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CASE STUDY

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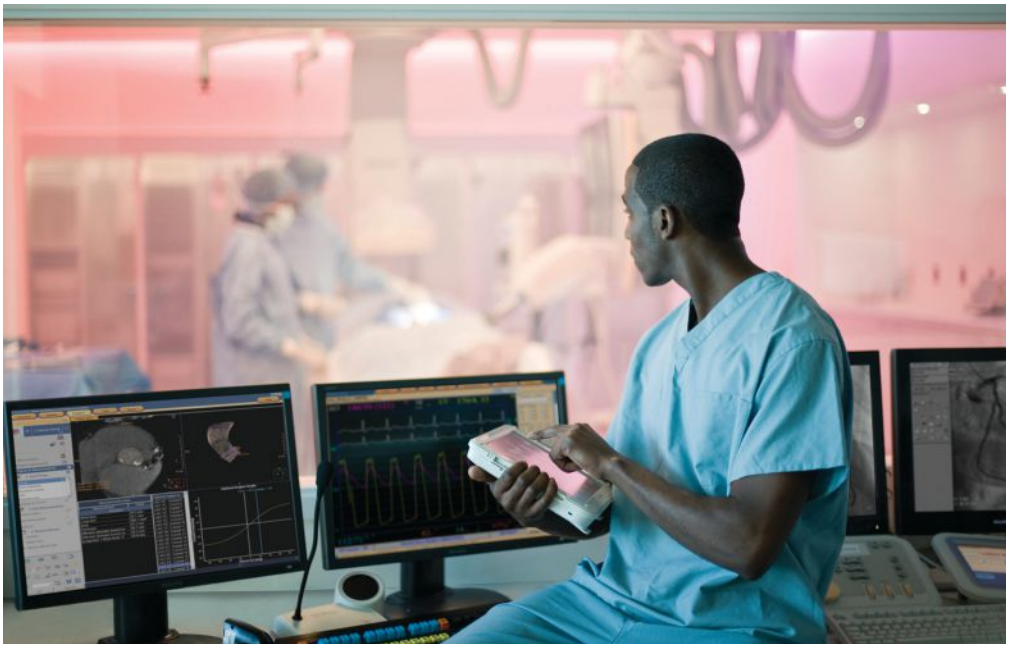
# TAVI Planning Goes High-tech to Boost Workflow at Amery Medical Academy

As medicine and technology evolve, results emerge. Such is the case with an innovative software application that offers comprehensive solutions for addressing both the common and complex challenges faced by radiologists, interventional cardiologists and cardiologists. A team of experts at Amery Medical Academy is working with Philips Healthcare to help physicians maximize the IntelliSpace Portal 9.0 software's functionality and improve patient care. From the interventional suite to the C-suite, the collaboration between developers, trainers and users of the technology is boosting operational, clinical and financial efficiencies for Amery.

Based in Irvine, Calif., with courses offered on both coasts, Amery Medical Academy is a comprehensive Level 1, 2 and 3 cardiac computed tomography (CT) training course, considered one of the most intensive in the country and endorsed by the Society of Cardiovascular Computed Tomography (SCCT). Among its team of qualified coronary and peripheral vascular CT instructors is Matthew J. Budoff, M.D., FACC, FAHA, FSCCT, who serves as Amery Medical's advisory board chairman. Budoff is a professor of medicine at the David Geffen School of Medicine at UCLA, and director of cardiac CT angiography (CTA) at the Los Angeles Biomedical Research Center at Harbor-UCLA Medical Center. In his practice and through his work at Amery Medical Academy, Budoff has been utilizing IntelliSpace for the past several years and instructed hundreds of physicians on its use.

"For us, this application has provided a robust solution for a vast array of cardiac imaging demands," said Budoff. Physicians rely on it for quality interpretation and its many diagnostic advantages, he added, and they appreciate its usefulness as a remote portal, allowing physicians to access the images from virtually anywhere and be able to interpret those studies.



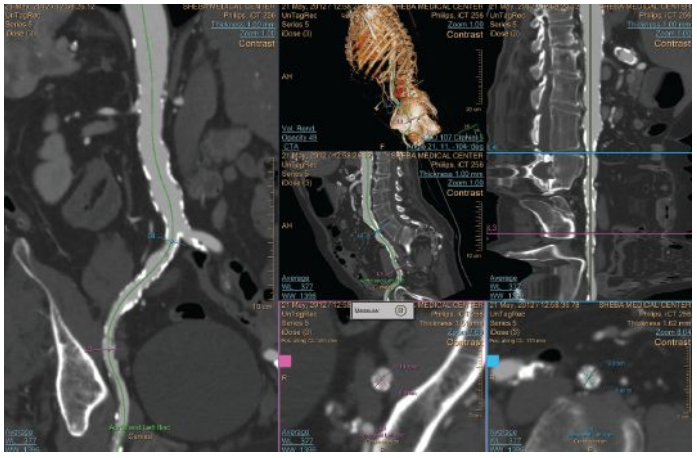
**Amery Medical Academy worked with Philips to develop its CT transcatheter aortic valve planning software.**

