



Figure 1. Chrystal Barnes and Dr. Puneet Sharma in the SIGNA™ Artist MR suite.

Emory Johns Creek Hospital elevates performance and patient satisfaction with SIGNA Artist

Located 40 miles north of Atlanta, Emory Johns Creek Hospital is one of six hospitals affiliated with Emory Healthcare, the region's most comprehensive academic health system. The hospital recently installed the SIGNA™ Artist 1.5T MR system, replacing an older 1.5T system originally installed when the site opened in 2007.

For Emory Johns Creek Hospital, upgrading their MR technology wasn't about being a "pioneer"—it was about implementing a system that would serve the 200-bed hospital with more speed and high-quality imaging than what they had before.

"SIGNA™ Artist brought us a long way from our previous platform," says Chrystal Barnes, CRA, RT(R)(CT), Director of Imaging at Emory Johns Creek Hospital.

"I just wanted to provide an upgrade in technology and quality to this hospital. GE Healthcare jumped in to provide all the software solutions we needed, and they worked with our physicians and technologists to ensure we maximized the technology. They leaped over the moon for us."

An upgrade in service

Barnes considered quotes from two vendors and paid particular attention

to service capabilities. "GE provided everything we needed and then some," she says. "As an example, when I ask GE for a protocol, and they drive over to install that protocol in between patients, that's a wonderful example of going above and beyond."

Since installing the system, the service has continued to exceed expectations. "It's the best service that I've had in almost 40 years in radiology," she says.



