

CASE STUDY:

Terrebonne General Medical Center

Infinix DP-i Shared Cardiac and Vascular Lab Helps Terrebonne General Medical Center Meet Growing Interventional Needs, Including Increase in Limb Salvage Cases

SITUATION:

Terrebonne General Medical Center is a nationally recognized healthcare organization home to one of the most advanced vascular interventional practices in the country. TGMC patients come from all over the country for interventional treatment for conditions associated with cardiovascular disease (CVD) and peripheral vascular disease (PVD), including limb ischemia. TGMC wanted to upgrade its interventional equipment to continue to meet the needs of its growing interventional practice and an increase of limb salvage cases.

SOLUTION:

Terrebonne General Medical Center replaced its previous Toshiba equipment with three

new Toshiba Infinix™ DP-i systems with Next Generation Advanced Imaging Processing (AIP). The flexible Infinix DP-i is a shared cardiac and vascular cath lab enabling TGMC to continue its interventional work with more accuracy in imaging and better access to the patient, all while using less contrast and lower radiation. Additionally, the Infinix-i's superior contrast, dynamic resolution and patient access from both sides of the table allows TGMC to better visualize, evaluate and treat acute and chronic limb ischemia.

BENEFITS:

- **Single System, Double The Work:** Infinix DP-i is a shared cardiac and vascular cath lab ideal for cardiac and peripheral interventions using a single room

- **Exceptional Image Quality:** Infinix DP-i with Next Generation AIP increases accuracy and visualization during interventional procedures by providing clearer, sharper images to identify the location of blockages, evaluate disease and aid in device deployment
- **Better Patient Access Without Compromise:** Infinix DP-i provides better access to the patient by allowing clinicians to work from either side of the patient, which is helpful in limb ischemia cases where ischemia could be present in one or multiple areas
- **Safer Exams Through Less Contrast and Lower Dose:** Infinix-i's lower dose capabilities and high image quality enable clinicians to image patients using less contrast and lower radiation

Terrebonne General Medical Center (TGMC) is a public, non-profit healthcare system consisting of a 321 licensed bed acute care facility complete with a range of services, including one of the most respected vascular interventional practices in the country. It is the largest community-based hospital in the tri-parish area of Terrebonne, Lafourche and St. Mary parishes in southern Louisiana. With world-renowned cardiovascular and interventional services using innovative surgical technology, TGMC attracts patients from all over the country seeking interventional treatment for conditions associated with cardiovascular disease (CVD) and peripheral vascular disease (PVD), including limb ischemia.

Acquiring the Infinix DP-i with Next Generation AIP

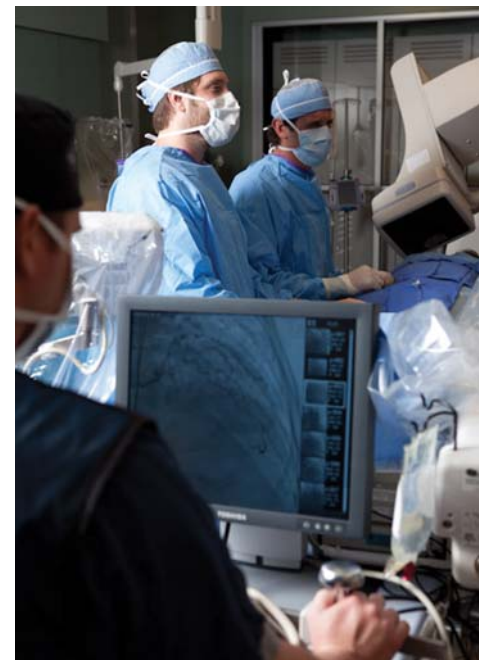
TGMC had been using three cardiovascular X-ray systems from Toshiba America Medical Systems, Inc., to handle more than 3,300 cath lab patients annually¹. With diabetes on the rise and approximately 23.6 million children and adults (7.8 percent of the U.S. population) living with diabetes², TGMC is experiencing an increase in diabetic patients and patients suffering from CVD and PVD. To meet the demands of TGMC's growing interventional practice, the hospital is upgrading its Toshiba interventional equipment to handle more patient cases overall, including an increase in the number of limb salvage cases.

Due to the success of TGMC's previous Toshiba equipment, it acquired three new Infinix™ DP-i systems with Next Generation Advanced Imaging Processing (AIP). As a shared cardiac and vascular cath lab, the Infinix DP-i is ideal

for meeting the needs of a busy interventional practice treating patients with CVD or PVD. The Infinix DP-i's unique dual C-arm system allows one lab to perform like two. One C-arm is designed for cardiac work, while the other is optimized for peripheral work outside the heart, such as carotids, renals and legs. Additionally, the design of the system enables clinicians to seamlessly transition between cardiac and peripheral work during a single procedure.

Single System Handling Peripheral and Cardiovascular

As a shared cardiac and vascular cath lab, TGMC uses its three Infinix DP-i systems for a range of procedures, including treating patients with CVD, congenital and structural heart disease, PVD and limb ischemia. Clinicians can transition quickly between cardiac and peripheral procedures – even on the same patient – by switching from one C-arm to the other on the Infinix DP-i, while using the same software for both procedures.



TGMC handles more than 3,300 cath lab patients annually.

