



In alliance with



2020-2021

ST. LUKE'S HOSPITAL
CARDIOLOGY AND CARDIOVASCULAR SURGERY
OUTCOMES



WELCOME TO ST. LUKE'S HOSPITAL 2020-2021 OUTCOMES BOOK

Measuring and understanding outcomes of medical treatments promotes quality improvement. Created by St. Luke's Hospital and Cleveland Clinic, this Outcomes book is designed for the physician audience and contains a summary of surgical and medical treatments, with data on patient volumes and outcomes and a review of new technologies and innovations.

CLEVELAND CLINIC'S SYDELL AND ARNOLD MILLER FAMILY HEART, VASCULAR & THORACIC INSTITUTE CHAIRMAN'S LETTER

We are proud to present the 2020-2021 outcomes from the cardiology and cardiac surgery programs at St. Luke's Heart & Vascular Institute, which has an ongoing collaborative relationship with Cleveland Clinic's Miller Family Heart, Vascular & Thoracic Institute to promote best practices and optimal quality in cardiovascular caregiving.

This overview of outcomes, volumes and quality metrics reflects some of the fruits of that collaboration, which involves members of the St. Luke's Heart & Vascular Institute ranging from physicians and other healthcare providers to administrative personnel. It refers to national benchmarks established by the American College of Cardiology and Society of Thoracic Surgeons and stems from our shared commitment to give every patient the best possible outcome and experience. We believe that transparency around clinical outcomes is essential to improving quality and efficiency as we all continue to move toward ever more value-based care delivery.

Cleveland Clinic's Heart, Vascular & Thoracic Institute is gratified by the success of our collaborations with our affiliate and alliance members like St. Luke's Heart and Vascular Institute. Our goal is to develop relationships with providers nationwide to enhance the quality and value of cardiovascular care in our communities. We welcome your comments and feedback, and we thank you for your interest.

Sincerely,



Lars G. Svensson, MD, PhD
Chairman, Sydell and Arnold Miller Family
Heart, Vascular & Thoracic Institute
Cleveland Clinic



WELCOME LETTER FROM ST. LUKE'S HOSPITAL PRESIDENT AND CHIEF EXECUTIVE OFFICER, AND FROM THE CHAIRMAN OF ST. LUKE'S HEART & VASCULAR INSTITUTE

At St. Luke's Heart and Vascular Institute, our skilled medical professionals pour their hearts into providing phenomenal patient care.

We are dedicated to delivering world-class treatment with compassion, and our patients are at the center of our award-winning quality ratings and outstanding patient outcomes.

We take pride in our cardiologists, cardiac surgeons and cardiac rehabilitation specialists who work together to provide cardiac care that has been nationally recognized. Our clinical and patient experience successes illustrate the commitment of St. Luke's and of our entire healthcare team who work together to provide each patient with the best and safest care possible.

At St. Luke's, we have the added advantage of being the only hospital in the region to be an official alliance member of Cleveland Clinic's Heart, Vascular & Thoracic Institute. The collaboration means our patients have access to the highest level of innovative care in the St. Louis region.

We understand that feelings of uncertainty and anxiety can often accompany a heart or vascular condition, and we believe it's important now more than ever that patients have timely access to our high-quality cardiovascular care. At St. Luke's, we offer same-day cardiology appointments for both physician- and self-referred patients, whether they need an initial diagnosis or a second opinion.

In this report you will see the faces and read the stories of just a few of our exceptional staff and remarkable patients. It is because of these individuals and many more like them that St. Luke's Heart & Vascular Institute has become one of the region's leading facilities for care.

It's an honor to provide outstanding cardiovascular care within the communities we serve, and we look forward to continuing to connect patients with St. Luke's physicians and staff who have a shared singular focus on helping our patients achieve the best health outcomes.

Sincerely,



Shane Cerone
President and Chief Executive Officer
St. Luke's Health Corporation



Ronald Leidenfrost, MD, FACS
Chairman
St. Luke's Heart & Vascular Institute



Jack C. Taylor Heart Hospital -
East Medical Building

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St. Luke's Hospital Named One of America's 50 Best for Cardiac Surgery for Fourth Year

St. Luke's Hospital in Chesterfield has been named one of America's 50 Best Hospitals for Cardiac Surgery™ by Healthgrades® for the fourth year in a row (2019-2022) for superior outcomes in coronary artery bypass grafting procedures and heart valve surgery. St. Luke's is also among the top 5 percent of hospitals nationwide for cardiac surgery for 2021.

