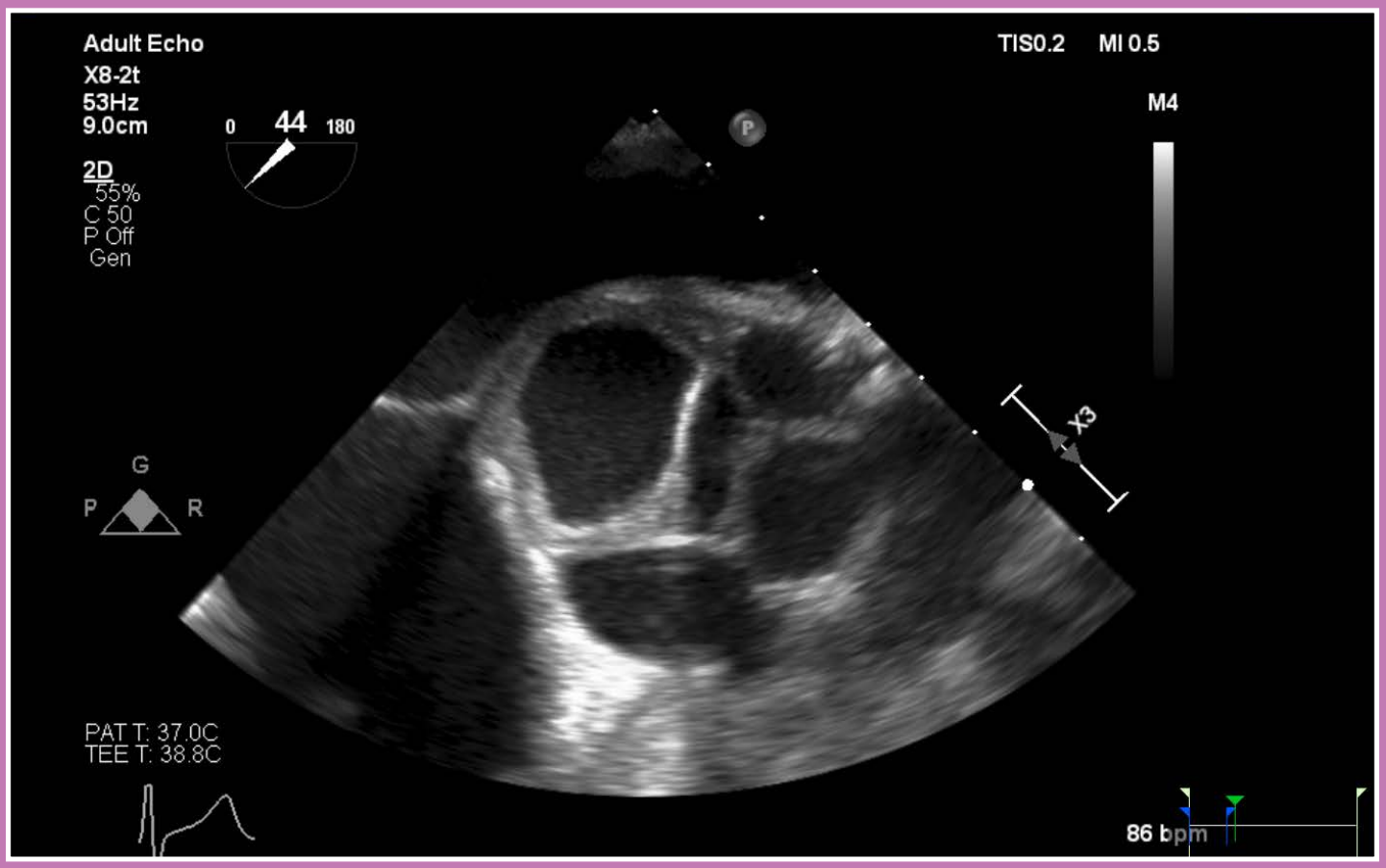
ECHO



VOLUME 13 ISSUE 6 **JUNE 2024**

2024 EDUCATION CALENDAR

CONTENT AVAILABLE NOW

Registered Physician in Vascular Interpretation (RPVI) Online Review Course

An overview of all vascular imaging modalities for board review, introductory learning, or as a review for experienced imaging readers

25th Annual ASCeXAM Review Course Virtual

Jointly provided by ASE and the ASE Foundation

SEPTEMBER 2024

SAVE THE DATE

4th Annual Advanced Imaging Techniques for Sonographers

September 7-8, 2024
Virtual Experience

Jointly provided by ASE and the ASE Foundation

OCTOBER 2024

SAVE THE DATE

12th Annual Echo Florida

October 12-14, 2024
Disney's Grand Floridian Resort & Spa
Orlando, FL

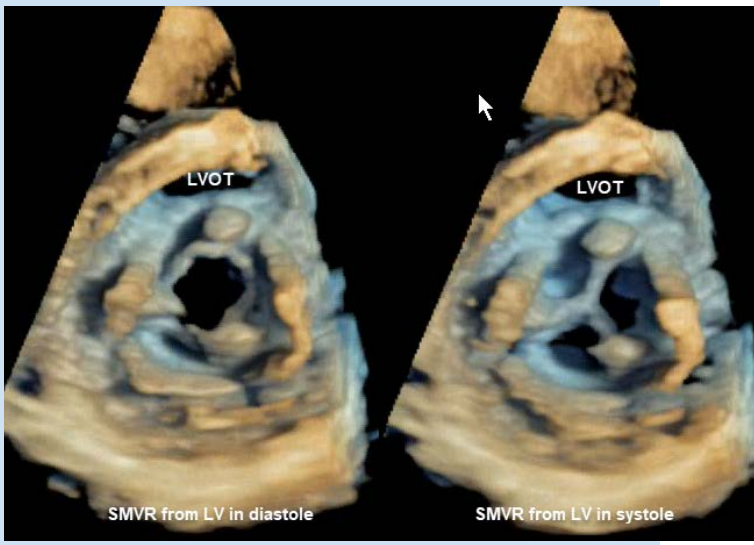
Jointly provided by ASE and the ASE Foundation

SAVE THE DATE

3rd Annual Echo in Pediatric & Congenital Heart Disease

October 26-27, 2024
Virtual Experience

Jointly provided by ASE and the ASE Foundation



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

This text also appears in the June JASE.
OnlineJASE.com

Contents

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Cover art: “Aortic Valve-in-Valve” John McNeil, MD, FASE and Amanda Kleiman, MD, University of Virginia Health System, Charlottesville, Virginia

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.

