

From the Heart

UPDATES FROM THE MINNEAPOLIS HEART INSTITUTE FOUNDATION®



SPRING 2021



Creating a world without heart and vascular disease

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Take Care of Your Heart

Dear Friends,

Christopher Reeve once said, "Once you choose hope, anything is possible." Indeed, during a challenging 2020, we here at the Minneapolis Heart Institute Foundation® (MHIF), along with the rest of the world, continually chose hope. Hope for those afflicted with COVID-19 and their families. Hope for the continued health and safety of health care professionals and frontline workers across the country who worked so heroically caring for those who were ill. Hope for the promise of research for an effective vaccine. Hope for the promise of research to continue improving treatment for patients with heart and vascular disease. We remained steadfastly committed to deliver on our mission, knowing that our important work cannot stop.



Our tagline — Hope Discovered Here® — is something that we live by every day. Through our groundbreaking heart health research and far-reaching education, we provide:

- Hope for patients, improving their well-being and life expectancy;
- Hope for their children, siblings, parents and families;
- Hope for new treatment options; and
- Hope for a world without heart and vascular disease.

In 2021, we're more determined than ever to continue moving forward our critical work researching innovative new devices, drugs and treatments for heart disease, and educating and disseminating our research findings to other physicians and health care professionals throughout the world to improve patient care and improve and save lives.

In this issue of our newsletter, we hope you'll enjoy reading some exciting news about our new science center focused on prevention, one patient's story of the impact of a minimally invasive heart valve procedure, some of our 2020 research and education highlights, and important information on the vital connection between mental health and heart health.

Thank you for your continued support of our mission and our family. Continue to stay safe, healthy and hopeful!

A handwritten signature in black ink that reads "Kristine Fortman". The signature is written in a fluid, cursive style.

Kristine Fortman, PhD
CEO, Minneapolis Heart Institute Foundation

The Power of Social Connections and Laughter

Did you know that one-third of all cardiovascular outcomes are related to mental health, whether it's social isolation, anger, depression or anxiety, etc.? That's why it's so important to take a proactive strategy to managing your mental health and well-being as part of a heart-healthy lifestyle.



Dr. Courtney Jordan Baechler is program director for MHIF's emerging science centers and a general cardiologist. She is passionate about a healthy state of wellbeing – body, mind and spirit – and is a national leader in integrative medicine and wellness. Here Dr. Baechler shares two of the many tools she recommends for managing your mental health:

Social Connections: The importance of social connection is an important area to address as we consider the best way to stay well – in body, mind and spirit. It's not uncommon for me to “prescribe” to my patients the need to see your friends! Similar to how it may be critical for you to take your statin to lower your cholesterol, it's equally important for us as human beings to stay socially connected, particularly through relationships where we feel comfortable being our authentic self. The former surgeon general, Dr. Vivek Murthy, said, “Loneliness and weak social connections are associated with a reduction in lifespan similar to that caused by smoking 15 cigarettes a day and even greater than that associated with obesity.”

The trick to surrounding yourself with good social support is to identify people who don't have an ulterior motive. That's to say – no one who secretly wants you to respond a certain way or do something for them. Find people that fill your soul from the time you have together.



Laughter has been shown to decrease stress hormones and increase immune cells and infection-fighting antibodies. By way of releasing endorphins, laughter has been shown to decrease physical pain.

Humor, happiness and a sense of well-being are critically interconnected. What does that mean from a practical perspective? Especially amid stressful, serious times while we all want to have the latest information, data and expert opinions on the world's affairs, it's also important to incorporate some moments of relief and laughter.

For more practical tips, inspiration, and some of Dr. Baechler's personal practices and experiences, visit mplsheart.org/wellness.

GEORGE DEAN

New Aortic Valve Will Limit Further Heart Damage

Every year, more than 25,000 Americans die from heart valve disease. For George Dean, his aortic valve stenosis was not symptomatic, but it had gotten progressively worse in the decade since it was initially diagnosed, from mild to severe.

