TOMORROW TODAY

# SIGNA™ Explorer

Fueled by SIGNA™Works

gehealthcare.com/mr

SIGNA
Explorer

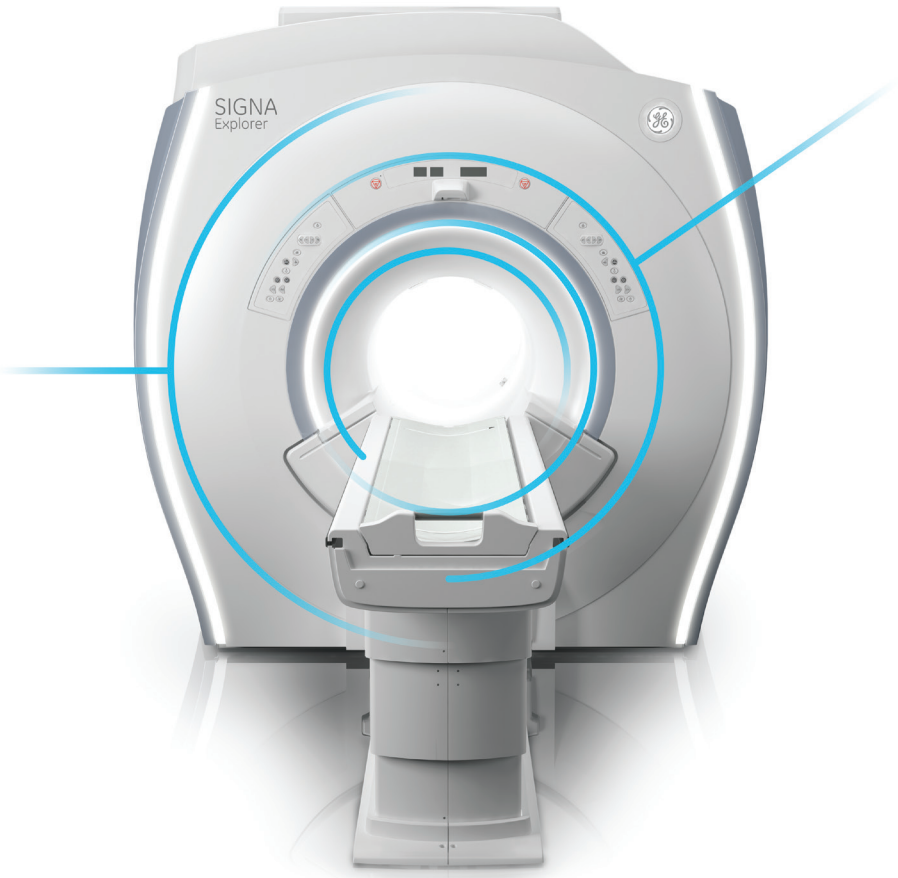
# 1.5T

# Outstanding performance

Today's healthcare challenges are growing and becoming more specific to individual patient needs. As a result, there has been a shift in the need for outcomes-based technology that can address not just specific clinical needs, but operational and financial needs as well. For challenges like these, you need SIGNA™ Explorer, a premium, 60 cm 1.5T system.

Fueled by our SIGNA™Works platform, SIGNA™ Explorer offers exceptional image quality, high throughput, increased patient comfort and a powerful, yet simplified user-centric operation.

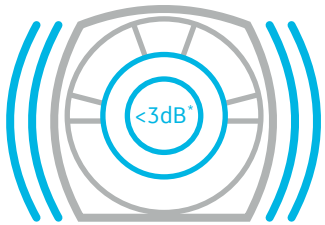
Take your 1.5T as far as it will go.



# Patient comfort in practice

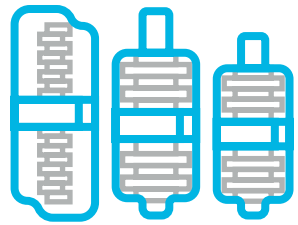
From reducing noise levels to lowering the table height and offering free-breathing applications, we carefully thought through the entire patient experience to find opportunities for improvement.

Combining advancements in design, technology and applications, SIGNA™ Explorer sets a new standard for patient comfort.




SilentScan reduces noise to near ambient levels (< 3dB*)

Low table height gives patients easy access



16-channel Flex Coil Suite accommodates a wide range of body types

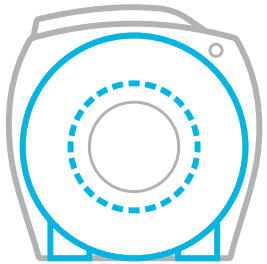
* Above ambient levels; sound measured at the isocenter of the bore.

SIGNA
Explorer

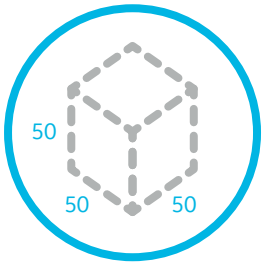
# Built around our modern design magnet

Through the combination of our modern design magnet and high-performance reconstruction speeds, SIGNA™ Explorer makes it easy to produce uniform, high-quality images.