**Chrystal Barnes CRA,
RT(R)(CT),**

Emory Johns Creek Hospital,
Johns Creek, GA



Puneet Sharma, PhD

Emory Johns Creek Hospital,
Johns Creek, GA

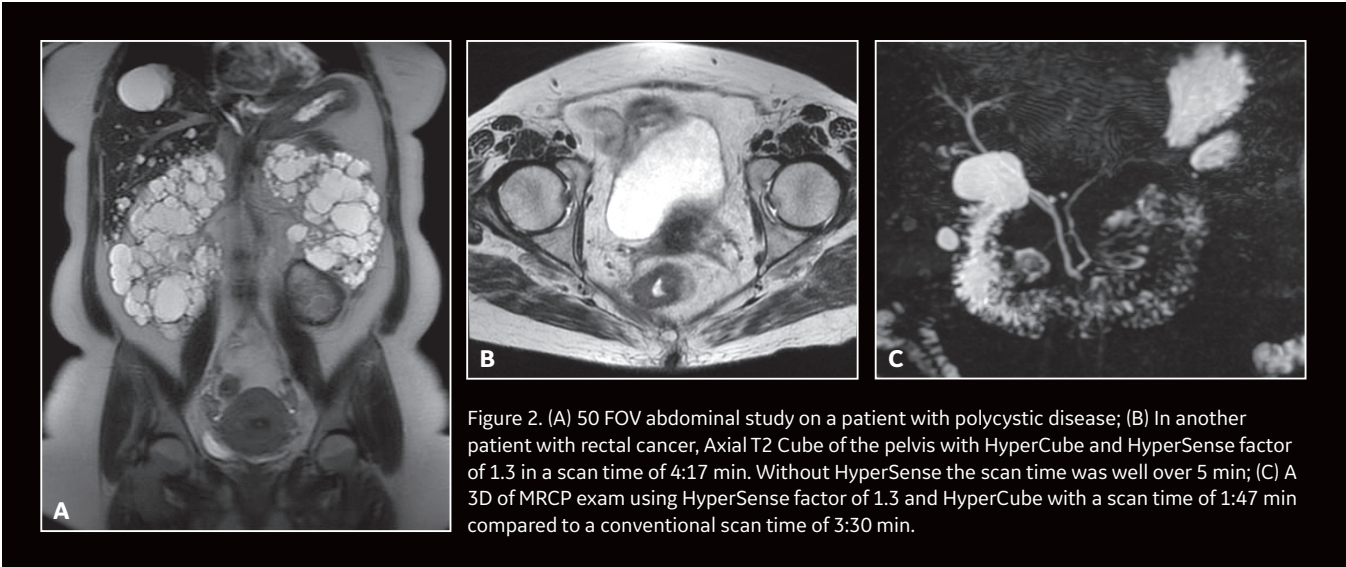


Figure 2. (A) 50 FOV abdominal study on a patient with polycystic disease; (B) In another patient with rectal cancer, Axial T2 Cube of the pelvis with HyperCube and HyperSense factor of 1.3 in a scan time of 4:17 min. Without HyperSense the scan time was well over 5 min; (C) A 3D of MRCP exam using HyperSense factor of 1.3 and HyperCube with a scan time of 1:47 min compared to a conventional scan time of 3:30 min.

Puneet Sharma, PhD, Assistant Professor, Department of Radiology and Imaging Sciences at Emory University, enjoys having GE's expert advice on hand for insight and collaboration. "They know the tips and tricks behind the sequences. We may know the theory, from research and literature, but it's good to have vendor experts on-site who know the software and system better than we do."

Consistent protocols

The Emory health system's overarching strategy is to standardize protocols across sites—a significant challenge due to the geographical spread, different software systems and mix of vendors at each location. Despite these complexities, the SIGNA™ Artist helped Emory Johns Creek Hospital establish protocols consistent with the main Emory campus.

"I felt confident propagating a lot of the protocols from Emory to Johns Creek, and it has been a pretty easy transition. With the SIGNA™ Artist, it was a pleasure to be able to easily replicate, almost one-for-one, sequences from the main campus to the system," says Dr. Sharma.

This process was a significant improvement over past experiences, and it has brought Emory Johns Creek Hospital to the forefront of technology across the different Emory sites.

"In the past, I had to compromise on some of the sequences I selected on older models in our fleet, which diminished the radiologists' use of that particular system. Now I see it as a level playing field."

Powerful applications

With SIGNA™ Works innovative applications like HyperCube and HyperSense, SIGNA™ Artist empowers

Emory Johns Creek Hospital to deliver improved image quality, higher efficiency and a more streamlined workflow.

HyperCube expands the capabilities of 3D imaging to significantly reduce scan times and minimize artifacts by reducing the phase field-of-view (FOV) without the presence of aliasing artifacts. HyperSense is an acceleration technique based on sparse data sampling and iterative reconstruction that delivers higher spatial resolution images or reduced scan times, enabling faster imaging without the penalties commonly found with conventional parallel imaging.

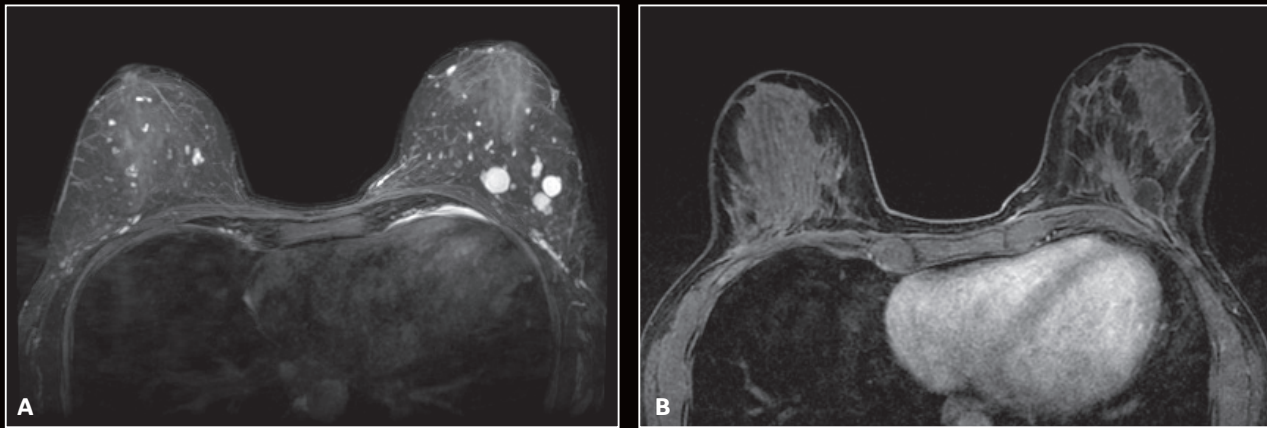


Figure 3. (A) T2 Flex HyperCube bilateral breast exam with HyperSense factor of 1.3 in a scan time of 3:37 min; (B) VIBRANT Flex.