In June 2020, George, then 66, received a SAPIEN transcatheter aortic heart valve as part of MHIF's participation in the EARLY TAVR clinical trial for the device. In the randomized study, eligible patients who have severe aortic stenosis but are asymptomatic receive either a transcatheter aortic valve replacement (TAVR) or clinical surveillance.



Aortic stenosis is one of the most common valve diseases and usually develops later in life. It occurs when the aortic valve becomes narrow and obstructs the flow of blood from the heart to rest of the body. When the aortic valve gets very narrow, the heart has to work harder to pump the blood around the body. As a result, the heart muscle gets thicker, stiffer and, over time, weaker, which is called heart failure.

"The funny thing is that I was asymptomatic," said George. "I wasn't feeling fatigued or winded. In fact, I was continuing to ride my bike and feeling pretty good. I spoke with my primary care provider and my cardiologist and they both said, 'You're going to have to get it done at some point. The positive of getting it done early as part of this clinical trial is that you can limit any further damage to your heart and other organs. You may not be feeling the symptoms yet, but they're coming.'"

Having never participated in a research trial before, George was initially hesitant, but after doing his own research and receiving thorough education from the research team on the device, procedure, benefits and risks, and the study's five-year follow-up schedule, he decided to participate.

"I just decided I'm going to take the short-term risk for the long-term gain and it was just a great experience," said George. "The procedure itself, I think the whole thing took about 45 minutes. I was kind of semi-conscious, sedated. No pain. I was in my hospital room a couple hours later, and I checked out the next day. So, I was home less than 24 hours after I received the new aortic valve. When you think of the technology and how it has progressed over the years, it's just amazing. I'm glad I had it done."

To read about other grateful patients, please visit: mplsheart.org/stories.

Introducing Our New Nolan Family Center for Cardiovascular Health

At a time when wellness and overall health is as important as ever, the Minneapolis Heart Institute Foundation was extremely grateful late last summer to receive a \$5 million charitable donation from the Stuart Nolan family — matching the largest donation ever made to the foundation — to establish the Nolan Family Center for Cardiovascular Health.



The gift is helping to accelerate progress and innovation in research and education around how to prevent cardiovascular disease, which continues to be the number one cause of death for people around the world. This research will also address some of the challenges around health disparities by further defining and understanding risk factors, as well as identifying the best care pathways for addressing care in racial and ethnic minorities where heart disease outcomes are significantly worse than other populations.

Over its 39-year history, MHIF has led impactful, groundbreaking research and education across a wide spectrum of prevention-related topics, including coronary artery calcium testing, blood pressure, cholesterol and statin use, nutrition and lifestyle behaviors, risk factors and screening for specific populations, premature heart disease and genetic

disorders. New cutting-edge research planned for the Nolan Family Center for Cardiovascular Health will help propel MHIF's efforts to change the paradigm from heart disease to optimal health.

"The ultimate goals of cardiovascular prevention research are to identify the optimal methods to accurately assess cardiovascular risk, as well as determine the best interventions to stop the evolution to heart disease," said Dr. Michael Miedema, director of the Nolan Family Center for Cardiovascular Health at MHIF and director of cardiovascular prevention at the Minneapolis Heart Institute®. "The research is all about determining who to treat and how to treat them, which gives our patients the best chance to avoid the tragic heart attack or the unwanted bypass surgery."

Learn more about the center's work at mplsheart.org/prevention.

Helping Doctors Better Identify Patients Who Should Take Aspirin

One of the prevention areas that MHIF researchers have focused on recently is aspirin therapy

Background on why the research was needed: New recommendations regarding aspirin therapy were included in the American College of Cardiology/American Heart Association (ACC/AHA) Primary Prevention Guidelines that were updated in 2019. The guidelines now advise that daily, low-dose aspirin should be used infrequently to prevent cardiovascular disease in individuals without a prior cardiovascular event. That's because aspirin can be hard on the stomach and intestines and can cause ulcers, occasionally leading to serious bleeding.

The new guidelines recommend that physicians consider low-dose aspirin only for very select high-risk adults ages 40-70 who are at higher risk for atherosclerotic cardiovascular disease (ASCVD), but not at high risk of bleeding. However, the challenge for physicians is finding the best way to identify these specific patients.

