



The Washington Hospital Upgrades Heart and Vascular Center with New Cath Lab Equipment and Information System

The Washington Hospital, an acute care facility serving primarily an elderly patient population, performs approximately 4,300 cardiac and vascular procedures annually. Due to a recent expansion, The Washington Hospital's Heart and Vascular Center needed to upgrade its equipment and its critical information systems.

"We wanted to change over to a new hemodynamic and archiving system at the same time," explained Dr. John S. Wilson, medical director, Cardiology Services and Quality Assurance, The Washington Hospital. "This change was going to impact the entire hospital including nurses, physicians, patients and the information technology team, so we needed the process to be as seamless as possible."

In addition to switching to a new cardiovascular information system (CVIS), The Washington Hospital saw an opportunity to replace the current cardiac cath lab with a dual purpose system that could perform both cardiac and vascular procedures to better serve patients and the clinical staff. The new system would also need to interface with their current information systems vendor. This posed a major challenge since most medical imaging equipment vendors sell "closed" systems that are designed to interface with their proprietary networks.

Choosing the Right Cath Lab

The Washington Hospital reviewed several medical imaging vendors to see which offered the dual purpose system they needed while being able to interface with the cardiology IT network.



Reporting over the image within McKesson Horizon Cardiology™ Cath Reporting module.

"We quickly narrowed our search down to Toshiba as the potential imaging vendor because it is the only leading imaging vendor to offer an open architecture. Interfacing with our new IT system was critical," explained Kelly Neal, director, Cardiovascular Services, The Washington Hospital.

"To replace our old cardiac cath lab, we selected the Infinix DP-i, a shared cardiac and vascular cath lab system with two flat panel detectors to achieve the work of two systems in just one room."

The Infinix DP-i addressed two critical areas. First, it provided a system that could increase asset utilization, by performing both cardiac and peripheral examinations on one system. This also helped support the growing peripheral case load. Second, clinicians accustomed to using the smaller cardiac panel for heart examinations had this panel immediately available, and those accustomed to using the larger panel for lower extremity or carotid artery examinations had this type panel immediately available too.

Situation

The Washington Hospital, a community-based not-for-profit acute care facility located 30 miles from Pittsburgh, needed to upgrade its critical information systems, as well as cath lab equipment in its Heart and Vascular Center. Knowing their decision would impact the department for years to come, the decision makers wanted to select an imaging system that would perform both cardiac and vascular exams and integrate easily into the cardiology network to better serve the clinical staff and patient population.



The Washington Hospital, a community-based not-for-profit acute care facility located 30 miles from Pittsburgh.



The cardiovascular information system (CVIS) solution also needed open architecture for easy network interface to the existing hospital infrastructure and to be scalable to accommodate the planned growth. Streamlining workflow with immediate access to patient information and faster report generation were also very important considerations to the cardiovascular department.

Solution

The Washington Hospital picked McKesson Horizon which offered both hemodynamics and CVIS on one platform. The hospital then selected the Toshiba Infinix™ DP-i, a shared cardiac and vascular system, for its dual purpose room. The new Infinix DP-i offered superior patient access and coverage for cardiovascular procedures, and increased patient throughput and workflow in a single room. In addition, Toshiba's open architecture successfully interfaced with the McKesson Horizon network. Following the positive experience working with Toshiba and McKesson, The Washington Hospital acquired two additional Toshiba systems, the Infinix CF-i and the Infinix CC-i, to round out its Heart and Vascular Center.

Benefits

- **High Quality and Connectivity:** The Toshiba and McKesson solution offers an open architecture and seamless network integration for full access to images at anytime.
- **Better Imaging to Improve Patient Care:** Toshiba's Infinix-i line includes Advanced Image Processing (AIP) for improved imaging of all patients, especially bariatric patients, through increased resolution in dark areas.
- **Automatic Optimization to Increase Workflow:** Toshiba's AIP technology on the Infinix-i systems automatically optimizes imaging during demanding fluoroscopic interventional procedures and consistently provides high-quality uniform images without tableside manipulation.

Complete IT Solution:

Unlike many cardiology PACS vendors, McKesson uniquely offers a complete cardiology IT system including CPACS, hemodynamics, ECG and reporting on a single platform and single database.



Toshiba's Infinix CF-i SP multi-axis, floor mounted diagnostic and interventional cardiac imaging system.