"We are honored to be the only hospital in Missouri to earn the America's 50 Best Hospitals for Cardiac Surgery designation for four consecutive years," said Ronald Leidenfrost, MD, FACS, chief of cardiothoracic surgery at St. Luke's Hospital and chairman of its Heart & Vascular Institute. "This distinction illustrates the commitment of St. Luke's Heart & Vascular Institute and of our entire healthcare team to working together to provide each patient with the best care possible."

In addition to being recognized as one of the top 50 hospitals for cardiac surgery in the nation, St. Luke's Hospital has been named one of America's 100 Best Hospitals for Coronary Intervention™ by Healthgrades, and received a five-star clinical achievement rating in 2022 for treatment of heart attack.

A five-star rating indicates a hospital's clinical results are statistically significantly better than expected. According to Healthgrades, patients treated at a hospital receiving five stars have a higher chance of survival and a lower risk of complications during a hospital stay than if they were treated at a hospital receiving a one-star rating for that procedure or condition.

St. Luke's also received the Healthgrades Outstanding Patient Experience Award™ for the 11th year in a row (2011-2021).



St. Luke's Hospital cardiothoracic surgeons
Ronald Leidenfrost, MD, Jeremy Leidenfrost, MD,
and Michael Ryan Reidy, MD

**Photo was taken prior to COVID-19.*

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ST. LUKE'S HOSPITAL

About St. Luke's Hospital

St. Luke's Hospital is an independent, nonprofit healthcare provider committed to improving the quality of life for its patients and the community. Since its founding in 1866, St. Luke's has grown from a single hospital location to an advanced network of care. It provides personalized healthcare services in over 60 specialty areas at its 493-bed hospital in Chesterfield, Missouri, and the 143-bed St. Luke's Des Peres Hospital. It also offers more than 30 other locations across the greater St. Louis area, bringing quality healthcare services close to home. St. Luke's is nationally recognized for quality care and consistently earns high patient satisfaction scores. In St. Louis, St. Luke's is the exclusive alliance provider for the nation's No. 1 heart hospital, Cleveland Clinic's Heart, Vascular & Thoracic Institute.



Exceptional Patient Satisfaction

We take great pride in delivering exceptional care to people who are newly diagnosed and living with heart and vascular disease – and our patients notice.

Patient Satisfaction	SLH	MO Avg	Nat'l Avg
Overall Rating	83%	72%	73%
Willingness to Recommend	85%	70%	72%

MO = Missouri, SLH = St. Luke's Hospital

Source: 2020 HCAHPS Top Box Scores

CLEVELAND CLINIC ALLIANCE

At St. Luke's Heart & Vascular Institute, skilled medical teams and attentive support staff pour their hearts into providing phenomenal patient care. St. Luke's Hospital is dedicated to delivering world-class treatment with compassion – putting patients at the center of its award-winning quality ratings and outstanding patient outcomes.

St. Luke's is the only hospital in the region to be an official alliance member of Cleveland Clinic's Heart, Vascular & Thoracic Institute. The collaboration means patients have access to the highest level of innovative care in the St. Louis metropolitan area.

St. Luke's offers same-day cardiology appointments to patients seeking an initial diagnosis or a second opinion. Together, St. Luke's and Cleveland Clinic deliver heart and vascular care that's a beat above the rest.



Pictured from left: St. Luke's Heart and Vascular Institute Physician Directors Vikram Agarwal, MD; Clark McKenzie, MD; Julianne Donnelly, MD; Jeremy Leidenfrost, MD; Michael Ryan Reidy, MD; Ronald Leidenfrost, MD, FACS; Craig Reiss, MD; Phillip Copper, MD; Stephen Pieper, MD; Brian Peterson, MD; Heidi Coco, DO

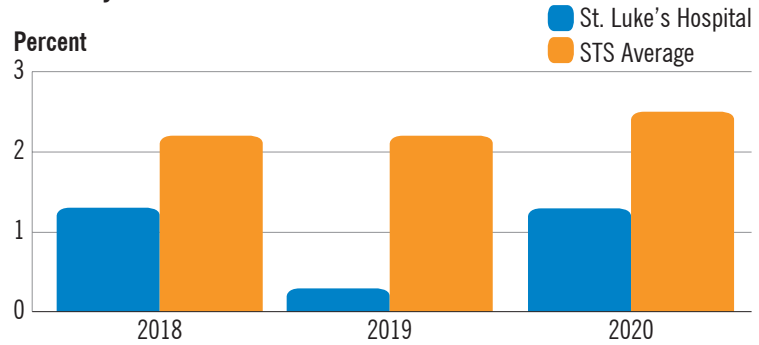
*Photo was taken prior to COVID-19.

