Strain imaging simplified

Changing cardiovascular care with a global learning experience

Right before Dr. Christos Mihos began his fellowship in advanced echocardiography at Massachusetts General Hospital in 2015, a mentor handed him the ASE guidelines for strain echocardiography and offered some stern advice, “Before you go to Boston, you’d better know this inside and out.”

The thick document was very intimidating for Dr. Mihos, who was a non-invasive cardiology fellow at the time. Like many other general fellowship programs, Dr. Mihos’ strain training only focused on the basics. So, he dug into the guidelines and a host of related literature and began his own self-directed learning program.

Dr. Mihos is now the Director of the Echocardiography Laboratory at the Columbia University Division of Cardiology at Mount Sinai Medical Center in Miami, Florida. He's also an expert on strain and is determined to teach other clinicians that it's an invaluable tool that can transform care.

"It's going to make you a better cardiologist and it's going to make you a way better echocardiographer," Dr. Mihos insists. "Strain is going to give you the opportunity to improve patient care. And you're going to save a life. No question. At some point, you will literally save a life."

The power of strain

Strain can provide detailed information about the structure and function of the heart for a more confident diagnosis. Another major benefit is early detection of cardiac dysfunction before it progresses. Dr. Mihos says it's your warning sign. "Strain picks up the problem before the muscle develops overt dysfunction. That's before things go wrong. At that point, the cardiologist is behind the eight ball and you're dealing with a completely different substrate of patient."

With strain, you can also evaluate tissue damage or deformation to improve treatment planning. But

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even with all the advantages, it is still underutilized by the medical community. A recent worldwide survey from the European Association of Cardiovascular Imaging cited time constraints and lack of training as the biggest barriers.[1]

"Once you get comfortable with it, it can take less than a minute to do a full strain analysis," Mihos asserts. "We use AFI with EchoPAC™ from GE HealthCare and the automated features have really sped things up. I think time concerns have more to do with comfort and confidence and those can be fixed with training and mentorship."

And who better to teach strain than Dr. Mihos?

"Once you get someone to understand what they are looking at, what those measurements mean and say about the function of the organ, they start connecting the dots. It suddenly makes sense and actually becomes easier. The light bulb goes on and it just clicks."

A Vivid idea for teaching strain

Dr. Mihos has experienced more of those meaningful moments collaborating with GE HealthCare to create the Vivid Learning Academy. Dr. Mihos developed all the content for the online series, distilling his learnings into a curriculum of 10 episodes, 45 minutes each, that teach strain from the ground up.

"The problem was that nobody was teaching it. There wasn't a resource out there, so I began working with GE HealthCare to change that." He continued, "I'm really proud that the Academy is available in a format that is so easy to access."

The series begins with basics and pitfalls. It then offers dedicated sessions on a variety of clinical use cases like ischemic heart disease and cardio-oncology. Each session consists of two sections: a presentation of the topic followed by discussions between renowned key opinion leaders sharing their experience and advice.

"I wanted to make something that was not intimidating to anybody and present these experts in a laid-back fashion. I wanted to facilitate the conversation and that's how we approached it. The entire idea was to make it inviting, welcoming and inclusive to anybody who wants to participate," he insists.

The evolution of strain

What's the next emerging tool showing great promise in echocardiography? According to Dr. Mihos, "Myocardial work is the next level of strain. Once users become more comfortable with it, they will start using myocardial work. From a practice perspective, that is very exciting."

It's growing every day

Since its inception in 2022, Vivid Learning Academy has reached over 24,000 viewers across 25 countries. China recently signed on, reporting 10,000 users after just five episodes. The next step is taking the Academy on the road. Dr. Mihos will be leading several hands-on workshops on strain at upcoming congresses, building awareness and providing more personalized experiences for participants.

The growing impact is all the motivation Dr. Mihos needs.

"I see it as an organic process. We teach people and then they teach people, and it just keeps going. At the end of the day, all of that trickles down to our patients and allows us to provide better care." ■

Expand your capabilities with the Vivid Learning Academy

Take a deep dive into strain imaging in echocardiology with the Vivid Learning Academy. Check out our comprehensive episodes online.

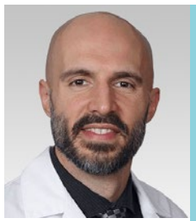
You can also put your strain knowledge into practice, building skills at hands-on workshops.

- The American Society of Echocardiography (ASE) | June, U.S.
- Latin American Association of Cardiac and Endovascular Surgery (LASIS) | June, U.S.
- European Society of Cardiology (ESC) | August, London

Topics include:

- Explore strain & 3D imaging on real case examples
- Compare the superiority of strain imaging vs. ejection fraction
- Understand how strain results impact patient treatments
- Discover methods for monitoring disease progress over time

Look for updates and registration details coming soon.



Dr. Christos G. Mihos is the Director of the Echocardiography Laboratory at the Columbia University Division of Cardiology at Mount Sinai Medical Center. He also serves as an Assistant Professor of Clinical Medicine at Columbia University Irving Medical Center. Dr. Mihos is a non-invasive cardiologist and echocardiographer with board-certification in Cardiovascular Disease and level III board-certification in Adult Comprehensive Echocardiography. He has vast experience in clinical cardiovascular research and his academic focus includes valvular heart disease, inherited and acquired cardiomyopathy, and the use of strain echocardiography to study cardiac mechanics in health and disease.

1 Sade LE, Joshi SS, Cameli M, Cosyns B, Delgado V, Donal E, Edvardsen T, Carvalho RF, Manka R, Podlesnikar T, Popescu BA, Hanzevacki JS, Sitges M, Dweck MR. Current clinical use of speckle-tracking strain imaging: insights from a worldwide survey from the European Association of Cardiovascular Imaging (EACVI). *Eur Heart J Cardiovasc Imaging*. 2023 Nov 23;24(12):1583-1592. doi: 10.1093/ehjci/jead170. PMID: 37463125.