ECHO

SEPTEMBER/OCTOBER 2024

2024/2025 EDUCATION CALENDAR

OCTOBER 2024

3rd Annual Echo in Pediatric & Congenital Heart Disease

October 26-27, 2024
Virtual Experience

Jointly provided by ASE and the ASE Foundation

NOVEMBER 2024

Critical Care Echocardiography Review Course

November 14-16, 2023
OLC Education & Conference Center, Rosemont, IL

Held in Partnership with SCCM and ASE

JANUARY 2025

34th Annual Echo Hawaii

January 20-24, 2025
Fairmont Orchid, Kohala Coast, Big Island, HI

Jointly provided by ASE and the ASE Foundation

FEBRUARY 2025

37th Annual State-of-the-Art Echocardiography

February 14-17, 2025
Westin Kierland Resort & Spa, Scottsdale, AZ

Jointly provided by ASE and the ASE Foundation

APRIL 2025

12th Annual Echo Florida

April 5-7, 2025
Disney's Yacht & Beach Club Resort Orlando, FL

Jointly provided by ASE and the ASE Foundation

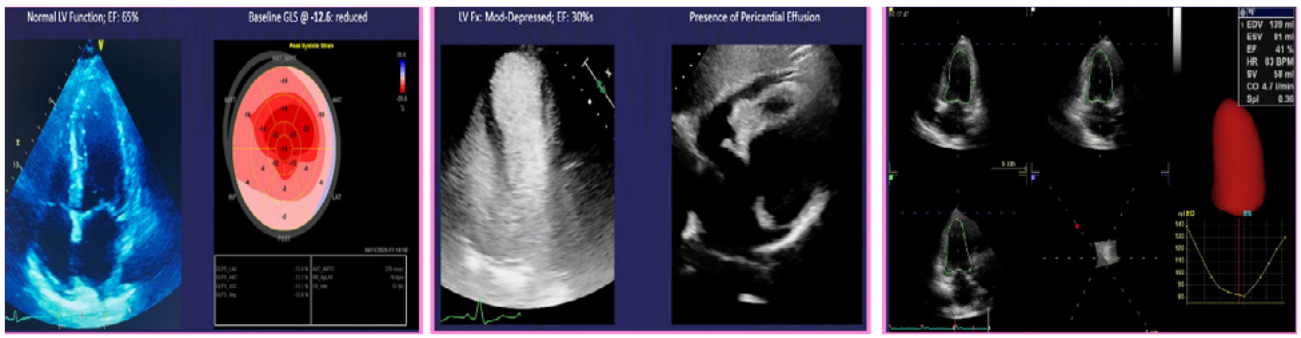
SEPTEMBER 2025

36th Annual Scientific Sessions

September 5-7, 2025
Music City Center (Downtown) Nashville, TN

Jointly provided by ASE and the ASE Foundation

"A Heart's Journey During Breast Cancer Therapy" Clara I. Angulo, MBA, ACS, FASE and Toktam Salimi-Daryabeigi, RCS, Houston Methodist Hospital, Houston, Texas



Discounted rates for ASE members. *To learn more and register, visit us at* ***ASEcho.org/Education****.*

This text also appears in the July/August JASE. ***OnlineJASE.com***

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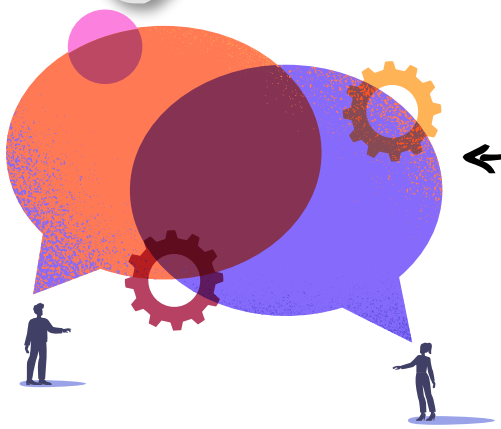

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American Society of Echocardiography

Cover art: "Kitten Sitting on the Right Coronary Cusp" Scott R. Coleman, DO, FASE, and Kristen Skinner, DO, Atrium Health at Wake Forest Baptist, Winston-Salem, North Carolina

EDITORS' NOTE

ASE is very grateful to our members who contribute to *Echo* magazine and values their willingness to share personal insights and experiences with the ASE community, even if they may not be in total alignment with ASE's viewpoint.

President's Message for September

SHOW YOUR SOUL – A HIGHLIGHT OF ASE'S SOULFUL MEMBERSHIP

Contributed by ***Madeline Jankowski, ACS, RDCS, BS, FASE; Carol Mitchell, PhD, ACS, RDMS, RDCS, RVT, RT(R), FASE, FSDMS; Kameswari Maganti, MD, FASE; and Dermot Phelan, MD, PhD, FASE***

"ASE Membership – The Soul of the Society"
"A vision of ASE membership for the next 50 years"

The American Society of Echocardiography (ASE) celebrates 50 years of being the professional home for cardiovascular ultrasound practitioners in 2025! Since 1975, ASE has continuously found innovative ways to fulfill its mission, "to advance cardiovascular ultrasound and improve lives through **excellence** in education, research, innovation, advocacy, and service to the **profession and the public**." With extensive educational resources and practice guidelines, the ASE Foundation and dedicated ASE staff have constructed the essential framework of the Society's home. However, it is the members who invigorate the soul of this organization.

> "ASE thrives on the energy, expertise, community, and professionalism of its members. The diversity of ASE's membership has expanded alongside the organization's growth."

ASE thrives on the energy, expertise, community, and professionalism of its members. The diversity of ASE's membership has expanded alongside the organization's growth. In 1975, ASE's membership consisted of approximately 100 individuals serving only a handful of cardiovascular practitioners, all from the United States. Today, ASE has become an international professional home for nearly 17,000 people of diverse backgrounds and areas of expertise, including sonographers, physicians, veterinarians, APPs, students, and fellows involved in all aspects of cardiovascular ultrasound. Representing 112 countries, ASE members contribute to a global collaboration and innovation in cardiovascular ultrasound. Within our growing membership, there are 2,488 Fellows of the American Society of Echocardiography, a designation that reflects not only a passion for the field through education and research, but also a commitment to giving back and furthering the next generation of practitioners.

Membership in ASE ensures one is actively engaged and expertly aligned with the future of cardiovascular ultrasound. We asked members of the ASE, "In a word or phrase, what is your favorite thing about being an ASE member?" The responses not only revealed a love of cutting-edge advancements and expertise, but also loudly declared ASE as a place for friendship, mentorship in a diverse community. The membership word-cloud to the left truly illustrates the depth of what ASE offers to those seeking their professional home.

To position our Society for success in its next 50 years, the membership base needs to continue to grow. President Dr. Ted Abraham, the Board of Directors, and Executive committee have curated incentives for 2025 membership that you and your cardiovascular colleagues should not miss out on! ASE has a goal for 2025 to increase membership to 20,000 members. To reach this goal the following will be implemented in 2025;

- $50 off for new members in the following categories: physician, sonographer, international and retiree
- **Future 50** offers FREE membership to all fellows/students (both current and new members) and 50% off to all Early Career designated members (both current and new)
- **ASE Soulmates** offers 25% off 2026 renewals for members who refer up to 2 new members and 50% off for recruiting up to 4 new members (not including fellows or early career members).

These incentives show the commitment to building the new generation of the membership base while engaging the current members to stay excited and help with growth.

While the list of benefits for ASE members is extensive, below are additional perks for having your professional home with ASE;

- Access to the Journal of the American Society of Echocardiography which publishes cutting-edge Cardiovascular research (impact factor 5.4)
- Two-year participation in the Leadership Academy, led by Wharton School business faculty. This is a competitive application process and only those selected can attend. Curriculum is designed to develop leaders in the ASE and field of cardiovascular ultrasound
- ASE Foundation (ASEF), the philanthropic arm of the Society, supports outreach programs, mission trips, and scholarships.
- Member discount to attend the annual Scientific Sessions

The 36th Annual Scientific Sessions will be held September 5-7, 2025, at the Music City Center, Nashville, Tennessee. The program will celebrate 50 Years of ASE with the theme of "Harmonizing Hearts," and all members are encouraged to bring someone new to ensure the largest attendance possible for the 50-year anniversary! The sessions will be interactive, educational, and provide hands-on learning experiences as well as plenty of time to network with your ASE community. Sign up to be notified when registration opens at ASEScientificSessions.org, and see you in Nashville!

This text also appears in the September JASE (OnlineJASE.com)

President's Message for October

WHO ARE WE AND WHERE ARE WE GOING?

Contributed by ***Theodore P. Abraham, MD, FASE****, Meyer Friedman Distinguished Professor of Medicine and Director of Echocardiography at the University of California San Francisco, San Francisco, CA*

"Do the difficult things while they are easy and do the great things while they are small."
Lao Tzu (Laozi)[1]

As noted in my inaugural President's page, I am hoping that as we collectively plan to celebrate our 50th anniversary, we are setting the stage for the next 50 years. In a landscape that is clinically, operationally, financially, and socially changing at a meteoric pace, we as an organization will be called upon to do *difficult things* and *great things* to make sure that we continue to build a sustainable and growing Society.

My thoughts are that we are in the middle of an inflection zone. How we steer this ship will determine if the inflection for us moves upwards or downwards. The question that I ask myself daily is, where should ASE be five to ten years from now and what are the "small things" and "easy things" that we can do now to set the stage to overcome the "difficult" and accomplish the "great." IMHO, there are two concepts that are emerging: 1) the world of medicine, like the rest of the world, is moving more towards a team approach for most problems - therefore, while being echo-centric, we need to think more widely within the world of cardiology and medicine; 2) technology and innovation are the drivers of survivability and growth – just look at Google and Uber – concepts that did not exist when ASE started. Which is why *Partnership* and *Innovation* are 2 of the 3 pillars of my Presidency goals. These two combined will support the third pillar of ASE Secures.

"My thoughts are that we are in the middle of an inflection zone. How we steer this ship will determine if the inflection for us moves upwards or downwards."

The greatest strength of ASE is its human potential. We are a unique Society that serves as a professional home for both nonphysicians

and physicians of many stripes, all coming together under a shared passion for cardiovascular ultrasound. I have not come across a more engaged, motivated, committed, and passionate group of individuals, and coupled with our amazing ASE staff and leadership, more than anything else offers me the most reassurance that our Society has a vibrant and strong future.

So, what are the "small things" we can start putting in place this year that will form the foundation for achieving great things in the next few years?

On the *Partnership* front, we already have several members with expertise and influence beyond ultrasound. We hope to leverage their expertise to craft more holistic content for our meetings, explore collaborative partnerships with other imaging societies, and position ASE to address the emerging clinical needs of patients and healthcare providers. My next step is to convene an intersociety workgroup that will formally bring together our disparate expertise to articulate a strategy for forging these outside relationships.

I have already started brainstorming with our 2025 Scientific Sessions chairs, Dr. Carol Mitchell and Dr. Dermot Phelan, about creating unique sessions in Nashville that will include multimodality imaging and multidisciplinary discussions around particular care pathways. We are considering collaborating with other entities to deliver this content in an innovative, flipped classroom manner.