Solutions Applied



Choosing the Right IT System

Addressing workflow improvement in the cardiovascular labs was a major consideration when selecting a CVIS. "After looking at many CVIS vendors, McKesson's Horizon Cardiology™ stood apart with its ability to offer a complete IT designed and driven cardiovascular information solution, including hemodynamics and structured reporting on a single database system," explained Neal. "We felt McKesson's IT focus best served our needs and liked how flexible the company was on customizing a system to fit our workflow. Most importantly, Horizon Cardiology was expandable for supporting our echo department and will soon be upgraded to function as our enterprise ECG management system."

Another key benefit of the McKesson Horizon Cardiology system is its ability to work in tandem with the Infinix-i system and tie critical multi modality patient information together at one workstation. From the workstation, physicians can easily pull these images into a pre-populated report. Utilizing the Infinix-i and Horizon system, the clinician can now create a more comprehensive and accurate report than previous generation systems in considerably less time.

The Time Crunch

Given the large number of patients seen at The Washington Hospital, there was a tight 90-day timeline to completely upgrade to the new dual purpose room. To meet this deadline, Toshiba and McKesson customer service teams worked together seamlessly. Each company played a key role in communicating the customer requirements, attending meetings and working with the hospital to install the Infinix-i quickly and efficiently.

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— Kelly Neal,
The Washington Hospital

"The deadlines were tight, but Toshiba, McKesson and The Washington Hospital I.T. staff worked together to execute the plan. When it was time to go live, everything worked very well. It truly was plug and play," said Marcia Deeb, CVIS coordinator. "Also as the department grew, adding more Toshiba Infinix cath labs and McKesson Horizon workstations became easier."

New and Improved Heart and Vascular Center

The open architecture of Toshiba's Infinix-i system and the customer service approach of both Toshiba and McKesson ensured the new dual purpose room was up and running in 90 days, as well as interfacing with the IT networks. The Washington Hospital was pleased with the results.

"Working with Toshiba and McKesson on the dual purpose room was a pleasure. The Infinix DP-i, which has superior patient access and coverage, has helped increase patient throughput and workflow in a single room," explained Neal. "Additionally, the Infinix DP-i uses the same software for both cardiac and vascular procedures, allowing cardiologists to



Left coronary injection acquired using Toshiba's AIP technology. Multiple stents are clearly visible in this totally occluded left anterior descending.

Right coronary injection acquired using Toshiba's AIP technology. The vessel shown is post multiple stent placements.

rapidly switch the C-arms. This has helped reduce exam time and boost patient throughput as well."

Following the experience working with Toshiba and McKesson, The Washington Hospital acquired two additional Toshiba systems, the Infinix CF-i and the Infinix CC-i to replace other cardiac rooms and round out its upgraded Heart and Vascular Center.

The additional Infinix-i systems helped The Washington Hospital distribute the patient case load by supporting new and additional types of cardiac related cases. The Infinix CC-i, installed in the winter of 2005, is a ceiling-mounted system with flexible C-arm positioning. This has been ideal in handling urgent care patients allowing greater access to the patient and ancillary equipment.

The Washington Hospital installed the floor mounted Infinix CF-i system in the fall of 2007 to perform primarily Electrophysiology (EP) procedures. Due to ceiling installation concerns, this system was the perfect solution as it provided a five axis C-arm that delivers unprecedented patient access and the range of motion needed for EP procedures and pacemaker implants, but in a floor-mounted system.

Shortly after The Washington Hospital installed all three of Toshiba's Infinix-i systems, it acquired Toshiba's Advanced Image Processing (AIP) technology to provide a more uniform display of images and enhance the sharpness and contrast of images during diagnostic and interventional procedures.

"The image quality offered by Toshiba's Infinix line is remarkable," added Dr. Wilson. "The AIP feature allows us to better image bariatric patients through increased resolution in dark areas, exhibiting reduced background noise, and improved device and vessel visualization. All of these helps increase workflow and improve patient care."

The Washington Hospital has been utilizing Toshiba Infinix-i systems along with the Horizon Cardiology since summer 2005, and is very delighted with the results.

"Toshiba and McKesson have become a single source solution for The Washington Hospital. The two companies work together impeccably and allow us to take advantage of leading medical imaging equipment and leading IT networks without sacrificing quality or flexibility. They offer the best of both worlds," Neal concluded.