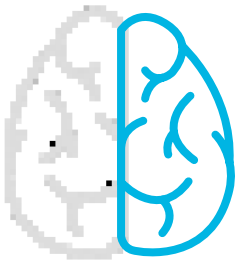
- High-performance reconstruction allows for everyday use of HyperSense
- In-line processing automates advanced post-processing techniques



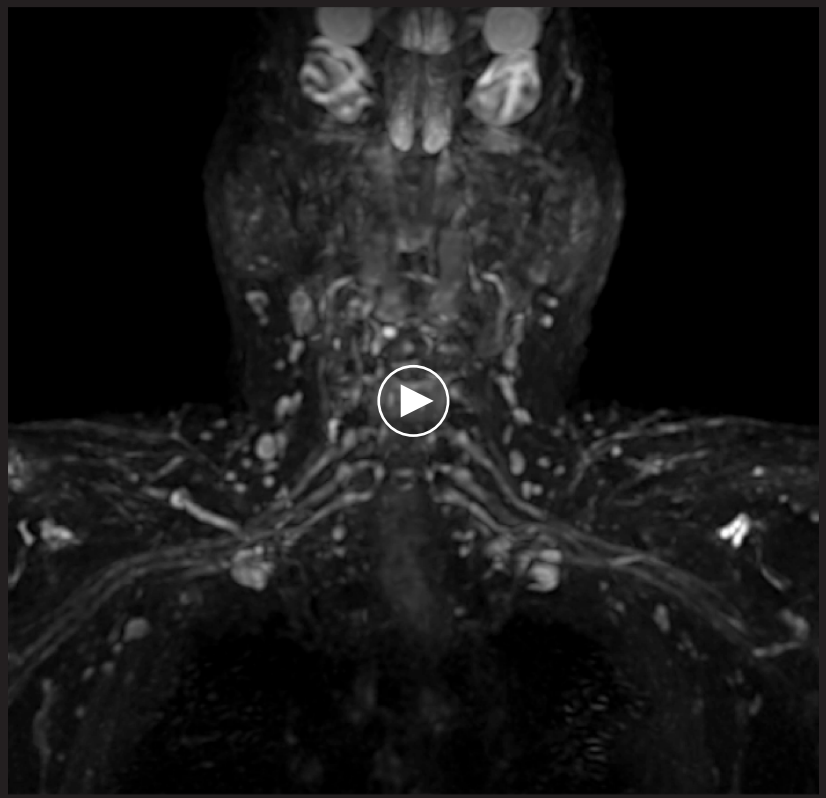
Includes the same modern design magnet that's in our wide bore systems




50 x 50 x 50 cm FOV for off-center oncology and fat saturation challenges



Optical RF technology provides a high signal-to-noise ratio for improved image quality



HyperSense with HyperCube

# With great speed comes great clarity

Image processing speeds play an important role in productivity and throughput. SIGNA™ Explorer includes two accelerating techniques, HyperSense and HyperCube, which provide astonishing imaging with remarkable speed. Used together with a high-performance reconstruction engine, these technologies enable advanced imaging protocols in routine exam slots.

### HyperSense

Utilizes proprietary compressed sensing technology for up to 50 percent reduction in scan time while maintaining resolution*

### HyperCube

Selective excitation for high spatial resolutions and fast scan times

### HyperSense with HyperCube

Use these two technologies together for up to 8x faster scan times*

* Compared to conventional imaging..

# Fueling the future of MR

SIGNA™Works redefines productivity and drives your imaging to the next level with the standard applications included in BodyWorks, CVWorks, NeuroWorks, OncoWorks, OrthoWorks and PaedWorks. Additional innovative applications allow you to expand your areas of expertise even further with HyperWorks, ImageWorks, SilentWorks and 3D ViosWorks.

This groundbreaking application portfolio enhances the capabilities of SIGNA™ Explorer. You will experience more accurate and consistent image quality as well as reduced scan times and faster throughput. In addition to clinical and operational improvements, you can expect higher patient satisfaction with silent, free-breathing, contrast-free and needle-free applications.

Learn more about SIGNA™Works

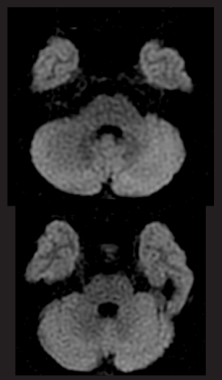
# NeuroWorks

Offering neuro applications from automated positioning to post-processing and fast imaging with great diagnostic value.

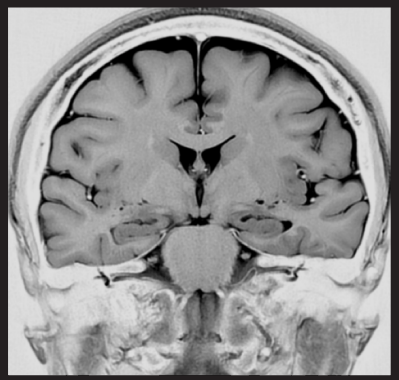
Achieve high-resolution, motion-insensitive images with 2D PROPELLER and 3D PROMO and distortion-free diffusion images with DWI PROPELLER.

Allow patients to move freely with applications that enable real-time tracing with no sensor needed.