On the *Innovation* front, under the leadership of President Ben Eidem, we are now part of the *FDA Total Product Lifecycle Advisory Program*.[2] Similarly, thanks to the vision of the former chair of our Industry Round Table, Dr. Steve Lester, and in collaboration with Meredith Morovati and Samantha King, our ASE IRT leaders, we now have an ASE Accelerator Program emerging that will allow us to be centrally ensconced in the innovation environment around cardiovascular ultrasound. We have always had the 360° expertise within our membership from ideation to proof of concept, pilot testing, clinical trials, and validation. We are also the early adaptors and predominant purchasers of new technology. Therefore, we collectively offer immense value in the innovation space and now have a mechanism to formally deliver that value to industry partners while enabling us to benefit from any potential upside if there is successful commercialization of this technology. We have created an Accelerator workgroup that will not only help support our Accelerator program but will also help generate interest and vet a planned ASE Shark Tank event at our 2025 sessions in Nashville. I would love for our members to send suggestions of companies they might be working with or are aware of that may be potential candidates who would pitch at our Shark Tank event. We hope to have five companies present in front of a select group of sharks, including ASE representatives, industry professionals, and venture capitalists.

> "We are a unique Society that serves as a professional home for both nonphysicians and physicians of many stripes, all coming together under a shared passion for cardiovascular ultrasound."

Lastly, and most importantly, here are my two big asks from our members in 2025:

1. Attract **3,000 new members** to achieve a total membership of at least 20,000 by the time we get to Nashville.
2. Bring in at least **5,000 attendees** to our

Nashville Scientific Sessions to enthusiastically celebrate our 50th anniversary.

In keeping with the spirit of my opening statement, I have broken this down into a "small" task for each member. I am hoping that every single member tries to get one new member into the fold by September 2025. Robin Wiegerink, our CEO, along with Angie Porter and her marketing staff at ASE, are in the process of putting together an extremely attractive membership package that should be unveiled in September which would make it easy for each of our members to approach their ultrasound colleagues to consider ASE membership.

Accordingly, I am asking each of our members to sharpen their pitch and clearly articulate the value ASE brings into their professional lives. Here are some points that crossed my mind, and I am sure there are many more that you could add:

1. Outstanding educational content that is relevant to your practice of cardiovascular ultrasound.
Where else can you get up-to-date, high-quality content curated by the world's experts, almost on a weekly basis, so you do not have to read hundreds of articles on your own? From webinars to microlessons to YouTube videos, and our fantastic Scientific Sessions and courses, we are also providing this content in a modern and more palatable fashion.

2. Learn from the best so you can become the best.
Where else can you interact directly with thought leaders and pioneers in the field, one-on-one, and learn from them through conversations, case discussions, chalk talks, and seminars? You can ask them a burning clinical, research, or practice question that has been plaguing you. Our annual meeting has been reformatted to allow more direct interactions. As we look to the future, our new mentorship program will be launched this Fall and expand our ability to accelerate career development connections across the globe.

> “I am asking each of our members to sharpen their pitch and clearly articulate the value ASE brings into their professional lives.”

3. All the "ships"- Friendship + Mentorship + Sponsorship.
We are an old Society that is growing younger. We are the nidus for lifelong personal friendships. We have interested and willing experienced guides who have lumbered up this mountain before and are eager to offer guidance and advice so you can successfully navigate the convoluted world of practice and academic medicine. ASE strongly believes and fosters sponsorship within the Society. "While a mentor typically gives you advice or feedback and coaches you on specific skill sets, a sponsor goes a step further. They go out of their way to help you gain visibility and land opportunities that can advance your career."[3] ASE puts its money where its mouth is – it has invested heavily in the ASE Leadership Academy, which has emerged as one of the best leadership programs out there. Launched by Dr. Neil Weissman during his presidency, it selects promising physician and sonographer members who are exposed to several months of leadership training. It has graduated numerous talented young ASE leaders who are not only the lifeblood of our Society but also the strongest foundation for our growth and sustainability over the next several decades. My own personal journey from fellow member to committee member

to committee chair and now President, was formed and facilitated by the generosity and support of several ASE statesmen/women (both sonographers and physicians) and peer mentors. Remember that these ASE committee and other leadership positions help immensely with academic rank progression and/or offer opportunities for management positions in clinical programs and practices.

4. The Society with a Soul.
Yes, we are THE Society with a Soul (thank you for this sentiment Dr. Zoghbi).We are all members of ASE because we believe in the mission and we believe in each other. Just today, I was on a call with Dr. Vincent Sorrell, Editor of CASE and Co-Director of Echo Florida. While describing his participation in ASE, he used terms such as all-in, passionate, and committed – in one sentence! I think these terms describe most, if not all, members. They also describe the ASE leadership and staff. We are the Society but, more importantly, the Society is us. Our soul is evident among us and in our dealings with each other. This is a great Society. We owe it to ourselves and to all practitioners of cardiovascular ultrasound to nurture and support its success.

I would like to close by harkening back to the wise counsel of Lao Tzu in encouraging each one of us to work towards that small and easy task that will allow us collectively to accomplish a difficult and great goal for 2025 – each 1 bring 1 new member.

REFERENCES

1. Available at: https://www.brainyquote.com/authors/lao-tzu-quotes
2. Available at: https://www.fda.gov/medical-devices/how-study-and-marketyour-device/total-product-life-cycle-advisory-program-tap.
3. Alpaio K. A guide to mentors, sponsors, and coaches. Harvard Bus Rev 2024.

> “This is a great Society. We owe it to ourselves and to all practitioners of cardiovascular ultrasound to nurture and support its success.”

This article has been adapted from the July/August JASE article OnlineJASE.com

Theodore P. Abraham,
MD, FASE
ASE President

Sonographer

VOLUNTEER OF THE MONTH-SEPTEMBER

Congratulations

Tony Forshaw, M Cardiac Ultrasound, B Ex Sci, AMS (Cardiac), FASE

Queensland University of Technology
Brisbane City, Australia

Q A

When and how did you get involved with cardiovascular ultrasound?

My journey into echocardiography began in 1999 during my final year of an Exercise Science degree. I was captivated by physiology, and a career guidance officer suggested that I spend time in a cardiac clinic to sharpen my skills in exercise treadmill testing—a skill that would be valuable in any future role as an exercise physiologist. On my first day in the stress lab, I witnessed a stress echo, and for the first time, I "saw" a heart. Watching the physiological changes unfold as the patient's symptomatic ischemia resolved in recovery was a defining moment for me. I was hooked. That experience led me to start studying echocardiography the following semester. Nearly 25 years later, I'm still working in the same lab and absolutely obsessed with echo.

What is the name and type of facility/ institution at which you work, and what is your current position?

I'm fortunate to hold several roles that allow me to enjoy the different aspects of echocardiography. Clinically, I am employed as a Senior Scientist at Hearts 1st in Brisbane, Australia, a private imaging lab located within Greenslopes Private Hospital, Australia's largest private hospital. In 2000, we became the first fully digital echo lab in Australia, and I've been involved in numerous projects, including the development of an in-house structured reporting system before such systems were commercially available. Additionally, I hold a Clinical Fellowship with Queensland University of Technology and work as a sessional academic in their postgraduate Cardiac Ultrasound program. In 2014, I founded EchoGuru.com, an online platform that offers

> **"Through my involvement, I've been able to expand my career beyond just scanning. It's brought diversity to my professional life and exposed me to aspects of the profession I wouldn't have encountered solely within my institution."**

accredited echo education and hosts several major events each year, along with free weekly echo sessions.

When and how did you get involved with the ASE?

I joined the ASE over a decade ago as an international member. My volunteer journey started when I responded to a call for volunteers that was sent to all members. I wasn't entirely sure what the role would entail, but I knew that if there was any way I could contribute, even from Australia, I wanted to be part of it. One of my better decisions.

Why do you volunteer for ASE?

Professional associations rely heavily on the support of volunteers to fulfill their missions. These organizations are driven by volunteers who work together to ensure our voices are heard in advocacy, the development of guidelines and standards, and the strengthening of our professional identity. I am immensely proud to contribute to this collective effort and to help shape our profession. Volunteering with ASE, in particular, has been incredibly rewarding. It's the global leader in echocardiography, and through my involvement, I've been able to expand my career beyond just scanning. It's brought diversity to my professional life and exposed me to aspects of the profession I wouldn't have encountered solely within my institution. Most importantly, I've made lifelong friends and professional connections, and I look forward to reuniting with my ASE "family" at the Scientific Sessions each year.

What is your current role within ASE? In the past, on what other committees, councils or task forces have you served and what have you done with the local echo society?

Currently, I serve on the ASE Board of Directors as the International Member Representative and as Co-chair of the International Relations Advisory Group. I have also served on the ASE Public Relations Committee and am honored to be returning as the Course Director for the ASE Advanced Imaging Techniques: Virtual Experience (2021-2024).

Locally, I've held leadership roles, including Director and Past President of the Australasian Sonographers Association (ASA) and Chair of the Sonographer Advancement Working Party. These roles involved reviewing policies and guidelines and representing our profession at State and Federal government forums. I've also helped establish a State-level society for cardiac sciences and regularly contribute as a speaker and presenter at local echo meetings.

> "My advice is simple: just get involved. There's always something you can do, regardless of where you are in your career."

What is your advice for members who want to become more involved in their profession or with the ASE?

Many people hesitate to get involved, thinking they aren't experienced enough or that they don't have anything valuable to contribute. This couldn't be further from the truth. My advice is simple: just get involved. There's always something you can do, regardless of where you are in your career. By taking that first step, you'll discover what interests you and realize that it takes a community of professionals at all stages to make a difference—and you are enough. So, give it a try – I promise you will meet and work with some incredible people.

What is your vision for the future of cardiovascular sonography?

As a passionate advocate for sonographers, I envision a future where our professional identity continues to grow stronger. Programs like the Advanced Cardiovascular Sonographer (ACS) recognition will help elevate our profession, leading to increased responsibilities for appropriately trained sonographers. I'm also committed to improving the standards for sonographer supervisors and working to reduce workplace-related injuries. I love discussing all things echo, so if you have ideas or just want to chat, I'd love to see you in Nashville for ASE 2025—come say hi!

Sonographer

VOLUNTEER OF THE MONTH-OCTOBER

Congratulations

Lanqi Hua, ACS, APCA, RDCS (AE, PE, FE) MS, FASE

Technical Director
Massachusetts General Hospital
Boston, MA

Q
A

When and how did you get involved with cardiovascular ultrasound?

My journey into cardiovascular ultrasound began as an unexpected twist of fate. In 1994, after I graduated from medical school and completing four years of practicing internal medicine in China, my family and I moved to Singapore. At that time, I was a new mother, trying to navigate the many changes that came with relocating to a new country and embracing motherhood. The demands of this new chapter led me to make the difficult decision to step away from my physician career. However, it wasn't long before I realized that while being a full-time stay-at-home mom was fulfilling in its own way, I missed the connection to healthcare that had driven me for so long. I started looking for opportunities and was pleasantly surprised when a local hospital advertised an EKG tech position. I submitted my resume, not expecting much to come of it. To my surprise, I received a call the very next day for an interview. What truly amazed me was that they offered me a position as a cardiac sonographer, despite my lack of experience in the field of cardiac ultrasound. It felt like an incredible opportunity, and I was both excited and a bit nervous. I embraced the chance and began on-the-job training with a cardiologist. My background in medicine proved invaluable as I absorbed new knowledge and quickly grew to love the field of cardiac ultrasound. To further my understanding, I purchased my first echocardiography book- *Principles and Practice of Echocardiography*, written by Dr. Arthur Weyman. His book became a cherished resource, deepening my knowledge and passion for the work. What began as an unexpected opportunity has blossomed into a career that I truly cherish.