ISOLATED CORONARY ARTERY BYPASS GRAFT OUTCOMES

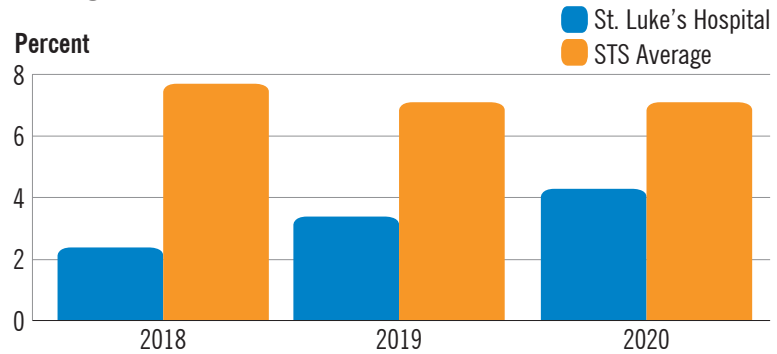


St. Luke's consistently performs better than the national average in postoperative CABG complications and mortality.

Mortality



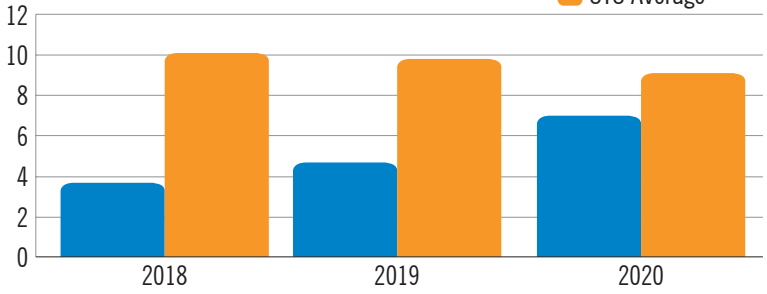
Prolonged Ventilation



CABG = coronary artery bypass graft
STS = Society of Thoracic Surgeons

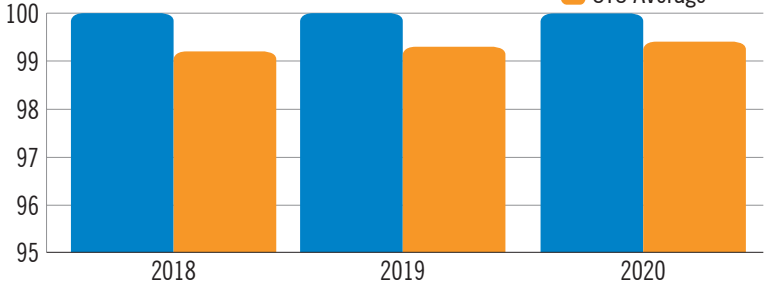
Readmission

Percent



Internal Mammary Artery Usage

