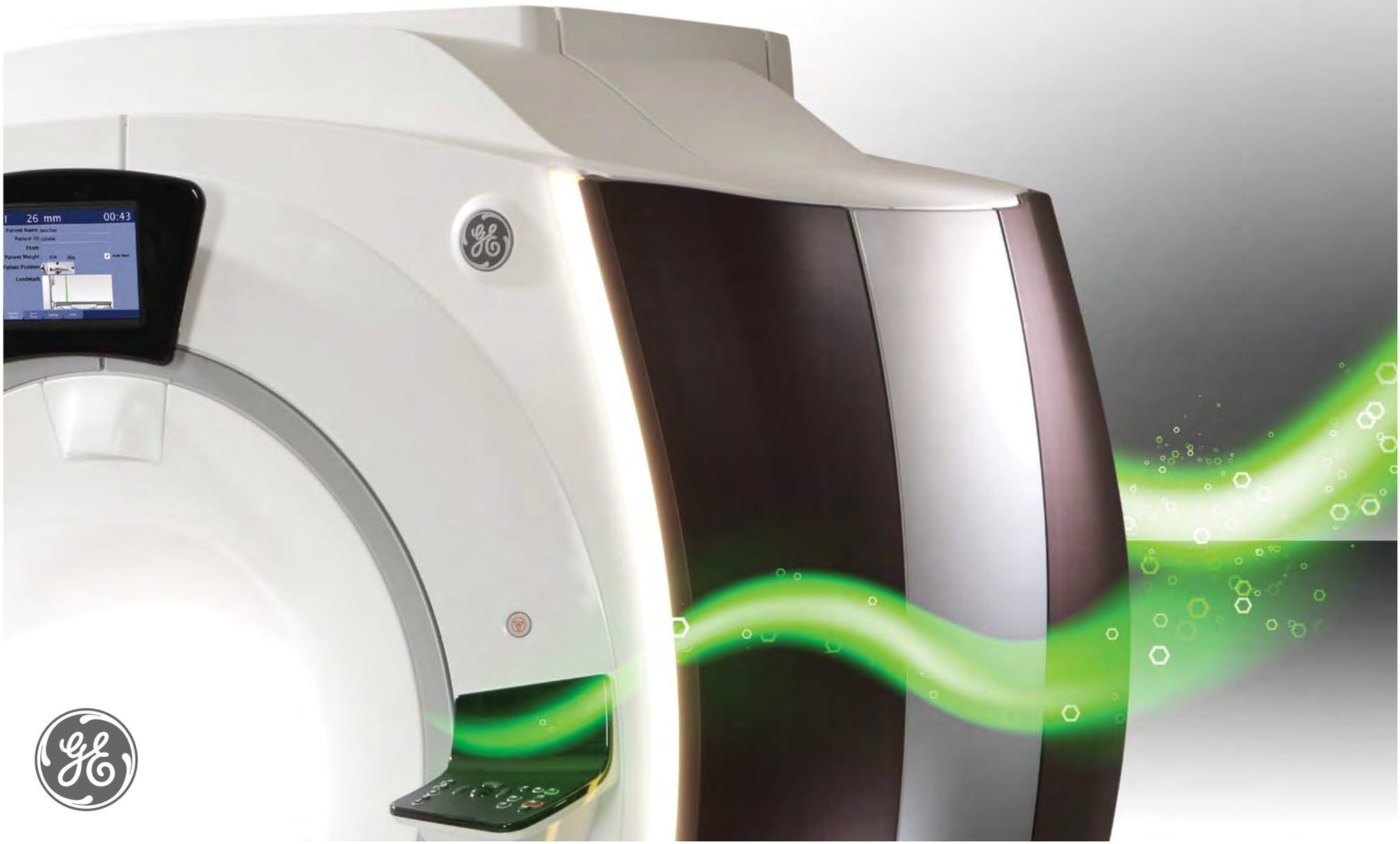
GE Healthcare

CARING DESIGN.
INSIGHTFUL TECHNOLOGY.