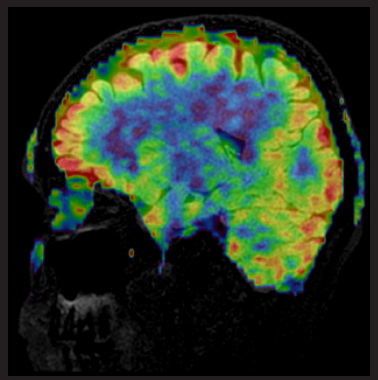
T2 FatSat PROPELLER



DWI PROPELLER



STIR PROPELLER
with inverted grey scale

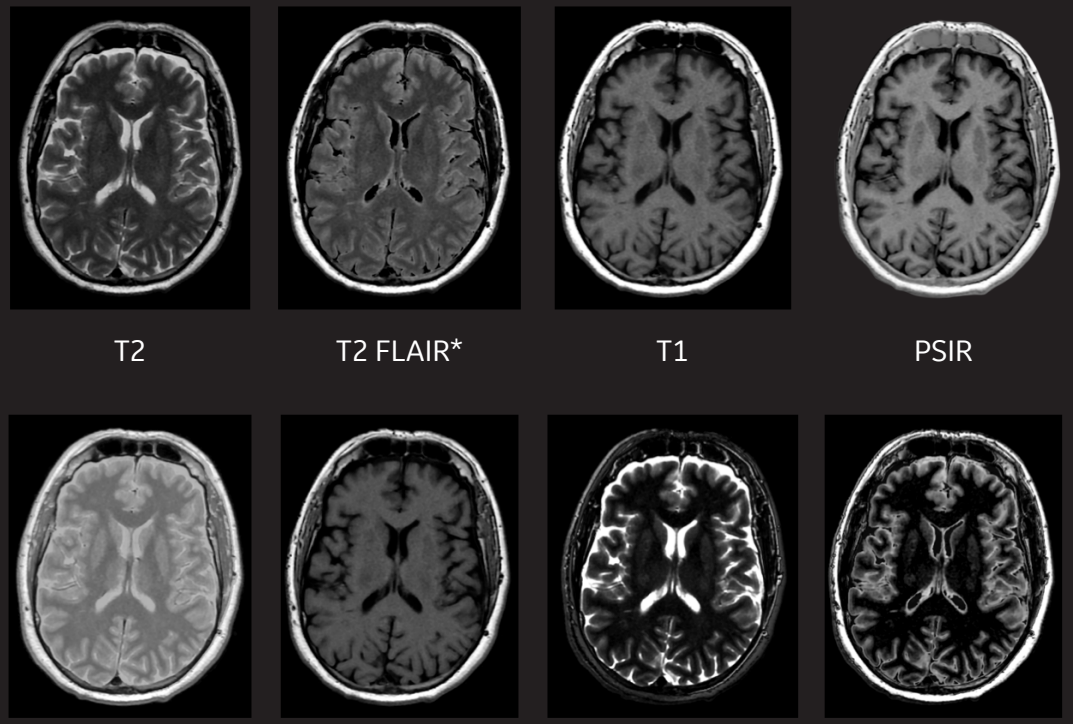


Quantitative 3D ASL

# NeuroWorks

Deliver multiple contrasts in a single scan with MAGiC, reducing scan time by up to 50 percent compared to acquiring all contrasts separately.

- Scans up to eight contrasts in one five-and-a-half-minute scan.
- Allows you to change the contrast after acquisition.




* It is recommended to acquire conventional T2 FLAIR images in addition to MAGiC.

# NeuroWorks

See robust, homogenous fat/water separation even in difficult-to-scan areas using a 2-point Dixon technique with Fast Spin Echo (FSE) Flex.

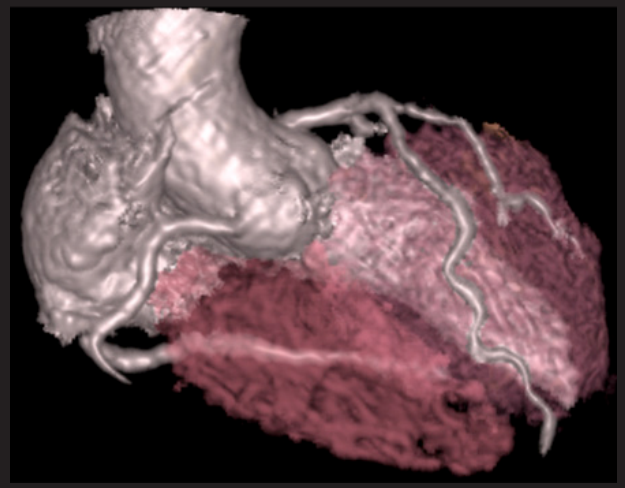
- Generates two series of images in a single scan, one with fat suppression and one without.
- Acquires multiple contrasts in a single scan, reducing the need for multiple acquisitions.

Cervical spine
Single scan Sagittal T2 FSE Flex
Water, fat, in-phase and out-of-phase

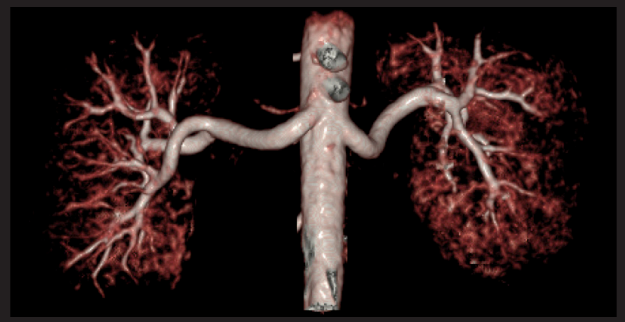
# CVWorks

Intuitive cardiac techniques that adapt to different patient types. Assess morphology, flow, function and tissue viability and gain crucial insights into vascular structure and flow dynamics.

