

## Healthcare Technology At Work

How your community-owned healthcare system is investing in the health of Marshall County.



### A New Dimension

3D mammography offers a big increase in the ability to detect more invasive cancers.

### Hi-Def, Redefined

Marshall Medical is first in the entire U.S. to install integrated 4K technology in the OR.

### Can-Do Cardiology

Cardiac catheterization lab brings life-saving intervention to local heart patients.

Welcome to  
**HealthConnections**  
a service of your Marshall Medical Centers

Keeping Marshall County residents well-informed about healthcare has long been a priority at Marshall Medical Centers. From news about expanded services to introductions of new physicians and specialties, we rely on vehicles such as HealthConnections to share the relevant information. You may recall receiving HealthConnections as a newspaper insert – with this issue we are pleased to introduce a new, more concise format, delivered straight to your mailbox.

With several exciting new technologies recently being introduced at Marshall Medical, we thought a technology theme was appropriate for this first “new and improved” issue. That theme is “Leading-edge technologies, bringing world-class care closer to home,” and inside you can read several major technology stories including:

- Marshall Medical being the first hospital in the entire country to implement Ultra High Definition 4K surgery for laproscopic procedures.
- The adoption of 3D mammography as our exclusive method of breast cancer screening.
- The life-saving benefits of Marshall Medical’s interventional cardiology lab.

Along with other major technologies – such as the Varian Linear Accelerator for radiation therapy and our state-of-the-art lithotripter for kidney stone treatment – these investments enhance local access to quality healthcare.

Marshall Medical takes pride in being a technology leader. As a community-owned healthcare system, a commitment to the latest technology is core to our mission. From providing a detailed diagnosis to delivering life-saving treatment, these investments are paying big dividends for local patients. Expertise with a caring touch plus the absolute latest technology is a powerful combination, and another reason Marshall Medical is your convenient choice for excellent healthcare.



Gary Gore  
Chief Executive Officer



As CEO, Gary Gore works closely with the Marshall County Healthcare Authority and the Marshall Medical leadership team to fund and implement a comprehensive technology strategy.

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For more information about all the technology available at Marshall Medical Centers visit [mmcenters.com/technology](http://mmcenters.com/technology)



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## 3D Mammography – a new dimension in screening.

The latest technology in mammography is being hailed as the single greatest breakthrough in breast cancer detection in the last 30 years.

3D mammography, which is able to detect 41% more invasive cancers, is now the exclusive method for breast cancer screening used at Marshall Medical Centers.

“I’m really impressed with the quality of the images,” said Dr. Cynthia Monk, surgeon with Cornerstone General Surgery Clinic. “It’s much more sensitive for better detection. The patients seem really pleased with it.”

Traditional mammography creates a single image, while the new technology takes multiple images or X-rays of tissue to create a 3D picture of the breast. Due to overlapping layers of tissue inside breasts, those 2D images could produce unclear results causing false alarms or allowing cancer to be missed altogether.

Women with dense breast tissue in particular may benefit from clearer pictures in 3D mammography, making it easier for doctors to catch breast cancer early. It also makes the size of the cancer easier to see than on a regular mammogram. Exams done using the new equipment produce a series of detailed images allowing a better evaluation of breasts layer by layer. A mass will stand out in the scan rather than be camouflaged by dense breast tissue.

Greater accuracy means better breast cancer detection and a reduced chance of being called back for additional screenings.



*The Hologic Genius™ 3D system.*

*If your insurance does not yet cover 3D mammography, 2D is still available, or you may opt to pay a small fee for 3D.*

## Stereotactic biopsy offers a less invasive solution, thanks to 3D technology.

Another important capability available with the addition of 3D mammography is stereotactic breast biopsy. Developed as an alternative to surgical biopsy, it is a less invasive way to obtain the tissue samples needed for diagnosis.

According to Wade Wright, director of diagnostic imaging at Marshall Medical Centers, stereotactic core biopsy is a great advance.

“It allows doctors to identify and remove a suspicious spot rather than cutting out a large area of tissue to determine if it is benign,” he said.

Stereotactic breast biopsies use mammographic X-rays to locate and target the area of concern and to help guide the biopsy needle to a precise location. This technique helps ensure that the area biopsied is the exact area where the abnormality was seen on the mammogram. It is called stereotactic because it utilizes two images taken from slightly different angles of the same location. After the sample is collected it is sent to a pathology lab to determine if there are cancer cells present.

This procedure requires less recovery time than a surgical biopsy, and there is no significant scarring to the breast. It is normally done when the radiologist sees a suspicious abnormality on a mammogram that can't be felt in a physical exam.



