



Innovators at Heart

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

Starting early for success

U cardiology and oncology experts team up to minimize heart damage in people undergoing cancer treatment

Early-stage cancer patients have become one of medicine's biggest success stories, as the almost 14 million survivors in the United States would be happy to attest. But for many of them, another threat lurks in the background: heart disease.

An unwelcome after-effect of many chemotherapy and radiation regimes, heart disease is now the leading cause of death among cancer survivors.

Through its integrated cardio-oncology program, the University of Minnesota has taken aim at this problem with a full-bore range of research and treatment facilities geared toward the prevention and early detection of heart disease in cancer patients, and its physicians are helping patients already diagnosed with cardiovascular problems withstand cancer treatment.

"I see patients in remission who were treated 10 to 15 years ago and are completely unaware that they are at additional risk for developing heart problems, and I also see cardiac patients now facing cancer treatment," says Suma Konety, M.D., M.S., an assistant professor in the University's Cardiovascular Division and head of the U-affiliated Cardio-Oncology Clinic. "While a majority of the patients we see have developed cardiac problems during or after their cancer treatments, this clinic is also about prevention, screening oncology patients for early symptoms of heart disease and monitoring the highest-risk group."

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In a hero's honor, gift supports aortic valve disease research **page 3**

Physician-scientist counts patients as critical partners **page 4**

Photo by Scott Strebler



With advice from the Cardio-Oncology Clinic, Jack Reher found a routine that made his heart strong enough to withstand a stem-cell transplant to treat his lymphoma.

Starting early for success *(continued from cover)*

Pulling through

Jack Reher, a Richfield, Minn., man with a rare form of non-Hodgkin's lymphoma, had a tough cancer battle. He received a drug essential to treating his lymphoma but one that negatively affected his heart by causing cardiomyopathy. It left him ineligible for a stem-cell transplant.

Soon Reher was sent to Konety at the Cardio-Oncology Clinic.

"Dr. Konety was definitely unhappy with the health of my heart," Reher says now. "She told me my heart had been weakened, and I needed to start a cardiac medication used to strengthen the heart muscle and a strict exercise routine to build up my strength."

After a year of elliptical workouts, taking his medication, and close follow-up in the Cardio-Oncology Clinic, Reher learned that his heart function had improved to the point where he became a candidate for a stem-cell transplant, which he underwent last year.

"My cancer is now in remission, and my heart is doing just great!" says Reher. "Everyone at the clinic is so friendly and caring, and Dr. Konety always gives 100 percent. She really helped pull me through."

Reher is not the clinic's only success story. According to Konety, screening high-risk cancer

patients has identified a number of people in the early stages of heart failure, valvular disease, coronary disease, or other vascular disease.

"Because they were still asymptomatic," she explains, "they hadn't yet triggered a cardiology alert. But that's our focus here—to make an early diagnosis and promptly initiate treatment for heart disease."

Who is high-risk?

Anthracyclines, a class of chemotherapy agents essential to the treatment of such diseases as breast cancer, leukemia, sarcoma, and lymphoma, have long been known to cause heart damage. And scientists continue to identify other chemotherapy drugs that can also lead to cardiac toxicity. Likewise, chest radiation (a treatment given to people who have Hodgkin's lymphoma, breast cancer, and lung cancer) can cause heart damage.

"Patients who received both chemotherapy and radiation to the chest are especially at risk," explains Konety. "And remember, heart damage may not be readily apparent for years after treatment."

A wealth of resources

Konety credits the University's strong cardio-oncology program to outstanding collaboration among University of Minnesota Physicians Heart, the Cancer Survivor Program, and the Masonic Cancer Center.

And now, with the June 2013 opening of the Cancer and Cardiovascular Research Building in the U's burgeoning Biomedical Discovery District, Konety expects both research and care programs to make another leap forward.

"The key is recognizing cardiac dysfunction during all stages of cancer treatment and initiating therapy as soon as possible when appropriate," she says, "because when we do that, we improve survival rates."



Photo by Richard Anderson

Suma Konety, M.D., M.S.

Save the date: Women Take Heart

Mark your calendars for the upcoming Women Take Heart event on Tuesday, February 25, at the McNamara Alumni Center at the University of Minnesota.