Optima* MR450w 1.5T



"THE CARING SHAPE AND WARM LIGHT MAKE IT INVITING."

Every piece of equipment you own represents a balance of technology and design. The Optima MR450w not only exemplifies this philosophy, it takes it further. We've brought together the versatility of 1.5T performance with the care of a wider bore design. And that's just the beginning.

See how the Optima MR450w gives you the right experience, the right capabilities and the right investment.


26 mm
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CARING DESIGN.

MR IN A NEW LIGHT.

Sometimes something as simple as a light, such as the sophisticated LED lighting on the Optima MR450w, can be enough to get people's attention. This small, but important design choice represents our focus on the human element in MR.

Using the symbol of caring hands as our inspiration, the Optima MR450w was designed to be welcoming to the patient and intuitive for the technologist.

We listened to patients who asked us for a comfortable scan experience. We not only widened the bore and created soft, flexible coils, but we completely re-designed the table surface with different cushion densities to help alleviate pressure points for a more relaxing exam.

We also listened to technologists describe their use of the on-system controls. So we built a sleek, ergonomically-friendly interface to mimic the same consumer-designed devices they use in their home every day. This allows them to focus their attention where it belongs, on their patients.

The result? An MR system inviting to patients and user friendly for technologists.

"We designed the Optima MR450w with one thing in mind, the human element. This focus created a new direction for us and should influence the next generation of our products for years to come."

– Optima MR450w lead designer

INSIGHTFUL TECHNOLOGY.

CUTTING-EDGE MADE PRACTICAL.

Sometimes all you need is the right tool for the right job. With the Optima MR450w, we've taken the right amount of technology and combined it with the right gantry design. Namely the performance you only get from 1.5T with the open architecture of a 70 cm wide bore. It's cutting-edge technology fine-tuned to meet your everyday needs.

Optical RF (OpTix) 1

OpTix Optical RF offers high channel count, analog to digital-optical signal conversion where it matters – inside the scan room to minimize noise and signal degradation, but away from the patient to enhance comfort and safety.

Usable FOV 2

Our 70 cm flared, open bore design with a large 50 x 50 x 50 cm field of view results from excellent homogeneity, gradient linearity and RF uniformity. In order to properly image off-center anatomy such as a shoulder or hip, you need a large, usable field of view, which the Optima MR450w delivers.

Gradients 3

Gradient speed, accuracy and reproducibility often determine the success of demanding acquisitions like fMRI, DTI and Fiesta. The gradient and RF body coils are water and air-cooled for optimum duty-cycle performance, short TR's and TE's, producing sharp and clear images.

Acoustic Reduction Technology (ART) 4

The right MR experience goes beyond bore size and positioning. Patients today are also asking for a quiet MR exam. Acoustic Reduction Technology (ART) delivers just that, reducing acoustic noise. ART is such a practical application, it will become an essential part of your brain, spine and MSK scans. And because ART reduces noise by optimizing the gradient performance, there's virtually no compromise in image quality.

"Under that sleek exterior is some of the most versatile technology we've ever built into an MR. Our goal has been to deliver a 1.5T system with a 70 cm bore with no compromises. In fact, the Optima MR450w is engineered to be 30 percent lighter than our previous systems without sacrificing performance."

– Optima MR450w lead engineer

FLEXIBLE COILS.

EMBRACE THE PATIENT.

Coils are to MR what lenses are to a camera. They help focus the energy of MR into a clearer picture of your patients. However, no two patients are alike and traditional coil design can sometimes emphasize function over comfort. And an uncomfortable, moving patient can sometimes lead to poor image quality and time-consuming re-scans.

Not any more. The Geometry Embracing Method (GEM) Suite is designed to bring a new level of comfort to patients, minimizing anxiety and motion during the exam. Crafted to embrace the patient, these flexible coils make for a relaxed scan experience. This also makes it easier for technologists to correctly position their patients without strain or difficulty.