REFLECTIONS ON THE PAST YEAR AS YOUR ASE PRESIDENT: TRULY ANOTHER UNFORGETTABLE JOURNEY

Contributed by ***Benjamin W. Eidem, MD, FASE****, Director of Pediatric and Congenital Echocardiography, Mayo Clinic and Professor of Pediatrics and Medicine at Mayo Clinic College of Medicine, Departments of Pediatrics and Cardiology, Rochester, MN*

As I reflect over the past year as your ASE President, I can't help but remember my initial President's message detailing my "unforgettable journey" as an ASE member over the past 25 years. It has been a similar unforgettable journey during this past year that I would like to highlight in my final President's message.

My incoming vision for my year as President focused on two foundational questions: (1) What do individuals want/need to become ASE members, and (2) How do individuals grow at ASE? My goals to address this value proposition for our Society have centered on three important initiatives: "ASE Matters," "ASE Mentors," and "ASE Educates."

> "For me personally, this year has been a tremendous opportunity to be ASE's ambassador internationally in my role as President. "

A considerable amount of activity over this past year has centered on this first initiative, "ASE Matters." Areas of focus have included (1) increased opportunities in all areas of our Society for membership involvement, (2) new institutional membership offerings to facilitate and retain ASE membership, (3) transition to a new association management system (AMS database) to better engage our membership, (4) robust ASE advocacy efforts to support the use and users of cardiovascular ultrasound, (5) increased focus on international membership growth and global interaction including growth of our International Alliance Partner program, and joining the World Heart Federation, (6) expansion of our IRT member partners, and (7) expansion and considerable growth in our social media footprint. Our Society's commitment to research

and innovation also continues to expand, including involvement in the FDA TAP program, ongoing development and growth of the ImageGuideEcho Registry, and ongoing grant funding opportunities to continue to foster and support the research priorities of our Society.

To address my second initiative, "ASE Mentors," our Society will soon launch a reimagined and redesigned mentorship program that will enable all areas of our Society to actively be involved in the mentorship process. Our mentorship program will include an enhanced matching process for mentees and mentors as well as thoughtful and systematic training and support for both participants in the mentorship relationship. I would like to personally thank our Mentorship Task Force as well as our Leadership Academy Capstone participants for their tremendous efforts over this past year to make our mentorship program a reality. I hope that many of you will avail yourself, either as mentees or mentors, of this exciting opportunity for growth at ASE.

For my third and final initiative, "ASE Educates," the primary focus has been on adult sonographer training in adult congenital heart disease (ACHD). I am pleased to report that there has been significant progress in several areas to address this initiative including (1) incorporation of CHD-focused content into our live ASE courses, (2) the publication of focus issues on Pediatric & CHD (JASE, February 2024) and ACHD (CASE, March 2024), (3) the PCHD virtual course's primary focus on sonographers and imaging ACHD, (4) the newly published neonatal and pediatric guidelines and standards documents and an upcoming ACHD guidelines and standards document, and (5) a newly developed ASE educational offering on PCHD Microlessons on our ASE Learning Hub. Several additional educational offerings in CHD, as well as the development of institutional pilot programs to offer on-site education, and the establishment of hands-on training opportunities nationally for sonographers are all in the planning process as well. For me personally, this year has been a tremendous opportunity to be ASE's ambassador internationally in my role as President. I have had the honor of interacting with international faculty and colleagues in Seoul, Korea at the 30th annual Korean Society of Echocardiography meeting (held together with Asian-Pacific Association of Echocardiography's 10th annual meeting) as well as in Himeji, Japan at the Japanese Society of Echocardiography meeting. The World Congress of Pediatric Cardiology and Cardiac Surgery in Washington, D.C,. brought together over 5,000 attendees from more than 110 countries, and ASE was able to play an important role in this setting. I have also had opportunities to speak virtually in China and soon in Brazil. In closing, I want to thank our amazing ASE staff for their tireless support of me and for our Society. The most wonderful perk of being President of our Society has been the opportunity to interact daily with all our ASE staff. Again, I want to express a heartfelt thank you to all our ASE membership for allowing me to serve as your President for this past year. I look forward to continued interactions with all of you as we continue our unforgettable journey together at ASE!

> "The most wonderful perk of being President of our Society has been the opportunity to interact daily with all our ASE staff."

This article has been adapted from the June JASE article OnlineJASE.com

Benjamin W. Eidem,
MD, FASE
ASE President

Sonographer

VOLUNTEER OF THE MONTH-JUNE

Congratulations

Karen Zimmerman, BS, ACS, RDCS (AE, PE), RVT, FASE

Department of Anesthesiology Perioperative Echocardiography Project Manager
University of Michigan, Michigan Medicine

Q
A

When and how did you get involved with cardiovascular ultrasound?

I saw my first cardiac ultrasound machine in 1981 and was fascinated that someone could tell anything about the heart based on spikes, dots, and squiggly lines. I moved to a small town in northern Michigan where I started working as an ECG/stress tech while also performing PFTs and Holter monitor studies. We had this big old M-mode machine which printed out long strips of these squiggly lines on thermodilution paper for a cardiologist to interpret. Our new cardiologist, David MacIntosh, DO, who was finishing his fellowship brought the first 2D machine with him and patiently taught me echo. Next thing you know we also had color! By around 2000, I started working with mitral surgeon Dan Drake, MD. I watched him figure out how to repair mitral valves by studying crazy images on VHS tapes. We acquired our first 3D machine in 2008 and dove into 3D imaging for mitral valve repair. We formalized axial imaging based on carefully defined long-axis and commissural views. This provided great detail that dramatically enhanced the ability to repair complex mitral valve pathology, aortic and tricuspid valve disease, HCOM, ASDs, VSDs, etc. This led us to creation of a 3D imaging program for both surgical and transcatheter structural heart programs...and down the yellow-brick road.

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

Currently, I am the Michigan Medicine Department of Anesthesiology Perioperative Echocardiography Project Manager at the University of Michigan in Ann Arbor. I work with cardiothoracic anesthesia fellows and faculty on Perioperative Transesophageal Imaging QA and education. I also work with the Critical Care Ultrasound anesthesia program teaching transthoracic POCUS.

> **“Volunteering for ASE has led to life-long friendships and resources that helped to guide and inspire me throughout my career.”**

"With the addition of artificial intelligence there will be more automation and algorithm sophistication that will guide patient care while easing the physical burden on sonographers on the front lines."

When and how did you get involved with the ASE?

