



## Table of Contents

- 1 Simplified Technique for Transcatheter Closure of Superior Sinus Venosus Atrial Septal Defect  
*Abdullghany M. Dowaikh, MD & Tarek S. Momenah, MD, FRCP(C), FSCAI*

- 6 Medical News
- New Model Predicts Redo Surgery Risk in Adult Congenital Heart Disease
  - Best Children's Hospitals for Cardiology & Heart Surgery
  - Tucson Doctor Wins National Award for His Second Act as Amateur Astronomer
  - Medtronic Announces US Commercial Launch of OmniaSecure Defibrillation Lead
  - Predicting the Likelihood of Complications During Cardiac Procedures for Children

- 13 Meeting Calendar

# Simplified Technique for Transcatheter Closure of Superior Sinus Venosus Atrial Septal Defect

*Abdullghany M. Dowaikh, MD & Tarek S. Momenah, MD, FRCP(C), FSCAI*

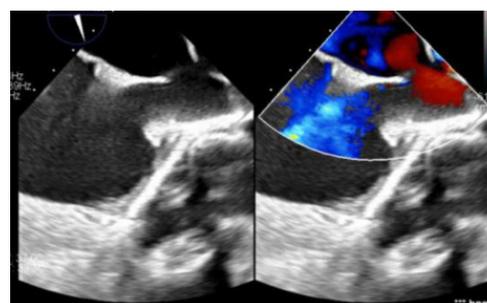
## Background

Superior sinus venosus atrial septal defect (SVASD) is a distinct form of interatrial communication characterized by a defect at the junction of the superior vena cava (SVC) and the atrial septum. It is almost invariably associated with partial anomalous pulmonary venous return (PAPVR), most commonly involving the right upper pulmonary vein. Surgical repair has traditionally been the standard of care; however, it requires cardiopulmonary bypass and carries recognized risks, including sinus node dysfunction and SVC obstruction.

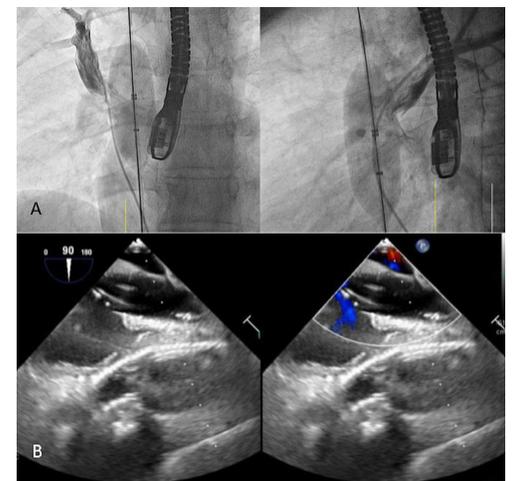
More recently, transcatheter closure using long covered stents has emerged as a less invasive alternative. This approach allows exclusion of the interatrial communication while redirecting anomalous pulmonary venous flow into the left atrium. Early experience with this technique was limited by challenges in achieving precise stent positioning—raising the risk of stent embolization—as well as concerns regarding pulmonary venous obstruction caused by coverage of the anomalous

pulmonary vein.<sup>1</sup> Consequently, transeptal puncture has often been required to assess pulmonary venous pressure and ensure safety prior to stent deployment. This is typically achieved by balloon occlusion at the SVC–right atrial (RA) junction to simulate stent placement and evaluate pulmonary venous drainage.

The suture-assisted covered stent deployment technique, originally described by Hejazi and colleagues,<sup>1</sup> was developed to improve control during stent positioning. We adopted this technique and previously reported



**FIGURE 1** Transesophageal Echocardiography (TEE) color Doppler showing large sinus venosus defect.



**FIGURE 2**

A) Still image Fluoroscopic AP and lateral view during balloon interrogation of sinus venosus defect with a direct injection in the right upper pulmonary vein (RUPV) showing successful redirection of pulmonary vein drainage to left atrium (LA).

B) TEE color Doppler during balloon interrogation showing closure of sinus venosus defect.



## TABLE OF CONTENTS

- 1 Simplified Technique for Transcatheter Closure of Superior Sinus Venosus Atrial Septal Defect**  
*Abdullghany M. Dowaiikh, MD & Tarek S. Momenah, MD, FRCP(C), FSCAI*

**6 Medical News**

- New Model Predicts Redo Surgery Risk in Adult Congenital Heart Disease
- Best Children's Hospitals for Cardiology & Heart Surgery
- Tucson Doctor Wins National Award for His Second Act as Amateur Astronomer
- Medtronic Announces US Commercial Launch of OmniaSecure Defibrillation Lead
- Predicting the Likelihood of Complications During Cardiac Procedures for Children