# Marshall Medical leads the way with ultra hi-def 4K technology.



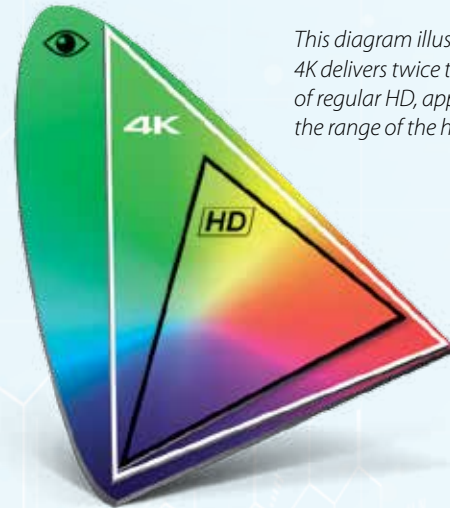
4K laparoscopy video technology represents the latest generation of high definition or HD technology. It is now being used in all operating rooms at Marshall Medical North and South. Marshall Medical was actually the first installation in the U.S. of the Olympus/Sony system, which is the only integrated 4K surgical system of its kind.

"The picture is much brighter and gives a clear image of even small vessels," said Tim Bean, director of surgery for Marshall Medical Centers. "The equipment also has a green light feature which helps to identify cancer cells in the bladder and uterus."

The Olympus/Sony 4K Ultra High-Definition 55-inch video system changes the way surgeons operate, offering the same immersive experience in the operating room as people experience in their living rooms. Surgeons are not limited by resolution or image quality, only by the limits of the human eye. Precise visualization enables the diagnosis and treatment of disease. At Marshall Medical, 4K laparoscopy is being used in general surgery, as well as gynecological, orthopedic, urology and ear, nose and throat procedures.



*Crystal-clear images enhance surgical precision, with 55-inch monitors that allow the entire team to focus on one central reference point.*



*This diagram illustrates how 4K delivers twice the color of regular HD, approaching the range of the human eye.*

## **Key benefits of the system include:**

- Anatomical structures are physically larger when displayed through big screen surgery.
- The entire surgical staff is focused on one central reference point.
- 4K cuts the optimal viewing distance in half when using a 55-inch display monitor.
- The VISERA 4K UHD System delivers four times the resolution, better light and twice the color as regular HD, enabling surgeons to see images with greater clarity.
- The system provides additional light to illuminate bleeding in surgical fields, visualize deep surgical cavities, and enhance the endoscopic viewing experience.
- The system also delivers more vivid shades of red and yellow for better visualization, allowing surgeons to observe fine patterns and structures with high precision while delivering higher contrast levels with more detail to support greater accuracy.

## What the surgeons are saying about 4K at Marshall Medical.

Integrated ultra high-definition 4K systems are found in every operating room throughout Marshall Medical Centers, adding a tremendous upgrade to the tools available to surgeons. Here's what the surgeons have to say about this leading-edge technology:

**Dr. Thomas Downes**, general surgeon at Marshall Surgical Clinic, considers 4K an advancement toward excellence in maximizing patient safety and achieving greater efficiency for surgical procedures.

*"During the 26 years I have been performing laparoscopic surgeries, Marshall Medical has provided the highest quality of support so that I and other surgeons may, in turn, provide the highest quality patient experience available," he said. "This commendable investment in state-of-the art technology demonstrates their commitment to our united objective of continual improvements for the patient care process."*

**Dr. John Groves**, a general surgeon with Surgical Associates of Marshall County, praised the 4K technology he uses every day in laparoscopic procedures because it makes surgery much easier on patients.

*"Visualization is much improved," he said. "There's less post-operative pain. They definitely have a faster recovery. Most patients go home the same day. You've got to have the best equipment to be able to do that."*

**Dr. Stephen Britt**, also with Surgical Associates of Marshall County, was in residency when laparoscopy began and has watched optics improve with each generation.

*"The better we can see, the faster and more efficiently we can do operations," he said. "Obviously, it's safer. It's less time under anesthesia. Each generation of the technology is head and shoulders above the last one. We can see things that you could never see before, even the tiniest blood vessels. The quality is almost better than your own vision. It is a wonderful system."*

**Dr. Cynthia Monk**, a surgeon with Cornerstone General Surgery Clinic in Guntersville, praised the visual capability made possible with 4K technology.

*"It helps with depth perception, which is great when you're working with different organs," she said. "The colors are brighter, more intense. It's exciting that this hospital continues to upgrade equipment to provide better service to the community."*



Radiation Oncologist  
Dr. Tom Payne with the  
Varian Linear Accelerator.

## SBRT spells advance for radiation therapy.

Used in conjunction with the Varian Linear Accelerator, Stereotactic Body Radiation Therapy (SBRT) enables the Marshall Cancer Care Center to use advanced imaging techniques to deliver a targeted radiation dose to a tumor. The radiation focuses on the tumor with millimeter precision, resulting in less damage to healthy tissue. Protecting tissue is especially important for cancer patients whose tumors are near or in essential organs.