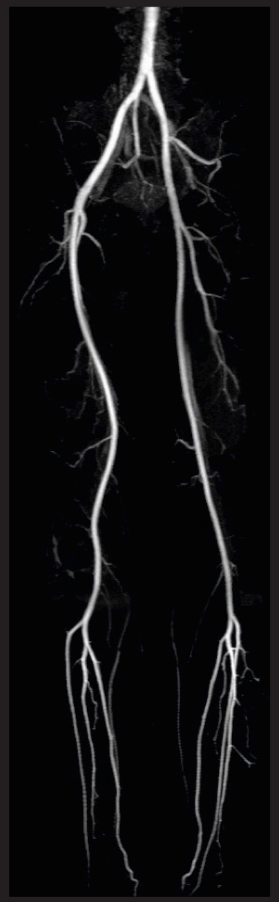
Non-invasively image coronary arteries and evaluate vascular structures with 3D Heart and visualize blood flow in diverse anatomies without gadolinium with Inhance DeltaFlow.



3D Heart



Renal arteries
Inhance

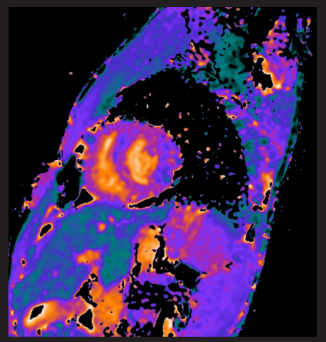


Inhance DeltaFlow
3 stations

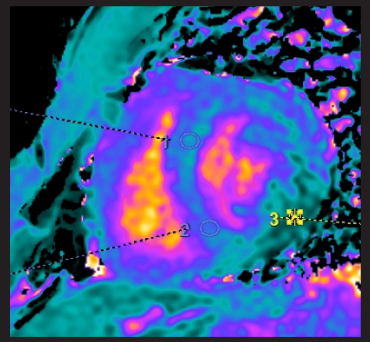
# CVWorks

Automatically correct motion for T1 mapping and leverage two methods of acquisition for T1* (MOLLI) or true T1 measurements with CardioMaps.

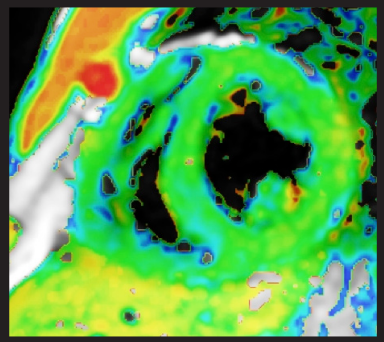
Quantify T1, T2 and T2* values as well as generate high-resolution anatomical data sets and assess tissue viability.



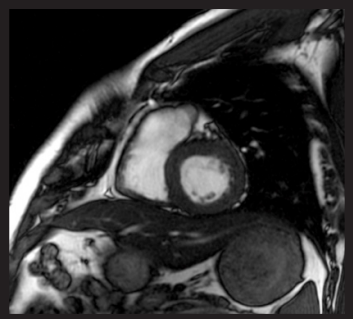
Short Axis SMART T1 map for true T1 measurement