**13 Meeting Calendar**

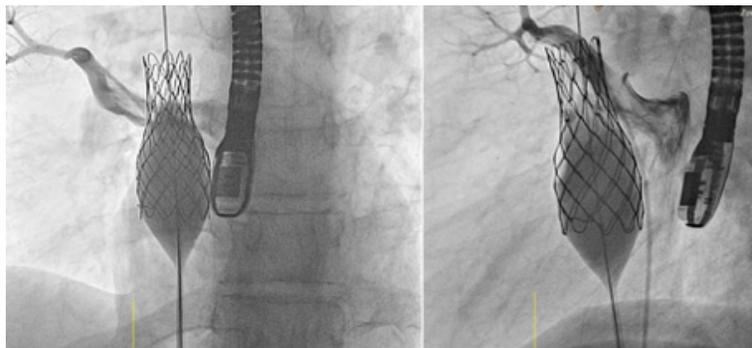
# Z-6™

## ATRIOSEPTOSTOMY CATHETER

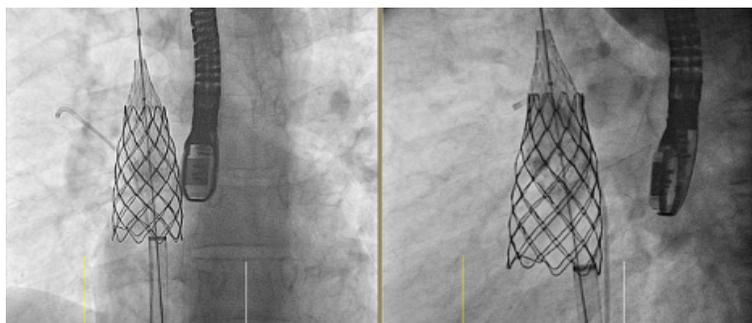
**Short distal tip**  
for easier insertion  
and improved rewrapping



*Now available in the EU, U.S., Canada, and countries that accept CE Mark, FDA clearance or a Health Canada license*



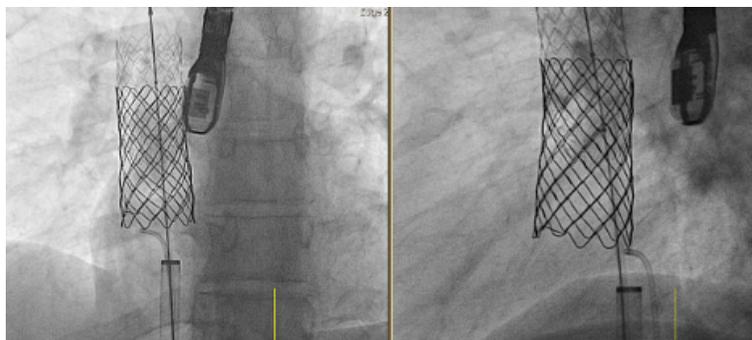
**FIGURE 3** Still image fluoroscopic AP and lateral view showing an angiogram to RUPV while inflating the covered stent showing successful redirection of pulmonary veins flow to LA.



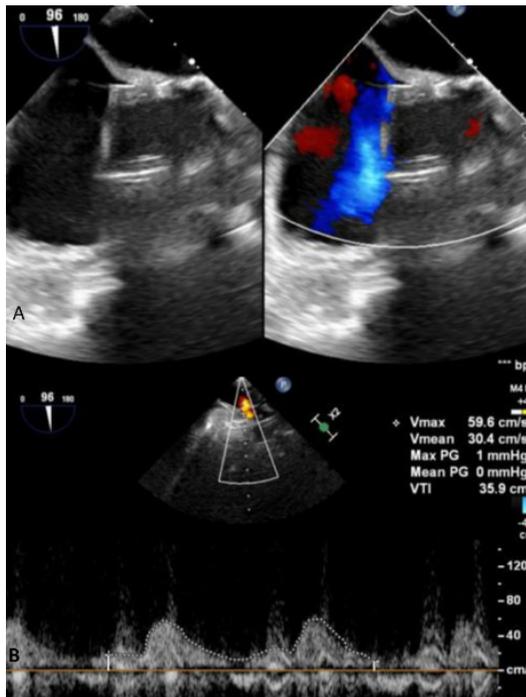
**FIGURE 4** Still image fluoroscopic view AP & lateral during deployment and inflation of baremetal Andra stent proximal to the covered stent while the RUPV catheter is still monitoring the pulmonary vein pressure.



**FIGURE 5** Still image fluoroscopic AP & lateral view showing last injection in the RUPV after fully inflating both covered and bare-metal stent showing successful redirection of pulmonary venous flow to LA.



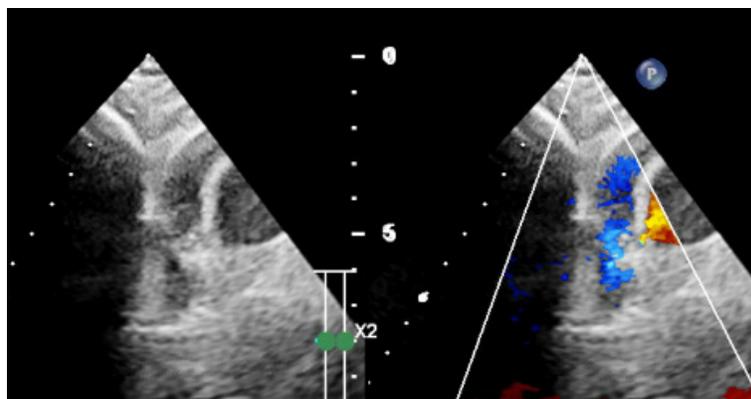
**FIGURE 6** Still image fluoroscopic AP & lateral view during pulling the RUPV catheter out after deployment of both stents.