SBRT creates a 3D image of a tumor and matches the radiation to its exact size and shape. According to Dr. Thomas Payne, radiation oncologist at Marshall Cancer Care, the technology is "used primarily on tumors in the lung, spine, brain and liver."

A non-surgical procedure, SBRT delivers radiation at much higher doses in only a single or few treatments as compared to traditional radiation therapy. SBRT is an alternative to invasive surgery, especially for patients who are unable to undergo surgery and for tumors that are hard to reach or located close to vital organs/ anatomic regions.

Instead of actually removing the tumor, this technology damages the DNA of tumor cells causing them to lose their ability to reproduce. Following treatment, benign tumors usually shrink over a period of 18 months to two years. Malignant and metastatic tumors may shrink more rapidly, even within a couple of months.





## Technology plus caring physicians combine for life-saving interventional cardiology.

Marshall Medical offers some of the most modern cardiac catheterization technology available, including the unsurpassed GE Innova IGS 530. Because of that investment, a person having a heart attack anywhere near the Boaz-Albertville area can receive the latest heart treatments without having to travel outside the county.

The benefits were aptly captured by John Anderson, administrator at South: "We've combined the latest technology with a highly trained, caring team of professionals, all dedicated to providing advanced cardiac cath procedures right here in our community. This service is literally saving lives."

Three recent success stories illustrate the value of Marshall Medical's cardiology program.

When John Denham of Sardis arrived at the ER, an EKG confirmed he was having a heart attack. Dr. George Philip, a full-time interventional cardiologist at Marshall South associated with Heart Center Inc., performed a life-saving heart catheterization to locate the blockage and insert three stents.

"Doing these procedures emergently and successfully is the result of a fantastic, well-oiled team of medical personnel at South," Dr. Philip said.

In another case, Marshall Medical staff interventional cardiologist Dr. Raymond Fernandez utilized the cath lab to save the life of Patricia Williams from Geraldine.

Patricia had 100% blockage in the coronary artery, frequently

called a "widow maker" (or in Patricia's case a "widower maker") because it is so often fatal. The ability to diagnose the blockage and place a stent allowed Dr. Fernandez to conduct the life-saving procedure locally.

From a physician's perspective, the benefits of the cath lab are obvious. "I would honestly say we've saved a lot of lives here," Dr. Fernandez said.

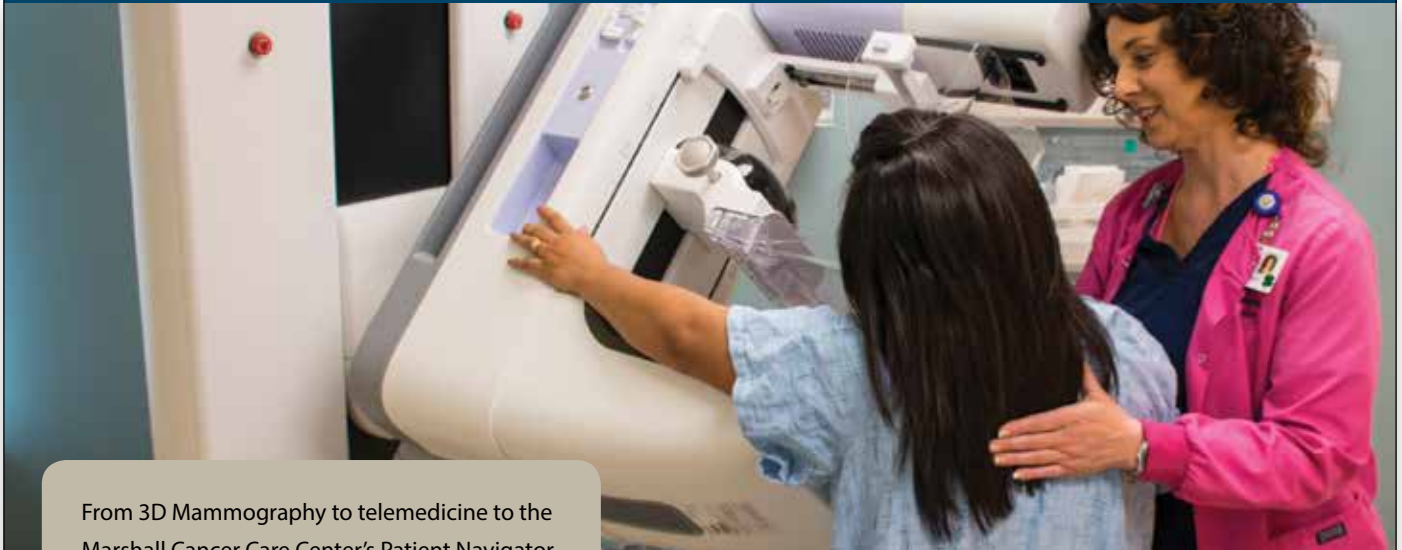
The cardiology program also highlights the role of modern technology when combined with a caring physician and an involved patient.