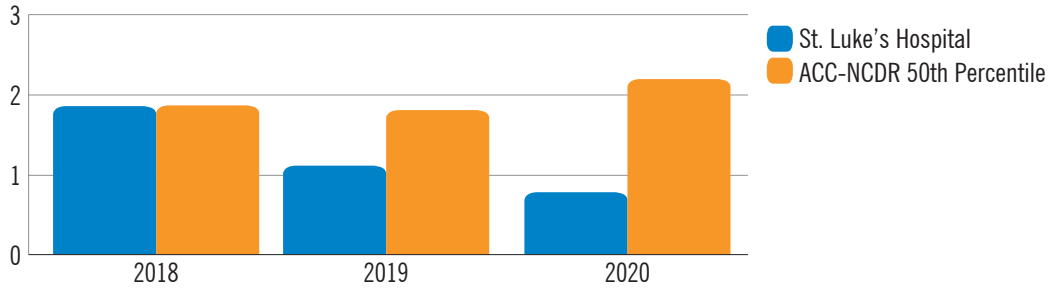
Percent



INTERVENTIONAL CARDIOLOGY OUTCOMES

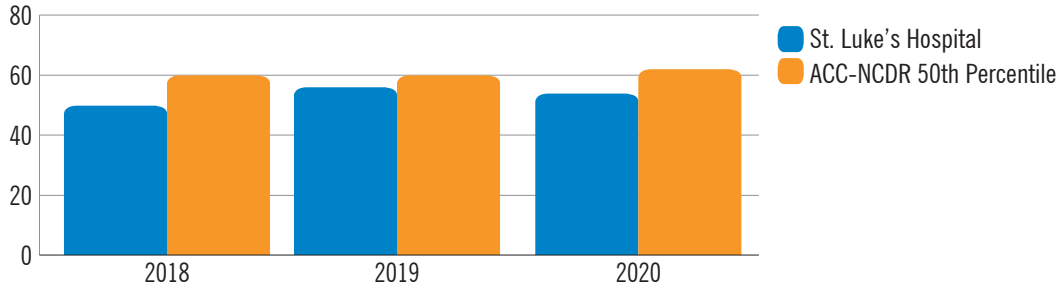
Mortality

Percent



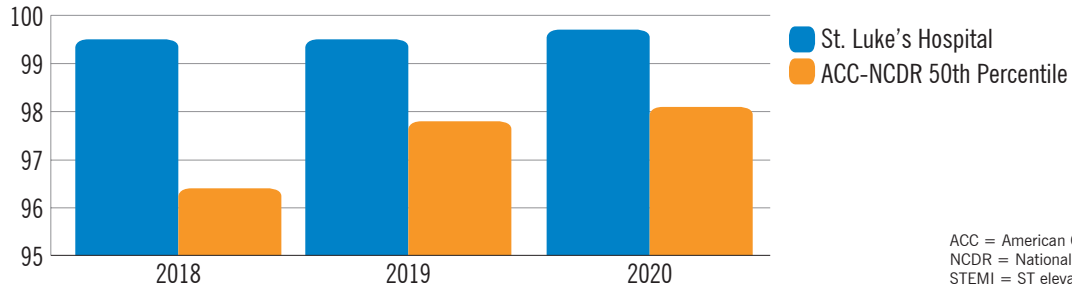
STEMI Median Door to Balloon Time

Minutes



Discharge Medications

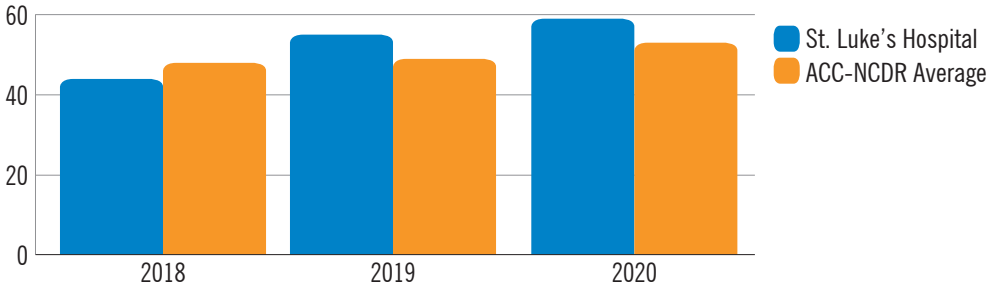
Percent



ACC = American College of Cardiology
 NCDR = National Cardiovascular Data Registry
 STEMI = ST elevation myocardial infarction