Imagine what your patients will say when you can now offer feet-first imaging for all exam types, lightweight, flexible coils and a re-designed table surface that alleviates pressure points. They'll probably thank you.

"We've completely changed how we think about coil design. With GEM Suite, patients can expect a more comfortable exam with open, flexible coils that naturally follow the contours of the human body."

– GEM Suite lead coil engineer

GEM express patient table and posterior array 1

The GEM express patient table is a mobile patient transport with an embedded high-density, posterior RF coil array. The integrated posterior array supports both head-first and feet-first imaging for all anatomies and can help eliminate the need to reposition patients within an exam, as well as the need for coil exchanges.

GEM anterior array 2

The GEM anterior array facilitates extended coverage of chest, abdomen, pelvis and cardiac imaging. It is lightweight, flexible, thin and pre-formed to conform to the patient's size and shape.

GEM lower extremity array

The GEM lower extremity array facilitates imaging of the thighs and lower legs. The coil incorporates an innovative, self-supporting hinge design between the upper and lower elements to accommodate various patient sizes and simplify patient setup.

GEM head and neck unit

The GEM head and neck unit (HNU) can support head-first or feet-first imaging. The open-face design provides an unobstructed view for patients. GEM comfort tilt helps improve patient comfort by elevating the superior end of the coil. This enhances image quality by positioning the anatomy, for example in kyphotic patients, closer to the coil elements.

3

GEM Flex Suite

4

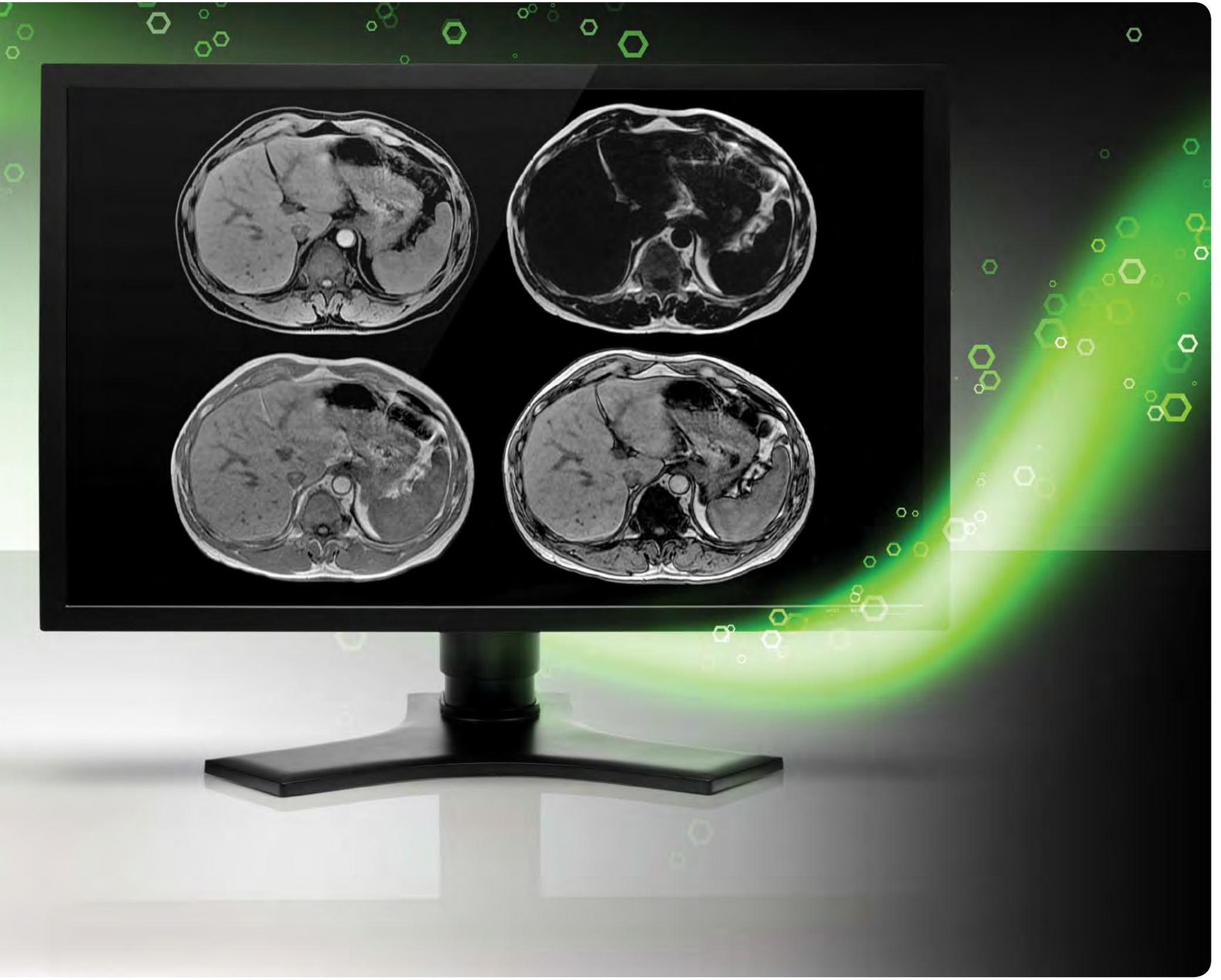
The GEM Flex Suite is a set of lightweight and flexible arrays that accommodate a wide range of patient sizes and shapes. The suite consists of three high-density 16-channel arrays, knee support with a fixation device and a coil fixation pad for high-resolution imaging of the hips, knees, ankles, feet, wrists, elbows and shoulders. These coils remove the need for the patient to fit into a hard-shell array that is not designed for their particular body type.

