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Advancing excellence in interventional cardiac and vascular care

Customized clinical training through Philips Image Guided Therapy Devices (IGTD) Academy

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The utility of image-guided therapy innovations

Image-guided therapy (IGT) is a medical approach that combines advanced imaging systems and software with specialized diagnostic and therapeutic devices to support minimally invasive procedures. The goal of these integrated technologies, used across the globe today, is to help clinicians diagnose effectively and deliver more precise treatments, helping patients to recover faster and return to their normal lives.

There are four primary clinical areas where Philips focuses in this space: coronary, peripheral vascular, structural heart, and lead management. In coronary care, IGT helps diagnose and treat arterial blockages to improve blood flow to the heart. In peripheral vascular, it aids in diagnosing and treating lesions, thrombi, and anomalies in the vascular beds outside of the heart and neuro structures. In structural heart procedures, IGT provides tools that help visualize valvular and anatomical disorders of the heart in order to support treatment. Lead management delivers tools for extracting pacemaker and defibrillator leads, crucial for patients with infections or device-related complications.

Despite the potential to improve patient outcomes and workflow efficiencies, there is a notable lag in the widespread adoption of image-guided procedures and techniques.[1,2] This underutilization can be attributed, in part, to limited opportunities in ongoing education and training for healthcare professionals, resulting in lack of confidence and/or familiarly of IGT benefits.

Understanding the current state of clinical education and training

Generally, clinicians face significant challenges in pursuing ongoing education, including time constraints due to staff shortages and administrative burdens, limited access to comprehensive content (especially in smaller or rural institutions), and geographic barriers to attending in-person training. The healthcare workforce demands up-to-date, tailored information, and many physicians are more likely to attend training only when specific CME courses are available.[3] These obstacles affect practitioners across the career spectrum, from fellows and early-career physicians to experienced attending physicians, with technological advancements, learning needs and barriers shifting throughout their professional journey.

For example, commentary from the Fellows-In-Training Section Leadership Council warns that current lifelong learning opportunities may fall short of the needs of practicing cardiologists. "With the increasing burden of cardiovascular disease, growing complexity of patient care, and ongoing pressures of nonclinical responsibilities ... a paradigm shift, replete with modern and practical educational tools, is needed," the authors note. The commentary proposes novel educational tools — such as personalized learning, adaptive learning, and the flipped classroom — to meet the educational needs of both fellows and practicing cardiologists.[4]

In another survey analysis from **JACC: Cardiovascular Interventions, researchers** found that 13% of interventional trainees reported being involved in fewer than 250 cases (the Accreditation Council for Graduate Medical Education minimum requirement). Only 81% had good experience with ultrasound-guided puncture, and less than 50% had sufficient experience with vascular closure devices, atherectomy, and embolic protection. A high comfort level with intravascular ultrasound and optical coherence tomography was seen in just 62% and 32%, respectively. Furthermore, the authors suggest that this lack of exposure could stem from similar gaps in attending physician experience, adding, "Some fellows have a good deal of experience whereas others have minimal exposure."[5]

Additionally, a multidisciplinary roundtable discussion published in JSCAI explored how, "In regard to operator comfort with use and with interpretation, in coronary applications, only 15% of recently surveyed cardiology trainees report independence in IVUS use."[6] This is despite IVUS receiving a Class IA designation in the 2024 ESC appropriate use guidelines[7] and more recently a Class IA recommendation in the 2025 ACC/AHA/ACEP/NAEMSP/SCAI Guideline for the Management of Patients With Acute Coronary Syndromes.[16] The group also noted the need for continuing medical education, stating that Actively performing procedures are key to improving retention and quality, and hands-on training should be emphasized. Training programs run by industry should ideally focus on a range of levels including trainees, early career physicians, and more experienced practitioners."[6]. Addressing these gaps and challenges is critical for ensuring interventional cardiac and vascular care specialists are performing at their best, using the right technology and devices for the procedure, in the right way and for the right patients. Let's dig into some of the key benefits of continuous training in image-guided therapy.