What the researchers studied and found: Dr. Miedema was a member of the committee that wrote the 2019 guidelines and was part of a research team looking at the best method to identify appropriate patients for use of aspirin for primary prevention – meaning individuals without a prior heart attack or stroke. The team studied the value of coronary artery calcium (CAC) scoring for guiding aspirin allocation for primary prevention. CAC scoring, also called a coronary calcium scan, is a test that measures the amount of calcium in the walls of the heart's arteries.

The research, which was published in *Circulation* in 2020, found that people with elevated CAC scores were more likely to avoid a heart attack or stroke with aspirin use than to have it cause a major bleed. Conversely, those with no calcified plaque were unlikely to benefit from the aspirin, but still were at risk of bleeding.

The impact: "Many patients take a baby aspirin daily "just to be safe," said Dr. Miedema. "What this study shows is that for individuals with zero calcified plaque, taking a daily aspirin is probably not a safe choice at all. It's really only those with significant plaque who should consider aspirin after discussing it with their provider."

NEWS/EVENTS

Enjoy a Free Interactive Webinar on Heart Valve Disease Awareness

During American Heart Month in February and in honor of Heart Valve Disease Awareness Day, MHIF hosted a free interactive webinar "Stories of a Healthy Heart: a Heart Valve Disease Awareness Day Event" for people to learn about the public health epidemic of heart valve disease. It featured the latest in heart valve disease research and treatments and inspiring stories of life.

Watch the recording here:
mplsheart.org/valveday

ABOUT HEART VALVE DISEASE

- 11 million people in the U.S. are estimated to have the condition; half are age 65 or older
- > 5 million Americans are diagnosed every year with heart valve disease and 25,000 Americans die from it each year
- Minimally invasive, life-saving treatments are available for heart valve disease

OUR 2020 HIGHLIGHTS



Throughout Spring 2020, our virtual **On the Pulse** series provided the opportunity for nearly 500 attendees to hear physician leaders

share the latest updates on a wide range of cardiovascular advancements and current challenges. Access 12 recordings to learn about heart failure, heart valves, cardiovascular stem cell therapy, heart rhythm conditions, hypertension, heart health and mental health, and more mplsheart.org/onthepulse.

Heart attacks don't stop during a pandemic. In Spring 2020, MHIF began serving as the international coordinating and data center for a research study designed to collect data on COVID-19 positive patients or persons under investigation (suspected to have COVID-19 infection) with ST-Elevation Myocardial Infarction (STEMI), a serious heart attack involving a blockage in one of the heart's major arteries that supplies oxygen and nutrient-rich blood to the heart muscle.

Over the summer, MHIF welcomed three interns from the Twin Cities



area to our **Clinical Research Internship**. Due to COVID-19, the program looked a little different as the smaller-than-usual group of interns worked mostly remotely to assist with physician-initiated research projects. While the interns may not have been able to have all the typical intern experiences, they learned a tremendous

amount from their physician and staff mentors and supported several important MHIF research studies.

MHIF research findings were disseminated far and wide to help improve patient care throughout the world throughout 2020. MHIF researchers:

- Published more than 215 journal articles
- Presented more than 90 professional abstracts or posters
- Presented as podium speaker or live case team member or served as panelist or moderator at more than 40 events

Shown at right, Valve Science Center researchers Dr. Vinnie Bapat, Dr. João Cavalcante and Dr. Paul Sorajja guided the audience through a video of a live case at the virtual TCT Connect in October 2020.



In a year filled with so many unexpected challenges, we ended it by **Going Grateful**. Our hearts were filled with gratitude for

our patients, physicians, team members, donors and community members, and we offered encouragement and guidance to help people establish their own practice of gratitude. Our Going Grateful website features inspiring patient stories, videos with physician and MHIF perspectives. Gratitude is good for your heart. More at mplsheart.org/going-grateful.



Creating a world without heart and vascular disease

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If you'd like to support MHIF research, please visit mplsheart.org/donate