INTUITIVE APPLICATIONS.

SEE TO UNDERSTAND.

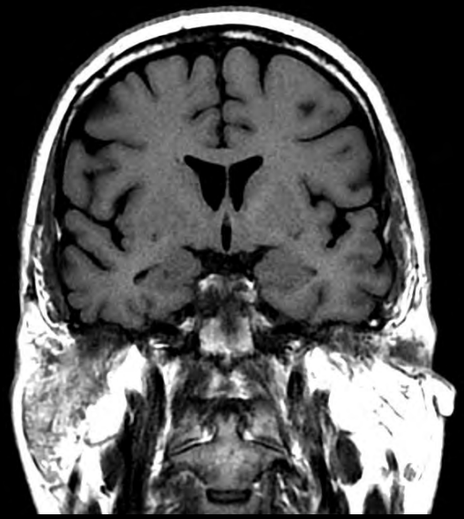
Even with the right balance of design and technology, intuitive applications are what truly drive better understanding of what you need to see. The Optima MR450w offers the latest advanced applications to help you utilize the full potential of 1.5T MR imaging.

How about acquiring contrast-quality images without using contrast? With Inhance DeltaFlow, one of the many applications available on the Optima MR450w, you can. Patients can now be evaluated without contrast injections. That's a win-win for you and the patient.



NEURO

Brain
T2 PROPELLER Sagittal
384 x 384 5 mm



Brain
T1 FLAIR PROPELLER Coronal
288 x 288 3 mm

T-Spine
T2 PROPELLER Sagittal
320 x 320 3 mm

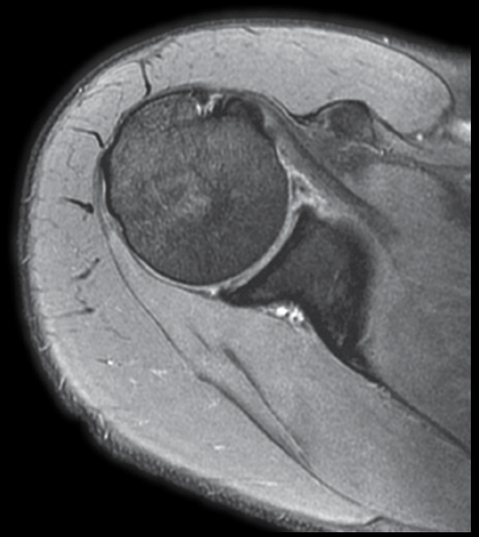
Whole Spine
T2 frFSE Sagittal
512 x 288 3 mm