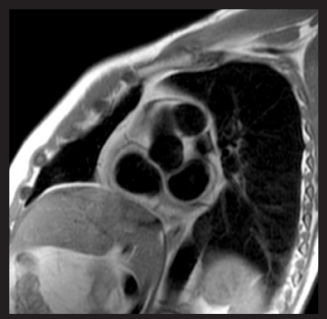
Short Axis MOLLI T1 map



Short Axis T2 map



Short Axis FIESTA



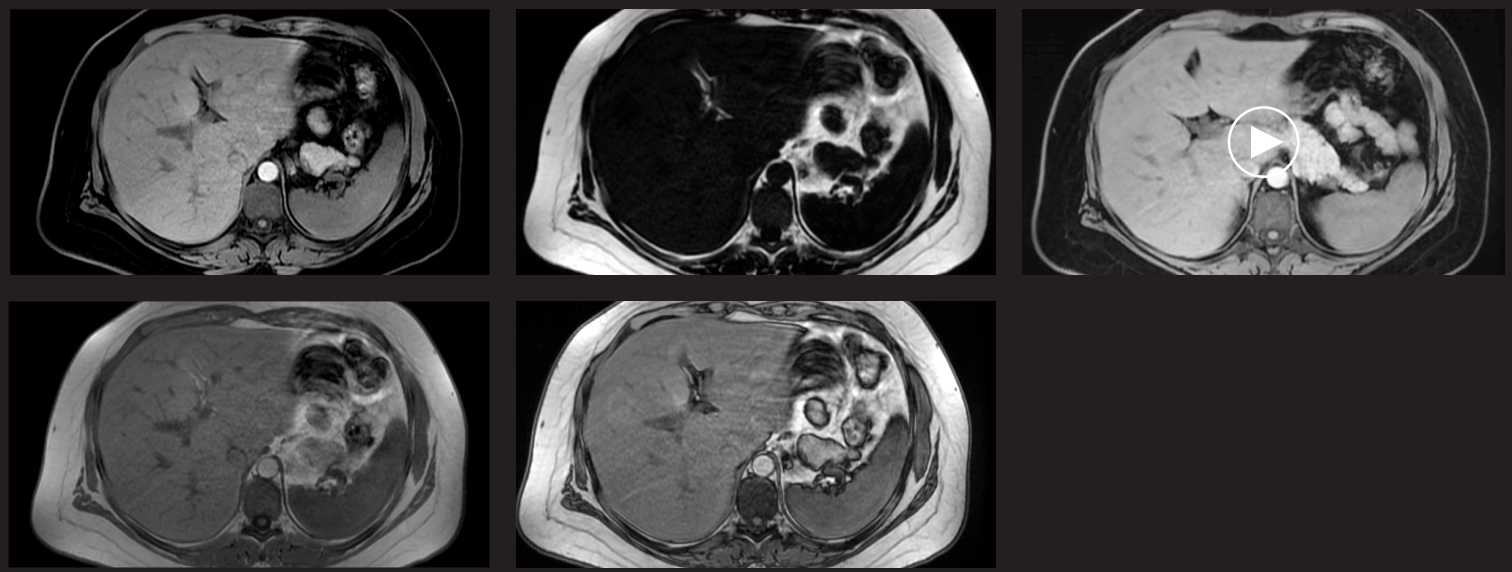
Black Blood SS FSE

# BodyWorks

Images whole-body, abdominal and pelvic anatomy with speed and flexibility.

Reduce respiratory motion for more accurate abdominal studies with Turbo LAVA.

- Allow patients to breathe freely during dynamic multi-phase imaging.
- Free-breathing dynamic scans with Auto Navigator and Turbo mode reduces scan time by up to 50 percent.

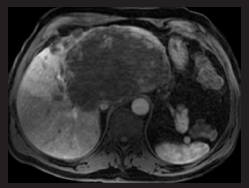


Free-breathing, Auto-navigated liver imaging
Axial Turbo LAVA Flex

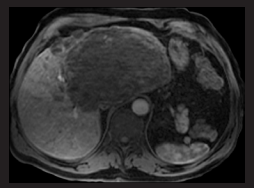
# BodyWorks

Image the entire liver, prostate or breast in less than three-second intervals with DISCO.

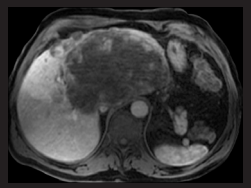
- 3D images meet the challenge of capturing multiple dynamic phases over time.
- Compatible with Auto Navigator for free-breathing dynamic scans.



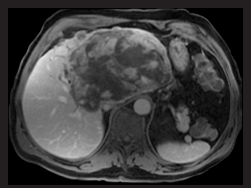
Phase 1



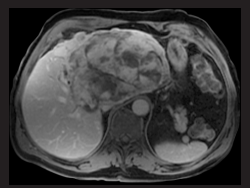
Phase 2
7-sec delay



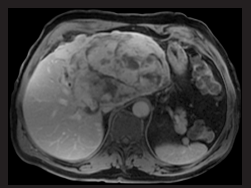
Phase 3
14-sec delay



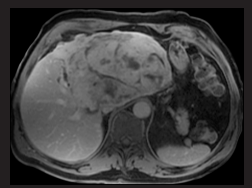
Phase 4
54-sec delay



Phase 5
90-sec delay

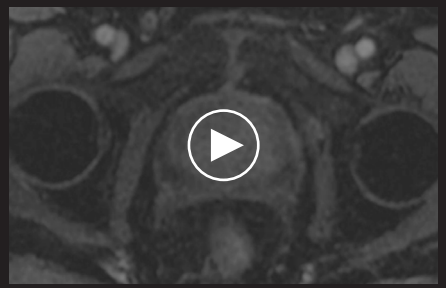


Phase 6
200-sec delay



Phase 7
270-sec delay

Liver imaging
DISCO
7 sec per phase

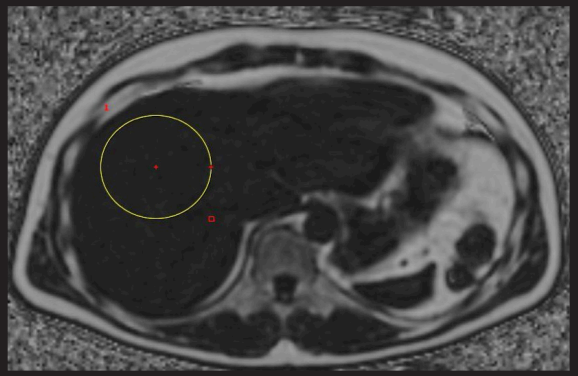


Prostate imaging
DISCO
5 sec per phase

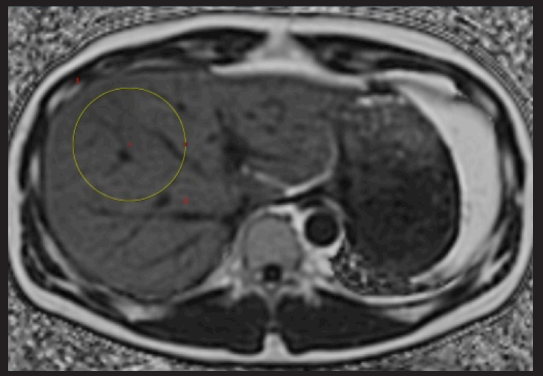
# BodyWorks

Measure fat in the liver by generating quantitative triglyceride fat-fraction maps with IDEAL IQ.