I joined ASE in 2012. I was very passionate about our imaging adventures and wanted to be more involved. I applied for a position on the COPE Council, received a travel grant, and was given my first opportunity to present a Bicuspid Marfan case with a dilated aortic root and MR at the Scientific Sessions in Minneapolis in 2013. I honestly thought I would have a heart attack speaking in front of all these incredibly intelligent people involved in echocardiography. I went alone, knew no one, and was welcomed and inspired by all! I definitely had found my peeps and did not have a heart attack!

Why do you volunteer for ASE?

ASE is a group of wonderful people absolutely passionate about echo, just like me! Together we could explore, discover, work on projects, share insights and tips to actually make a difference in patient care. No one attends a Scientific Sessions who is not excited about echo. It is a wonderful thing to be around happy exciting peers that share the same enthusiasm. Volunteering for ASE has led to life-long friendships and resources that helped to guide and inspire me throughout my career.

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?

My latest role will be on the Critical Care Council where I hope to contribute to the utility, education and safety of the growing field of POCUS.

I have served on the Perioperative Echocardiography Council (COPE), Cardiovascular Sonography Council, Education Steering Committee, education projects such as TEE in Structural Heart and contributor and reviewer for Advanced Cardiac Sonographer Review courses DVDs, Scientific Sessions Planning Committee, writing groups for *Guidelines for the Evaluation of Regurgitation After Percutaneous Valve Repair or Replacement*, and *Guidelines for the Use of Transesophageal Echocardiography to Assist with Surgical Decision-Making in the Operating Room*.

My greatest efforts went into the creation of the CASE: Cardiovascular Imaging Case Reports journal with my partner Leonardo Rodriquez, MD. I remain on the editorial board as a Founding Editor-in-Chief.

Locally, I serve on the Michigan Society of Echo steering council and the Michigan Chapter of American College of Cardiology Cardiovascular Team Committee.

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

I can only say "Just Do It!" ASE will change your life, give you passion, inspiration, reason and a mission for what you can do with echo. It will open doors for new opportunities, friendships, and lead you to a place where you truly can make a difference.

What is your vision for the future of cardiovascular sonography?

The sky is the limit. Advances coming in ultrasound technology are mind-boggling. We can see more than ever before. With the addition of artificial intelligence there will be more automation and algorithm sophistication that will guide patient care while easing the physical burden on sonographers on the front lines. It is indeed an exciting time. Together we truly are making a difference! Go Team! Thank you ASE!

Case Competition

Sponsored by the ASE Cardio-Oncology Specialty Interest Group (SIG)

Bring your best case!

You can send your case to Christine Gil at CGil@ASEcho.org with the subject line "Case Competition Cardio-Oncology SIG."

Deadline: August 30, 2024

- One (1) "main" image/video, accompanied by short text of 50 words or less, describing the situation and asking what the main image shows (see current quiz on CASE homepage for an example).
- Answer text of up to 150 words, indicating the correct answer and how the main image leads the reader to that answer.
- Up to four (4) additional images/videos, along with additional explanatory text of up to 150 words.
- Submit as a Word document, with images embedded for placement purposes, plus all images/videos also supplied as individual JPG/TIF and/or MP4/AVI files (can use a file sharing link if needed).
- Maximum number of authors allowed is three (3).

The cases will be reviewed by an expert committee.

The first or senior author needs to be an ASE member and also a member of the cardio-oncology SIG.

Results: October 30, 2024

The top case will be posted on the CASE homepage as an Unlock the CASE quiz.

The Role of Interventional Echocardiographers in Pediatric Cardiology:

It All Started with the Babies!

*Contributed by **Ruchira Garg, MD, FASE**,*
Cedars-Sinai Medical Center, Los Angeles, CA

In the world of pediatric cardiology interventions, the premature infant with a patent ductus arteriosus (PDA) is the newest kid on the block.

IN THE WORLD OF pediatric cardiology interventions, the premature infant with a patent ductus arteriosus (PDA) is the newest kid on the block. But this is not a new story. The very first congenital cardiac procedure was surgical PDA ligation in a seven-year-old girl, performed by Dr. Bill Gross in 1938 in Boston Children's Hospital[1]. Now, 86 years later, through remarkable advances in equipment, technology and operator expertise, we achieve transcatheter PDA closure in babies < 600 grams. The journey is a lesson in pediatric and congenital cardiac interventions, and the crucial role of "interventional echocardiography" to advance these procedures.

After Dr. Gross performed that first off-pump cardiac surgery, a German physician Porstmann, in 1967, first introduced the novel procedure of closure of the PDA "without thoracotomy[2]." He used an Ivalon foam plug to close the ductus via arterial cutdown through an 18 F femoral arterial sheath. Nearly a decade later, Dr. Rashkind, at Children's Hospital Philadelphia, employed a percutaneous approach to close the PDA in a 3.5 kg infant[3]. The novel device eventually developed into the double umbrella Raskind PDA Occluder System.The "Grandfather" of cardiac intervention, most of us know him through the eponymous "Raskind balloon atrial septostomy," an incredibly innovative and revolutionary procedure that floats a balloon-tipped catheter through the

femoral vein of a critically cyanotic infant with complete transposition of the great arteries. After passing the life-saving catheter through the restrictive patent foramen ovale, inflating the balloon, and then deftly jerking the balloon back into the right atrium, Dr. Rashkind was the first to tear septum primum to permit essential mixing of systemic and pulmonary venous blood. This interventional alternative to a surgical atrial septectomy remains an essential skill learned in pediatric cardiology fellowship, and is performed in much the same fashion, on a routine basis for this same indication today. In Dr. Rashkind's time, this was a fluoroscopically guided procedure, as were most early interventions. However, interventions such as the balloon atrial septostomy have now come to rely on echocardiography as an integral component to guide procedural success.

A (Brief) History of Pediatric Echo-Guided Interventions

Echocardiographic-guided intervention started in the pediatric cardiology arena, and is even more relevant today. Ingenuity and innovation have been part of the journey, as most applications have historically been designed with the larger adult, and significantly larger adult cardiac population in mind. Consider the primary instrument of the interventional echocardiographer—the transesophageal probe. For any readers who've placed one of these in a frail, petite woman, you likely appreciate the challenges your pediatric colleagues have faced over the years "stretching" recommended weight parameters to smaller children. The pediatric 2D TEE probe was an early addition to the armamentarium to provide imaging in small patients, however, even the pediatric probe failed to serve our smallest infants, so we became adept at off-label use of an ICE (intracardiac) probe in the esophagus of these infants until a micro-sized TEE probe was released in 2009. And 3D TEE imaging was completely unavailable to our young patients until last year, when 2 ultrasound vendors introduced the first mini, 3D TEE probes and subsequently the FDA issued 510(k) clearance in January of 2024.

