In his future research, Francis will study new treatments for heart failure and renal dysfunction.

"The most rewarding part of my return here has been the palpable sense of optimism and energy," says Francis. "I really want to make a contribution to that energy—to the group's collective goals and to our patients. It's just good to be back."

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Nicole Endres  
*Editor*

Jeanne Mettner  
*Writer*

Lisa Haines, juju  
*Design*

For more information,  
please contact:

Julie Crews Barger  
Director of Development  
Minnesota Medical  
Foundation  
612-273-8593  
jcb@mmf.umn.edu

[www.mmf.umn.edu](http://www.mmf.umn.edu)

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