> "Actively performing procedures are key to improving retention and quality, and hands-on training should be emphasized. Training programs run by industry should ideally focus on a range of levels including trainees, early career physicians, and more experienced practitioners." [6]
>
> – Fellows-In-Training Section Leadership Council

Advantages of continuous image-guided therapy training

1. Developing and maintaining competency

Continuous education and training help physicians and allied health professionals build and maintain competency within a rapidly evolving field. The 2023 ACC/AHA/SCAI Advanced Training Statement on Interventional Cardiology and the 2017 ACC/HRS lifelong learning statement for clinical cardiac electrophysiology specialists emphasize that training shouldn't end with the completion of a fellowship, but rather mark the beginning of an ongoing journey of continuous learning and professional growth.[8,9]

2. Keeping up with technological advancements

Ongoing training keeps physicians up to date on innovations in all areas of image-guided therapy, while teaching them to operate new products safely. Continuing education also helps clinicians recognize the potential and limitations of emerging technologies which promotes more informed decisions in clinical practice. For example, the growing use of intravascular ultrasound (IVUS) in peripheral vascular and deep venous interventions requires physicians to develop new skills in interpreting cross-sectional images and applying this information to clinical decision-making.[6]

3. Optimizing patient outcomes and satisfaction

Continuing education in vascular interventions significantly enhances patient care by equipping physicians with the latest evidence-based treatments, reducing complication rates through improved techniques, and enhancing their ability to manage complex and high-risk cases.[8,9]

> "It is expected that the trainee will embark on a lifelong journey of education and learning that continues after completion of the fellowship, especially as new technologies and procedures are developed."
>
> – 2023 ACC/AHA/SCAI Advanced Training Statement on Interventional Cardiology[8]

4. Delivering evidence-based care

Regular training throughout physicians' careers can help introduce them to key opportunities that support more informed treatment decisions based on the latest clinical research and outcomes data. Within the lead management specialty, for example, HRS guidelines recommend lead extractors perform a minimum of 20 cases per year to maintain skills and team preparedness. However, the HRS expert consensus adds, "Performing a specific number of procedures does not guarantee proficiency, competency, or safety; outcomes data are necessary to assess performance."[11] Through comprehensive resources and guidance, data-backed training can empower physicians with confidence to perform extractions across a range of clinical scenarios and indications.

5. Refining and maintaining specialty skills

Interventional cardiology and other similarly procedural fields require a high level of technical skill. Ongoing training enables physicians to refine their existing skills through hands-on workshops and simulations, learn new techniques from experts in the field, and maintain proficiency in less common procedures.

> "Staying in touch with the industry can be very helpful — they put on educational webinars and virtual meetings throughout the year, which are often free and very available to you as a physician once you've graduated. The learning never ends, and I think there are multiple opportunities to keep that going."
>
> – Thuy Pham Ryan, DO, Interventional Cardiology, Baylor Scott and White Health

Refining and maintaining specialty skills

In general, interventional cardiac and vascular specialists identify the following goals in their professional practice[12]:

- Stay current with the latest technology, techniques and treatment algorithms
- Gain competency in performing complex procedures
- Improve patient outcomes and procedural success
- Minimize complication and risk-adjusted mortality
- Increase the availability of skilled support staff
- Maximize patient satisfaction

Industry-sponsored training can play a crucial role in supporting clinicians in their pursuit of these goals. For example, when Abbott's TriClip TEER device received FDA approval, a unique requirement was that customers complete intracardiac echocardiography (ICE) training. However, the necessary resources and equipment to support this training were limited. Philips helped bridge this gap by providing simulators, expert staff, and hands-on guidance to ensure effective training sessions. In partnership with Philips, Abbott's field team benefits from ongoing quarterly support to enhance training on 3D navigation and its application in the TriClip TEER procedure.[13]

Providing this level of comprehensive and flexible training helps ensure both physicians and allied health professionals are well-equipped to provide high-quality, patient-centered care.