What is the name and type of facility/institution at which you work, and what is your current position?

I feel incredibly fortunate to work at Massachusetts General Hospital (MGH) in Boston, specifically in the

> **"The opportunity to work alongside some of the world's leading echocardiography experts was both humbling and incredibly inspiring—it truly transformed my career as a cardiac sonographer."**

echo laboratory founded by Dr. Weyman. Since joining the lab in 2004, I have had the privilege of being mentored by Jane Marshall, our former technical director, and learning directly from Dr. Weyman himself. When Jane retired in 2019, I was honored to be entrusted with this important role. Today, I manage a range of responsibilities, including helping with administrative tasks with the support of Dr. Judy Hung, our medical director, to ensure the department runs smoothly. One of the most rewarding aspects of my role is training and mentoring the next generation of echocardiography professionals. Shaping the future of this field is a responsibility I take very seriously and approach with deep gratitude.

When and how did you get involved with the ASE?

I became a member of ASE in 1999 while I was still in Singapore. At the time, I didn't know much about ASE, but I was dedicated to reading the *Journal of the American Society of Echocardiography* (JASE) every month, eager to learn and grow. After I joined Massachusetts General Hospital (MGH) in 2004, I was fortunate to become involved in several research projects. One particularly memorable project, led by Dr. Robert A. Levine and Dr. Judy Hung, focused on functional tricuspid regurgitation. This project was a turning point for me, as it allowed me to dive deep into the complexities of the right heart and understand it in ways I had never imagined. In 2007, I was genuinely surprised and honored when Dr. Lawrence G. Rudski invited me to join the right heart guideline writing group. The opportunity to work alongside some of the world's leading echocardiography experts was both humbling and incredibly inspiring—it truly transformed my career as a cardiac sonographer. With the guidance of Dr. Mike Picard, I took a leap of faith and submitted my first research abstract: "Tissue Maximum Apical Displacement for Assessment of Global Right Ventricular Performance" to ASE in 2015. I was beyond thrilled and deeply honored to win the Cardiac Sonographer Research Competition at the 26th ASE Scientific Sessions in Boston. This recognition was a milestone in my journey, opening doors to new opportunities. Since then, I've had the privilege of serving as an ASE abstract grader, speaking at Scientific Sessions, contributing to various ASE committees, and even co-chairing the 2019 Scientific Sessions in Portland, Washington, alongside Dr. Marielle Scherrer-Crosbie, the chair of the 30th ASE Scientific Session. Today, I'm incredibly grateful to serve in an even larger capacity as a Member-at-Large of the ASE Board of Directors. Every step of this journey has been a humbling and exciting experience, and I'm honored to continue contributing to this amazing community.

"Through ASE, I've developed meaningful friendships with world-class echocardiographers, and these connections have enriched my life in ways I never expected."

Why do you volunteer for ASE?

Volunteering with ASE has been an incredibly rewarding experience! It's not just about the chance to share everything I've learned from others, but also about how much I've grown as a cardiac sonographer and as a person. Through ASE, I've developed meaningful friendships with world-class echocardiographers, and these connections have enriched my life in ways I never expected. ASE truly feels like my professional home, a place where I continue to learn, contribute, and be inspired every day.

What is your current role within ASE? In the past, on what other committees, councils or task forces have you served and what have you done with the local echo society?

I currently serve as a Member-at-Large on the ASE Board of Directors. Over the years, I've had the privilege of contributing to ASE in various capacities, including the Membership Committee, Research Committee, Nominating Committee, ASE Guidelines and Standards Committee, the ASE CV Sonography Steering Committee Council, and as an editorial consultant for JASE. I've also been involved in the ASE ImageGuideEcho Registry and Research Committee, the ASE Scientific Sessions

Program, and as a volunteer with the ASE Global Outreach Foundation, among others. Each of these roles has been a valuable learning experience, allowing me to grow both professionally and personally. My involvement with ASE has provided me with a deep sense of fulfillment, reinforcing my commitment to this incredible community.

What is your advice for members who want to become more involved in their profession or with the ASE?

There are many exciting ways to expand your professional experience and get involved with ASE. A great starting point is to become a member of ASE if you haven't already. Joining the mentee-mentorship program is also a valuable step, as it connects you with fellow professionals within the Society and helps you find the best ways to engage with your profession and ASE. Consider attending the Scientific Sessions, submitting your original research, participating in the cardiac sonographer research competition, sharing intriguing cases through CASE, or advancing your echo skills to achieve FASE status. Each of these activities supports ASE and contributes to your growth in this field. Keep an eye out for Call for Volunteers announcements to explore the diverse volunteer opportunities available. If something catches your interest, don't hesitate to apply! If you're not selected immediately, it's not a reflection of your qualifications—there are often limited positions. Stay engaged with ASE activities, share your innovative ideas on Connect@ASE, participate in surveys, or contribute to our annual Scientific Sessions. ASE values your input and contributions, and you are likely to be invited to serve our society as opportunities arise when you are ready. Your enthusiasm is what drives our community forward!

What is your vision for the future of cardiovascular sonography?

Cardiac sonographers play a vital role in delivering high-quality echocardiography exams. Unlike other imaging modalities, where protocols and machines often drive the process, echocardiography relies significantly on the skill and expertise of our cardiac sonographers. These professionals go beyond operating equipment; we are investigators who use their medical knowledge and technical skills to uncover the causes of clinical presentations. Our work involves employing various non-standard views and applying their artistry to produce the best possible diagnostic images. Despite their crucial role, cardiac sonographers face significant challenges, including high demand, stress, physical strain, and burnout.

"We need to advocate for supportive work environments, promote ongoing professional development, and building a more sustainable and resilient workforce."

Addressing these issues is essential for the future of cardiovascular sonography. Here's how I envision moving forward: ***Embracing Technological Advancements:*** I hope to see significant improvements in ultrasound systems, such as hardware-integrated mechanical arms that reduce physical strain on cardiac sonographers. Additionally, advancements in imaging techniques, such as 3D and 4D echocardiography, could potentially shorten scanning times and provide more detailed and accurate assessments. These developments would allow sonographers to focus more on the complex aspects of echo studies, ultimately benefiting patient outcomes. ***Expanding Education and Training:*** To address the shortage of sonographers, I envision the creation of comprehensive, accessible training programs. Collaboration with academic institutions and ASE will be essential in developing a strong pipeline of skilled cardiovascular sonographers. ***Addressing Workforce Challenges:*** We need to advocate for supportive work environments, promote ongoing professional development, and building a more sustainable and resilient workforce.

Attending Scientific Sessions as a

CAVUS Council Travel Grant Awardee

*Contributed by **Matthew Vorsanger, MD, RPVI, FASE**, NYU Grossman School of Medicine, New York, NY*

It is my great pleasure to highlight the experiences and research of two of the travel grant awardees for our council.

AS THE CHAIR OF THE Circulation and Vascular Ultrasound Council Steering Committee, it is my great pleasure to highlight the experiences and research of two of the travel grant awardees for our council, Dr. Abhishek Gami and Dr. Sae Jang. These travel grants, which cover expenses to attend the ASE's Scientific Sessions, are part of an effort by the Circulation and Vascular Ultrasound Council to encourage physician trainees in cardiovascular specialties to focus on the field of circulation and vascular ultrasound, to encourage sonographers with an interest in vascular imaging, and to recruit enthusiastic new members to the Circulation and Vascular Ultrasound Council.

ABHISHEK GAMI, MD,

JOHNS HOPKINS, BALTIMORE, MD

"I was honored and deeply grateful to have been awarded a Circulation & Vascular Council Travel Grant for the ASE 2024 Scientific Sessions. This award impacted me in three major arenas which I view as vital in my development as a budding cardiologist with interests in advanced echocardiography.

First, I gained appreciation for the diversity possible in the subspecialities of echocardiography, which had a lasting impression on me as I am just beginning to define the trajectory my career will take as a cardiologist. I was able to attend sessions on echocardiography and chest pain, artificial intelligence, and the session on echocardiography and vascular imaging of diseases such as spontaneous coronary artery dissection and fibromuscular dysplasia. The case-based presentations during this session showed me the power of echocardiography and vascular imaging and left me feeling inspired to research and apply these techniques in my own practice.

Next, I was able to benefit greatly from the networking and career mentorship opportunities at ASE 2024. I was able to speak to multiple program directors from various cardiology fellowships and cardiac imaging fellowships. I attended the session on advanced echocardiography and cardiac imaging fellowship development and was able to directly hear the perspectives of legendary cardiac imaging educators.

Lastly, the award allowed me to travel to Portland and present my research on right atrial strain imaging and scleroderma. My research under the mentorship of Dr. Monica Mukherjee at Johns Hopkins has focused on the correlation between echocardiography and invasively measured right ventricle to pulmonary artery coupling in pulmonary hypertension. Through my conversations at the poster session, I was able to learn insights on my research from attending cardiologists and specialists in cardiac imaging, which has inspired new research ideas.

Overall, the ASE 2024 Scientific Sessions was a fundamental step in my journey as an aspiring cardiologist and cardiac imager, and I am extremely grateful for this opportunity made possible by the Circulation & Vascular Council."

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SAE JANG, BS, MD,

UPMC, PITTSBURGH, PA

"I am grateful to have received the travel grant from the Circulation & Vascular Ultrasound Council to attend the 2024 ASE Scientific Sessions. The scholarship enabled me to travel to Portland, where I learned from national and international experts. The conference featured interactive, multimodal case discussions on valvular and myocardial diseases. I even attended a small group, hands-on 3D cropping session. I was able to reconnect with friends from residency and fellowship and meet new peers from around the world. I particularly enjoyed the sessions SCAD, FMD, vasculitis, and INOCA, which relate to my current research.

I was excited to present my research on biomechanical interactions of microbubble contrast agents with capillaries. I first learned about microbubble contrast agents in my first year of fellowship and was fascinated by their ability to vibrate not only at the principal frequency (or transmit frequency), but also harmonic frequencies. I was even more fascinated to learn that these properties of microbubbles were being harnessed for localized, ultrasound-directed drug delivery, thrombolysis, and tumor destruction. Despite ongoing pre-clinical and clinical trials using microbubbles for these purposes, the mechanism of action remains poorly understood due to the technical difficulties of imaging circulating microbubbles at a mega-Hertz (imaging) frequency.

My current T32 research fellowship at the University of Pittsburgh aims to address this gap. We are uniquely equipped with a custom-made, ultra-high speed microscopy camera to image individual microbubbles in the peripheral microvasculature in a rodent model at 10 million frames per second. My preliminary results have shown the dynamic interaction between microbubble and microvasculature, as well as the surrounding tissue. For example, while microbubbles remain circular in shape without boundaries, they often become elongated and ellipsoid in shape in the microvasculature due to the compressive forces of the surrounding capillary.

We posit, from this preliminary work, that microbubbles can be used to study biomechanical properties of microvasculature disease, and eventually diagnose microvascular disease. I am already l ooking forward to attending next year's session to share research updates and learn the latest in echocardiography."

The Circulation and Vascular Ultrasound Council looks forward to fostering interest in its activities, both clinical and scholarly, for physicians and sonographers alike. We would encourage any interested cardiovascular ultrasound professionals to apply for our travel grants for the next Scientific Sessions. We look forward to seeing you and to celebrating ASE's 50th Anniversary at the 2025 Scientific Sessions in Downtown Nashville!