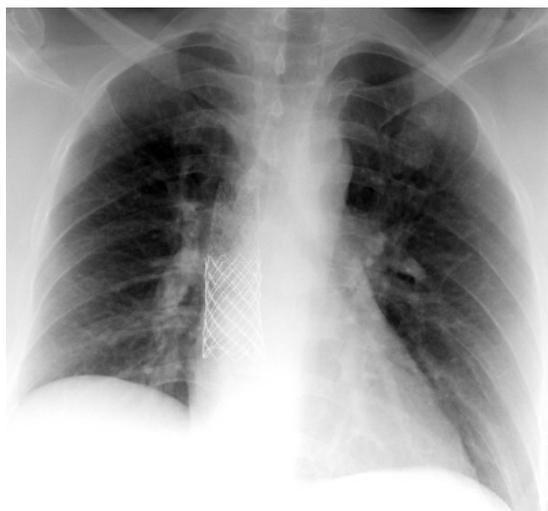
**FIGURE 7**

A) TEE color compare post stent deployment showing no residual sinus venosus defect.

B) Doppler at the RUPV showing no signs of stenosis.



**FIGURE 8** Post procedure Transthoracic Echocardiography, color Doppler, suprasternal view at the level to innominate vein & SVC vein showing patent Stent with normal systemic venous drainage.



**FIGURE 9**

Chest X-ray AP view showing Stent in Situ.



the first paediatric cases from our center.<sup>2</sup> We combined this approach with a novel method of pulmonary venous assessment using a catheter passed directly across the sinus venosus defect, thereby avoiding transeptal puncture. It also eliminates the need for retrograde pulmonary venous interrogation via retrograde approach from Aorta to LV all the way to the right upper pulmonary vein, eliminating unnecessary procedural steps such as arterial access and reducing potential complications. In this report we expanded our series about this approach by adding new patients and highlighting the approach used step-by-step.

## Procedural Technique

All procedures were performed under general anesthesia with transesophageal echocardiographic (Figure 1) and fluoroscopic guidance. Bilateral femoral venous access and right internal jugular venous access were obtained, and a stable femoro-jugular venous rail was established. A multi-purpose 5 Fr catheter was advanced across the sinus venosus defect into the anomalous pulmonary vein, allowing continuous pressure monitoring and selective angiography.

Balloon occlusion of the SVC and sinus venosus defect resulted in complete elimination of interatrial shunting while maintaining normal pulmonary venous pressures and unobstructed drainage into the left atrium (Figure 2). A long-covered CP stent, a 10-zig 6 cm long covered stent prepared with a temporary tethering suture, was positioned across the defect and partially expanded. This allowed fine positional adjustment under suture control. After confirmation of optimal alignment, the stent was fully expanded (Figure 3).

In most cases, an additional bare-metal stent was required to stabilize the covered stent when there was insufficient anchoring length beyond the SVC-RA junction (Figure 4). As the covered stent is flared within the right atrium to exclude the sinus venosus defect, foreshortening may occur depending on balloon size and inflation technique. Furthermore, longer covered stents are not yet commercially available and may require additional time for development and regulatory approval. Ongoing collaboration between physicians and industry is focused on developing dedicated covered stents for this indication.

## Outcomes

Using this simplified technique, all patients with SVASD and PAPVR in our series underwent successful transcatheter closure with a suture-assisted covered stent and pulmonary venous monitoring performed through the sinus venosus defect, without the need for transeptal puncture.

At the end of the procedure, transesophageal echocardiography and angiography confirmed complete exclusion of the defect, redirection of pulmonary venous flow into the left atrium, and absence of residual shunt or pulmonary venous obstruction. The pulmonary venous catheter was subsequently removed (Figures

5-7) and the procedure was completed without complications. All patients recovered uneventfully and were discharged the following day with reassuring transthoracic echocardiography and chest X-ray (Figures 8-9).

## Key Components of the Simplified Transeptal Free Strategy

- Femoro-jugular venous rail for stable, coaxial delivery of long covered stents
- Suture-assisted covered stent allowing controlled positioning and prevention of distal migration
- Pulmonary venous monitoring across the defect using a catheter passed through the SVASD into the anomalous pulmonary vein

This approach permits continuous hemodynamic and angiographic assessment of pulmonary venous drainage during balloon occlusion and stent positioning without the need for transeptal puncture, thereby minimizing procedural complexity and reducing unnecessary risks.

## References

1. Hejazi Y, Hijazi ZM, Al Saloos H, Ibrahim H, Mann GS, Boudjemline Y. Novel technique for transcatheter closure of sinus venosus atrial septal defect: The temporary suture-holding technique. *Catheter Cardiovasc Interv.* 2022;100(6):1068-1077.
2. Dowaikh AM, et al. Transcatheter closure of superior sinus venosus atrial septal defect with covered stent using a suture-assisted deployment technique. *JBAEM.* 2025.