Radial Artery Usage

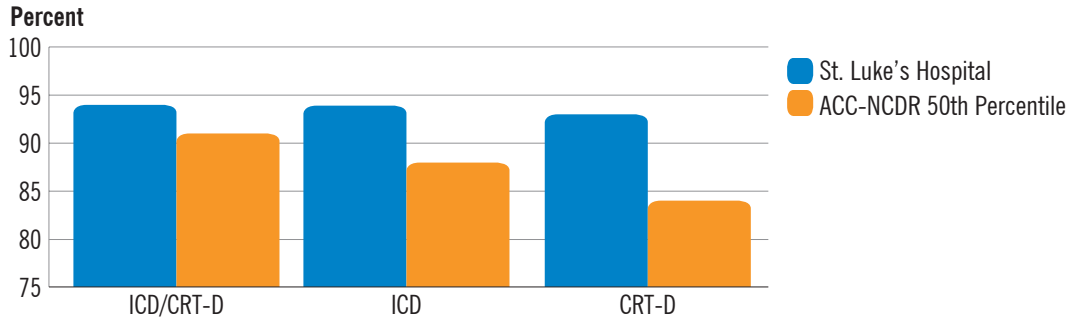
Percent



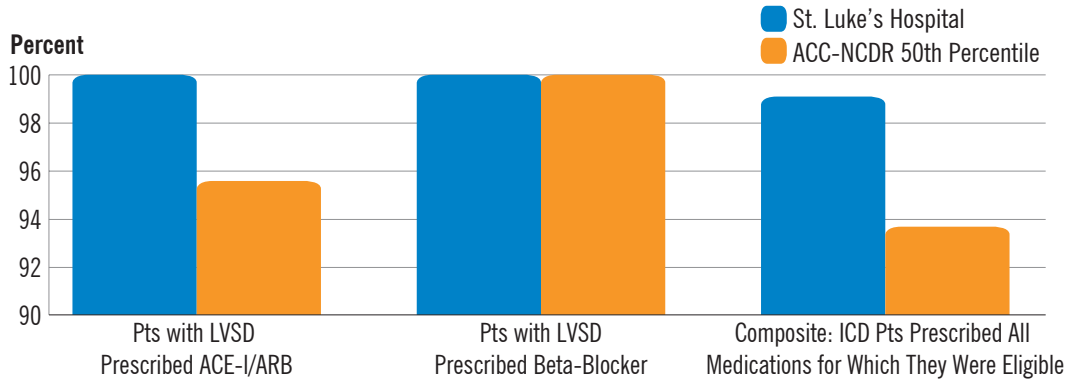
Pictured from left: St. Luke's Hospital interventional cardiologists Mark Gdowski, MD, Edward Hurley, MD, Clark McKenzie, MD, and Morton Rinder, MD

ELECTROPHYSIOLOGY OUTCOMES

ICD/CRT-D Device-Based Therapy Guidelines

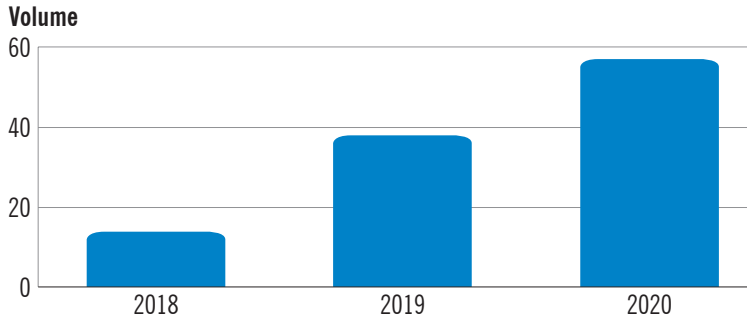


ICD Guideline Medications Prescribed at Discharge



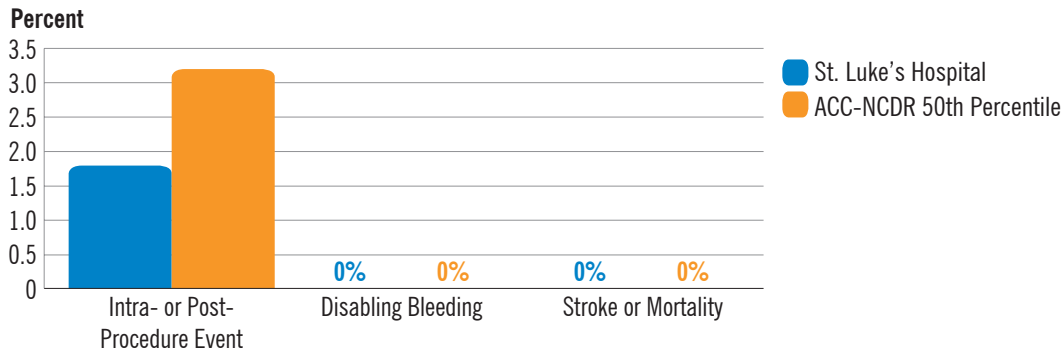
ACE-I: angiotensin-converting enzyme inhibitors, ARB: angiotensin receptor blockers, CRT-D: cardiac resynchronization therapy with defibrillator, ICD: implantable cardioverter defibrillator, LVSD: left ventricular systolic dysfunction