Critical Care Echocardiography

from the Sonographers Perspective

*Contributed by **Lindsay Hammond, AAS, RDCS, FASE**, Sanger Heart and Vascular Institute Atrium Health, Charlotte, NC and **Karen Zimmerman, BS, ACS, RDCS, RVT, FASE**, University of Michigan, Michigan Medicine, Ann Arbor, MI*

As POCUS has grown with more widespread and advanced use, the subspecialization of Critical Care Echocardiography (CCE) has emerged.

IN THE 1990s, the improved technology and portability of ultrasound equipment allowed for the practical use of bedside sonography. This growing utility has allowed physicians to bridge the gap of diagnostic uncertainty and better manage their patients. Over the past 30 years, there has been a dramatic increase in the education of sonography for fellows and all clinicians to be able to perform and interpret diagnostic ultrasound exams at the bedside. There are now multiple specialties that explore cardiac point-of-care ultrasound (POCUS) as a tool within their practice.

Today, anesthesiologists, cardiologists, emergency physicians, family practice physicians, hospitalists and many others include cardiac POCUS in their workflow. As POCUS has grown with more widespread and advanced use, the subspecialization of Critical Care Echocardiography (CCE) has emerged. CCE is an advanced cardiac application of POCUS used to enhance diagnostic accuracy, facilitate management, and/or guide bedside invasive procedures in critically ill patients. The National Board of Echocardiography describes these studies as advanced to include Doppler quantification, hemodynamic measurements and assessment of complex heart/lung interactions in the critically ill. Its scope is usually concentrated on cardiac pathology but can include extracardiac structures in the critical care setting such as lungs, splanchnic venous congestion and the abdominal aorta.[1] CCE used by intensivists takes advantage of the timely, portable nature of cardiac POCUS to help guide treatment requiring a higher level of skill in scanning and interpretation.

Sonographers have played an integral part in the advancement of cardiac POCUS and the graduate and post-graduate education needed for its appropriate widespread use. Depending on the hospital system and the structure of medical schools and residency/fellowship programs, cardiac POCUS and CCE take shape in various forms. The increased requirement for imaging skills for CCE has found much overlap in the limited follow-up echocardiograms performed at bedside by the professional sonographer. The sonographer's abilities to perform complex on-axis ultrasound exams with more advanced equipment, allows us to obtain better visualized structures and avoid common pitfalls that physicians in training often find themselves getting into. For example, the sonographer may be better than individuals seeking proper competence in CCE at recognizing artifacts, finding alternate views, optimizing images, or ensuring proper use of contrast echocardiography. Still, integrating the cardiac imaging results into the clinical context that physicians face is essential to proper bedside care. Therefore, a genuine teamwork approach is the most plausible workflow for cardiac POCUS and CCE best practices.

Performing CCE on patients in Cardiac Intensive Care units often involves many challenges and technical difficulties associated with post operative care. Surgical dressings, chest tubes, prosthetic valves, extracorporeal membrane oxygenation (ECMO) placement and weaning processes, along with all mechanical assist devices are an integral part of CCE, which is an advanced cardiac POCUS application. These patients are not only critically ill, but they have also limited windows requiring far from ergonomic scanning techniques and demand proficient understanding of ultrasound physics to obtain on-axis images. These challenges have strengthened the bond of collaboration, mutual trust, respect and teamwork between physician and sonographer, which is essential to patient care.

The following are perspectives are from sonographers with unique roles in different institutions. Each perspective is valuable and set out to achieve one common goal: improve lives through excellence in education and ultrasound.

Lindsay Hammond is the lead sonographer at Carolinas Medical Center (CMC), with Sanger Heart & Vascular Institute in Charlotte, NC. She performs

limited critical care echocardiograms in patients immediately post-op on ECMO, recently implanted LVADs and with temporary percutaneous assist devices. Because Lindsay is not a cardiologist or intensivist, these exams are considered *Consultive* Echocardiography exams. Consultive echocardiography has traditionally taken more time from image acquisition to diagnostic interpretation than a CCE or POCUS exam. In lieu of this issue, she often performs specific Consultive echo exams for intensivists to make decisions while using a technology called *Collaboration Live*. This technology allows a licensed user (the cardiologist), to connect with the ultrasound system and review live, real-time scanning to provide a verbal interpretation through the speakers of the ultrasound system. This state-of-the-art technology allows the sonographer's specific scanning skills obtained by years of experience, to team up with the cardiologist's clinical expertise, and the intensivist's ability to treat their patients. This new partnership technology has become an integral part of their echo lab and is being used in procedures, ICUs and in training for early career sonographers.

Karen Zimmerman is the Perioperative Echocardiography Project Manager in the Department of Anesthesiology at Michigan Medicine, University of Michigan in Ann Arbor. She provides hands-on ultrasound training and education to the critical care, cardiothoracic and surgical fellowship programs according to the ACGME guidelines. During rounds in the cardiovascular ICU, fellows work with the intensivists to obtain images and clues from limited ultrasound windows to answer the day's clinical question. These advanced cardiac POCUS studies performed in the critical care setting often utilize Doppler and include hemodynamic measurements. These studies are interpreted by the intensivist at the bedside and are defined as CCE in the recent recommendations. Timely and technically challenging images are correlated with the patient's clinical situation allowing treatment therapies to be adjusted accordingly. This facilitates an accurate diagnosis based on in-depth clinical understanding of the patient's current condition. There is never hesitation to request subsequent images and reporting by expert sonographer/cardiologist teams.

The physician/sonographer symbiotic relationship continues to evolve and is the most tangible opportunity to address current research agendas, enhancing quality assurance and ultimately patient care. The need for physicians to answer quick questions with ultrasound has somewhat turned the tables, making sonographers the teachers and physicians eager to learn ultrasound. While sonographers may be able to teach image acquisition, the physicians contribute to our education by teaching the clues and therapy options our imaging reveals. This knowledge will only improve our imaging and detective skills, which will continue to be passed on to all types of students and clinicians we encounter in our journey. Communication is key. Teamwork is essential. This interprofessional and inspirational multidisciplinary collaboration is exactly what the American Society of Echocardiography is all about.

When time is of the essence, being able to proficiently access CCE and use it to save someone's life is invaluable.

When time is of the essence, being able to proficiently access CCE and use it to save someone's life is invaluable. It is an honor to share our expertise and hands-on skills with physicians that have continued to share their clinical guidance with sonographers for many years. Go Team!

REFERENCES

1. Kirkpatrick JN, Panebianco N, Diaz-Gomez JL, Adhikari S, Bremer ML, Bronstheyn YS, Damewood S, Jankowski M, Johri A, Kaplan JRH, Kimura BJ, Kort S, Labovitz A, Lu JC, Ma IWY, Mayo PH, Mulvagh SL, Nikravan S, Cole SP, Picard MH, Sorrell VL, Stainback R, Thamman R, Tucay ES, Via G, West FM. Recommendations for Cardiac Point-of-Care Ultrasound Nomenclature. J Am Soc Echocardiogr 2024; 37:9:809-819

2. Kirkpatrick JN, Grimm R, Johri AM, Kimura BJ, Kort S, Labovitz AJ, Lanspa M, Philip S, Raza M, Thorson K, Turner J. Recommendations for Echocardiography Laboratories Participating in Cardiac Point of Care Cardiac Ultrasound (POCUS) and Critical Care Echocardiography Training: Report from the American Society of Echocardiography. J Am Soc Echocardiogr 2020; 33:409-422

Revisiting the Interventional Echocardiography Pathway:

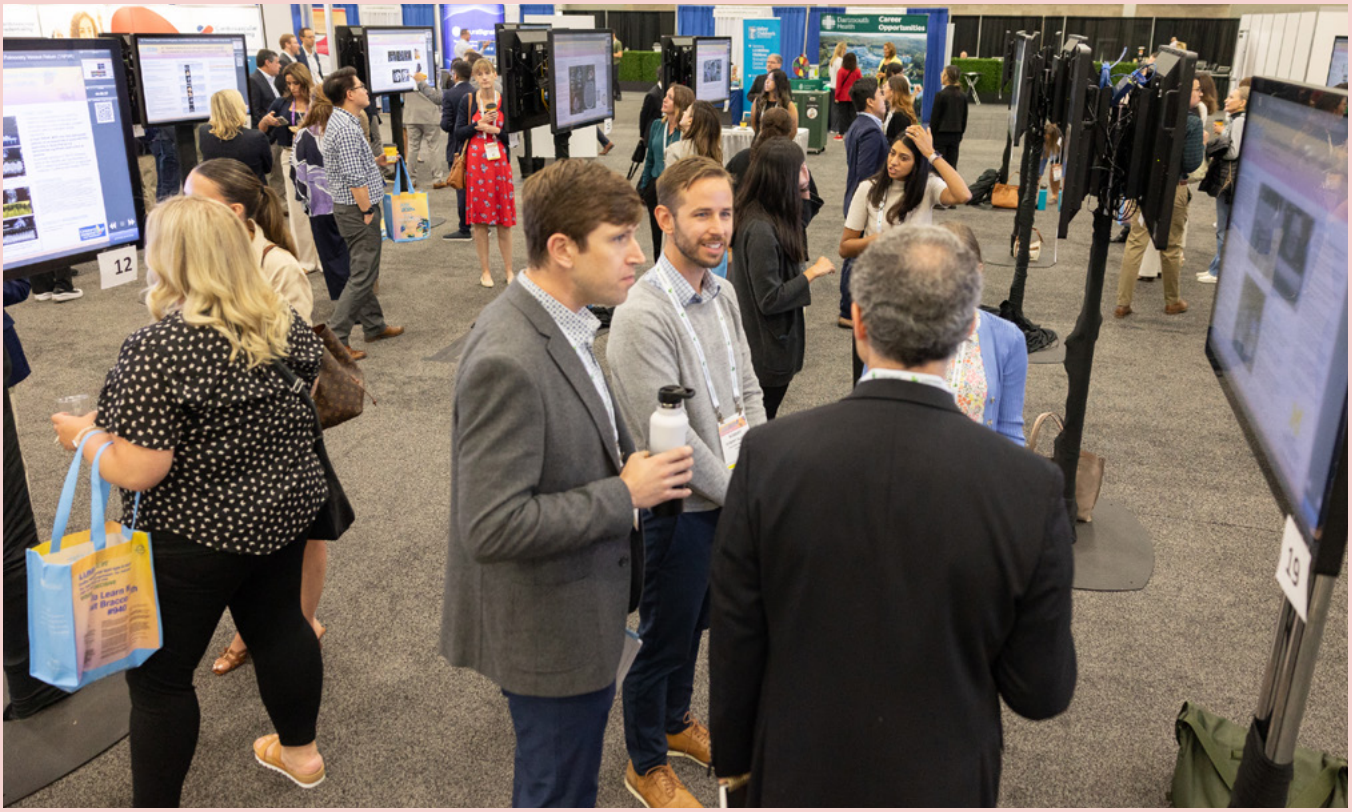
From Inception to Full Force

*Contributed by **Rishi Shrivastav, MD**, Northwestern McGaw Medical Center, Chicago, IL*

The IE pathway of ASE 2024 maintained its momentum with a diverse array of sessions.