Thus, it is apparent why the transthoracic echocardiography (TTE) probe has historically been, and continues to serve as an essential tool in the pediatric interventional echocardiographer's toolkit. The Rashkind balloon atrial septostomy, as described above, is now an entirely TTE-guided procedure: The ability to mobilize an echocardiography machine equipped with a TTE probe and sonographer to the NICU (Neonatal Intensive Care Unit) is logistically simpler, quicker and safer than moving a profoundly cyanotic neonate at risk of imminent cardiac arrest to the cath lab, moments after birth. Epicardial imaging is an intraoperative option to image the tiny heart, whereby a high frequency TTE probe covered by a sterile sleeve is placed directly on the beating heart to obtain perioperative images through a surgical sternotomy. Fetal cardiac intervention relies entirely upon TTE as fluoroscopy is avoided during pregnancy and TEE clearly has no utility: Fetal balloon aortic and pulmonary valvuloplasty, and atrial septoplasties have all been described utilizing fetal transabdominal or transuterine imaging with a TTE probe. Thus, there clearly has been precedent for the adoption of TTE to guide pediatric interventions and a clear role for physician involvement in the majority of these scenarios given the complexity of the conditions, high risk of the procedures and expertise required to achieve excellent outcomes.

IMAGE 1
Tiny premature infant getting prepared for transcatheter PDA closure

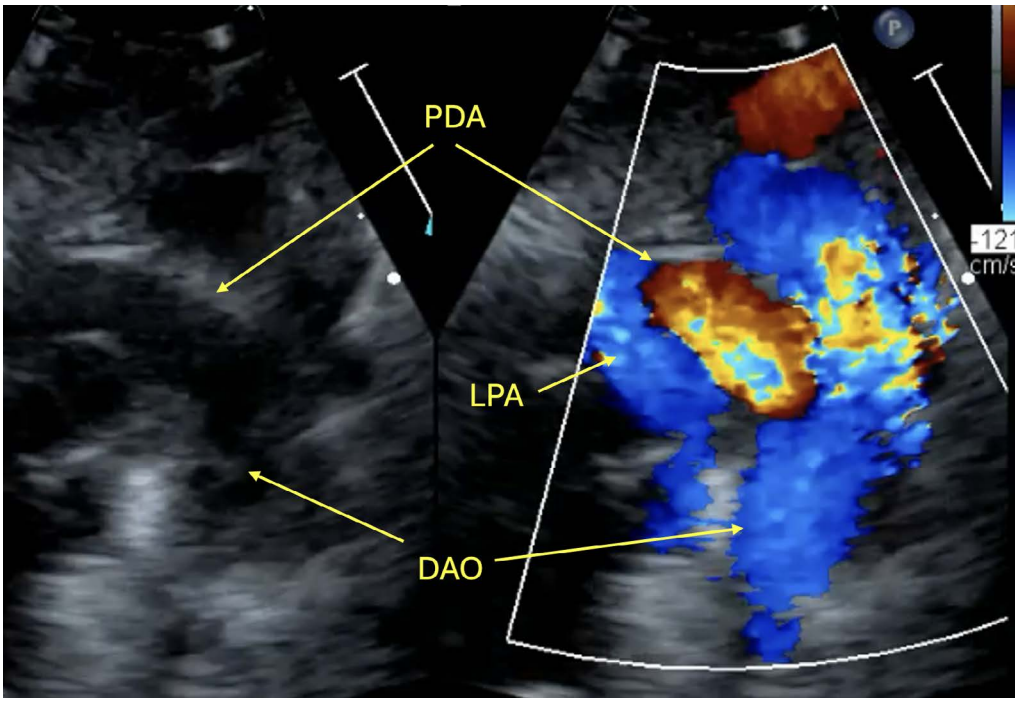


IMAGE 2
High parasternal view with high frequency TTE probe showing a large PDA (red) and adjacent LPA and DAO

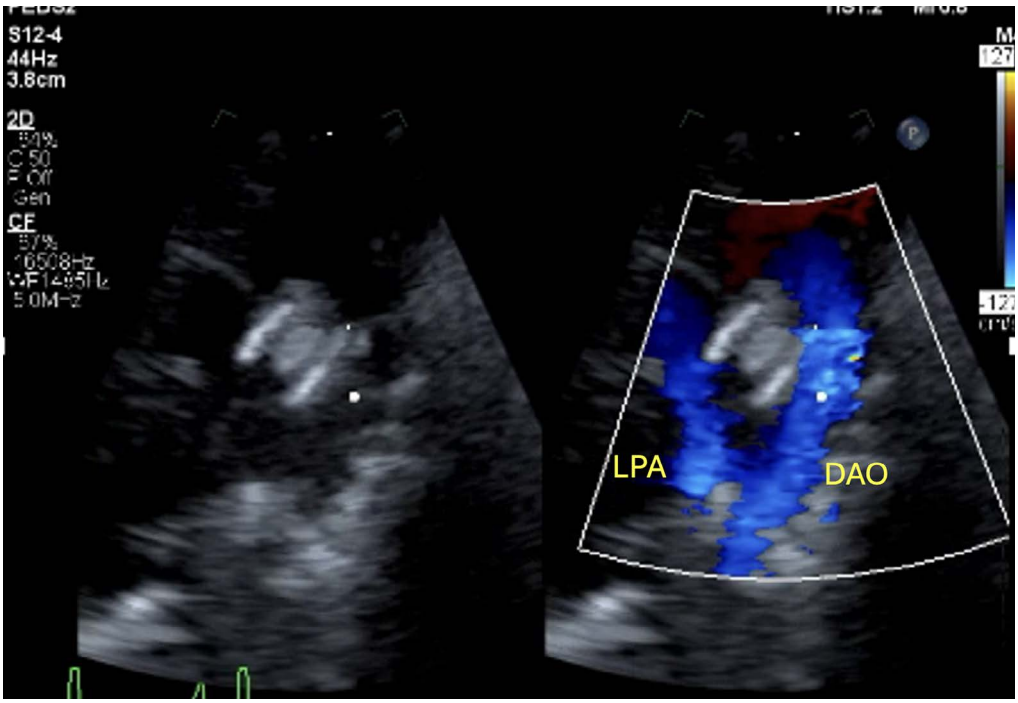


IMAGE 3
Same high parasternal view now with a device fully occluding the PDA but not affecting LPA or DAO flow