> "Using educational standards set by SCAI, the industry can provide customized supplementary … skills education via hands-on training, proctorship and simulation education … These programs should complement and expand foundational fellowship training.[14]"

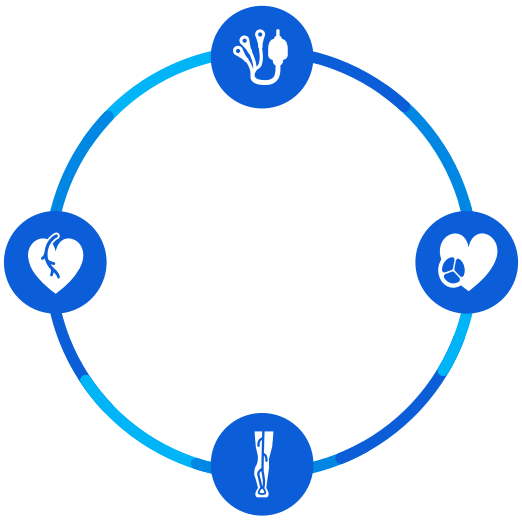
The Philips training solution for image-guided therapy devices

Enter Philips, and the Image Guided Therapy Devices (IGTD) Academy, a comprehensive solution for healthcare professionals that offers a diverse range of peer-developed courses in a variety of formats. IGTD Academy uses a consultative, personalized approach that adapts to each user's specialty and experience level, designed to meet clinicians where they are in their learning. Course development is continuously updated based on feedback from key thought leaders in the field and users, so clinicians remain at the forefront of contemporary practice.

IGTD Academy is built on the following three pillars to drive excellence in healthcare delivery:

1. **Elevate expertise** through comprehensive education and training that boosts confidence and competence in clinical practice.
2. **Innovate in practice** with access to training on the most current and cutting-edge knowledge, ready to implement in daily routines.
3. **Transform patient care** with access to the latest and greatest techniques from expert global thought leaders.

> "IGTD Academy is an industry-leading, self-directed educational program designed to help physicians and allied health professionals enhance their skills and fill any knowledge gaps they may have. The platform will make our healthcare workers better suited to provide cutting-edge care and ultimately enhance patient outcomes."
>
> – Steven Abramowitz, MD, RPVI



The goal is to provide advanced clinical education that is scalable, accessible, customizable, and centered on the patient. Unlike other platforms, IGTD Academy provides a multi-modality training curriculum that provides the following benefits to clinicians:

- **Patient-centered learning:** Education and training led by global thought-leading physicians helps ensure learners receive the most extensive and effective knowledge for treating patients. Aligning with ACC's position statement for clinical proctoring of new technologies and techniques, IGTD Academy works to ensure trainers are highly qualified leaders in the field, with "extensive knowledge ... of the indications, risks, alternative treatments, troubleshooting the devices and management of complications from the procedure."[15]

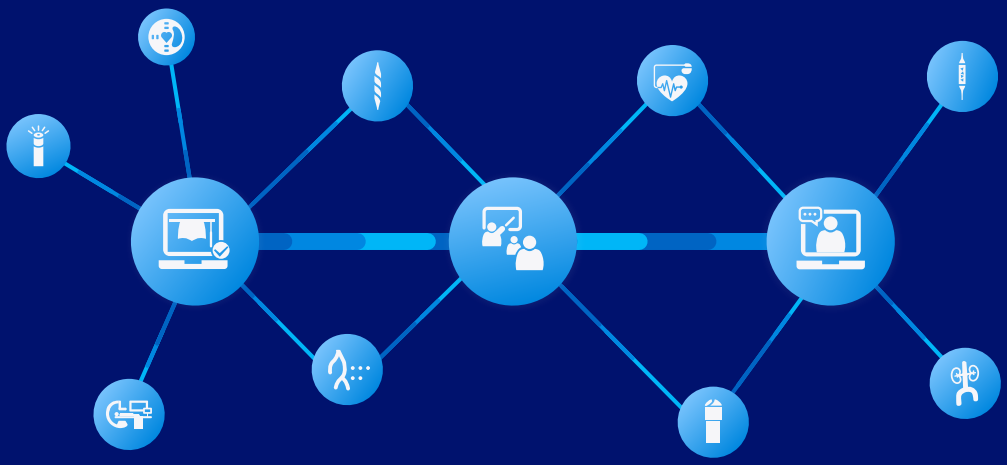
- **Accessibility and scalability:** The user-friendly, "streaming style" digital learning platform enables users to access a wide range of on-demand training material at their convenience — anytime, anywhere, providing equal opportunities for professional development across all skill levels and locations.