Brain
3D SWAN Axial
384 x 288 2.2 mm

C-Spine
T2 frFSE Sagittal
384 x 224 3 mm

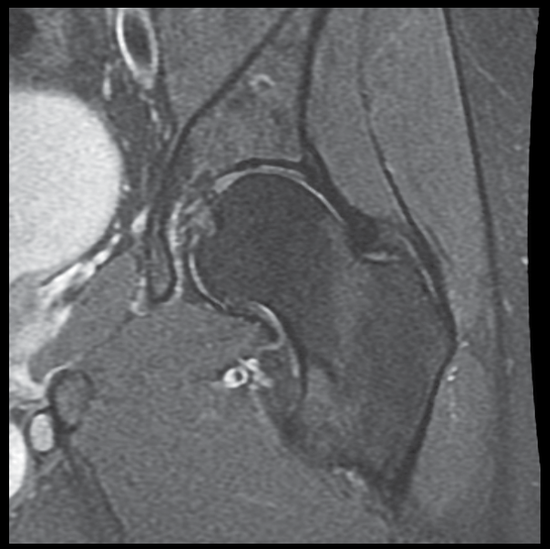
L-Spine
T2 frFSE Sagittal
448 x 256 4 mm

MUSCULOSKELETAL



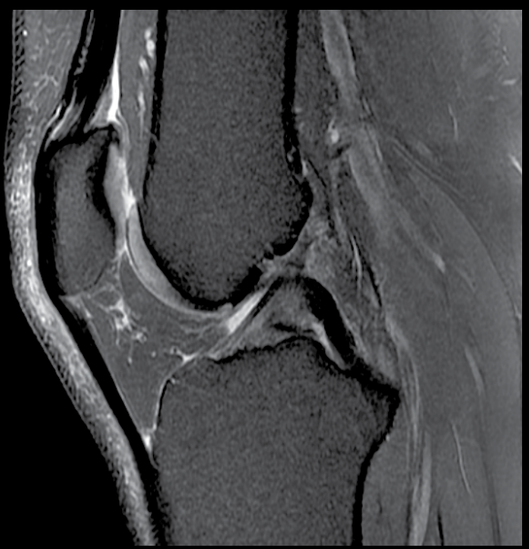
Shoulder
3D MERGE
320 x 256 2.4 mm

Toes
T2 IDEAL Water Image
320 x 224 2.2 mm



Hip
PD FSE Fat Sat Coronal
320 x 256 4 mm

Knee
PD FSE Coronal
1024 x 416 3.5 mm

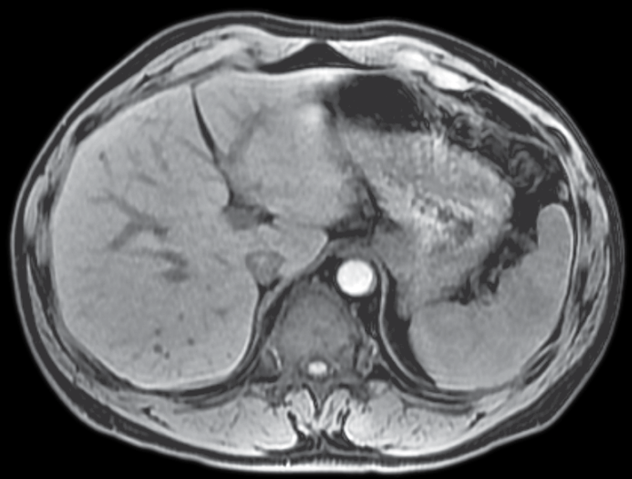


Knee
PD FSE Fat Sat Sagittal
384 x 224 3.5 mm

Elbow
T2 frFSE Fat Sat Coronal
320 x 224 3 mm

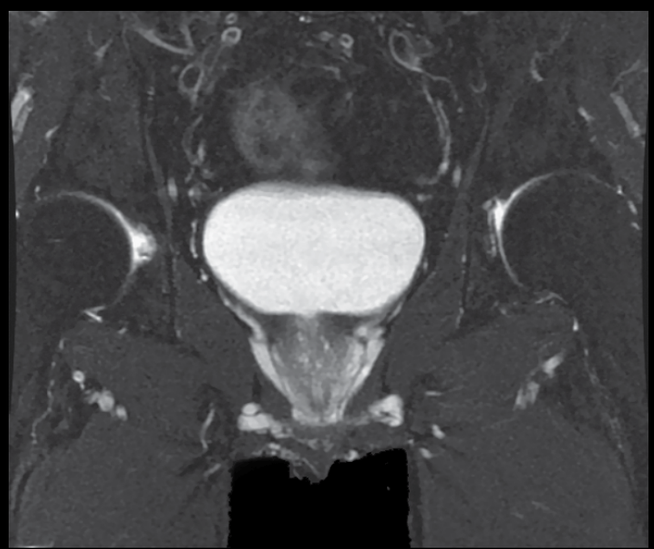
BODY