Premature PDA Closure

After Porstmann described the first ductal device closure, it was very quickly recognized that the persistent PDA could be safely and effectively closed in most children and adults >5-6 kg and in fact, transcatheter closure when possible has been considered a superior alternative to surgical ligation. Imaging was, and still is, mostly limited to fluoroscopy due to the ready visualization of the duct and surrounding structures and inherent limitations of both TEE and TTE for the superior and posterior location of the PDA in larger patients. But what about the smaller and younger infants (Image 1)? Premature infants born at <26 weeks gestational age have been reported to have <50% likelihood of spontaneous PDA closure. And a hemodynamically significant PDA is associated with numerous long-term morbidities including bronchopulmonary dysplasia and increased mortality. There is a huge body of literature about the optimal management strategy and timing of treatment in these premature infants with ongoing trials to help guide clinicians. Presently, most centers initially attempt a trial of medication therapy, such as indomethacin, ibuprofen and/or acetaminophen, but these do not close all PDA and have associated side effects. In failed babies with "failed" medical management, surgical ligation (through a lateral thoracotomy) was the best available option until about a decade ago. Transcatheter PDA closure was limited by infant size and limited to techniques traditionally used in older patients. A duct occluder is traditionally placed retrograde, through a femoral artery—an unacceptable approach in tiny infants due to high rates of arterial injury and complications. In older patients, arterial angiography and fluoroscopy are the sole procedural imaging required—but without a catheter in the artery, arterial angiography cannot be used. Thus, an essential component of procedural success in the premature baby was echocardiographic guidance of an antegrade, transvenous placement of the device. Fortunately, in most of these infants, TTE provides excellent visualization of the PDA and surrounding structures (Image 2). The early experience with off-label use of previously available occluding devices was promising, but they were often too long, risking partial occlusion of the left pulmonary artery or descending aorta. In 2020, a multicenter trial in infants >700 gm described successful closure of the PDA in 200 infants using this antegrade approach[4]. The novel device studied, the "Piccolo," was FDA approved for premature PDA closure, the first of its kind to be approved for this indication, and in this particular population.

We, the echocardiographers, are an integral team member in these procedures which are increasingly being performed at the bedside in the NICU. The process is comparable to the process followed by our adult interventional echocardiography colleagues when they embark on structural intervention: Indication for intervention is based upon echocardiographic criteria of hemodynamic importance of the lesion (left-to-right shunt in the case of PDA) combined with clinical condition of the premature infant, such as ventilator-dependance. Pre-procedural imaging entails communication with the interventionalist about transcatheter candidacy based on associated lesions, ductal characteristics and ductus sizing to inform device selection. Then, intraprocedural imaging guides device deployment, stability, residual shunting and for any impingement on neighboring structures before ultimate device release is considered (Image 3). Finally, post-procedure we continue to use TTE to follow these babies short and long-term.

Transcatheter closure of the PDA in premature infants represents the newest and potentially largest population of pediatric patients to benefit from intervention. These neonates benefit from a concept conceived of at the dawn of cardiac intervention, through the wonders of innovation in cardiac devices and cardiac imaging. This procedure also exemplifies the tight relationship between the interventional echocardiographer and interventionalist in the discipline of pediatric cardiology that has been present since the inception of our field and will continue to strengthen as we innovate and collaborate together in the future.

References:

1 Gross RE, Hubbard JP. Surgical Ligation of a patent ductus arteriosus: report of first successful case. JAMA 112: 729 (1939)

2 Porstmann W, Wierny L, Warneke H. Closure of a persistent ductus arteriosus without thoracotomy. Ger. Med. Mon.12, 259-261 (1967).

3 Rashkind WJ, Cuaso CC. Transcatheter closure of patent ductus arteriosus. Pediatr Cardiol 1:3 (1979).

4 Sathanandam SK, et al. Amplatzer Piccolo Occluder clinical trial for percutaneous closure of the patent ductus arteriosus in patients ≥700 grams. Catheter Cardiovasc Interv. 96:6, 1266-1276 (2020).

A Conversation with Dr. Tal Geva –

Reflections on Serendipity, Opportunities, and Excellence

*Contributed by **Jimmy Lu, MD, FASE**, University of Michigan Congenital Heart Center, Ann Arbor, MI*

When thinking of luminaries who have profoundly impacted the field of pediatric cardiac imaging, Dr. Tal Geva is on a very short list.

WHEN THINKING OF LUMINARIES who have profoundly impacted the field of pediatric cardiac imaging, Dr. Tal Geva, this year's recipient of the 2024 ASE Founder's Award for Lifetime Achievement in Echocardiography for Pediatric and Congenital Heart Disease, is on a very short list. Tal Geva, MD, FASE, is the Cardiologist-in-Chief and Chair of the Department of Cardiology at Boston Children's Hospital. He completed medical school at Tel Aviv University School of Medicine, internship and residency at the Chaim Sheba Medical Center in Tel-Hashomer, Israel, and fellowships at Boston Children's Hospital and Texas Children's Hospital. He joined the faculty at Boston Children's Hospital in 1994 and established and directed the first pediatric cardiac magnetic resonance program. He served as Chief of the Cardiac Imaging Division from 2006 until his appointment as Department Chair in 2016. He has authored over 300 manuscripts, including multiple American Society of Echocardiography guidelines. He has trained and mentored countless leaders in our field and was awarded the 2014 ASE Excellence in Teaching in Pediatrics Award. In an interview, he shared with us some memories and reflections on his remarkable career.

On becoming a pediatric cardiologist (and almost becoming an Andersonian)

I was on a track to become an adult cardiac surgeon. The whole thing started completely coincidentally, when I did

The month I spent in the Cardiac registry led me to feel I found my calling. The Van Praaghs were awesome, just great teachers – their enthusiasm, profound curiosity, and vast knowledge were inspirational.

Tal Geva, MD, FASE

reserve duty, between the first and second year of medical school. My physician supervisor invited me to observe him when he was moonlighting in the cardiac surgical unit at Tel-Hashomer hospital. Medical students used to make ends meet by moonlighting in hospitals in various roles, so I worked nights and weekends as a nurse in that cardiac surgical unit through the rest of medical school. I also spent increasingly more time when not working at a bedside, helping in the OR and getting a second assistant role. I liked it a lot, and then I thought, "That's it, that's what I'm going to be doing." During my fifth year at medical school, completely coincidental or fortuitous, the chief of cardiac surgery thought it would be good for me to also have some skills in congenital surgery, and thought that an elective learning congenital heart disease would be a good idea. So, he wrote to the guy who was the star at that time, Bob Anderson, and Bob wrote back, "Yeah, unfortunately, I have some visitors from America in the laboratory, and I don't have a spot for your student." So, the chief wrote to Richard Van Praagh in Boston, and Richard said, "Sure, come in!" So, I spent November of 1982 as an elective student with Richard and Stella Van Praagh in the Cardiac registry in the basement of Boston Children's Hospital.