- **Customizable learning:** Content can be tailored to each clinician's unique training needs, meeting them where they are within their specialty with a diverse option of learning formats.

- **Comprehensive, yet flexible, learning pathways:** Learning pathways that offer opportunities for self-directed training, virtual peer-to-peer education, hands-on experience, and assessment promote engagement and retention. This can help physicians build clinical competence and confidence in their ability to deliver safe, effective, and evidence-based utilization of the latest techniques and technologies in their professional practice.

> "The Philips IGTD Academy is an invaluable resource for helping physicians learn to integrate IVUS imaging into their procedures to enhance patient outcomes. Philips is committed to providing resources that improve patient care and facilitate continuous education for physicians and healthcare providers."
>
> – Erin H. Murphy, MD, FACS

> "IGTD Academy has had a transformative impact on healthcare professionals in underserved areas. One of my colleagues at a rural hospital utilized the platform to refine their procedural techniques and gain confidence in managing complex cases, resulting in improved patient outcomes and streamlined workflows. IGTD Academy continues to be an invaluable resource for empowering clinicians in even the most resource-limited settings."
>
> – Darshan Doshi, MD,Interventional Cardiologist at Mass General Brigham
>
> Head of Medical and Clinical for Image Guided Therapy Devices
> Philips Healthcare



Maximizing effectiveness with multichannel learning

More than 50% of medical doctors use interventional conferences and colleagues to stay up to date on their IVUS skills, according to the in2ition survey.[3] This finding reinforces the notion that clinicians absorb and retain information more effectively when they can access different types of learning formats that are:

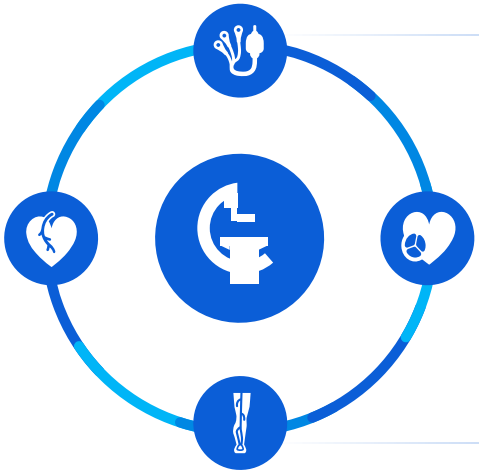
- **Diverse**: A variety of course formats — ranging from convenient on-demand access to comprehensive hands-on experience — give clinicians the flexibility to choose the training that best aligns with their learning preferences and lifestyle.
- **Interactive**: Combining hands-on, on-demand, and live virtual options keeps learners engaged, ensuring participation and reinforcing learning through different approaches.
- **Impactful**: Progress and proficiency tracking across different learning styles help foster comprehensive skill acquisition and competency in practice.

IGTD Academy platform

Learning formats	What it is	How the clinicians benefit
 Digital on-demand learning	Self-paced modules that are designed to fit busy schedules and enhance clinical decision-making in image-guided therapy.	Allows users to learn concepts at their own pace, reinforcing long-term retention and application in clinical settings.
 In-person training	Live, interactive practical and skills workshops with industry experts to learn about cutting-edge technologies and techniques.	Enhances skill acquisition and enhancement through hands-on application and real-time feedback.
 Virtual peer-to-peer education	Real-time, interactive sessions where learners receive personalized feedback from experts.	Builds confidence through guided practice and critical feedback, enhancing user competence and clinical decision-making.