Left Atrial Appendage Occlusion (LAAO) Volume Trend

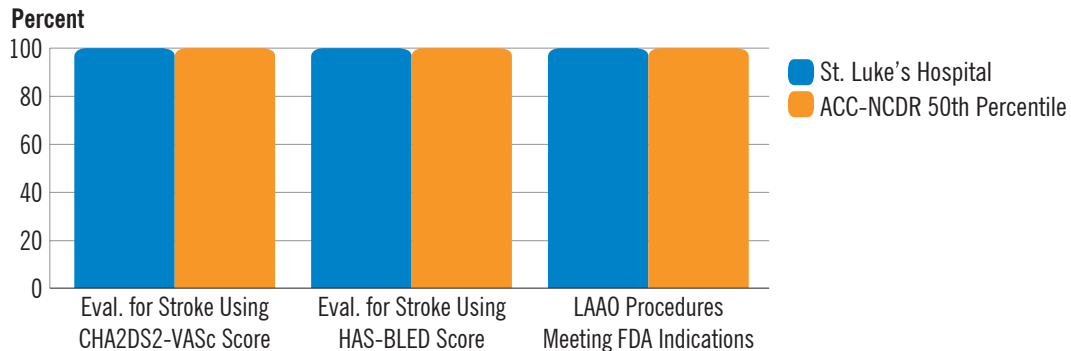


J. Mauricio Sanchez, MD, FHRS, began offering the WATCHMAN™ left atrial appendage (LAA) closure device at St. Luke's in 2018. Since then, St. Luke's has seen considerable growth in this program with a volume increase of 50 percent from 2019 to 2020. The WATCHMAN device is used to decrease stroke risk in patients with atrial fibrillation without having to use blood thinners. It is the only Food and Drug Administration (FDA)-approved implant proven to reduce stroke risk in people with atrial fibrillation not caused by a heart valve problem. Dr. Sanchez is currently the only physician at the hospital who performs the WATCHMAN procedure.

LAAO Procedure Complications



LAAO Process Measures



INNOVATIONS

St. Luke's Vascular Surgeon Dr. Peterson Completes 100th TCAR Case

St. Luke's Heart & Vascular Institute vascular surgeon Brian Peterson, MD, FACS, FSVS, reached a milestone moment in late 2020 when he and his team completed their 100th transcarotid artery revascularization (TCAR) case.

TCAR is a breakthrough procedure used to treat patients with carotid artery disease who are at risk from open heart surgery. It's a less invasive procedure that decreases chances for surgical complications.

TCAR is recommended for patients who are considered high risk for traditional surgery due to age, anatomic issues or one or more medical conditions. Patients who undergo the TCAR procedure recover quickly (typically spending just one night in the hospital) and almost always go home the next day to return to full and productive lives with less pain, smaller scars and a reduced risk of future strokes.

Dr. Peterson is a leading expert in TCAR and has performed the most TCAR procedures in the St. Louis area and ranks among the highest TCAR-performing surgeons in the country.



St. Luke's vascular surgeon Dr. Brian Peterson and his team.

St. Luke's Hospital Becomes First in St. Louis Area to Implant WATCHMAN FLX™ Device

St. Luke's Hospital is the first healthcare network in the St. Louis region to perform a commercial implant of the newly FDA-approved WATCHMAN FLX device. This next-generation permanent heart implant is a catheter-based, nonsurgically delivered device designed to close the left atrial appendage. The procedure works to increase safety by reducing the risk of stroke in certain patients with atrial fibrillation (AFib).

J. Mauricio Sanchez, MD, FHRS, St. Luke's Hospital LAA closure program director, successfully performed the first commercial WATCHMAN FLX procedure in the St. Louis area on Nov. 9, 2020.

“For many years, high-risk patients with atrial fibrillation have been treated with blood thinners,” said Dr. Sanchez. “While these drugs reduce the risk of stroke and can save lives, they can also carry their own risk for complications, such as internal bleeding. The WATCHMAN FLX is a game changer for reducing risk of stroke in some patients with atrial fibrillation who may have challenges with long-term use of blood thinners.”

AFib is an irregular heartbeat that can cause blood to pool and form clots in the LAA, a small pouch on the left side of the heart. For patients with AFib not caused by a heart valve problem, the LAA is the source of the majority of those stroke-causing blood clots. The WATCHMAN FLX works by blocking and sealing off the LAA.

