



Cardiologist Mark Lindsay, MD, in his lab at Mass General, is looking for clues to why some people are susceptible to aortic dissection.

Surgery Yields New Research on Aortic Dissection

After surviving a catastrophic cardiac event, Chris Toomey pays his luck forward by funding aortic dissection research at Mass General's Thoracic Aortic Center.



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If Chris Toomey had had a heart attack, as he'd suspected, he would have felt lucky. Instead, he suffered an acute aortic dissection—a sudden, often deadly tear in the wall of the heart's major artery. Inspired by the swift response by Massachusetts General Hospital staffers who saved his life, Mr. Toomey is funding research at Mass General's Thoracic Aortic Center.



Chris Toomey, whose life was saved by surgery at Mass General after his aortic artery tore open, is funding research to help others with the same condition.

Until five years ago, Mr. Toomey, president of an aviation parts company in California, had been so healthy he had never taken a single prescription medication, not even antibiotics. Then, alone in his Beacon Hill apartment early one morning, the 54-year-old felt a sudden "bolt of static electricity" stop him in his tracks. "I thought, 'Wow, I'm actually having a heart attack!'" he recalls. Fortunately, he was a mere three minutes away from Mass General, a factor that turned out to buy him crucial time.

Mr. Toomey was treated at the Thoracic Aortic Center, a specialized team in which experts collaborate to bring the most advanced care to patients with conditions involving the aorta—the all-important artery that carries blood out of the heart and to all parts of the body.

An acute aortic dissection begins with a tear on the inside wall of the aorta that allows blood to leak between the blood vessel layers, putting the aorta at high risk of rupture. The faster

surgeons repair the tear, the greater the chance of survival. Further complicating matters, the symptoms of aortic dissection are typically chest pain or back pain, which can mimic symptoms of a heart attack or other more common conditions, making the correct diagnosis difficult for doctors to sort out.

Swift Diagnosis Saves Life

On duty the morning that Mr. Toomey arrived at Mass General were cardiologist Eric Isselbacher, MD, MSc, associate director of the Corrigan Minehan Heart Center and co-director of the Thoracic Aortic Center, and cardiac surgeon Joren Madsen, MD, DPhil, director of the Mass General Transplant Center. They swiftly identified Mr. Toomey's condition and prepped him for emergency surgery.

Because of his fragile situation, it was important for Mr. Toomey to stay calm so as not to drive up his blood pressure. His doctors focused his attention on how they planned to repair his aorta rather than on the risk of aortic rupture, Mr. Toomey recalls. They did tell his sister, Connie, a Boston attorney who arrived during the lightning-fast diagnostics, about the gravity of the situation.

"They only let Connie see me if she promised to keep a poker face," Mr. Toomey says. "She knew they were going to have to battle to save my life." One of the last things he remembers is telling her not to worry. "The staff was so calm and competent that I never thought for a moment I could be checking out," he recalls.

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Dr. Madsen operated for 10 hours. And while the wait was terrifying for Connie, it wasn't as difficult as what followed: Doctors put Mr. Toomey in a medically induced coma to safeguard against organ failure. When Mr. Toomey woke over a week later, he was shocked to find out what happened. "I remember Dr. Madsen looking relieved and telling me that he knew how terrible I felt but that they were all popping the champagne corks. And he said I was going to be back to normal."

It took a full year before he felt like his old self. "I remember putting my hands up to the sky one day while walking along the beach and thought, 'I couldn't feel any better than this!' I was so grateful to be back to normal."

Recognizing Risk and Talent

During Mr. Toomey's recovery, it struck him how talented his care team was. "Growing up in Boston, I had plenty of exposure to Mass General," he says, "but to experience it firsthand was incredible."

He has since met Mark Lindsay, MD, PhD, a Mass General cardiologist who specializes in genetic aortic disease, who had recently joined the Thoracic Aortic Center to start an aortic research laboratory.

"It's underappreciated how common this condition is and it's not clear why it happens to some people and not others," Dr. Lindsay says. "In cases like Mr. Toomey's, we don't have ways to predict who is at risk before a catastrophic event happens, when it's often too late."

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Mr. Toomey doesn't have a family history of aortic dissection issues, but he was intrigued by the possibility that his grandfather might have died of aortic dissection, rather than a heart attack, as had been assumed. This inspired Mr. Toomey to fund Dr. Lindsay's research to understand the disease better and help predict who could be affected.

Predicting Aortic Dissection

Using Mr. Toomey's first gift of \$100,000, Dr. Lindsay is initiating a large-scale collection of genetic samples from people who have experienced aortic dissection. The long-term, multicenter project may generate predictive tests and targeted preventative and therapeutic strategies.

Mr. Toomey turns 60 this year and is looking ahead to a healthy future. "When people bellyache about getting old I can now say, 'Are you kidding? I'm happier than ever to be celebrating another birthday.'"

For more information about Mass General's Thoracic Aortic Center, please [contact us](#).