SINCE THE INCEPTION of the Interventional Echocardiography (IE) Council in 2023 and its introduction as a distinct pathway at ASE 2023, the IE pathway of ASE 2024 maintained its momentum with a diverse array of sessions. These sessions spanned the full spectrum of developments in interventional echocardiography, from its pivotal role in structural heart interventions to the latest technological advancements in the field. The IE pathway featured nine presentations and two abstract sessions, addressing a broad range of topics, including the ongoing reliance on echocardiography in structural heart interventions and rapidly evolving technological developments.

The first session at the ASE 2024 Scientific Sessions, titled "The Great Debate: TEE vs. ICE for LAAO," set the tone for the conference. Held on Friday afternoon, this session presented a lively and comprehensive discussion on the merits and drawbacks of transesophageal echocardiography (TEE) versus intracardiac echocardiography (ICE) for guiding the implantation of left atrial appendage occlusion (LAAO) devices. Dr. Kiran Belani from Northwestern University Hospital advocated strongly for TEE, citing recent data and common hospital practices while highlighting some pitfalls of ICE. In contrast, Dr. Alan Vainrib from NYU Langone Hospital defended ICE, presenting its advantages over TEE



Scientific Sessions Abstracts

and showcasing cases and data-driven improvements in hospital care metrics. A panel of experts also provided valuable practical insights into using each modality. After a thought-provoking debate, TEE emerged as the favored method, though the discussion highlighted the benefits of multimodality imaging, including computed tomography (CT).

The IE pathway continued with its second session, "Optimizing Secondary Mitral Regurgitation Interventions: Harnessing the Power of Echo." Dr. Renuka Jain from Aurora St. Luke's Hospital in Milwaukee began with an elegant overview of the anatomical considerations in functional mitral regurgitation (MR), detailing ventricular subtypes and echocardiographic parameters critical for patient assessment. This presentation led to a panel discussion where experts shared their approaches to evaluating MR severity and techniques to address common pitfalls, emphasizing the utility of multimodality imaging. Dr. Richard Sheu then presented a challenging case involving a ventricular functional mitral regurgitation intervention using a mitral transcatheter edge-to-edge repair (TEER) device. The panel discussed the reasons for a high mean diastolic gradient and strategies to approach it, with a focus on understanding the patho-anatomy through 3D echocardiographic imaging.

The session titled "Stuck Between a Rock and a Hard Place," which marked the beginning of the second day, addressed a critical topic in interventional echo and cardiology: transcatheter versus surgical intervention for severe mitral stenosis (MS) and MR in the context of severe mitral annular calcification (MAC). Dr. Rob Smith illustrated the anatomical complexities that render the mitral valve unsuitable for transcatheter mitral valve replacement (TMVR). In contrast, Dr. Anas Merdad discussed various transcatheter options, such as TMVR combined with mitral valve leaflet modification and percutaneous mitral balloon valvuloplasty (PMBV), which, although challenging, offer alternatives for patients otherwise deemed ineligible for other therapies. Dr. Philippe Pirabot provided insights into the Heart Valve Consortium (HVC) consensus on the suitability of mitral TEER versus TMVR, particularly for patients with calcific mitral valve pathologies. He also reviewed HVC definitions of Bioprosthetic Valve Dysfunction and Failure (BVD

and BVF), underscoring the importance of structural and functional assessment using echocardiography.

The final session on Saturday, "General Interventional Echo Cases," resumed at 5 PM. This engaging session involved the presentation of complex cases followed by panel discussions. Dr. Nadeen Faza presented a case of calcific mitral stenosis in a symptomatic high-risk patient who underwent a Lampoon procedure followed by TMVR with excellent results. The panel emphasized the importance of multimodality imaging in case planning. Dr. Kyle Lehenbauer demonstrated a case involving a failing bioprosthetic mitral valve with severe stenosis and regurgitation, pre-procedure imaging revealing a high risk of left ventricular tract obstruction. The patient underwent a Lampoon procedure and valve-in-valve TMVR with positive outcomes. Dr. Geraldine Ong presented a case of severe MR and TR in a patient with heart failure exacerbation. The panel discussed managing coexisting MR and TR, eventually opting for simultaneous mitral and tricuspid TEER, which improved both regurgitations' severity.

Sunday morning's session, "The Imaging for Interventional Heart Failure," featured Dr. Mark Lehben, who discussed "Imaging Requirements for Novel Aortic Regurgitation Interventions." Highlighting two cases of severe symptomatic aortic regurgitation treated with TAVR, Dr. Lehben emphasized the role of multimodality imaging, including CT and peri-procedure TTE and TEE. Dr. Markus Scherer then outlined the role of multimodality imaging in planning transcatheter tricuspid interventions and overcoming challenges with TEE due to complex tricuspid valve anatomy. Dr. Jeremy Slivnick presented a case of severe TR managed with transcatheter tricuspid edge-to-edge repair using a TriClip. Dr. Stephen Little concluded the session with a discussion on training the next generation of interventional echocardiographers, referencing the ASE IE Training Statement published in 2023 and emphasizing the skills required for this demanding field.

The session "Multimodality Imaging for TAVR and TMVR," led by a panel of experts, involved presentations and discussions on two challenging cases. Jennifer Betz, RDCS, FASE, described an elderly patient with worsening aortic bioprosthesis indices and hyperattenuated leaflet thickening on CT. Dr. Bhaskar Arora discussed a case of ischemic cardiomyopathy with severe mixed MR, who underwent TMVR with an Intrepid Valve. Both cases sparked passionate discussions on procedural planning and intra-procedural imaging challenges.

Sunday afternoon's session, "The Epidemic of Tricuspid Regurgitation: Imaging to Understand Pathophysiology and Guide Treatment," addressed the growing concern of severe TR. The opening talk by Dr. Scott Chadderson emphasized the scale of significant TR and its associated mortality and morbidity. Dr. Luigi Badano highlighted the importance of accurate TR quantification using echocardiography, whereas Dr. Akhil Narang illustrated the utility of multimodality imaging, including cardiac MRI and CT, for disease assessment and pre-intervention planning. Dr. Edwin Ho discussed a multiparametric approach to device selection for transcatheter therapies. The session concluded with Dr. Anita Sadeghpour presenting a complex case of severe TR and right ventricular

Stephen Little, 35th Annual Edler Lecture: Interventional Echocardiography: A New Subspecialty Unfolds

Muhamed Saric, Interventional Echocardiography Council Chair

The pathway has consistently provided a platform for the adoption and integration of innovative technologies and approaches to enhance patient care

dysfunction, emphasizing the need for careful assessment of right ventricular function in patients presenting late in their clinical course.

Late Sunday afternoon featured the session "Let's Get Pragmatic About Rheumatic," beginning with Dr. Anita Sadeghpour presenting a case of mixed rheumatic and degenerative mitral stenosis, offering practical tips for interpreting echocardiographic studies. Jennifer Mercandetti, RDCS, FASE, described a young postpartum woman with newly diagnosed symptomatic severe rheumatic mitral stenosis who underwent balloon valvuloplasty. Dr. Rachel Bandi presented a case of severe rheumatic mitral stenosis in a middle-aged man, outlining echocardiographic features to guide therapeutic strategy. The expert panel provided valuable insights into diagnosis and treatment approaches throughout these cases.

The final session of the IE section, "Cases in Interventional Echo: Stump the Stars," was a thrilling conclusion featuring intriguing cases. Dr. Offdan Narvaez-Guerra detailed a case of a patient with secundum ASD who presented 2 years after initial ASD occlusion and was eventually found to have a sinus venosus ASD and anomalous pulmonary venous return Dr. Nouran Sorour presented a case involving an elderly woman who had a WATCHMAN device implanted but experienced persistent device-related thrombus after discontinuing Eliquis. Following this, Eric Monahan, RDCS, detailed the case of a man who underwent TAVR for severe aortic stenosis and subsequently developed a new systolic murmur, which echocardiography revealed to be due to a restrictive ventricular septal defect (VSD). Dr. Ethan Senser's case featured a mitral TEER that presented a perplexing challenge: acute right ventricular failure after septal puncture, which necessitated placing an ASD occluder to address an interatrial septal tear, in addition to the planned mitral TEER. The final case of the session involved a patient with both severe mitral regurgitation (MR) and severe tricuspid regurgitation (TR), who underwent simultaneous TEER for both valves, resulting in a significant improvement in the severity of both regurgitations.

In conclusion, ASE 2024 marked a period of continued growth and success for the IE Council. The pathway has consistently provided a platform for the adoption and integration of innovative technologies and approaches to enhance patient care, while also offering valuable insights into the promising future of this ever-evolving field. As we look forward to ASE 2025, the anticipation and excitement for the IE content to remain high.

PCHD Council Updates and

New Member Introductions

Contributed by: ***Rebecca C. Klug, BA, ACS, RDCS, (AE, PE), RT(R), FASE****, Mayo Clinic Rochester, MN;* ***Daniel Forsha, MD, MCS, FASE****, Children's Mercy, Kansas City, MO;* ***Lily Berhe, MHA, RDCS****, Levine Children's Congenital Heart Center;* ***Elena N. Kwon, MD, FASE****, Children's Hospital at Montefiore, Bronx, NY; and* ***Kenan Stern, MD, FASE****, Mount Sinai Children's Heart Center, New York, NY*

2023-24 was an incredible year for pediatric cardiologists earning some of the biggest awards that ASE offers

AS WE HAVE TRANSITIONED into a new ASE year, we would like to welcome the new Pediatric Council members-at-large while saying goodbye and thank you to those rotating off. We'll start with the goodbyes. Jimmy Lu, Shiraz Maskatia, and Rita France have given their time and talents over the last two years to create excellent monthly pediatric content for *Echo* magazine. These articles have ranged from interviews with imaging legends in our field to updates on the new pediatric cardiac imaging fourth year match to sneak previews of the pediatric track of the ASE Scientific Sessions and the PCHD Echo Virtual Conference. We appreciate both their work on *Echo* Magazine articles as well as on the PCHD Council. Others rotating off the PCHD council are: Anitha Parthiban and Keith Collins. We would be remiss if we did not congratulate and provide thanks for some other impressive pediatric contributions around the ASE over the last year. Benjamin Eidem served as his term as the President of the ASE and now transitions into his past president role. Ben is only the second pediatrician to serve as the president of the ASE and his efficient, thoughtful, and friendly style were hallmarks of his productive term. Anitha Parthiban and Adam Dorfman were the chairs of the pediatric track of the ASE Scientific Sessions this year (June 2024) and produced an engaging and novel series of sessions. The new

session format this year brought some additional challenges for the track chairs, and Anitha and Adam met those head on to maintain the pediatric track as one of the highlights of the conference. Melissa Wasserman and Biff Landek once again served as chairs of the PCHD Echo Virtual Conference (September 2023), which focused on sonographer education last year and transitions to a global health concentration for this upcoming year with Shiraz Maskatia taking over for Biff Landek (October 2024). This virtual conference has quickly become a staple of the pediatric echo education annual calendar with evolving content to hit a wide spectrum of fascinating topics.

2023-24 was an incredible year for pediatric cardiologists earning some of the biggest awards that ASE offers such as Nancy Ayres being awarded the Physician Lifetime Achievement Award, Tal Geva earning the Founders Award for Lifetime Achievement in Echocardiography in PCHD, and Leo Lopez being honored with the Meritorious Service Award. These awards were bestowed at the Gala and in front of an appreciative (and pediatric heavy) audience. Shaine Morris was named the Feigenbaum Lecturer for this year's scientific session for her transformative research on "Echocardiography and Deep Phenotyping: Imaging as the Key to Congenital Cardiac Outcomes Research with Little and Big Data."