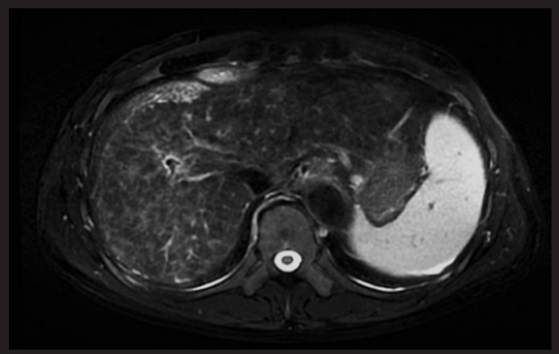
Non-invasively identify variations in liver tissue stiffness with MR Touch in under 15 minutes.



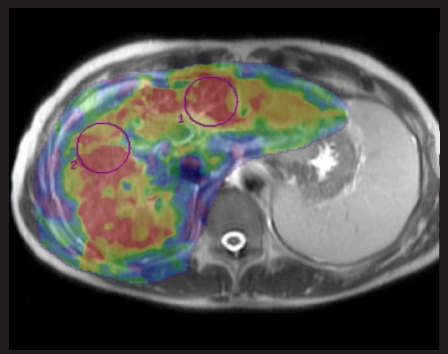
Normal liver
3D IDEAL IQ / quantitative fat-fraction



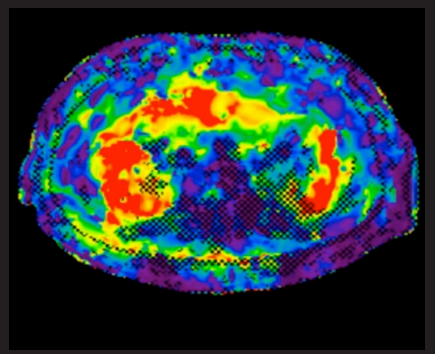
Fatty liver
3D IDEAL IQ / quantitative fat-fraction



Axial T2 FatSat PROPELLER



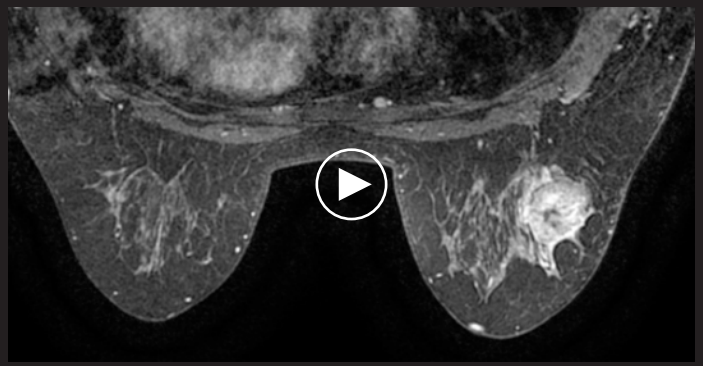
Fusion: Elastogram
and Axial T2 MR Touch



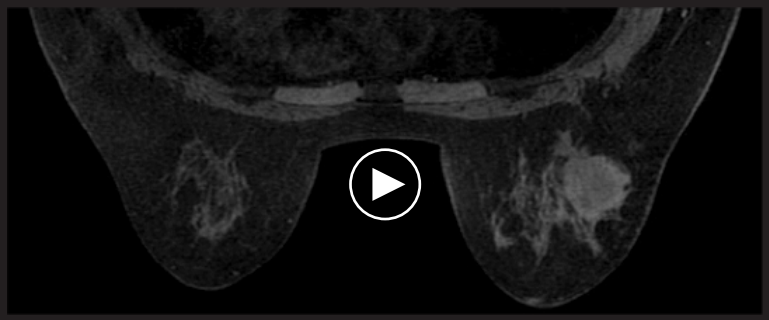
Hepatic cirrhosis
Elastogram MR Touch

# BodyWorks

See excellent bilateral dynamic contrast breast imaging with high spatial and temporal resolution when you use VIBRANT.



Dynamic VIBRANT
1:00 min (5 phases)



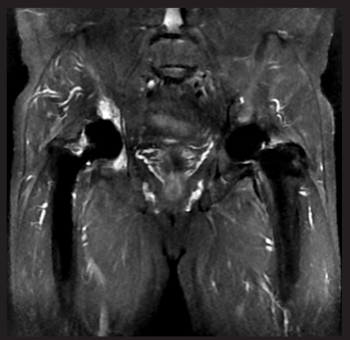
High-resolution Axial VIBRANT
FOV 34, 1 mm

CLINICAL GALLERY

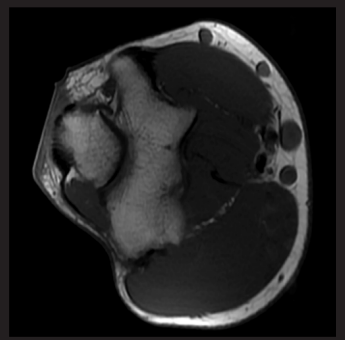
# OrthoWorks

This extensive library of imaging techniques enables you to image bone, joint and soft tissue with remarkable tissue contrast.

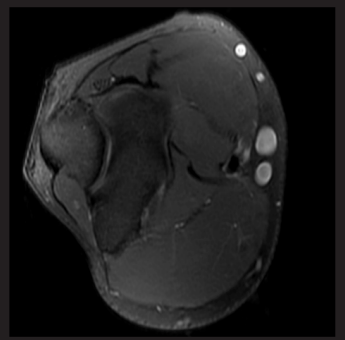
Visualize soft tissues and bone near MR Conditional implants with MAVRIC SL.