Gwen Sibert of Boaz relies on her Apple watch and the AlivCor smartphone app to monitor her heart rate. When she awoke at 3 a.m. with a racing heart, the app detected atrial fibrillation (also called AFib). Gwen was treated by Dr. Kathleen Evans, a Heart Center Inc. cardiologist who works full-time at Marshall South.

Gwen learned from Dr. Evans that untreated AFib doubles the risk of heart-related deaths and is associated with a 5-fold increased risk for stroke, and was very impressed with the care she received.

"Having patients like Mrs. Sibert who take responsibility for their medical conditions makes my job so much easier," Dr. Evans said. "Doctors can only do so much – give medication, recommendations, surgery, procedures, testing; patients must be the most active participant in the team if they want to feel their best and reduce their risk of adverse events."

# A special thanks to our Partners in Healthcare Philanthropy for taking local healthcare to the next level.



From 3D Mammography to telemedicine to the Marshall Cancer Care Center's Patient Navigator Program, the Foundation for Marshall Medical Centers supports dozens of projects and technology enhancements across Marshall Health System. Our mission is to provide world-class healthcare with a personal touch to everyone in the community, and these partnerships are critical to our success.

Your donation benefits the life-saving work done at Marshall Medical Centers every day. We applaud and appreciate your support and commitment to our mission!

To join hands with us as a future Partner in Healthcare Philanthropy, please contact us at [foundation@mmcenters.com](mailto:foundation@mmcenters.com) or 256-571-8026.



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*These 2016-2017 Partners have chosen to support The Foundation at the highest level throughout the year. Thank you!*



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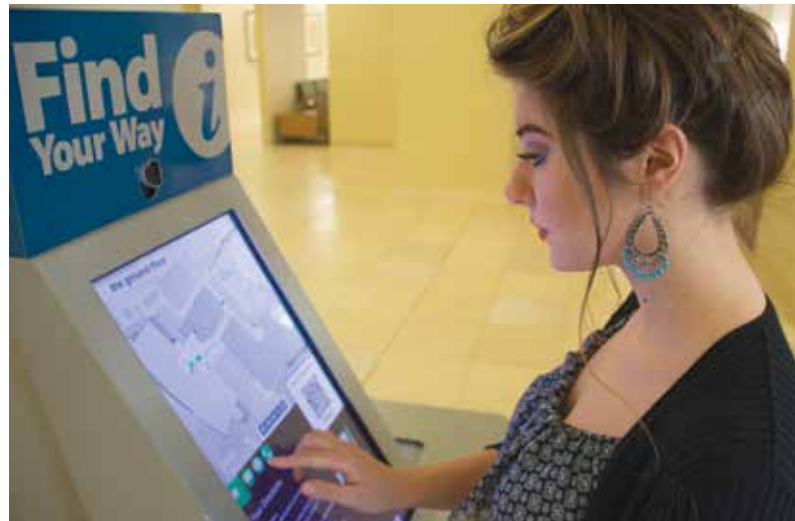
## Making technology easy to find at Marshall Medical.

Technology at Marshall Medical is not limited to diagnosis and treatment. With Find Your Way kiosks and online directions, technology also makes for easier access to our services.

Find Your Way provides complete door-to-door directions, including parking and step-by-step walking directions inside our buildings at Marshall North and Marshall South. Visitors can use them to get help navigating hallways, elevators and doorways inside the facility, as well as around the grounds of the campus.

With touch screen kiosks located throughout our facilities, hospital visitors can simply tap a screen to obtain detailed directions. The device provides directions that can be viewed on a screen, downloaded onto a smartphone or, in the case of several kiosks equipped with printers, printed out on the spot.

The system can also be accessed online for complete door-to-door driving directions, including parking and step-by-step walking directions from parking areas to the visit destination.



*The Find Your Way system includes convenient touch-screen kiosks plus online access to driving directions. Visit [mmcenters.com/about/find-your-way](http://mmcenters.com/about/find-your-way).*

## Patient Portal offers online bill pay, convenient access to personal health data.

Our Patient Portal is a secure website that gives patients convenient 24-hour access to online bill paying and personal health information from your home computer, smartphone or tablet device. The information in the portal is from your Marshall Medical Centers' electronic health record. Using a secure username and password, patients can pay bills online

and view a summary of personal health information including lab results, allergies, medications, procedures and diagnoses. Secure payments made on the portal are immediately reflected. Enrollment forms and more details may be found on our website at [mmcenters.com/about/patient-portal](http://mmcenters.com/about/patient-portal).