“Building on the well-established WATCHMAN technology, the WATCHMAN FLX device serves as a safe and effective stroke risk reduction alternative for patients with nonvalvular AFib, especially those with a compelling reason not to be on blood thinners,” said Craig Reiss, MD, FACC, St. Luke's Hospital chief of cardiovascular medicine. “We are excited to offer this advanced treatment option to our patients.”

Increased flexibility of the next-generation device's design enables patients with more challenging anatomies to be more safely and effectively implanted with it. This means physicians can treat patients with a wider range of anatomies using the WATCHMAN FLX device.

In 2011, Dr. Sanchez was selected as one of the primary investigators to take part in the initial studies for the first-generation WATCHMAN device, which was FDA-approved for commercial use in 2015. He has published numerous abstracts and papers on the subject and now has almost a decade of experience with LAA closure.



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PATIENT EXPERIENCE

St. Luke's Helps Local Police Officer Celebrate Second Chance at Life

St. Louis Metropolitan police officer Dave Tenorio, 55, had only hours to live in March 2020 when St. Luke's cardiothoracic surgeon Dr. Jeremy Leidenfrost placed him on ECMO. Extracorporeal membrane oxygenation (ECMO) drains the blood from the biggest vein in a person's body and sends it through tubes into machines that oxygenate it before sending it back into the right atrium of the heart. The machines act as artificial lungs outside a person's body.

The treatment was necessary to save Tenorio's life. Tenorio had been admitted to St. Luke's Hospital in Chesterfield, Missouri, with a severe case of COVID-19. He'd suffered a heart attack, and his diminished lung function required that he be placed on a ventilator. Unfortunately, the ventilator soon became ineffective.

"Dave was in his 50s. He was previously healthy. He was a motorcycle police officer and a very robust individual," Dr. Leidenfrost said. "ECMO is very, very hard on the body, and it requires a healthy person to start off with to get through it. So he was a very good candidate for it, and it was basically a last resort for him."

The process demands highly skilled nursing and almost constant monitoring, Dr. Leidenfrost said.

"We use this technology and it is an amazing technology, but if you don't have the people to actually take care of someone minute to minute, it doesn't mean anything," he said. "People don't survive."

"You can't just put someone on ECMO and say, 'Oh, it's going to be fine now.' You have to have somebody who is willing to watch them and understand this incredibly complicated device and then also be able to recognize when there are problems with it and know when to call," said Dr. Leidenfrost. "The team took it very seriously and really took it to heart and owned it. That's the only reason Dave survived."



Thanks to the determined care team at St. Luke's – nurses, doctors, perfusionists, technicians and others – one week after Dave was put on ECMO, he was taken off the machine and put back on a ventilator. A few days later, he was breathing on his own again.

On April 24, Tenorio got to go home. Dozens of St. Luke's staff lined the sidewalk to celebrate his recovery as he was discharged from the hospital.

"It was a very surreal feeling that afternoon," Tenorio said. "Everybody made me feel like I was a rock star."

"The cheering and the clapping and everything – that was just so incredibly loud. It was incredible."



Scan to read and watch the full KSDK Channel 5 story on Dave's recovery:



29-Year-Old Recovers From COVID-19 After Months on ECMO at St. Luke's Hospital

After spending nearly three months at St. Luke's Hospital fighting for his life against COVID-19 complications, Josh Miller had a special celebration on Feb. 19, 2021.

It was the day he was healthy enough to go home.

Josh, 29, and his wife, Brittany, moved to St. Louis from Arizona this past November. Within two days of unpacking boxes, Josh was rushed to St. Luke's Emergency Department due to symptoms of COVID-19.

"Essentially, my mom and Brittany moved into a house, and I moved into a hospital," Miller said.

His case of COVID-19 was so severe that within a day of his hospital admission, he was put on ECMO.

St. Luke's Heart & Vascular Institute cardiothoracic surgeon Dr. Jeremy Leidenfrost led Miller's care, along with pulmonologist Kristen Fischer, MD, the ECMO perfusionist team and the cardiovascular intensive care unit staff.

"For several nights he had bad problems, and I didn't think he was going to make it," Dr. Leidenfrost said. "But we'd made a decision that he is 29 years old and we're not going to give up on him."

To help boost Miller's morale, Dave Tenorio, a St. Louis Metropolitan police officer and COVID-19 survivor, visited Josh. Tenorio was the first person in the St. Louis area to be treated with ECMO for COVID-19 and released home. He was discharged from St. Luke's in April 2020.