It was my very first time in the U.S. I mean, if there's anything like fresh off the boat, I was fresh off the boat. I had no clue. Everything was different, and I was wide eyed. People didn't smoke in conferences – a sharp contrast to Israel. People drank coffee and ate donuts at conferences – I had never seen that before. I landed at Logan on a Tuesday afternoon, took a taxi to the hospital and dialed the number that Richard Van Praagh gave me. He was on his way to the weekly Medical-Surgical Conference, so he stopped by the lobby, picked me up, and took me to the conference. There, in the front row of the conference room sat Drs. Alexander Nadas, Aldo Castaneda, Bill Norwood, and a couple of other luminaries in the field. I had no idea who these people were.

The month I spent in the Cardiac registry led me to feel I found my calling. The Van Praaghs were awesome, just great teachers – their enthusiasm, profound curiosity, and vast knowledge were inspirational. It was clear that what they were doing was a life mission, not a job, and so was the case with everybody else I met. I basically felt that was what I wanted to do going forward. My very last day on my way back to the airport, Stella Van Praagh walked

Dr. Geva in 1980, moonlighting in a cardiac intensive care unit.

Dr. Geva in 1985, as a resident in Tel-Hashomer, Israel.

1988 – Cardiac pathology fellow at Boston Children's Hospital

1991 – First year cardiology fellow at Texas Children's Hospital

2001, in the early days of cardiac MRI

with me to the bus station. She said, "Well, if you like it so much, why don't you come and do a fellowship with us?" When I got back to Israel, I floated the idea of doing some more in-depth training in Boston. My future boss got very upset and yelled at me. His perception was that I would take time away from the residency he slotted me for and spend it in America; well, that was not his plan. So, I thought to myself, with that kind of attitude, that's not a great start for me as a future resident. And, moreover, I want to go back and learn more about congenital heart disease, so I did.

Dr. Geva and his family at his endowed Chair ceremony in 2018. From left to right, older son Alon, daughter-in-law Arielle, wife Judith, Dr. Geva, and younger son Omri.

Dr. Geva with his wife Judith and his grandson Rory.

I don't think there's anything particularly unique about this story. This is at least my experience, that you have opportunities that come your way. You get to a fork in the road, make a choice, follow that way, and make the best of it.

So, after residency in pediatrics at Tel-Hashomer, I spent two years as a fellow with Richard and Stella Van Praagh. It was during those two years that I discovered cardiac imaging, and again the credit there goes to Steve Sanders and to Ira Parness – they were my inspirations to pursue cardiac imaging. The two years in cardiac pathology were just a great opportunity to have a deep dive to understand congenital heart disease. It became obvious to me that I wanted to become a clinical pediatric cardiologist, and imaging was the natural link between these two domains.

That's how my interest in morphology and how to make it relevant to clinical practice – the seeds were planted during these years and that just never stopped. As you know, in imaging it is all interlinked. I love to look at things as first, structure, and then function, and then physiology, and then pathophysiology, natural history, and, finally, opportunities for treatment. So, from my perspective, it all fits in terms of the arc from anatomy and morphology all the way to taking care of patients.

On challenges in training

I think the explosion in information is natural, inevitable, and I think that when I trained, we felt the same way as compared with the generation before us. I vividly remember thinking that we are faced with so many new technologies, new domains, and an explosion in knowledge. Computers were just starting at that time. I remember the first time I did a computerized literature search as opposed to going to the library. I don't know if you've ever seen the Index Medicus – these large thick books in medical libraries. It's a long way of saying that I don't think there's much new about current challenges related to information and technology. I feel that rigor and pursuit of deep dive into pertinent questions are a state of mind. As for training programs and academic units, it's the people who set the tone and culture. Creating and maintaining culture is often a Sisyphean endeavor, because there is a strong tendency to regress to the mean, or to find the path of least resistance. Therefore, establishing and maintaining excellence and rigor are hard. However, for some people it's not really a choice; it comes from within. It's your DNA, it's what makes you tick. It's who you are. I must acknowledge that some of it can also be acquired. In other words, I owe this to the many teachers who inspired me along the way, starting with one of my attendings as a resident in Israel, Mira Frand, then the Van Praaghs, and many others here at Boston Children's Hospital and elsewhere. I was greatly influenced by their uncompromised pursuit of excellence, attention to

details, questioning dogmas, challenging conventional wisdoms, and then taking a rigorous approach to generating new knowledge.

On new imaging technologies and modalities

I followed instinct and curiosity whenever some new technology came along. During all of these decades, I have maintained an attitude of "Let's give it a try, let's go with it," and then adjust as you go. When I started, MRI was quite primitive. The first time that I saw any MRI was during my fellowship with the Van Praaghs. One of the radiologists who helped me do postmortem coronary angiography invited me to observe her image an aortic arch by MRI for possible coarctation. That was the very first time I saw an MRI in 1988. Two years later, when I started my fellowship at Texas Children's, Wes Vick invited me to join him for MRI studies at Methodist Hospital across the street. We then did a research project to demonstrate feasibility of MRI in heterotaxy syndrome. Looking back 30 years, it is gratifying to see how far cardiac MRI in pediatric and congenital heart disease has progressed. And that goes to essentially any and every imaging technology.

On the scientific process

Number one, I love it. Number two, it's hard and can be frustrating. I think a lot of people would be able to relate to that. It's one thing to develop an opinion about something – we do that all the time. It's a different thing to conduct rigorous research and then to put pen to paper, or fingers to keyboard. You then have to articulate, in a highly rigorous fashion, a cohesive, evidence-based story. You need to articulate what is the problem? How did you go about addressing it? What were the findings? What do these observations mean? A scientific paper has to stand scrutiny by your peers, who are as smart as you are, or maybe smarter, who are as rigorous as you are, or as skeptical as you are. It was always gratifying to me to be able to do that. It's an essential process – it's very nice to stand up in a room full of people and share your experience and things of that nature, but it's significantly more challenging and impactful to actually have it in the literature available to anyone with interest in the topic.