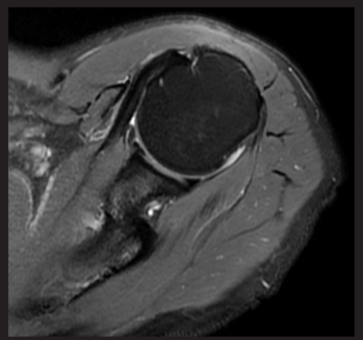
Coronal STIR MAVRIC SL



Axial T1



Axial PD FatSat

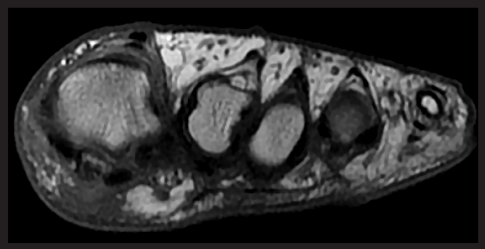


Axial T2 FRFSE FatSat

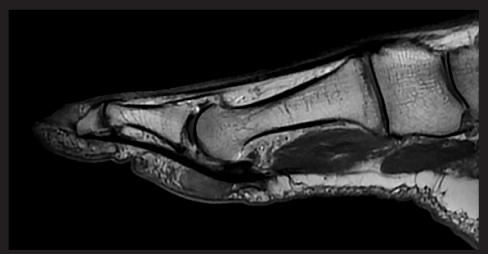
# OrthoWorks

Substantial reduction of susceptibility artifact around MR Conditional implants with T1 MAVRIC SL.

| T1-weighting capability for pre- and post-Gd contrast enhancement.



Axial/Coronal T2



Sagittal T2

Sagittal T1

Sagittal T2 FatSat

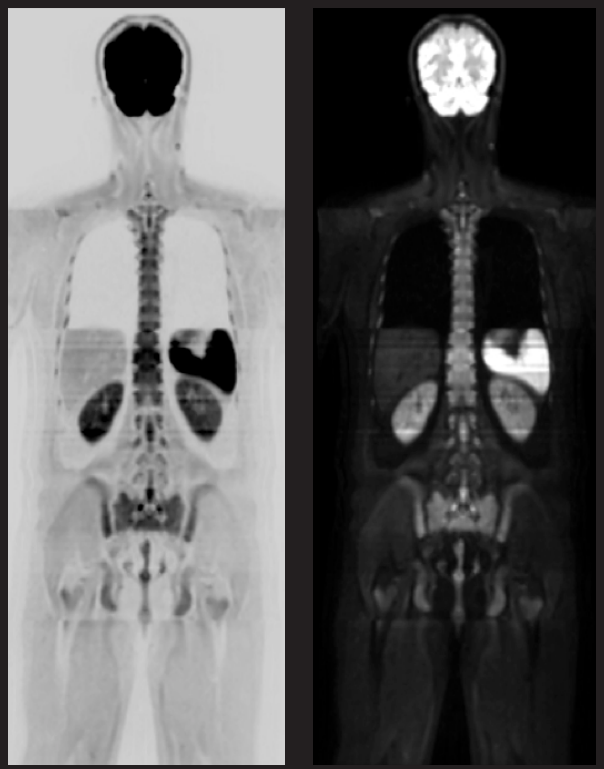
Coronal PD FatSat

# OncoWorks

A collection of techniques for capturing anatomic and morphologic data to enable oncological assessment of anatomy.

Acquire diffusion images with a high signal-to-noise ratio in short acquisition times with eDWI.

| Decrease overall exam sequences and time.



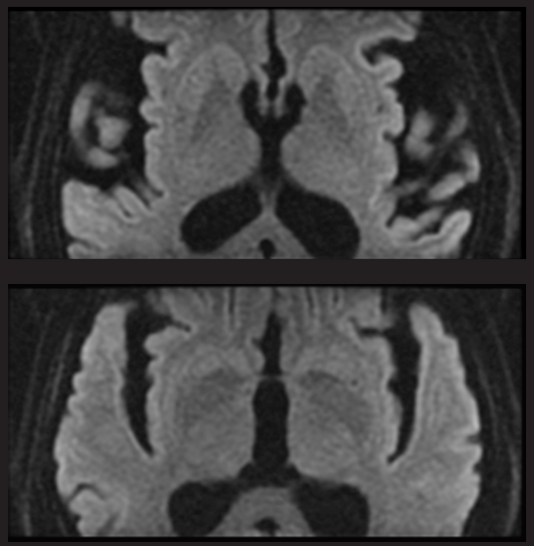
Whole-body diffusion
b50/b700

# OncoWorks

Increase resolution using FOCUS DWI, a highly efficient 2D technique.

| Provides a higher spatial resolution diffusion via smaller FOV.

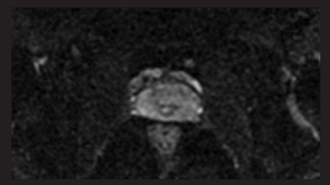
| Reduces motion contamination outside the region of interest.