"[Tenorio] was able to take some of that hopelessness and give me hope that my life will go back to normal," said Miller.

In an interview with the *St. Louis Post-Dispatch*, Miller gave special credit to his wife and Dr. Leidenfrost, along with CVICU nurse Dalton Jones, who he said put pressure on a neck wound for four hours straight during one of Miller's difficult times, and CVICU nurse Craig Snyder, who pushed him and inspired him through physical therapy.

"Dr. Leidenfrost and the nurses saved my life," Miller said. "They didn't give up on me, and I think their determination that I would get better is the reason I did."



Scan to see the full media coverage from the inspiring day:



PATIENT EXPERIENCE

A Case of COVID-19 Uncovers a Serious Heart Condition

Kerri Bryles, 45, a mother, wife and pharmacist, always led a healthy lifestyle and loved participating in boot camp workouts. In November 2020, Kerri's husband, Tim, tested positive for COVID-19. Shortly after, Kerri began feeling ill and noticed her oxygen levels were low. She decided to seek treatment at a local hospital, where she tested positive for COVID-19. The hospital was at capacity due to the coronavirus pandemic and transferred Kerri to St. Luke's Hospital in Chesterfield, Missouri.

The St. Luke's medical team discovered Kerri was in cardiogenic shock, a serious condition that occurs when your heart cannot pump enough blood and oxygen to the brain, kidneys and other vital organs. She also had torrential mitral regurgitation, a condition in which the heart's mitral valve doesn't close tightly, allowing blood to flow backward in the heart.

Dr. Jeremy Leidenfrost, a St. Luke's Heart & Vascular Institute cardiothoracic surgeon, determined Kerri's heart needed support and placed the Impella 5.0® heart pump. Kerri continued to improve and regained strength. After five days, Dr. Leidenfrost removed the heart pump and then performed open mitral valve replacement surgery. On December 18, 2020, Kerri returned home with normal heart function and was reunited with her husband and children.

Kerri is now back to her boot camp workouts and her busy routine as a mom.

Scan to watch
Kerri's story:



PHYSICIAN LISTING

Cardiac Anesthesiology



Heidi Coco, DO



Phillip Copper, MD



Julianne Donnelly,
MD



Keelara Gopalan, MD



Mike Kopec, MD

Cardiothoracic Surgery



Jeremy Leidenfrost,
MD



Ronald Leidenfrost,
MD, FACS



Michael Ryan Reidy, MD

Cardiology



Vikram Agarwal, MD



Jorge Alegre, MD



Sara Baig, MD,
FACC



Patricia Cole, MD,
FACC



Joseph Craft III, MD,
FACC



Glenn Davison, MD,
FACC



Brittany Dixon, MD



James Ellison, MD



Mark Gdowski, MD



Jackie Grosklos,
MD, FACC

PHYSICIAN LISTING

Cardiology (cont'd)



Maged Haikal, MD,
FACC



Edward Hurley, MD,
FACC



Daryl Jacobs, MD



Keith Mankowitz, MD



Clark McKenzie, MD,
FACC



David Meyers, MD



Andrea Moyer, MD,
FACC



William Phillips, MD



Craig Reiss, MD,
FACC



Morton Rinder, MD,
FACC



Paul Robiolio, MD,
FACC



Bakr Salem, MD,
FACC



Allen Soffer, MD,
FACC



William Southworth,
MD, FACC

Electrophysiology



Jonas Cooper, MD,
MPH, FACC



Konstantinos Kossidas,
MD



Stephen Pieper, MD,
FHRS



Jose Sanchez, MD,
FHRS



Brian Peterson, MD,
FACS, FSVS

Vascular Surgery

RESOURCES

St. Luke's Heart & Vascular Institute

Heart & Vascular Institute.....	314-205-6801
Heart Valve Clinic.....	314-205-6396
Cardiac Rehabilitation.....	314-205-6100 ext. 4010
Heart Scan.....	314-205-6565
Hypertrophic Cardiomyopathy Center Referral.....	314-434-3278
Vascular Disease Screenings.....	314-205-6074
American Heart Association's "Life's Simple 7" for Ideal Cardiovascular Health.....	https://www.heart.org/mylifecheck



Scan to learn more about St. Luke's Heart and Vascular Institute.



In alliance with



St. Luke's Heart & Vascular Institute

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Chesterfield, MO 63017

314-205-6801

stlukes-stl.com/hearthealth

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