High-resolution T2 imaging was previously a challenge on the prior MR system. Emory Johns Creek Hospital has begun using HyperSense with HyperCube for 3D imaging in neuro, body and pelvis scans. Dr. Sharma estimates the application has decreased scan time by 20-30% on average.

“There’s been a significant drop in scan time. That is definitely one of the highlights. With HyperSense, we can achieve the same image quality in pelvis studies in almost half the time compared to other sites. Our goal is to run all of our T2 Cube imaging with HyperSense and/or HyperCube and all of our Time-of-Flight studies with the HyperSense version.”

Dr. Puneet Sharma

The full 50 x 50 x 50 cm FOV in the 70 cm wide bore is another benefit, allowing Emory Johns Creek Hospital

to more efficiently complete imaging exams that combine multiple stations, such as the chest, abdomen and pelvis. This, in turn, allows them to keep more exams in-house, rather than send them to the main Emory campus in Atlanta. In fact, abdomen-pelvis exams represent close to 50% of the body MR exams across all Emory sites. Previously, if these cases were not referred to the main campus, they would be split into separate exams at Emory Johns Creek, such as abdomen one day and then pelvis another day.

“We are able to do exams we couldn’t do before, and now we can do these exams efficiently,” says Dr. Sharma. And, that is also good for patients, who no longer have to travel longer distances or undergo two different MR exams for a large FOV study.

He also notes the newer body array coils are a tremendous improvement, with more signal sensitivity and more coverage, which has made a significant difference in breast MR exams. Plus, with the addition of VIBRANT Flex and HyperSense in the SIGNA™ Works