**ABDULLGHANY M. DOWAIKH, MD**

*Pediatric Cardiology Department  
Price Sultan Cardiac Center  
Riyadh, Kingdom of Saudi Arabia*



**TAREK S. MOMENAH, MD, FRCP(C), FSCAI**

*Pediatric Cardiology Department  
Price Sultan Cardiac Center  
Adjunct Associate Professor  
College of Medicine, Alfaisal University  
Riyadh, Kingdom of Saudi Arabia*



**PICS Society**



# **SAVE THE DATE** **SAN DIEGO**

**MARRIOTT MARQUIS – SAN DIEGO MARINA**

**AUG. 30 – SEPT. 2, 2026**



# New Model Predicts Redo Surgery Risk in Adult Congenital Heart Disease

*The Society of Thoracic Surgeons*

Heart specialists at Mayo Clinic today presented new research at the 2026 Society of Thoracic Surgeons Annual Meeting that redo surgery for adults with Congenital Heart Disease (CHD) remains high-risk, and a clinically-applicable national risk assessment model is needed to help patients and care teams make decisions about procedures.

Adults with CHD represent a growing and medically complex population, despite surgical advances. Most were born with structural heart defects and underwent surgery early in life; many now require additional procedures as adults. Their prior operations, changing physiology, and long-term health challenges make it difficult for surgeons and patients to estimate operative risk using current tools designed for the broader adult cardiac population.

The study, led by Elaine Griffeth, MD, a resident in the combined general and thoracic surgery program at Mayo Clinic analyzed cases in the STS Adult Cardiac Surgery Database (ACSD) covering July 2017 through December 2023. Researchers used their previous work on clinical data from Mayo Clinic with machine-learning analysis and logistic regression to help determine surgical risk on a national level.

Researchers found that 16.7% of adults nationwide with CHD were considered high-risk for operative mortality and serious postoperative complications after redo cardiac surgery, including the need for mechanical circulatory support, dialysis, and risks for stroke, neurologic injury, or cardiac arrest.

The research identified 15 factors as the most influential in predicting postoperative risk, and a predictive model generated using those factors showed good discrimination. The results of this study demonstrate that it is

feasible to generate clinically applicable risk models in adult CHD care, and integrating machine-learning with traditional statistical methods offers a practical path forward.

Patients with isolated bicuspid aortic valve diagnoses, undergoing their first cardiac operation, or undergoing heart transplantation or isolated coronary artery bypass grafting (CABG) were excluded from the study to focus the analysis on conditions more typical of adult CHD surgical care.

"This is a work in progress," she added. "We want to have high reliability in the surgeries we are offering, and we are trying to tailor this model with data from past patients. The more informed patients are about their risks for surgery, the better."

---

**"Many patients with Congenital Heart Disease will need surgery as adults. Our work shows that the overall risk of post-surgical complications is prevalent, but patients need to know their individual risk based on their individual medical circumstances. We are setting the stage to create a reliable resource for this emerging patient population."**

*– Dr. Elaine Griffeth, MD, Resident in the combined General and Thoracic Surgery Program, Mayo Clinic*

---

One challenge of CHD care, Dr. Griffeth added, is that some adults have one ventricle-making single-ventricle status, an important marker for long-term

risk. However, single-ventricle status is not frequently captured in the ACSD. Therefore, researchers utilized similar analytical techniques tailored to the ACSD to develop a risk model that represents the national cohort of adults with CHD.

Dr. Griffeth noted that patient outcomes depend on the entire surgical team and that, "risk factors identified at one institution do not always translate well across all institutions. The ACSD data allows us to identify important risk factors for surgical outcomes across all hospitals to develop this model."

Thanks to innovative cardiac surgical advances, almost all children born with CHD now live into adulthood, underscoring the need for a risk prediction tool for this growing population. CHDs are the most common birth defect, and an estimated 1.4 million adults in the U.S. have heart defects that were first treated in childhood.

This work will ultimately contribute to the creation of a surgical risk calculator for adults with CHD. These risk models and calculators are another way STS is bringing evidence-based guidance to patients with different types of cardiovascular disease and their surgeons.

The STS has already developed many procedure-specific surgical risk calculators that harness the power of the STS National Database™ to better inform patients and surgeons when making clinical decisions about adult cardiac surgery for non-CHD patients. The STS Database is one of the world's largest and most comprehensive clinical registries, with data on nearly 10 million procedures from more than 4,300 surgeons, including 95% of adult cardiac surgery procedures.





# CONGENITAL CARDIOLOGY TODAY



**Publish**

**Recruit**

- Written by doctors and their team
- Case studies, articles, research findings
- Submit on your schedule
- Print and electronic
- Published within 3 months of submission
- No fees

- In print and electronic monthly issue
- On our website
- In our monthly email blast
- No cost for CCT to create the ad
- Multiple sizes available



**Subscribe Electronically  
Free on Home Page**

**[www.CongenitalCardiologyToday.com](http://www.CongenitalCardiologyToday.com)**



# Best Children's Hospitals for Cardiology & Heart Surgery

U.S. News & World Report

Fifty centers were ranked in pediatric cardiology care. Nearly 80 hospitals were scored for clinical outcomes such as survival after complex heart surgery, heart transplants and corrective surgery for congenital heart defects. Related care factors of the pediatric heart program include specialized staff, services and technologies, excellence in best practices and ability to prevent infections.