Attendees will experience a lively evening with engaging conversations and information focused on women's cardiovascular health.

For more information, contact
Chelsey Odegaard at 612-626-5470
or odega084@umn.edu.

In loving memory

New fund will support research into groundbreaking cardiac care

When Dorothy Busch died in 2011 at age 92, her son, Tom Busch, told his cousin that his mom was his hero. The cousin, he recalls, replied, “You know, Tom, she was a hero to many, many people.”

It was that sentiment that prompted Tom to set up the Dorothy M. Busch Memorial Endowed Fund to support aortic valve disease and related research at the University of Minnesota.

“I wanted to do something in her name that would benefit other people,” says Busch, as his mother always was willing to lend a helping hand, especially to those in need. So he made a pledge to further research being done by Robert Wilson, M.D., an interventional cardiologist focused on coronary artery and heart valve disease.

Dorothy Busch had suffered from aortic stenosis, a narrowing of the heart’s aortic valve that makes the heart work harder to pump blood to the rest of the body. In 1991, she had aortic valve replacement surgery. At that time, it was an open-heart procedure with a long, grueling recovery period.

Now, two decades later, that scenario has changed dramatically. “I had an opportunity to see Dr. Wilson demonstrate a new technique for

doing aortic valve replacement—absolutely amazing!” Tom Busch says. “What a difference from the invasive surgery my mom had.”

Busch is referring to new, considerably less-invasive heart repairs that can be made by threading a catheter through an artery to reach the defect, a technique that Wilson is pioneering at the U.

“Once I decided I wanted to do something to honor my mom, I didn’t really know how to go about it,” he says. “But when a friend recommended I speak with someone at the U, it all came together easily.”

Busch believes that a gift to the University is not simply a business-like transfer of funds; rather, he says, the people he worked with at the University made sure he could make his gift to a project that had meaning for him.

“The doctors even send me research updates,” says Busch. “I really appreciate that these amazing scientists have so much excitement about what they do and are willing to share it with people like me.”



Tom Busch's gift to aortic valve disease research honors his mother and hero, Dorothy Busch.

IRA charitable giving opportunity extended for 2013

Thanks to recent legislation, you can again benefit from a popular tax-advantaged giving option.

Make a gift of up to \$100,000 directly from your IRA to the University of Minnesota Foundation (UMF) to support the Lillehei Heart Institute before December 31, and avoid paying federal income tax on the amount of your gift.

These rules apply:

- Only IRAs are eligible (other types of retirement accounts are not).
- You must be age 70½ or older at the time you make your gift.
- Your gift must come directly from the IRA custodian to UMF.
- You can give up to \$100,000 from your IRA to one or more qualified charities in 2013 (and if your spouse has a separate IRA, you can each give up to \$100,000).
- Your gift must be outright; it cannot be used to fund a charitable gift annuity or charitable remainder trust.

To make a gift or learn more, contact us at plgiving@umn.edu, 612-624-3333, or 800-775-2187.

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Patients as partners



Photo by Scott Streble
Cindy Martin, M.D.

At the Adult Congenital and Cardiovascular Genetics Center at the University of Minnesota, Cindy Martin, M.D., works with people who were born with heart defects or inherited heart diseases and finds ways to alleviate their symptoms.

But in the laboratory, she conducts research that delves deeper into what exactly in the patients' genetic makeup caused their disease.

Many of her patients jump at the opportunity to be a part of her lab research—even if it's early-stage research that likely won't result in a cure in their lifetimes.

"I think that the people who have entire families that are affected by conditions are just more acutely aware of [the need to participate in research] because they've seen it go

generation to generation," Martin says. "We couldn't do what we do without them."

Working in the brand-new Cancer and Cardiovascular Research Building, Martin and her colleagues are investigating why a shared genetic mutation doesn't always affect each family member in the same way. Soon, with patients as their critical partners, they will make family-specific stem cells to study how the heart cells that grow from them are abnormal.

The goal is to improve patients' lives. Martin says she's pleased to give her patients opportunities to advance knowledge about their disease—and to give them hope for a healthier future.

"It's incredibly gratifying to me to potentially be able to offer them something in return for what they're teaching us," she says.

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