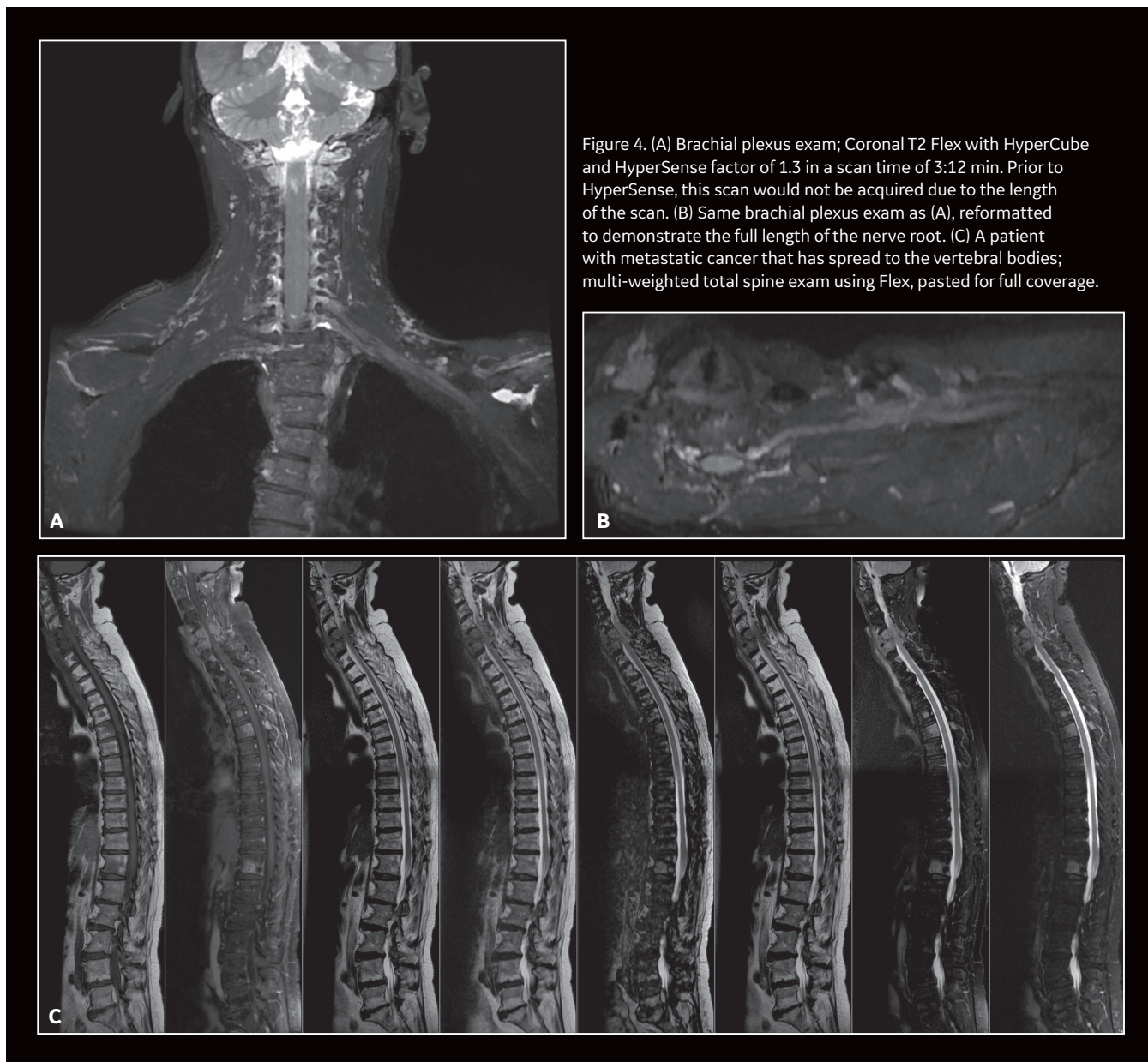
portfolio, the technologists can acquire homogeneous fat separation in a single 3D volume scan that delivers water-only, fat-only, in-phase and out-of-phase images of the breast.

For the patient

SIGNA™ Artist has also helped improve staff and patient satisfaction rates.

The hospital streamlined redundant tasks with automated tools like auto breath-hold and the propagation of imaging parameters. In addition to the clean interface and easy-to-navigate system, it has made technologists’ jobs easier. For example, the in-line post-processing tools have helped speed up the technologists’ workflow.

“If you give staff the right tools to do their jobs, they become very happy people. Giving them SIGNA™ Artist was like handing them a treasure,” says Barnes. “They have the ability to add patients in between scheduled exams because it’s faster. That takes stress off the shoulders of my staff and therefore makes them happier.”



Another factor is patient comfort, which directly affects patient satisfaction scores. Emory Johns Creek Hospital built a new suite around the SIGNA™ Artist to give patients a better overall experience. Now the site's Press Ganey scores have increased from single digits to the mid-90s. "It's a dramatic turnaround from where we were before. Patients are commenting, 'I come here often, and this is the fastest I've ever gotten out of here,'" says Barnes. "It's considerably faster than what we had in the past."

The SIGNA™ Artist's 70 cm wide bore design helps alleviate a patient's fear of entering the MR bore. The expansive diameter, soft lighting and soothing fans help ease patient anxieties and concerns. The wider table design sits lower to the ground, enabling easier patient positioning. Lightweight and adaptable coil designs conform gently to a patient's anatomy, elevating the patient experience. The SIGNA™ Artist's eXpress table, with a memory foam

surface, delivers feet-first or head-first imaging and features a detachable egress and IntelliTouch positioning.

"The whole experience moves us toward the ultimate goal of a spa-like experience for patients," says Dr. Sharma. "SIGNA™ Artist is certainly progress toward that goal, and it's good to see GE Healthcare continuing to innovate the way forward on that." **S**