## Best Hospitals: An Overview

U.S. News Best Hospitals are broken into two subcomponents – specialty rankings and procedure and condition ratings.

## Rankings and Ratings Overview

The Best Hospitals Specialty rankings are meant for patients with life-threatening or rare conditions who need a hospital that excels at treating complex, high-risk cases. Hospitals are ranked from 1 to 50 in each specialty. Those not in the top 50 but still in the top 10% of all eligible hospitals receive a designation of "High Performing."

The Best Hospitals Procedures and Conditions ratings focus on specific, common procedures and conditions, such as hip replacement and heart failure, rather than broader specialties like orthopedics and cardiology. These ratings reflect how well hospitals perform in each procedure or condition for the

full range of patients – not just the most complex, challenging cases as in the specialty rankings.

Instead of numerical rankings, the evaluations of these procedures and conditions produce ratings. Hospitals that treat enough patients to be assessed are rated one of three ways:

- High Performing
- As Expected
- Evaluated



Rank	Hospital	City	State
1	Texas Children's Hospital	Houston	Texas
2	Children's Hospital Colorado Anschutz Medical Campus, Aurora	Aurora	Colorado
3	Duke Children's Hospital & Health Center	Durham	North Carolina
4	MUSC Shawn Jenkins Children's Hospital	Charleston	South Carolina
5	Children's Hospital of Philadelphia	Philadelphia	Pennsylvania
6	Rady Children's Hospital - San Diego	San Diego	California
7	Boston Children's Hospital	Boston	Massachusetts
8	Levine Children's Hospital	Charlotte	North Carolina
9	Children's Health Dallas	Dallas	Texas
10	Dell Children's Medical Center	Austin	Texas
11	Cincinnati Children's & Kentucky Children's Hospital Joint Heart Program	Cincinnati	Ohio
12	Intermountain Primary Children's Hospital-University of Utah	Salt Lake City	Utah
13	University of Michigan Health C.S. Mott Children's Hospital	Ann Arbor	Michigan
14	Children's Healthcare of Atlanta	Atlanta	Georgia
15	UF Health Shands Children's Hospital	Gainesville	Florida
16	Cleveland Clinic Children's	Cleveland	Ohio
17	Ann & Robert H. Lurie Children's Hospital of Chicago	Chicago	Illinois
18	Loma Linda University Children's Hospital	Loma Linda	California
19	Children's Memorial Hermann Hospital	Houston	Texas
20	Children's Hospital Los Angeles	Los Angeles	California
21	UPMC Children's Hospital of Pittsburgh	Pittsburgh	Pennsylvania
22	Children's Hospital of Alabama at UAB	Birmingham	Alabama
23	Rainbow Babies and Children's Hospital	Cleveland	Ohio
24	NewYork-Presbyterian Morgan Stanley Children's Hospital	New York	New York
25	Nationwide Children's Hospital	Columbus	Ohio
26	Riley Hospital for Children at IU Health	Indianapolis	Indiana
27	Arkansas Children's Hospital	Little Rock	Arkansas



Rank	Hospital	City	State
28	Children's National Hospital	Washington	District of Columbia
29	Nemours Children's Hospital, Delaware	Wilmington	Delaware
30	Children's Mercy Kansas City Hospital	Kansas City	Missouri
31	Mayo Clinic - Children's Minnesota Cardiovascular Collaborative	Rochester	Minnesota
32	Seattle Children's Hospital	Seattle	Washington
33	UCSF Benioff Children's Hospitals, San Francisco and Oakland	San Francisco	California
34	Virginia Congenital Cardiac Collaborative	Charlottesville	Virginia
35	Lucile Packard Children's Hospital at Stanford	Palo Alto	California
36	Ochsner Children's Hospital	New Orleans	Louisiana
37	Hassenfeld Children's Hospital at NYU Langone	New York	New York
38	Oklahoma Children's Hospital OU Health	Oklahoma City	Oklahoma
39	Johns Hopkins All Children's Hospital	St. Petersburg	Florida
40	Johns Hopkins Children's Center	Baltimore	Maryland
41	UCLA Mattel Children's Hospital	Los Angeles	California
42	Advocate Children's Hospital	Oak Lawn	Illinois
43	Norton Children's Hospital	Louisville	Kentucky
44	Le Bonheur Children's Hospital	Memphis	Tennessee
45	Phoenix Children's Hospital	Phoenix	Arizona
46	SSM Health Cardinal Glennon Children's Hospital-St. Louis University	Saint Louis	Missouri
47	Nicklaus Children's Hospital	Miami	Florida
48	St. Louis Children's Hospital-Washington University	Saint Louis	Missouri
49	American Family Children's Hospital	Madison	Wisconsin
50	Monroe Carell Jr. Children's Hospital at Vanderbilt	Nashville	Tennessee



# CONGENITAL CARDIOLOGY TODAY

Timely News & Information for Congenital/Structural Cardiologists & Cardiothoracic Surgeons Worldwide



## Recruitment Advertising

- ✓ In print and electronic monthly issue
- ✓ On our website
- ✓ In monthly Email Blast
- ✓ No cost for CCT to create the ad
- ✓ Multiple sizes available



Subscribe Electronically  
Free on Home Page

[www.CongenitalCardiologyToday.com](http://www.CongenitalCardiologyToday.com)



# Tucson Doctor Wins National Award for His Second Act as Amateur Astronomer

Henry Brean

After a high-stakes career as a pediatric cardiologist, Richard Donnerstein has chosen to spend the time he has left staring off into space.