"As one of the largest interventional practices in the country, many of our patients are critically ill and have disease in multiple areas," explained Dr. Peter Fail, director of cardiac catheterization laboratories and interventional research, Terrebonne General Medical Center and Cardiovascular Institute of the South. "The Infinix DP-i gives us the best of both worlds by allowing us to switch from evaluating the heart to peripherals, all within a single procedure using the same system."

The high image quality of the Infinix DP-i enables TGMC to perform more innovative work through better visualization. The improved image quality during fluoroscopic intervention allows TGMC to see with more clarity and enhances device guidance and deployment, creating safer, faster and more comprehensive exams. The Infinix DP-i has two C-arms that share a common table, helping maximize room space. The systems also feature Next Generation AIP designed to improve patient safety and diagnostic confidence by increasing accuracy and visualization during interventional procedures, by providing clearer, sharper images and enhanced system utilization, all of which are important features for today's cath lab.

Improving Limb Salvage/ Limb Ischemia Interventions

TGMC performed approximately 1,160 peripheral interventions in 2009, and the number of peripheral interventions continues to grow. Peripheral vascular disease (PVD) refers to diseases of blood vessels outside the heart and brain, and includes the narrowing of vessels that carry blood to other regions of the body, in particular, the legs and feet. Similar to coronary artery disease, blockages occur when deposits build up in the inner linings of the artery walls and restrict blood circulation leading to the legs and feet. Blockages in the limbs can turn into limb ischemia which can result in gangrene, nonhealing wounds, and eventually, amputation.

Diabetics – a patient population on the rise at TGMC – are at particular risk for limb ischemia and amputations, since impaired circulation is one of the complications associated with diabetes. According to the American Diabetes Association, more than 60 percent of nontraumatic lower-limb amputations occur in people with diabetes, resulting in approximately 71,000 nontraumatic lower-limb amputations in diabetics in 2004.

Using the Infinix DP-i, TGMC has been able to more successfully treat acute and chronic limb ischemia. The system delivers superior contrast and dynamic resolution, allowing TGMC to better visualize limb ischemia, including the location of the blockage, its severity, which branches are impacted and if there is an infection in the bone. Many patients with limb ischemia can avoid amputation if it is identified, monitored and treated early. Therefore, it is critical for at-risk patients, including diabetics, smokers and those with PVD, to be monitored carefully.

"TGMC specializes in limb salvage cases and the Infinix DP-i's high quality images help us assess the severity of the condition, develop a roadmap for treatment and aid us during intervention," explained Dr. Craig Walker, MD, interventional cardiologist at Terrebonne General Medical Center, and founder, president, and medical director of Cardiovascular Institute of the South. "From a clinical standpoint, we need to understand if the tissue is viable and

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— Dr. Walker,
Terrebonne General Medical Center



Next Generation AIP is designed to improve patient safety and diagnostic confidence during interventional procedures.

if an infection has spread to the bone to assess if the limb is salvageable. If the issue is identified early, monitored, and treated properly, the limb may be salvageable in many cases. The images acquired using the Infinix DP-i aid us in developing a complete treatment plan to improve these patient outcomes."

The system provides unparalleled patient access, which is important in all procedures, but especially in limb salvage cases where ischemia could be present in one or more limbs. Using the Infinix DP-i, TGMC clinicians can work from the right or left side of the table, making it easier to visualize and evaluate ischemia in either leg during a single procedure. It is common for critically ill patients, the people who seek treatment at Terrebonne, to have disease in multiple areas.

"Most labs require clinicians to work from the right side only, limiting procedures to one leg and one

side of the body," Dr. Walker added. "The Infinix DP-i provides better access to the patient by allowing us to work from either side of the patient, which is extremely helpful in cases where patients potentially have ischemia in both limbs. The Infinix is helping improve patient care by enabling us to do more complete work during a single procedure."

Safer Procedures with Lower Dose and Less Contrast

According to Dr. Fail, Toshiba's Infinix DP-i allows clinicians to perform more complete procedures with lower radiation dose and less contrast. Beyond high-quality images, the Infinix DP-i features comprehensive dose-reduction technologies.

"We are able to utilize the system based on our needs," explained Dr. Fail. "Radiation dose can be monitored in real time, allowing us to observe dose levels during procedures."

The Infinix DP-i's fluoroscopy takes less time and more readily detects devices such as catheters and guide wires. Clinicians can select from four pre-programmed fluoroscopy modes to manage dose levels, as well as an extensive range of pulse fluoro settings. In addition, they can also capture still and dynamic images, which can be archived for future reference during fluoroscopy, offering a reduction in fluoro dose exposure. Often, less contrast is required during procedures, since the high-quality images make it easier to visualize and evaluate disease quickly.

Improving Care in the Future

Terrebonne General Medical Center has built a reputation based on quality and is a nationally recognized healthcare organization providing state-of-the-art technology and advanced services to patients. Using three Toshiba Infinix DP-i shared cardiac and vascular cath lab systems, TGMC is addressing its growing interventional practice while improving patient care through identifying and treating disease early, with lower radiation and less contrast. The shared cardiac and vascular cath labs enable TGMC to better visualize, evaluate and treat CVD and PVD, as well as manage acute and chronic limb ischemia.



TGMC is home to one of the largest interventional practices in the country.



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