A demonstrated track record of results

IGTD Academy has received positive feedback and success stories from trainees who have benefited from the education. These success stories validate not only the impact of trainings, but furthermore the confidence and competences gains in using image-guided therapy solutions.



> "The Philips Laser Master Clinic was amazing. The collegial environment was incredibly engaging and fun. There were many great conversations about patient care, and I learned so much about laser from the presentations, cases, and discussions with the KTLs and Philips reps."
>
> – Dr. Chris Kovach, MD

> "In 2023, I had the opportunity to attend multiple interventional fellow courses, and while they have been excellent didactically, none have incorporated the level of practical hands-on learning and intimate small group Q&A as the Philips Physicians-in-training graduation program."
>
> – Abdullah H. Malik, MD

IGTD Academy Success Story Snapshot

Specialty: Coronary

Institution: ECU Medical Center, Greenville, NC

Course: Ultra-low contrast percutaneous coronary intervention

Modality: In-person

Instructor: Dr. Ziad Ali

> "Since completing the course, the clinician has felt comfortable utilizing **iFR Co-Registration** in a handful of cases. Using as little as 16cc of contrast during procedures, he has significantly reduced the amount of contrast used compared to before the course. He is also finding **Dynamic Coronary Roadmap** to be quite impactful in his daily practice and is working with administration to consider bringing more of this technology into the hospital."
>
> – Philips Coronary Vascular Sales Representative

Specialty: Electrophysiology

Institution: NorthShore University Endeavor Health, Evanston, IL

Course: Scottsdale lead management national training event

Modality: In-person

Instructor: Mark Metzel, MD

> "Developing a successful lead extraction program requires strategic planning and dedicated focus, which can be challenging in a demanding clinical environment. Unlike larger conferences, this event provides an immersive experience where attendees engage in expert-led discussions and peer collaboration to gain valuable insights into proven strategies. Lead management is a complex, multifaceted program, and for those starting out, there are often critical elements that may be overlooked. This training equips participants with the essential knowledge, best practices, and tools needed to build and optimize a successful lead management program."
>
> – Mark Metzel, MD, Cardiologist at NorthShore University Endeavor Health"

Enhancements to remain at the forefront of contemporary practice

IGTD Academy is always evolving to deliver the latest high-value education and training solutions in image-guided therapy. Philips is currently developing advanced tools to revolutionize the learning experience, focusing on artificial intelligence and machine learning to create adaptive and personalized training solutions.

For example, the in2ition survey uncovered that more than half of physicians believe remote live image interpretation review would increase their IVUS use and increase confidence in implementing key strategies for using IVUS.[3] Our AI-powered training system is designed to enhance image interpretation skills, adapting to each user's performance and guiding them through increasingly complex tasks tailored to their skill level.

Another key feature of Philips' innovative approach is the implementation of comprehensive tracking and feedback mechanisms. Learners can monitor their progress in real-time, with the system providing detailed insights into various performance metrics. This personalized learning experience not only enhances skill development, but also gives learners a clear view of their growth and areas for improvement.

Launch your life-long learning journey today

Philips IGTD Academy is committed to advancing excellence in interventional cardiac and vascular care through flexible, accessible, and personalized education solutions that make a tangible impact on both clinical skills and patient care outcomes. By offering a learning platform that allows clinicians to further their knowledge and skills across their diverse career journeys, our goal is to empower tomorrow's healthcare professionals to elevate their expertise, innovate in practice, and transform patient care for the better.

IGTD Academy

Create an account to begin exploring your learning opportunities.

Resources

1.Shlofmitz E, Ali ZA, Maehara A, Mintz GS, Shlofmitz R, Jeremias A. Intravascular Imaging-Guided Percutaneous Coronary Intervention. Circulation: Cardiovascular Interventions. 2020;13(12). https://doi.org/10.1161/circinterventions.120.008686

2.Naranjo D, Doll J, Maynard C, Beaver K, Bansal A, Helfrich CD. Practice Pattern Variation in Adoption of New and Evolving Percutaneous Coronary Intervention Procedures. Journal of Interventional Cardiology. 2023;2023:1-6. https://doi.org/10.1155/2023/2488045

3.Philips Digital Ecosystem Global Survey. November 2023.