In 2008, the newly retired Tucson medical doctor enrolled in an introductory astronomy class at the University of Arizona. He would eventually work his way through the entire course catalog for an undergraduate degree in the field, then convince one of his professors to take him on as a researcher.

"After I retired, I obviously had to find something to do, and I'm way too uncoordinated to play golf," Donnerstein said. "So I decided to take some courses, and I just loved it."

Sixteen years and about two dozen scientific publication credits later, the 82-year-old's post-retirement hobby has earned him a prestigious national award for amateur astronomy.

*Richard Donnerstein, a retired pediatric cardiologist, has won a national award for amateur astronomy after helping University of Arizona scientists develop a way to detect some of the faintest and most confounding galaxies in the universe. (Mamta Popat; Arizona Daily Star)*



On Jan. 16<sup>th</sup>, 2025, the American Astronomical Society named Donnerstein as this year's recipient of the Chambliss Amateur Achievement Award for his "significant contributions" to the detection of some of the faintest and most confounding galaxies in the universe.

Donnerstein was recognized for his work on a U of A-led project called Systematically Measuring Ultra-Diffuse Galaxies, or SMUDGes for short.

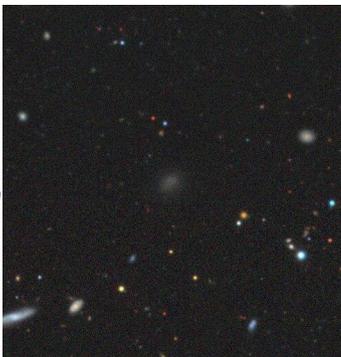
"That's exactly what they look like. They look like a smudge, you know, like somebody left a fingerprint on a photograph," he said.

Donnerstein developed a computer algorithm capable of identifying these faint objects in images collected during massive surveys of the entire night sky above both the Northern and Southern Hemispheres.

"These particular galaxies are interesting because they can be quite big. They can be the size of the Milky Way, but only have maybe one percent of the amount of stars, so they're really quite faint," he said. "We basically started looking for them and found over 7,000 of these things spread everywhere."

Their existence raises a host of questions astronomers are still trying to answer, Donnerstein said. "Why are they here? How do they form? What holds them together? By having enough of them (to study), we can do some statistical analysis and get a rough idea of why they're there and why they haven't fallen apart."

*The smudge at the center of the frame is what is known as an ultra-diffuse galaxy, which are faint and difficult to resolve because they contain far fewer stars than other galaxies of their size. Tucson amateur astronomer Richard Donnerstein has won a national award for his work to help detect such galaxies so they can be studied. (Legacy Surveys, D. Lang; Perimeter Institute)*



## Westward Bound

Donnerstein was born in New York and raised in South Florida. He went to New York University for medical school and Yale University for his residency and fellowship, before joining the Army and serving four years as a pediatric cardiologist at Walter Reed Hospital in Bethesda, Maryland.

The self-described "die-hard Easterner" joked that he barely knew where Arizona was in

1985, when he landed a job at what was then called University Medical Center in Tucson.

"They had a superb pediatric cardiology program. At that time, it was probably one of the world's leading places for research on echocardiography," he said. "The job perfectly fit what I was looking for."

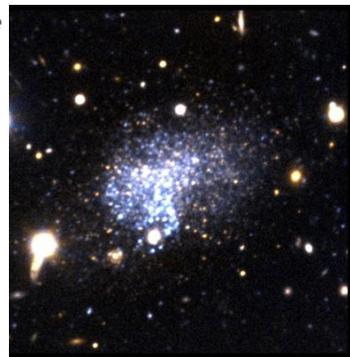
He's been here ever since.

Donnerstein said there is "very little" similarity between the work he did as a heart doctor and what he does now as an amateur astronomer.

"That is why I'm doing it, I think. I enjoyed my career, and I certainly miss many, many of my patients, but when I retired I looked to do something as far away from medicine as possible," he said.

As it turns out, trying to unlock the mysteries of the cosmos is a lot less stressful.

*A composite image taken by the Magellan Clay Telescope in Chile shows Corvus A, one of the dwarf galaxies being studied by researchers at the University of Arizona with the help of retired medical doctor turned amateur astronomer Richard Donnerstein. (SEAMLESS team and Magellan Clay Telescope)*



"You don't have to worry about bad decisions. If you're off by a factor of 10, nobody cares," Donnerstein said with a laugh.

The computer programming stuff came naturally to him, he said, because he studied engineering before he went to medical school and has been working with computers since the days of punch cards.

"As a matter of fact, I was doing it even prior to punch cards, when we were just pushing buttons on machines," Donnerstein said.



His research focus in medical school was on using computers to analyze heart sounds.