The Boston Children's Hospital imaging team

On mentorship

I do it because I love doing it. Just like the scientific process and clinical care, I just love teaching and mentoring. One of the top highlights of my week is my teaching session with our fellows on Monday morning. I've being doing it for 20 years or so. A designated fellow presents a case to the group. I don't know the diagnosis in advance. We go through the echo together and figure it out step by step. We often digress and talk about why we do this or that, why we call it one way or the other, what are the pathophysiologic and/or management implications, and so on and so forth. This 45 minutes every Monday morning is one of the highlights of my week. The other highlight is when I'm in the echo lab or MRI lab. I start my week with a teaching session with the fellows on Monday morning, and I end the week on Friday afternoon in the echo lab. I've been doing Friday afternoons in the echo lab for 30 years now – I just love it. We have a spectacular team of sonographers, MRI techs, fellows, nurses, administrators, and faculty. Being part of this team is exhilarating.

In terms of mentorship, the thing to keep in mind is that it's a tremendous responsibility. It's one thing to just give casual advice, and it's a different responsibility when you mentor a fellow on a research project. You then have a responsibility to make the process a positive experience for the fellow. You have to choose the topic carefully. The project must have a high likelihood of successful publication with the fellow as first author. You are then responsible for guiding the fellow through the investigative process and teaching her/him how to do it well. It takes time and effort, and you just have to make it a priority and commit to it. It cannot be done casually. This is something that takes both passion and commitment.

On gratitude and family

I'm most grateful for two things. One is my family—my wife Judith, my sons Alon and Omri, my daughter-in-law Arielle, and my grandson Rory. The other one is for the opportunities I've been given all of these years. I'm most thankful for those two things. Not sure why I deserve it, but I'm so grateful. I feel remarkably fortunate to have had these opportunities, and to have the family that I have.

I do it because I love doing it. Just like the scientific process and clinical care, I just love teaching and mentoring.

I never understood why one has to choose between family and career; why they cannot coexist. I always thought that personal and professional life can and should complement each other. I also didn't think about it as a career, as much as this is just part of my life, an important part of my life. My family, I don't think that they ever saw that as either/or. The challenge for each and every one of us is finding the right balance for ourselves and for our families.

On leadership

I feel a tremendous sense of gratitude for the responsibility of leading my department. The credit really goes to my fantastic faculty and to the staff. The notion of the importance of a team was never something that was difficult for me to understand. But it was mostly during the years of first leading the Imaging division and then leading the department, that I really understand that, and it's important for me to acknowledge the fact that this is all about the team. We just have such an awesome, awesome group of individuals and I am so grateful to each and every one of them.

ASE LEADERSHIP ACADEMY COHORT 3 GRADUATES

ENCOURAGING LEADERS OF TOMORROW TO APPLY FOR COHORT 4

A diamond has no sparkle unless it is cut and polished. To me, we all have that Leadership sparkle within us. The American Society of Echocardiography's Leadership Academy really helps remove those rough edges, and gets you prepared for your Leadership journey.

Purvi Parwani, MD, MPH, FASE
Loma Linda University Medical Center, Loma Linda, CA

Participating in the ASE Leadership Academy has fostered leadership development that directly applies to the current healthcare landscape. It addresses real world challenges, provides tools to navigate difficult situations and deepens your understanding of our organization and its goals. The focus and format introduced the class to thought leaders within the ASE and other experts from a broad background; helping to facilitate innovative thinking, financial acumen, and strategic thinking. Overall, I am grateful to have been a part of this program.

Megan Kraushaar, BS, RCS, FASE
UC-San Diego Health, San Diego, CA

My time at the ASE Leadership Academy proved immensely valuable. Engaging in coursework, interacting with experts, and participating in various sessions deepened my grasp of leadership dynamics. Collaborating with fellow cohort members on assignments and the capstone project reinforced our learning. The mentorship provided was exceptional, and the friendships formed along the way are treasured. I eagerly anticipate contributing to ASE's mission and giving back to the society.

Nadeen Faza, MD, FASE
Houston Methodist, Houston, TX

As I reviewed the syllabus for the ASE Leadership Academy, I was struck by the breadth of topics being covered. These included: Communication, Conflict Management, Effective Teams, Influence and Persuasion, Effective Management, and even Financial Acumen. This felt much more like a mini-MBA than an ASE related activity! Sure enough, with Wharton Business School faculty Kathy Pearson teaching the leadership training portion, and with many of the guest faculty coming from the business world, this turned out to be a relevant comparison. That said, with guest faculty from ASE at every session, the content was always relevant to our own experiences. Who better than ASE Treasurer Cynthia Taub to guide a small group discussion on budgeting for an echo lab? My time in the Leadership Academy is passing very quickly, and I envy those who will start in cohort 4. That said, I am excited to partner with my colleagues in the 3rd cohort of the Leadership Academy in the years to come!

Shiraz Maskatia, MD, FASE
Stanford University Medical Center, Palo Alto, CA

Learning among such great innovators, colleagues, and mentors has been a highlight in my journey with ASE – and in my career! We honed our leadership skills by learning from each other and I've been able to put that skill to practice every day. I am so grateful to ASE for this invaluable experience.

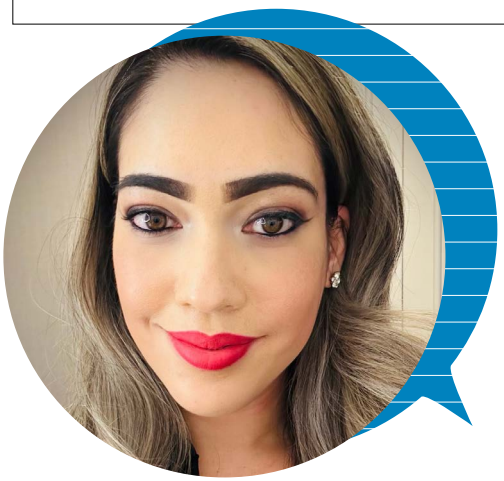
Denise Ignatowski, BS, RDCS, FASE
Aurora Health Care, Milwaukee, WI

The ASE Leadership Academy has provided me with a robust foundation to leadership concepts and styles. The course empowered me to continue on my own personal leadership journey and re-define what leadership and success look like for myself as a clinician, and otherwise as a professional. Although we deconstructed several high-yield topics and content areas as a group, the absolute highest yield from this course came from the wealth of the network that we were able to cultivate in each other as classmates and teammates, as well as with course directors and ASE leaders. This experience has truly solidified my pre-course sentiments of ASE being the right fit for my societal professional "home."

Kiran Belani, MD, FASE, FACC
Northwestern Memorial Hospital; Northwestern University Feinberg School of Medicine, Chicago, IL

ASE leadership academy has been a tremendous resource for me. I learned so many core concepts which are never taught in the medical discipline and are fundamental to the success of any professional, especially in leadership positions. Beyond the learning, I benefited greatly from networking with like-minded individuals who are passionate about echocardiography and a terrific mentor who helped me navigate some of the most challenging professional issues. As part of this course, we were assigned a capstone project which involved teaming. The exercise allowed me to utilize the skills I learned from the course to find creative solutions to problems facing the society. It was a humbling experience, and I learned a great deal about my leadership style.