Whole Body
T1 FSE Coronal
384 x 256 FOV 44 cm
5 station pasted

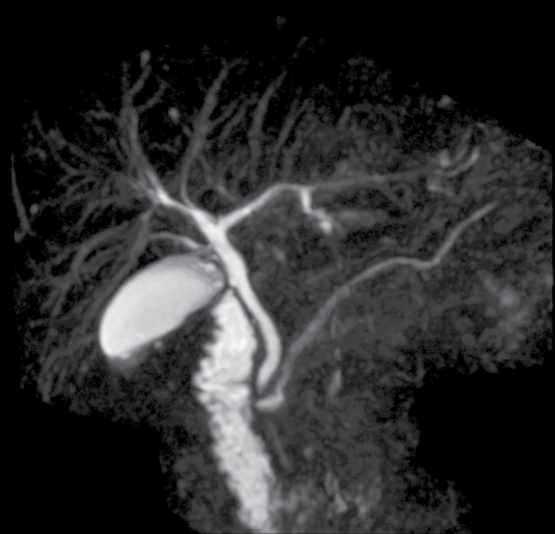


Abdomen
LAVA Flex Axial
320 x 192 4.4 mm

Abdomen
T2 FSE Coronal
320 x 256 6 mm



Male Pelvis
T2 frFSE Fat Sat Coronal
320 x 256 4 mm

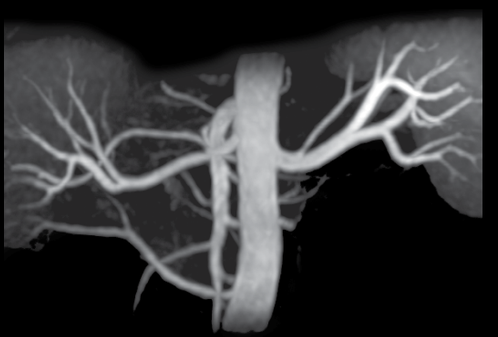


MRCP
3D frFSE
320 x 320 1.6 mm

VASCULAR

Inhance Delaflow
3 stations w/ ARC

Inhance 3D Velocity
320 x 256 1.2 mm



Inhance Inflow IR
256 x 256 2 mm

INTUITIVE APPLICATIONS.

CONTRAST WITHOUT CONTRAST

3D ASL

Non-contrast brain perfusion. Quantitative perfusion imaging without contrast.