Here is some information about the new members-at-large on the PCHD council to get to know them a little better.

Lily Berhe, MHA, RDCS, serves as the Cardiology Imaging Manager at the Levine Children's Congenital Heart Center, Atrium Health in Charlotte, North Carolina. An esteemed member of ASE for many years, Lily was honored as an ASE Ambassador in 2023 for her advocacy and contributions to referring new members to join ASE. Her involvement extends beyond ASE; she has made significant impacts in echocardiography education both nationally and internationally. Through World Cardiac Vision, Lily travels to Ethiopia, East Africa every year to provide hands-on training to cardiology fellows and coordinate virtual lectures for Ethiopian cardiologists in collaboration with U.S. counterparts. With a passion for congenital heart imaging, Lily excels in designing innovative echocardiography

LILY BERHE
MHA, RDCS

protocols and reporting templates. She feels privileged to work with the talented sonographers and phenomenal cardiologists at Atrium Health. Outside of her professional life, she is deeply committed to her family and community, organizing an annual free health fair and participating in a youth mentorship program. Lily also finds balance and joy in practicing yoga and hiking.

Elena N. Kwon, MD, FASE, is an assistant professor and the Director of Pediatric and Fetal Echocardiography at the Children's Hospital at Montefiore in the Bronx, New York. Her ASE involvement currently includes serving as a member at large for the Pediatric Congenital Heart Disease Council and a member of the Advocacy Committee. She has been a long-time member of ASE and has had several abstracts presented at the ASE Scientific Sessions in the past. Her clinical interests include fetal echocardiography, 3D echocardiography, and transesophageal echocardiography and she is passionate about Knobology and is an expert

ELENA N. KWON
MD, FASE

at image optimization and preset development. Her time outside of work is spent focusing on her family (husband, son, and dog) and she also finds time for yoga and traveling.

Kenan Stern, MD, FASE, is an Associate Professor of Pediatrics and Radiology at the Icahn School of Medicine at Mount Sinai in New York City, where he is the Director of Non-invasive Imaging, and the Medical Director of the Echocardiography Laboratory for the Children's Heart Center. In addition to his duties in the echo lab, Dr. Stern performs cardiac MRI and is the director of the Pediatric Advanced Cardiac Imaging Fellowship. His journey with ASE started in 2012, when he attended the Scientific Sessions at National Harbor, Maryland. At that meeting he received an honorable mention for the council travel grant award and his consolation prize was being paired with Dr. Mark Friedberg of Toronto Sick Kids, who took him on a whirlwind tour of a "who's who" in pediatric echocardiography. This ended up being far more valuable than the money he missed out on, as it opened up a new world of the larger pediatric and congenital echocardiography community to him. "I have always found that connection with the pediatric echo community to be one of the biggest advantages of ASE membership" says Dr. Stern. His contributions to ASE over the years include presentations at Scientific Sessions, volunteering on the Guidelines and Standards Committee, reviewing for JASE, and preparation of educational materials. He is eager to continue his participation in ASE as a member of the PCHD Council Steering Committee, where he hopes to focus on quality initiatives in pediatric echocardiography. Outside of medicine, Dr. Stern spends his time with his wife, Sarah, a high school English teacher, and their three children, Clara (14), Eliza (12) and Oren (8). Hudson, their Welsh Springer Spaniel, considers himself the 4th child. He loves alpine skiing, dogs, soccer and eating all sorts of different foods in large quantities.

KENAN STERN
MD, FASE

We are fortunate to have such a heavily invested group of PCHD providers and sonographers in our council and the ASE in general. Here's to another great year.

MENTORING with MEANING

ASE Mentors. One of Dr. Benjamin Eidem's pillars during his recent ASE presidency, and a call to action: continue cultivating excellence and innovation in the field of cardiovascular ultrasound through the power of mentorship.

In the fall of 2023, 66 mentors and 71 mentees embarked on their mentorship journey with the ASE Mentor Match program, seeking to improve their skills, but often finding a friend along the way. Mentor Match facilitates six-month, one-to-one mentoring relationships to connect ASE's vast international network of over 16,000 members, offering rising echocardiography talents the opportunity to be guided by experienced professionals. This article showcases some of those experiences, highlighting the personal and professional value of participating in a formalized mentorship program.

As an investment in our member community, ASE has an exciting, new Mentor Match platform launching this fall. Mentees will have the opportunity to self-select their mentor based on a detailed profile and customizable algorithm. Mentors and mentees alike will have access to a variety of training modules to improve their professional skills and mentoring abilities. Additionally, the platform will provide goal-setting tools and milestones to track progress on achieving said goals, so each pair feels invested in their work together.

Whether applying as a mentee or mentor, you'll find that this experience will aid in expanding your network, gaining new knowledge and insights, and enhancing your skillset beyond echocardiography. The next Mentor Match application window will open in November 4, 2024. Please email MentorMatch@ASEcho.org with any questions.

My experience as a mentor with the ASE Mentor Match program has been excellent. Going into the program I did not know what to expect, but the communication was clear, and I thoroughly enjoyed mentoring another sonographer in the field of echocardiography. It is a great way to network and grow for both the mentor and the mentee. I continue to communicate with my mentee now, months after the program ended and will continue to do so. I highly recommend this program for anyone looking to help make a difference in the echo world."

STEVEN WALLING, BS, ACS, RCS, RDCS, FASE

One of the best rewards for a mentor is hearing from a mentee: you are a great mentor. At the beginning of the program, we set goals and arranged a structured biweekly virtual meeting. We covered different subjects in the echocardiography world, such as diagnosis and management of challenging cases and quality improvement of the echo lab. The Mentor Match program brings a solid mutual relationship for sharing experience, skills, and knowledge in a cheerful environment."

ANITA SADEGHPOUR, MD, FACC, FASE

“The ASE Mentor Match program was a game changer for me professionally! I was paired with sports cardiologist Dr. Dermot Phelan. He was instrumental in helping me prepare a professional abstract that was accepted for a national conference. The experience exceeded my expectations, and I’d highly recommend it to sonographers interested in contributing to the field of cardiology.”

BRIAN REYNOLDS, MS, RCS

“The ASE Mentor Match program is an exceptional opportunity to interact with an experienced Echo lover! In my case, I was interested in discussing career advancement pathways and the corresponding skillsets. The program exceeded my expectations, and it was incredibly eye-opening; my mentor not only had experiences in multiple areas of the field, but he was also able to share the detailed nuances of the path I am most interested in. I have made a lifelong friend, I have adjusted my efforts, and since then, I have had superb professional accomplishments thus building up to the next phase of my career. Thank you, ASE, for this amazing opportunity.”

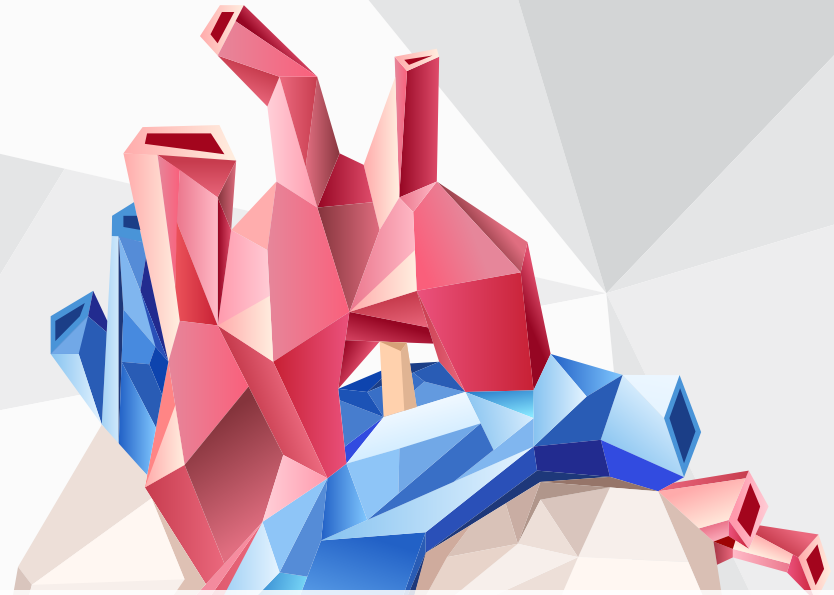
ALEX DIAS, MD, RDCS

“The ASE Mentor Match program opportunity is a great way to meet other echocardiography healthcare team members interested in professional growth. My mentee, Garrett Shoaff (in California) and myself (in Georgia) have been able to virtually meet every other week. With my experience and Garrett’s fresh perspective, we have been able to encourage each other. We chose to continue our meetings after the Mentor Match six-month time frame. We look forward to meeting in person at a future ASE conference!”

JACKIE HELM, ACS, RDCS, RVT

“Mentor Match is an exceptional and reciprocal program for both mentor and mentee. As the mentor, I learned just as much from my mentee as they learned from me. It is critical for rising imagers to have support and guidance from those experienced in the field. However, it is just as important for mentors to keep their pulse on what trainees and early career imagers need and want – this is very dynamic. My experience will certainly help me to mentor others.”

OMAR KHALIQUE, MD, FASE, FACC, FSCCT, FSCMR, FSCAI



Highlights from
the New Update on

IMAGING OF PATIENTS WITH LEFT VENTRICULAR ASSIST DEVICES AND TEMPORARY MECHANICAL SUPPORT

The document titled "*Recommendations for Multimodality Imaging of Patients With Left Ventricular Assist Devices and Temporary Mechanical Support: Updated Recommendations from the American Society of Echocardiography*" was published in the September issue of the Journal of the American Society of Echocardiography. This document provides an updated, comprehensive guide on the use of various imaging modalities to evaluate patients with left ventricular assist devices (LVADs) and other forms of temporary mechanical circulatory support (MCS), building on the "Echocardiography in the Management of Patients with Left Ventricular Assist Devices: Recommendations from the American Society of Echocardiography" published in 2015 under the leadership of Dr. Raymond Stainback.

These updated recommendations reflect the growing importance of imaging in diagnosing, managing, and troubleshooting complications related to these devices, which are increasingly being used to treat advanced heart failure. Some of the key points of the document are highlighted below:

1. **Update on Durable LVADs:** As the HeartMate II™ LVAD (Abbott, Chicago, IL) and the HeartWare LVAD (Medtronic, Dublin, IR) are no longer being implanted, this guideline update focuses on the unique aspects of the fully magnetically levitated durable HeartMate3™ (Abbott, Chicago, IL), currently the only durable LVAD approved by the U.S. Food and Drug Administration for use in adults.

2. **Temporary Mechanical Circulatory Support:** In addition to LVADs, the document discusses the role of imaging in managing patients with temporary MCS, such as intra-aortic balloon pumps, extracorporeal membrane oxygenation, and percutaneous ventricular assist devices. Each modality comes with specific challenges that require careful imaging evaluation to ensure appropriate device function and patient management.

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3. Echocardiography as a Primary Tool: Echocardiography, both transthoracic and transesophageal, remains a cornerstone for evaluating patients with LVADs and temporary MCS. The document emphasizes the role of echocardiography in preoperative assessment, intraoperative guidance, and postoperative monitoring. It is essential for determining device positioning, evaluating heart function, and diagnosing potential complications such as thrombosis, device malfunction, or bleeding.