## Clinical and Workflow Benefits of Application

The intuitive, comprehensive IntelliSpace Portal workstation helps clinicians visualize, diagnose, measure disease state and communicate across modalities with one automated and guided workflow. The noninvasive, post-processing application provides a 3-D model-based automatic segmentation of the aortic valve and aortic arch. Physicians trained on IntelliSpace Portal at Amery Medical have experienced a range of benefits in cardiac care. Chief among them are its flexibility, easy access to data and dramatic time savings. Data can be accessed from anywhere, and the portal allows physicians to save bookmarks and share results with referring physicians and interventional cardiologists; turnaround time is reduced when compared to manual measurements. The software also offers faster scanning-to-reporting time, improved reproducibility and greater specificity in measurements.

When asked to address the portal's diagnostic benefits, Budoff said he uses it for a large number of different clinical applications, including aortic valve replacement surgery, coronary and cardiac CTA, aortic imaging, and more. "From a cardiovascular standpoint, we find it to be quite robust. Everything from perfusion imaging to valve replacement, ejection fraction analysis, it's a one-stop shop for all of our CT-related needs," said Budoff. "The software loads the images quickly, allows for great image quality and easy access, and we can quickly get our 3-D reconstructions done to analyze the images."

The CT TAVR Planning offers measurements of relevant heart structures for TAVR (transcatheter aortic valve replacement) device sizing. It also provides a reasonable starting angle for C-arm position in the cath lab for the interventional team performing the procedure. Amery Medical appreciates the precision analysis and workflow efficiency tools, and being able to turn almost any PC that meets minimal requirements into a workstation. "We find [it] quite impactful," Budoff said. "We have, with our interactions with structural heart disease colleagues, appreciated the images and analyses — fast reconstruction times, adjustments to measurements and angles in the cardiac environment."



**CT angiography plays a key role in TAVR, so Philips has integrated its planning and procedural guidance software.**

## Broad-Based Advantages to Use

The training on IntelliSpace Portal at Amery Medical brings about numerous advantages that span the cardiac landscape for physicians. "When we think about the utility of a better applications package and platform for shared images, this is most useful in the more advanced, challenging cases," said Budoff.

> "This application has provided a robust solution for a vast array of cardiac imaging demands."
>
> — *Matt Budoff, M.D., FACC, FAHA, FSCCT*

"This includes perfusion, TAVR and other structural heart cases and coronary arteries."

Whether physicians are looking at more advanced cardiovascular cases or serial studies to identify subtle changes over time, the robust programming offered by IntelliSpace enables them to do measurements, comparisons and further analyses. "It really presents a broad application. So when we want to collaborate with other doctors or get second opinions on certain challenging cases, or share our results with our referring doctors, it's quite easy. We can bring up our saved states and be able to show our clinical cases at that point, making it quite valuable in improving patient care," said Budoff.

According to Mike Allen, CEO of Amery Medical Academy, the CT TAVR Planning application is most beneficial in complex cases of aortic stenosis requiring surgical valve replacement. These complex cases often consume disproportionate amounts of time and expense for the physicians, hospitals and patients. As such, the time saved with easy access across departments is a critical advantage appreciated by clinicians, executives and patients.

Allen was an early believer in the vision enabled by IntelliSpace Portal. "First and foremost, what we teach in the classroom is completely applicable to the real-world cardiac environment," said Allen. Beyond clinical value for the team and patient, Allen said the cardiac package offers wide-ranging and positive impact at all levels, including addressing key concerns for the C-suite. "Bottom line is that this application allows for a highly efficient tool to run metrics, company performance indicators and equipment utilization to help executives make day-to-day decisions," he said.

"When we speak of CT TAVR planning and heart disease projects, we are getting positive feedback that it helps improve patient care," added George Jurdak, Philips Healthcare's senior marketing manager for enterprise imaging Informatics in North America. "Working with the Amery Medical Academy team and Dr. Budoff has been a pleasure, and this is an example of the collaboration physicians can appreciate when integrating technology and teamwork for patient benefit.

At the intersection of technology and cardiac care, collaboration is key. According to Budoff, Amery Medical Academy looks forward to expanding its training and conducting clinical studies with the IntelliSpace Portal 9.0 workstation and CT TAVR Planning application. "Going forward, we are hoping to be able to quantify some of the metrics, showing the cost and time savings, the accuracy of the different measurements, so that doctors are confident that the benefits of the portal can be validated in a definitive way," he said.

With an eye toward further strengthening clinical integration and improving clinical outcomes, the training offered by Amery is a critical cog in the wheel that is driving new technologies into clinical use.

**For more information:**
**www.philips.com/intellispaceportal**