Inhance Inflow IR

Consistent and reliable non-contrast, free-breathing imaging of the arterial and venous vascular, such as the renal and portal vein.

Inhance DeltaFlow

High-resolution, rapid, non-contrast lower extremity/peripheral vascular three-station imaging typically in less than six minutes.

Inhance 3D Velocity

High-resolution, fast, non-contrast imaging of the arterial and venous structure in the brain.

BREAST

VIBRANT Flex

Generates up to four contrasts with high-resolution in just one short scan and virtually eliminates fat suppression failures in breast imaging, even over a large FOV with irregular anatomy.

VIBRANT

Lays the foundation of breast MRI with a high combined spatial detail and scanning speed including bilateral shimming to ensure uniform bilateral fat saturation.

Breast Biopsy

In-room Operator Console (iROC) supports needle localization for breast biopsy.

NEURO

Cube

3D FSE-based sequence for isotropic resolution in all contrasts (T1, T2, & T2 FLAIR).

SWAN

High-resolution visualization and delineation of small vessels and microbleeds.

PROPELLER

Motion-insensitive T1 FLAIR, T2, T2 FLAIR and DWI for efficient imaging of uncooperative patients.

3D MERGE

Improves grey-white matter contrast in the spinal cord.

MUSCULOSKELETAL

PROPELLER

Motion-insensitive T1, T2 and PD imaging to improve the visualization of subtle structures such as cartilage, meniscus, ligaments and labrum.

IDEAL

This unique fat/water separation technique provides multiple contrasts from one acquisition for consistent, uniform fat suppression virtually every time.

CartiGram

A non-invasive imaging method to assess articular cartilage integrity, detect early cartilage degeneration and monitor patient progress.

BODY

LAVA Flex

A rapid 3D sequence for consistent and reliable fat saturation in one breath hold.

MRCP (MR cholangiography)

High-resolution reliable visualization of the biliary ducts.

PROPELLER

Motion-insensitive, free-breathing T2 abdominal imaging.