4. Multimodality Imaging: While echocardiography is central, the document encourages the use of other imaging modalities—such as computed tomography and magnetic resonance imaging—in cases where echocardiographic windows are inadequate or when more detailed structural assessments are needed.

5. Recommendations for Standardization: The guidelines stress the need for standardized protocols to ensure consistent and high-quality imaging.

Figures 1 and 2
Recommendations include specific views and measurements that should be obtained during routine evaluations of patients with LVADs or temporary MCS devices. These protocols aim to facilitate accurate and reproducible assessments, ultimately improving patient outcomes. These checklists and other essential information are presented in Tables in the main document and in the supplementary material.
(These graphics are from Recommendations for Multimodality Imaging of Patients With Left Ventricular Assist Devices and Temporary Mechanical Support: Updated Recommendations from the American Society of Echocardiography, published in the September 2024 Journal of the American Society of Echocardiography. Reprinted with permission from Elsevier Inc.)

In conclusion, this document provides a detailed, updated framework for the role of imaging in managing patients with LVADs and temporary MCS. It underscores the importance of a multimodal imaging approach, with echocardiography at its core, while integrating newer technologies to ensure comprehensive assessment, optimize device performance, and manage complications effectively.

In conclusion, this document provides a detailed, updated framework for the role of imaging in managing patients with LVADs and temporary MCS.

FIGURE 1: LVAD/ TMCS Sonographer Checklist Worksheet

Ordering physician/team identified and documented contact information

Device type with device name noted on worksheet and annotated on screen along with device speed

Durable LVAD
- HM3 or
- HVAD or
- HM-II

TMCS device

LV support
- IABP
- Impella CP or
- Impella 5.5

RV support
- Impella RP or
- Impella RP Flex or
- ProtekDuo or
- Right heart pump (Abiomed or Centrimag)

Biventricular support
- VA ECMO alone
- VA ECMO plus LV support device above
- RV support device plus LV support device

Study type being ordered
- Surveillance (no speed change or repositioning planned)
- Problem solving at baseline speed only
- Problem solving at baseline + other speed change testing
- Recovery

Other key clinical history/information related to study indication noted

Device implantation date documented

Device alarms: if present, type of alarm identified
- Low flow
- High flow/high power
- PI event
- Suction and/or low volume alarm
- Position alarm (wrong or unknown position, e.g., Impella devices)
- Sudden pump stop

Anticoagulation therapy adequate if low pump speeds tested

Designated person and contact noted to change pump speed or reposition pump (Impella)

Device speed changes noted on worksheet and annotated on screen

Blood pressure (arterial line or cuff or Doppler) noted on worksheet and annotated on screen (obtained by trained individual at time of and after the exam if speed changes made)

Staff supervision: appropriate staff identified to perform speed changes; safety endpoint recognition (e.g., low flow, suction event, hypo/hypertension); device repositioning

Identified reasons not to proceed with speed change or device position change
- -Aortic root thrombus detection (lowering speed could open AV)
- - LV thrombus (pushing in the Impella device and thrombus transit complication)

Endpoint for speed change testing exams
- Protocol completion
- Change in clinical status (hypo/hypertension, new symptoms or signs)
- Acquired device alarm during testing
- Acquired signs of excessive ventricular unloading or suction event during the exam
  - -decrease in LV size (typically LVID <3 cm) or acquired small RV (right-sided devices)
  - -interventricular septum shifting leftward (left-sided devices) or rightward (right-sided devices)
- Worsening of left and/or right shunting by color Doppler in the setting of VSD management
- Cannula flow reversal with recovery exam at low pump speed

AV = Aortic valve; ECMO = Extracorporeal membrane oxygenation; HM3 = HeartMate 3™ left ventricular assist device; HM-II = HeartMate II™ left ventricular assist device; HVAD = HeartWare left ventricular assist device; IABP = Intraaortic balloon pump; LV = Left ventricular/ventricle; LVAD = Left ventricular assist device; LVID = Left ventricular internal diameter; RV = Right ventricular/ventricle; TMCS= temporary mechanical circulatory support; VA = Veno-arterial; VSD = Ventricular septal defect

FIGURE 2: Appendix Table. Checklist for LVAD Implantation

TTE/TEE PREPROCEDURE

GOALS: A complete preimplantation examination should be performed to rule out hemodynamically significant valvular lesions, intracardiac shunts and thrombus, and evaluate baseline RV function.

- LV: size, systolic function, presence of thrombus
- LA: size, presence of LA or LAA thrombus
- RV: size, systolic function, catheters/leads
- RA: size, presence of thrombus, catheters/leads
- IAS: 2D, color flow Doppler, agitated saline bubble study. Special attention in patients with atrial septal aneurysm and Chiari network. Consider reevaluating after initiation of CPB.
- TV: Evaluation of tricuspid regurgitation includes assessment of the tricuspid annulus, tricuspid leaflet tethering, and position and motion of IAS and IVS during the cardiac cycle.
- AV: AR may be underestimated in the presence of elevated LV diastolic pressure and low systemic blood pressure. Re-evaluate after institution of CPB, which may mimic the hemodynamic conditions during LVAD support.
- MV: mitral stenosis may be underestimated by transmitral gradients in the presence of low cardiac output. Consider planimetry.
- Aorta: screen for aneurysm, atheroma, or dissection at all levels.

TTE/TEE POSTPROCEDURE

GOALS: The same elements of the preimplantation examination should be reevaluated in the post-implantation period, especially intracardiac shunts, degree of TR, degree of AR, and RV function.

- LV: size, presence of air, inflow cannula position by 2D, evaluation of flow by CFD and spectral Doppler
- LA: size, assess LAA
- RV: size, systolic function
- RA: size, presence of thrombus, catheters/leads
- IAS: repeat evaluation for intracardiac shunt
- The position of the IAS and IVS and the relative size of the LV and RV provide information regarding causes of decreased LVAD flow.
- Leftward shift of the IAS and IVS, decreased LV size, RV dilation and dysfunction indicate decreased preload to the LVAD due to RV failure.
- Rightward shift of the IAS and IVS, dilated LV, AV opening with every beat, persistent severe MR, indicate inadequate LV unloading (increase LVAD speed, check position of inflow cannula).
- Decreased LV and RV sizes may indicate decreased LVAD preload in the setting of hypovolemia or extrinsic compression.
- TV: reevaluate TR
- AV: reevaluate AR, degree of AV opening
- MV: reevaluate MR
- Aorta: rule out iatrogenic dissection, evaluate outflow graft-to-aorta anastomosis by 2D, CFD, and spectral Doppler
- Identify outflow graft adjacent to RA and RV

2D = Two-dimensional; AV = Aortic valve; AR = Aortic regurgitation; CPB = cardiopulmonary bypass; CFD = Color flow Doppler; IAS = Interatrial septum; IVS = Interventricular septum; LA = Left atrial/atrium; LAA = Left atrial appendage; LV = Left ventricular/ventricle; LVAD = left ventricular assist device; MR = Mitral regurgitation; MV = Mitral valve; RA = Right atrial/atrium; RV = Right ventricular/ventricle; TEE = Transesophageal echocardiography; TTE = Transthoracic echocardiography; TV = Tricuspid valve.

New RECOMMENDATIONS FOR CARDIAC POINT-OF-CARE ULTRASOUND NOMENCLATURE

Clinicians across numerous specialties have utilized cardiac point-of-care ultrasound (POCUS) to make quick, real-time decisions at the bedside. However, its development in isolation across different fields has led to varied and inconsistent terminology.

This inconsistency makes it difficult to understand what specific examination was performed, what it entailed, and which pathologies were assessed. As a result, clinicians may be reassured by a 'normal' result, even though certain conditions may not have been evaluated. The use of different terms for similar exams has caused confusion about the scope, methods, and focus of these assessments.

Recognizing the need to reconcile the cardiac POCUS nomenclature, the American Society of Echocardiography (ASE) has partnered with several major

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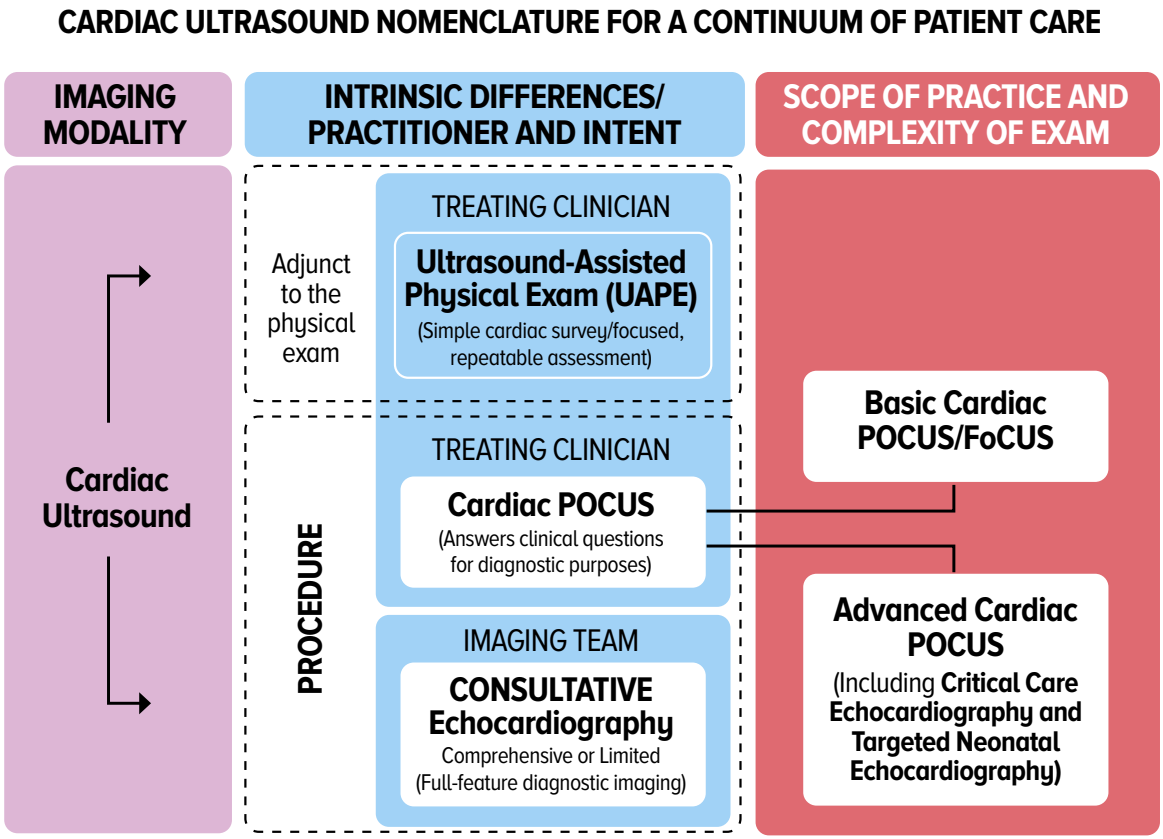
medical societies, including the American College of Chest Physicians, the American College of Emergency Physicians, the American Institute of Ultrasound in Medicine, the American Society of Anesthesiologists, the American Thoracic Society, the Society of Cardiovascular Anesthesiologists, the Society of Critical Care Medicine, the World Interactive Network Focused on Critical Ultrasound, and a medical linguist. They employed an iterative process to contextualize and standardize a nomenclature for cardiac POCUS. The goal of the writing group was to establish a deliberate vocabulary that is unrelated to any specialty, ultrasound equipment, or clinical setting to enhance consistency throughout the academic literature and patient care settings. Their collective effort resulted in the development of a standardized nomenclature for cardiac POCUS, published in September of 2024. These guidelines aim to promote clarity in communication, reduce patient safety risks, and improve consistency in documentation and training.