4.Narang A, Velagapudi P, Rajagopalan B, et al. A New Educational Framework to Improve Lifelong Learning for Cardiologists. Journal of the American College of Cardiology. 2018;71(4):454-462. https://doi.org/10.1016/j.jacc.2017.11.045

5.Klein LW. Training Interventional Cardiologists. JACC: Cardiovascular Interventions. 2023;16(3):258-260. https://doi.org/10.1016/j.jcin.2022.12.020

6.Secemsky EA, Aronow HD, Kwolek CJ, et al. Intravascular Ultrasound Use in Peripheral Arterial and Deep Venous Interventions: Multidisciplinary Expert Opinion From SCAI/AVF/AVLS/SIR/SVM/SVS. Journal of the Society for Cardiovascular Angiography & Interventions. 2024;3(1):101205-101205. https://doi.org/10.1016/j.jscai.2023.101205

7.Christiaan Vrints, Andreotti F, Koskinas KC, et al. 2024 ESC Guidelines for the management of chronic coronary syndromes. European Heart Journal. 2024;45(36). https://doi.org/10.1093/eurheartj/ehae177

8.Bass TA, Abbott JD, Mahmud E, et al. 2023 ACC/AHA/SCAI Advanced Training Statement on Interventional Cardiology (Coronary, Peripheral Vascular, and Structural Heart Interventions): A Report of the ACC Competency Management Committee. Circulation: Cardiovascular Interventions. Published online February 16, 2023. https://doi.org/10.1161/hcv.0000000000000088

9.Tracy CM, Crossley GH, Bunch TJ, et al. 2017 ACC/HRS lifelong learning statement for clinical cardiac electrophysiology specialists. Heart Rhythm. 2018;15(2):e17-e34. https://doi.org/10.1016/j.hrthm.2017.11.019

10.Sanjay Divakaran, Parikh SA, Hawkins BM, et al. Temporal Trends, Practice Variation, and Associated Outcomes With IVUS Use During Peripheral Arterial Intervention. JACC: Cardiovascular Interventions. 2022;15(20):2080-2090. https://doi.org/10.1016/j.jcin.2022.07.050

11.2017 HRS Expert Consensus Statement on Cardiovascular Implantable Electronic Device Lead Management and Extraction. Heart Rhythm Society. Published September 14, 2017. https://www.hrsonline.org/guidance/clinical-resources/2017-hrs-expert-consensus-statement-cardiovascular-implantable-electronic-device-lead-management

12.Philips internal marketing research on file

13.Hamid N, Aman E, Bae R, et al. 3D Navigation and Intraprocedural Intracardiac Echocardiography Imaging for Tricuspid Transcatheter Edge-to-Edge Repair. JACC: Cardiovascular Imaging. 2024;17(4):441-447. https://doi.org/10.1016/j.jcmg.2024.02.005

14.Ijioma NN, Box LC, Feldman DN, et al. Peripheral Vascular Intervention Training-Gaps and Solutions. Journal of the Society for Cardiovascular Angiography & Interventions. 2023;3(3Part A):101226. https://doi.org/10.1016/j.jscai.2023.101226

15.Seto AH, Duffy PL, Don CW, et al. SCAI Position Statement on Best Practices for Clinical Proctoring of New Technologies and Techniques. Journal of the Society for Cardiovascular Angiography & Interventions. Published online March 2022:100036. https://doi.org/10.1016/j.jscai.2022.100036

16.Rao, Sunil V et al. 2025 ACC/AHA/ACEP/NAEMSP/SCAI Guideline for the Management of Patients With Acute Coronary Syndromes: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. Journal of the American College of Cardiology, S0735-1097(24)10424-X. 27 Feb. 2025, https://www.jacc.org/doi/10.1016/j.jacc.2024.11.009