Whole Body w/ GEM Suite

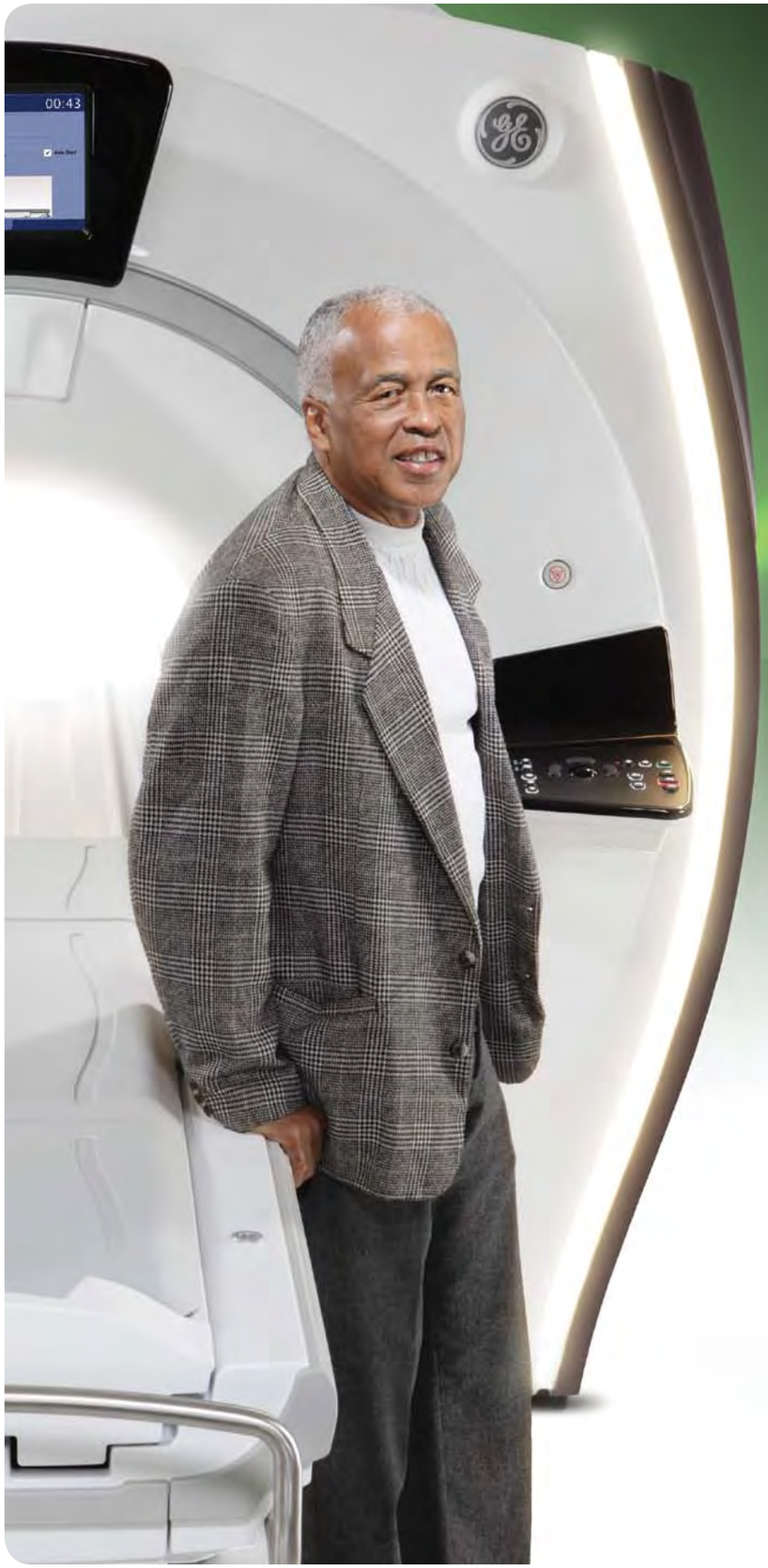
Perform whole body imaging without repositioning the patient or coils.

MR-Touch

Non-invasive measure of liver stiffness.

eDWI

Ability to visualize pathology and measure ADC values in a single breath hold in the liver and beyond.



GO FURTHER.

BEYOND RADIOLOGY.

Being ready for the future means having a system that can not only grow beyond its original design, but surpass it. The Optima MR450w was designed with the ability to go further than the traditional boundaries of radiology. If you're looking for a system capable of imaging during surgical procedures, ready for MR-guided focused ultrasound or adept in radiation therapy planning, look no further. Our exclusive, detachable table options are just one example of the many features developed to keep you at the forefront of healthcare.

Along with one of our many, customizable service plans, GE Healthcare has a 25-year history of providing you with select, no-charge enhancements to keep your systems and application capabilities up to date, ensuring you get the most out of your investment. Safeguard the future performance of your Optima MR450w with our latest digital services to help fix issues fast and even stop problems before they happen.

InSite*
InSite remote digital services enable us to reach out over broadband connections to understand and care for your critical equipment.

InSite OnWatch
InSite OnWatch proactive technology can help avoid unplanned downtime by identifying service issues before they occur – even before you know anything is wrong.

iLinq*
iLinq allows you to request applications support and also receive a quick response from our technical experts, all at the touch of an on-screen button.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"IT'S WIDE BORE DONE RIGHT. AGAIN."

This is what just one MR expert felt when they saw the Optima MR450w for the first time. It exemplifies our goal to design an MR with as much emotion as technical prowess. This approach has led us to develop one of the most patient and user-friendly MR systems we've ever built.

WHAT WILL YOU FEEL WHEN YOU SEE IT FOR THE FIRST TIME?

About GE Healthcare

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug Optima, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services help our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

Our "healthymagination" vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are committed to serving healthcare professionals and their patients in more than 100 countries. For more information about GE Healthcare, visit our website at www.gehealthcare.com

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imagination at work

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