The Evolution of POCUS Terminology

Historically, a variety of terms have been used to describe bedside cardiac ultrasound exams. Names like "focused transthoracic echocardiogram," "emergency echo," "cardiopulmonary limited ultrasound," "basic point-of-care echocardiography in critical care," and "cardiac POCUS" have all been employed by different specialties. While these terms may have been helpful in the initial stages of POCUS's integration into practice, they have also led to misunderstandings. Without knowing exactly what the POCUS examination entailed, patients might assume a normal result means that every potential pathology was evaluated when, in fact, certain aspects were not examined at all.

Figure 1. Cardiac Ultrasound Nomenclature for a Continuum of Patient Care
(This graphic is from Recommendations for Cardiac Point-of-Care Ultrasound Nomenclature, published in the September 2024 Journal of the American Society of Echocardiography. Reprinted with permission from Elsevier Inc.)



Key Recommendations: A New Vocabulary for Cardiac POCUS

The Writing Group recommended a standardized, pragmatic, and consistent nomenclature to describe different forms of cardiac ultrasound, including "cardiac POCUS," "consultative echocardiography," and "ultrasound-assisted physical examination" *(Figure 1)*.

The term **Cardiac POCUS** broadly refers to the acquisition, interpretation, and clinical integration of ultrasound imaging performed by the treating clinician, independent of location, device, or specialty. Within this, the distinction between **basic cardiac POCUS** (also referred to as FoCUS, or Focused Cardiac Ultrasound) and **advanced cardiac POCUS** is based on the scope and complexity of the examination. Basic cardiac POCUS/FoCUS involves qualitative assessment using standard cardiac ultrasound views, such as the parasternal long and short axes, apical four-chamber, and subcostal views, and focuses on answering specific clinical questions, such as assessing ventricular size and function, volume status (especially in conditions like congestive heart failure), and pericardial fluid, using basic imaging modalities like B-mode (grayscale). In contrast, advanced cardiac POCUS incorporates additional imaging techniques such as color and spectral Doppler and M-mode, allowing for both qualitative and quantitative assessments of more complex pathologies. These advanced exams can quantitatively assess intracardiac pressures and other more detailed parameters. **Critical care echocardiography (CCE)** is another advanced form of Cardiac POCUS used by clinicians treating critically ill patients to enhance diagnostic accuracy and guide bedside procedures, particularly in the emergency, perioperative, or ICU settings. CCE includes Doppler quantification and assessments of complex heart-lung interactions (in mechanically ventilated patients) and hemodynamic measurements in the critically ill. Both basic and advanced cardiac POCUS require structured documentation and image archiving, although archiving is especially crucial for advanced exams where comparison of quantitative measurements is important. Training is key to ensure that clinicians are proficient in the appropriate modalities for both basic and advanced POCUS. The practitioner's proficiency must be commensurate with the modalities employed and the complexity of the exam.

One of the guideline's key goals is to help clinicians integrate cardiac POCUS seamlessly into routine patient care, particularly in acute settings like the emergency department or intensive care unit.

Consultative echocardiography differs from cardiac POCUS primarily in who performs and interprets the exam. They usually differ practically in purpose/indication, relative scope, modalities used, and specialty and training level of operators. While cardiac POCUS is conducted by the treating clinician at the bedside, consultative echocardiography is performed by a separate team, typically in an echocardiography lab, involving sonographers or cardiologists.

Ultrasound-Assisted Physical Examination (UAPE) refers to the use of ultrasound as an extension of the physical exam to quickly survey the heart and support other exam findings. Unlike cardiac POCUS, which is a diagnostic procedure aimed at addressing specific clinical questions, UAPE serves as a simple, exploratory tool. While UAPE and cardiac POCUS share similar equipment and views, UAPE is not a stand-alone diagnostic procedure and typically does not require routine image archiving. UAPE may be used for repeated assessments, such as evaluating jugular venous pressure, while cardiac POCUS is used to establish or rule out diagnoses, often requiring documentation and archiving for future reference.

PRACTICAL APPLICATIONS

Clinical Integration and Documentation

One of the guideline's key goals is to help clinicians integrate cardiac POCUS seamlessly into routine patient care, particularly in acute settings like the emergency department or intensive care unit. For example, a basic cardiac POCUS exam can be quickly performed to assess a patient in shock, helping to

The new recommendations for cardiac POCUS nomenclature are designed to promote clarity in communication, reduce patient safety risks, and improve consistency in documentation and training, by creating a shared, standardized vocabulary.

guide immediate management decisions. If further evaluation is needed, such as a more comprehensive echocardiogram or right heart catheterization, the cardiac POCUS findings can guide these referrals. Documentation is another area where clarity is essential. The guideline recommends clear, structured reports for each cardiac POCUS examination, identifying whether it was a basic or advanced cardiac POCUS, CCE, or other types of exam. UAPE should be documented in a progress note, as findings on a physical exam would be, and not in a procedure note. Furthermore, image archiving is recommended according to local requirements and capabilities to enable future comparison. The ability to track changes over time is especially important in monitoring chronic conditions or the effects of treatments. Periodic review for quality assurance is recommended for all cardiac ultrasound exam types.

Training

While ultrasound education is becoming a standard part of medical training in many countries, there are no universally accepted guidelines for cardiac POCUS training. The National Board of Echocardiography has defined the necessary competencies for CCE, and the Writing Group emphasizes the need for standardized nomenclature and training to ensure consistency and patient safety. Both UAPE and cardiac POCUS should be part of formal training programs and quality improvement efforts.

Extracardiac POCUS Nomenclature

Ultrasound of other organ systems, such as the lungs or abdominal aorta, can complement cardiac POCUS, as seen during the COVID-19 pandemic. While these exams are valuable, they fall outside the core definition of cardiac POCUS. They may be documented as part of broader evaluations, such as "cardiac POCUS with lung ultrasound."

Looking Ahead: New Technologies in POCUS

As the field of ultrasound continues to evolve, particularly with the advent of **artificial intelligence (AI)** and **wearable ultrasound devices**, maintaining clarity in terminology will be even more important. AI is already showing promise in helping less experienced practitioners obtain and interpret ultrasound images, while wearable devices could one day allow continuous cardiac monitoring in a range of settings. The guideline also addresses how these emerging technologies will fit into the existing nomenclature. For example, the use of AI in cardiac POCUS should be described as AI-assisted cardiac POCUS, and wearable devices—although outside the current definition of POCUS—could be incorporated into future versions of the nomenclature as the technology advances. Remote-controlled scanning in cardiac POCUS involves using robotic systems guided by remote specialists, which is particularly useful in low-resource settings, but is currently considered outside the definition of traditional cardiac POCUS.

Conclusion: Clear Terms for Safer Care

The new recommendations for cardiac POCUS nomenclature are designed to promote clarity in communication, reduce patient safety risks, and improve consistency in documentation and training, by creating a shared, standardized vocabulary. As cardiac POCUS becomes more integrated into everyday clinical practice, these guidelines will help ensure healthcare practitioners across specialties can communicate more clearly about the care they deliver. Standardizing these terms also paves the way for future innovations in the field, ensuring that patient safety remains the top priority as technology and practice evolve.

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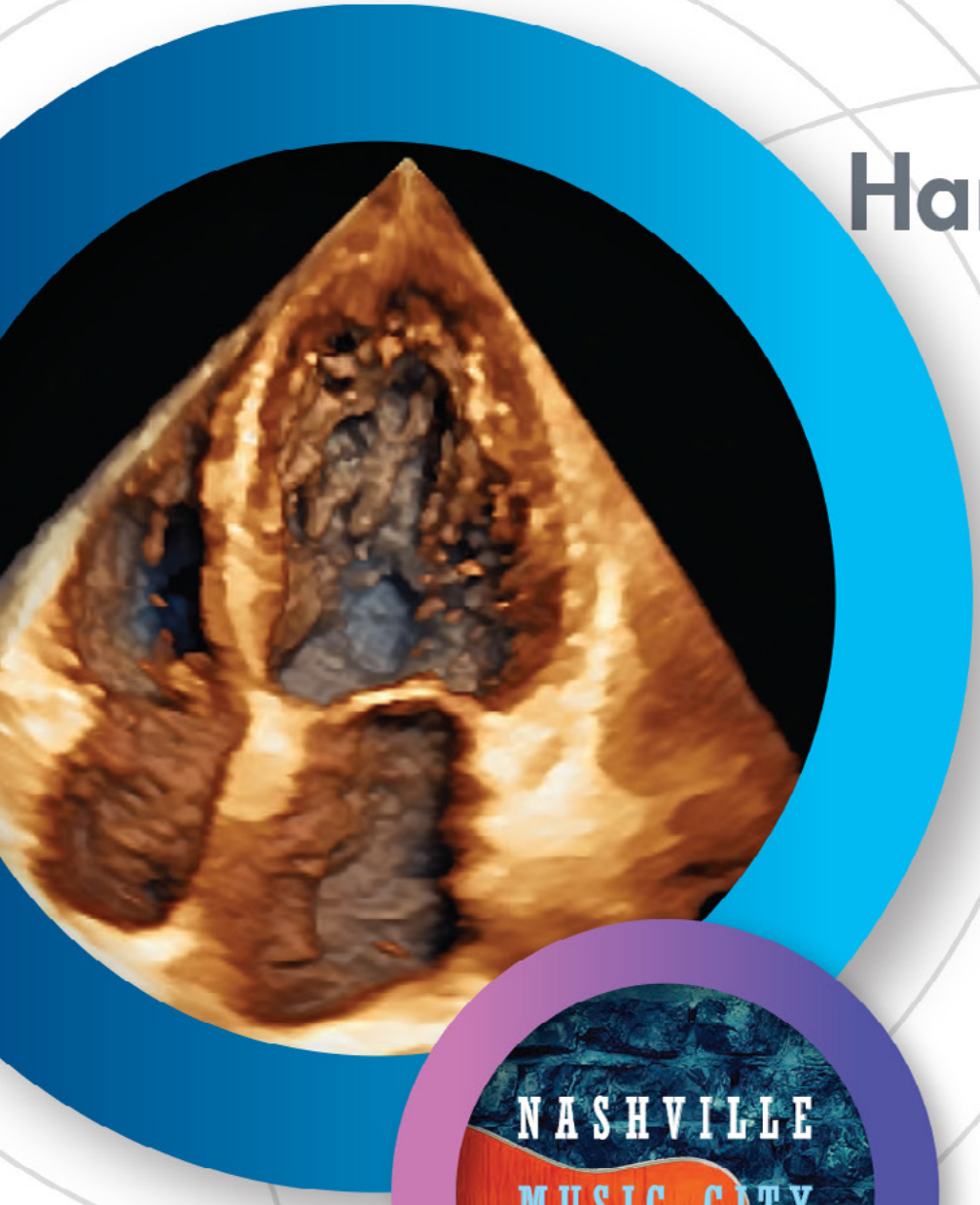

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