Bhaskar Arora, MD, FASE
Oregon Health & Science University, Portland, OR
Portland VA Medical Center, Portland, OR



ASE's leadership academy was an unexpected pivotal experience in my career pathway. It equipped me with new mentoring and leadership skills and helped me form new relationships and connections. Leadership academy has rejuvenated my passion for my profession and for volunteering within ASE. I am very grateful for this experience and look forward to utilizing the knowledge I obtained in my career and future professional endeavors.

Megan Yamat, RDCS, RCS, ACS, FASE
University of Chicago Medical Center, Chicago, IL

The ASE leadership academy is a wonderful opportunity which has allowed me to network and grow alongside future leaders in echocardiography and ASE across the US. The leadership skillset acquired during this leadership academy is something that I have never had professional training/mentoring previously, and I am grateful for the opportunity the ASE has given me. The ASE leadership academy has taught me how to better work as part of a team, and how to lead a team while effectively dealing with expectations and conflicts. This invaluable skillset is enabling me to grow and take on greater leadership roles and responsibilities at my institution, as well as strengthening my involvement with the ASE.

Bo Xu, MD, FACC, FASE
Cleveland Clinic Foundation, Cleveland, OH

The ASE Leadership Academy has exceeded my expectations. The skills I have learned throughout the program have provided me with the confidence to work through multiple challenging situations, both personally and professionally. Experiencing this incredible opportunity alongside the brilliant leaders, facilitators and mentors as well as forming new friendships with my fellow cohort members, is irreplaceable. I am leaving the program with a considerable shift in mindset toward the "bigger picture" of what this society has to offer our field and areas where I can volunteer to grow and continue the mission of ASE.

Courtney Cassidy, RDCS (AE, PE, FE), FASE
Children's Hospital Colorado, Denver, CO

Honing one's technical skills has been emphasized throughout my medical training and practice, but these "hard skills" are not enough to prepare one for a leadership role. The ASE Leadership Academy has not only taught me the importance of "soft skills" in being an effective leader, but also taught me such skills through their curriculum, which consisted of regular, hands-on assignments that really made me think outside the box on how to overcome the challenges and pitfalls involved in a leadership role. Lastly, I cannot thank the program enough for helping me meet and become friends with other future leaders of the field of echocardiography.

Gary Huang, MD, FASE
Cardiovascular Medical Group, San Francisco, CA

The ASE Leadership Academy opened my eyes to concepts rarely taught in a medical curriculum. The best part was getting to know and learning from the members of my cohort, who will surely be the leaders of tomorrow.

Anuj Mediratta, MD, FACC, FASE
Morristown Medical Center, Morristown, NJ

The Leadership Academy delivered content, connections and opportunities beyond my expectations. The curated session topics were expertly balanced between the development of character and soft skills and concrete practical skills like building financial acumen. Cohort 3 was committed and enthusiastic, so proud to have been part of this group! Thank you, ASE, for your continued commitment to growing the future leadership!

Cody Frye, BA, ACS, RDCS, FASE
Sanger Heart and Vascular Institute, Atrium Health, Charlotte, NC

Being selected and participating in the American Society of Echocardiography's Leadership Academy, Cohort #3, has been an overwhelmingly positive and transformative experience. The program has helped propel my career forward by developing my leadership skills through comprehensive training and mentorship. The diverse perspectives and expertise shared by the faculty and fellow participants have broadened my understanding and approach to leadership. The knowledge, support, and connections I've gained are invaluable, and I cannot speak highly enough of this incredible journey. The camaraderie and sense of community within the Academy have been truly inspiring, making the experience enriching. All good things come to an end, and while I am sad to see this chapter close, I am grateful for the lasting impact it has had on both my professional and personal life.

Jennifer Acevedo, ACS, RDCS, FASE
Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL

In Memory of
Arthur E. Weyman, MD, FASE

It is with great sadness that we write to inform our members that Arthur (Ned) E. Weyman, MD, FASE, passed away on June 17, 2024. Dr. Weyman was ASE's first secretary of the Board of Directors and subsequently served as the 8th President of ASE serving from January 1991 through June 1993. He received a 2001 American College of Cardiology Gifted Teacher Award and a University of Medicine and Dentistry of New Jersey 2004 Distinguished Alumnus Award. ASE's Arthur E. Weyman Young Investigator's Award (YIA) was created in 2007 in honor of Dr. Weyman's unwavering commitment to research in cardiovascular ultrasound. He received ASE's Meritorious Service Award in 2012 recognizing his contributions to the field and ASE. Dr. Weyman was also a driving force behind the creation of the National Board of Echocardiography. He served as their first president and remained on their board in an emeritus status. In his honor, the NBE has supported the ASE's YIA award since 2007.

He completed his medical degree at New Jersey College of Medicine in 1966 and proceeded to his first residency at St. Vincent's Hospital in New York. He then put his residency on hold while he served in the U.S. Navy as a Marine squadron and air group flight surgeon from 1968-1971. Upon returning, he completed a second year and chief residency at St. Vincent's, followed by a three-year cardiology fellowship at Indiana University, where he was a fellow in training under ASE's Founder Dr. Harvey Feigenbaum. In 1980, Dr. Weyman moved to Massachusetts General Hospital and Harvard Medical School in Boston, MA, where he spent the rest of his illustrious career before retiring in 2022. Named Mass General's chief of cardiology in 1994, his development of innovative methods, research models and exemplary mentoring led the way for echocardiography to become the go-to assessment tool for heart and vascular imaging. He built the echocardiography laboratory into a powerhouse for research, education, and clinical productivity. Known as "the mentor of mentors," Dr. Weyman and the Mass General echo lab became the place where countless physicians and sonographers competed for fellowships to train in his lab and learn to be great echocardiographers and leaders including seven ASE Presidents.

As one of the founding leaders in echocardiography, he advocated tirelessly for international recognition of the pivotal role the noninvasive assessment tool plays in saving lives by quickly detecting cardiac issues in patients from infants to adults. His presence at the helm of ASE and NBE changed the field forever. He will be missed and we are forever grateful for his service.

A devoted family man, Weyman leaves behind his wife, Jean, their four children and grandchildren.

Listen to a 2009 interview with Dr. Weyman on ASE's YouTube channel.

Dr. Weyman's obituary is online at:
https://gfdoherty.com/Obituaries.html.
You may also leave a condolence on this website.

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