To help sift out the SMUDGes in a universe filled with billions of other galaxies, Donnerstein said he borrowed a machine-learning program first built for “telling cats from dogs from monkeys from elephants, that sort of thing.”

“It was an algorithm designed to actually discriminate between various types of images,” he explained. “I adapted that for galaxies, and it worked quite well.”

### ‘Secret Sauce’

The quest to catalog and study ultra-diffuse galaxies is being led by another award-winning local astronomer. Dennis Zaritsky is deputy director of the U of A’s Steward Observatory and principal investigator for the SMUDGes Project. He has also served as Donnerstein’s research advisor for the past decade or so.

Last year, the American Astronomical Society awarded Zaritsky the coveted Beatrice M. Tinsley Prize for what it described as his “innovative observations probing the structure and evolution of galaxies.”

Zaritsky in turn nominated Donnerstein for this year’s Chambliss prize.

One glowing letter of support for that nomination came from U of A professor and astronomer David Sand, who recently began working with Donnerstein on a similar computer-driven search to help identify some of the faintest dwarf galaxies in the nearby universe.

Sand said the “secret sauce ... blended by Richard” has already paid off, producing dozens of strong candidate galaxies for further study.

“Richard’s enthusiasm is contagious, and his scientific impact formidable. I have never experienced an amateur with his skill set, passion and work ethic before,” Sand wrote in his letter to the astronomical society. “He is showing once again his mastery of algorithms at scale applied to a project that will shed light on the nature of dark matter and the floor of galaxy assembly.”

The award came as a complete surprise to Donnerstein, who said the prize comes with a silver medal and an invitation to an upcoming meeting of the astronomical society this summer in Alaska or next January in Phoenix.

“I’m very flattered, very honored at my age to be able to (receive) that,” he said. “The kids and grandkids are impressed, if nothing else.”

Ultimately, though, Donnerstein is just glad to have found something to do in retirement that challenges him and makes him feel useful.

“It’s a win all the way around, actually. They obviously get free help, and, from my standpoint, I’ve learned so much and it’s kept me very busy and occupied,” he said.

And unlike an expensive hobby like golf or restoring old cars, all astronomy costs him is time.

“Working for nothing is still less expensive than what it could have been,” Donnerstein said.



# Medtronic Announces US Commercial Launch of OmniaSecure Defibrillation Lead

Medtronic has commercially launched the OmniaSecure defibrillation lead in the USA this week, with the first cases being performed at hospitals across the country.

OmniaSecure is described by the company as “the world’s smallest defibrillation lead”. It has been approved for adults and paediatric patients aged 12 years and older. The device connects to an implantable defibrillator to treat heart rhythm issues like ventricular tachyarrhythmias, ventricular fibrillation and bradyarrhythmias.



Medtronic states that implantable cardioverter defibrillators (ICDs) are the standard for preventing sudden cardiac death, and existing defibrillation leads are larger in diameter than OmniaSecure—with these larger-diameter leads may increase the potential for downstream complications, such as venous occlusion or tricuspid valve regurgitation.

The lead was engineered from the proven Medtronic SelectSecure Model 3830 pacing lead, which has delivered safe and reliable therapy to patients for more than 20 years, as per a company press release.

Prior to this commercial launch, the final results from the LEADR pivotal trial were presented at the 2025 Asia Pacific Heart Rhythm Society (APHRS) Scientific Sessions (12–15 November, Yokohama, Japan), reaffirming the lead’s established performance and reliability with high defibrillation success and low rates of lead-related major complications.

“We’re proud to bring this technology to patients in the USA, where ICDs play a vital role in protecting people from sudden cardiac death,” said Trevor Cook, vice president and general manager of defibrillation solutions within Medtronic’s Cardiac Rhythm Management business. “The novel, small-diameter OmniaSecure defibrillation lead is engineered for long-term reliability and delivers dependable therapy when paired with a transvenous ICD or CRT-D [cardiac resynchronisation therapy with defibrillator]. We’re excited to put this innovation in physicians’ hands so they can continue providing exceptional care to their patients.”





# Predicting the Likelihood of Complications During Cardiac Procedures for Children

*Joe DiMaggio Children's Hospital-Based Database Does That, and Helps Doctors Prepare Accordingly*

America's fastest-growing registry of data on high-risk cardiac catheterization cases is housed at Joe DiMaggio Children's Hospital in Hollywood, Florida, but its life-saving impact extends far beyond South Florida.

The Catheterization RiSk in Pediatrics (CRISP) registry is a database of more than 10,000 procedures performed at 20 congenital cardiac centers in the U.S. where complications occurred. For each child, an internal score that quantifies risk factors (age, weight, diagnosis, etc.) now helps guide the treatment plans of interventional cardiologists performing transcatheter-based procedures on their own congenital heart patients.

"CRISP assists in predicting when a serious adverse event is likely to occur in the catheterization lab, allowing the team to hopefully avoid the event or be prepared if it does occur," said Dr. Tom Forbes, a pediatric cardiologist and chief of pediatric cardiac services at Joe DiMaggio Children's Hospital. "We're saving lives by predicting circumstances that are likely to arise and being prepared to expedite care in a way that leads to better outcomes."

