

Heart surgery technology developed at Baptist Health debuts after years of secrecy

January 31 2019, by Daniel Chang

In the past decade, as cardiac and vascular surgery has evolved into a team effort involving multiple medical specialists and support staff, the operating suites at many hospitals have remained relatively snug—designed to accommodate a small group of professionals.

That can give the latest multidisciplinary surgeries the feeling of a cramped space, with the surgeon, anesthesiologist, imaging tech, nurse, physician assistant, and specialists working together in a single room that also includes the patient, operating table, X-ray machine and other medical equipment.

"As you start bringing more and more disciplines into rooms, they have their own needs for access, space and support," says Dr. Barry Katzen, a vascular and interventional radiologist with Baptist Health South Florida.

In that environment, moving a patient or operating table to get a better X-ray image of a heart or vascular network becomes a cumbersome task, prolonging the surgery and wearing down physicians and their teams, who can spend two to six hours completing a procedure.

That's part of the reason why Katzen has spent the last three years working with Philips, the multinational technology giant, to make it possible for surgeons, specialists and others in the [operating room](#) to see inside of a patient using an X-ray from every possible angle without having to move the patient or table.

The result of Katzen's work with Philips debuted on with the unveiling of the Azurion with FlexArm—an X-ray machine capable of rotating around an operating table like a gyroscope around an axis at various angles, giving clinicians access to the patient's whole body at any time during a procedure.

"This is really taking it to the next level," said Katzen, founder of the Miami Cardiac and Vascular Institute at Baptist Health. "It moves in an incredible number of directions simultaneously."

To demonstrate the new technology, Katzen and a team of surgeons on recently performed an abdominal aortic aneurysm repair and televised the surgery to a group of more than 1,200 physicians from 30 countries meeting at the Westin Diplomat Hotel in Hollywood for the International Symposium on Endovascular Therapy, a medical conference.

The implications for patients is profound, Katzen said. X-ray imaging is key to the growing number of diseases that can be treated with minimally invasive procedures, and he envisions the machine being useful for image-guided oncology treatment for cancer patients.

"We're going to begin to explore what the real clinical applications can be," he said.

Large medical equipment like the Azurion with FlexArm can cost hospitals millions of dollars, and that in turn can make medical care more costly for patients, though Katzen said that the technology also has the potential to reduce costs.

"We believe this is going to improve work flow, efficiency and ultimately reduce the cost of procedures we're going to do," he said. "But that right now needs to be proven."

Katzen said neither he nor Baptist Health will receive any financial benefit from sales of the new machine, though Katzen said he does serve on the manufacturer's advisory board. Federal records show Katzen has received more than \$120,000 in consulting fees, travel and meals from Philips since 2014.

But Katzen said his motivation for working with Philips to develop the new technology has more to do with serving the community of physicians and [patients](#).

"The reason for us to do this," he said, "is because we can develop technology that our physicians specifically want. And if they're successful, we bring early stage technology to our community."

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