The registry also helps determine whether the riskier cases are better resolved in the cath lab, through a hybrid procedure that combines a cardiac interventionalist and surgeon or through traditional surgery with a surgeon alone.

Dr. Forbes founded the CRISP registry in 2007 and brought the database with him to Joe DiMaggio in 2022. The registry is the fastest growing of its type in the world, with 20 centers already participating and another 30 currently being enrolled.

While the CRISP registry is assisting physicians in predicting complications that may be encountered in the catheterization lab, it has, since 2018, also collaborated with an affiliated consortium, FDA and industry to assist in developing and attaining earlier approval of medical devices in the U.S.

"This important work benefits every child having a cardiac procedure here at Joe DiMaggio Children's Hospital and in children's hospitals around the world. Being part of the majority of U.S. clinical trials allows our patients to receive earlier access to state-of-the-art equipment, care and allows us to lead and contribute to advancements in the field," said Caitlin Stella, MPH, Chief Executive Officer of Joe DiMaggio Children's Hospital.

Because of registry data, the first stent approved to open narrowed vessels in the pulmonary artery was approved in the U.S.. More recently, the registry allowed for another device to be introduced in the U.S. that helps close a vessel in infants that are born prematurely, with Joe DiMaggio currently the highest enroller in America for this trial.

"Collaboration with both the FDA and industry through the registry has allowed Joe DiMaggio to be seen as the epicenter for pediatric cardiovascular device research in the U.S.," said Dr. Forbes. "We're seeing devices being approved in half the time it used to take using CRISP registry data. I'm very blessed to be at Joe DiMaggio, an institution that has the capability and desire to truly further care and make a difference in the lives of critically-ill children."

Joe DiMaggio Children's Hospital is one of the nation's leading pediatric hospitals, offering a comprehensive scope of healthcare services and programs in a caring, compassionate setting designed specifically for children. A level one trauma center, the hospital, part of Memorial Healthcare System, combines advanced technology, the expertise of one of the largest and most diverse groups of board-certified pediatric specialists in the region, and a focus on patient and family-centered care to heal the body, mind, and spirit.

To learn more, visit [jdch.com](https://www.jdch.com) and connect with [@jdchospital](https://www.facebook.com/jdchospital) on Facebook, X, YouTube and Instagram.



**CHIP NETWORK**  
CONGENITAL HEART INTERNATIONAL PROFESSIONALS



**PICS - IPC  
ISTANBUL  
2026**

**SAVE THE  
DATE**

**15-18  
APRIL**

Wyndham Grand Istanbul Levent  
**İstanbul, Türkiye**

[www.picsistanbul.com](http://www.picsistanbul.com)

## MARCH

28<sup>TH</sup>-30<sup>TH</sup>

ACC.26

New Orleans, LA, USA

<https://accscientificsession.acc.org/>

## APRIL

15<sup>TH</sup>-18<sup>TH</sup>

PICS-IPC Istanbul 2026

Istanbul, Turkey

<https://www.picsistanbul.com/>

16<sup>TH</sup>-17<sup>TH</sup>

EPIC 2026 - Emory Percutaneous Intervention Course

Virtual

<https://cerebria.org/ch/EPIC>

## MAY

16<sup>TH</sup>-19<sup>TH</sup>

AEPC 2026

Padua, Italy

<https://www.aepc2026.org/>

18<sup>TH</sup>-19<sup>TH</sup>

5<sup>th</sup> CME Cardiologists Conference

Athens, Greece

<https://cardiologists.plenareno.com/>

## Publish



- Written by doctors and their team
- Case studies, articles, research findings
- Submit on your schedule
- Print and electronic
- Published within 3 months of submission
- No fees

# NEONATOLOGY TODAY



## CORPORATE TEAM

**PUBLISHER &  
EDITOR-IN-CHIEF**

Kate Baldwin  
*kate.f.baldwin@gmail.com*

**CO-FOUNDER &  
MEDICAL EDITOR**

John W. Moore, MD, MPH  
*jwmmoore1950@gmail.com*

**FOUNDER &  
SENIOR EDITOR**

Tony Carlson  
*tcarlsonmd@gmail.com*

**STAFF EDITOR &  
WRITER**

Virginia Dematatis

**SOCIAL MEDIA  
CONTENT MANAGER**

Jason Williams, MD  
*jason.williams@duke.edu*

**STAFF EDITOR**

Lorraine Watts

**EDITOR-IN-CHIEF  
EMERITUS**

Richard Koulbanis

## EDITORIAL BOARD

Aimee K. Armstrong, MD  
Jacek Bialkowski, MD  
Anthony C. Chang, MD, MBA  
Howaida El-Said, MD, PhD  
Ziyad M. Hijazi, MD, MPH  
John Lamberti, MD  
Tarek S. Momenah, MBBS, DCH

John W. Moore, MD, MPH  
Sir Shakeel A. Qureshi, MD  
P. Syamasundar Rao, MD  
Carlos E. Ruiz, MD, PhD  
Hideshi Tomita, MD  
Sara M. Trucco, MD  
Gil Wernovsky, MD

## OFFICIAL NEWS & INFORMATION PARTNER OF



**PICS Society**  
Pediatric and Congenital Interventional Cardiovascular Society