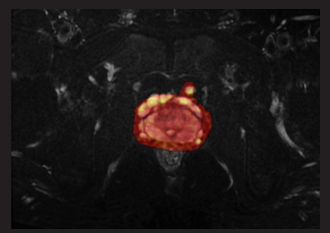
Axial FOCUS DWI

Sagittal
FOCUS DWI

Spine Tractography
Axial DTI FOCUS DWI



Prostate
Axial FOCUS DWI

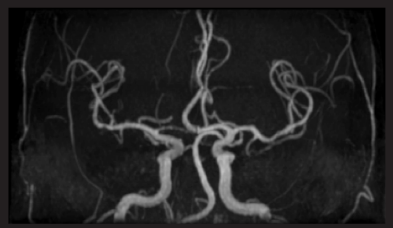


Prostate
Axial T2 overlay with
DWI FOCUS

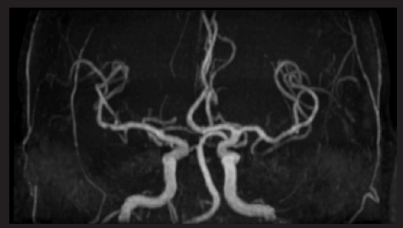
# HyperWorks

Innovative applications that improve image quality, efficiency and workflow to help you perform better than ever before.

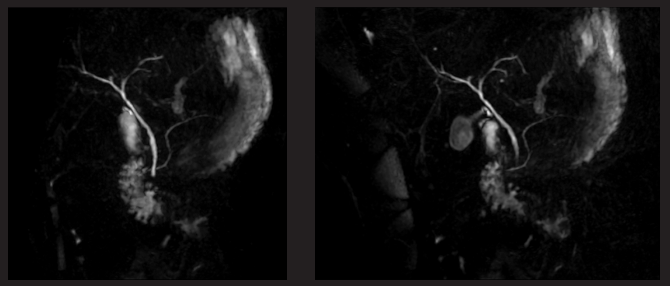
Reduce overall scan times without compromising image quality with HyperSense.



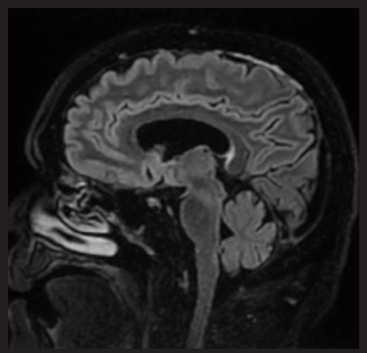
Axial 3D TOF without HyperSense
1.4 mm, 5:15 min



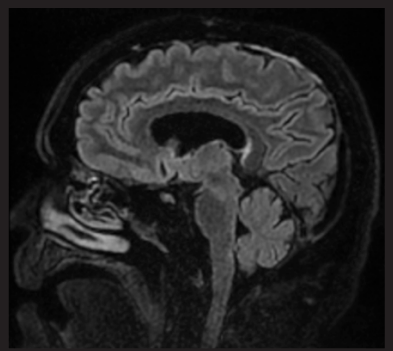
Axial 3D TOF with HyperSense
1.4 mm, 3:18 min



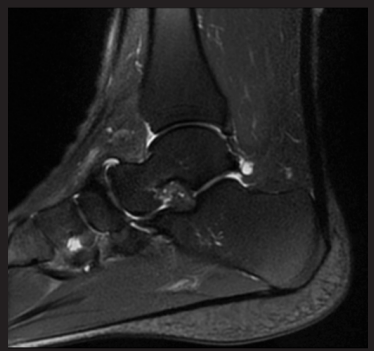
3D MRCP with HyperSense



Sagittal Cube FLAIR without HyperSense
3:41 min



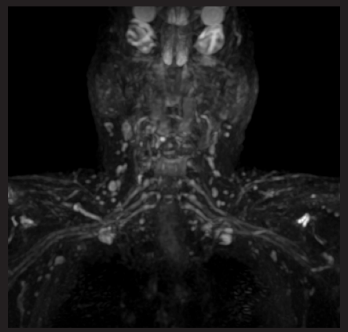
Sagittal Cube FLAIR with HyperSense
2:24 min



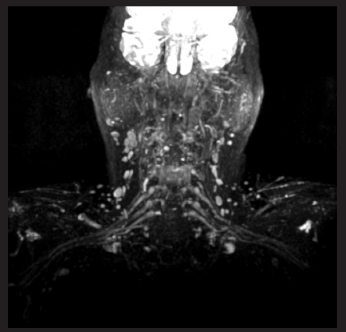
Sagittal HyperCube PD FatSat with HyperSense

# HyperWorks

Expand the capabilities of 3D imaging by reducing scan times and minimizing artifacts with HyperCube and reduce scan times even further by simultaneously using HyperSense and HyperCube.

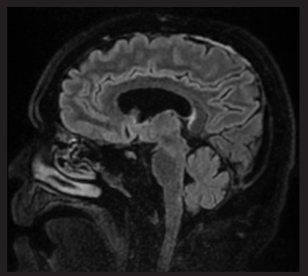


Cube DIR with HyperSense

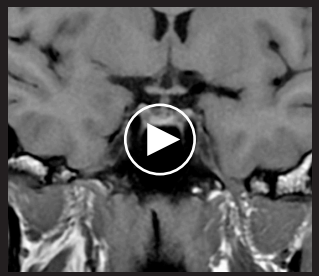


Cube STIR with peripheral nerve enhancement and HyperSense

Sagittal Cube PD with Hypersense



Sagittal Cube FLAIR with HyperSense

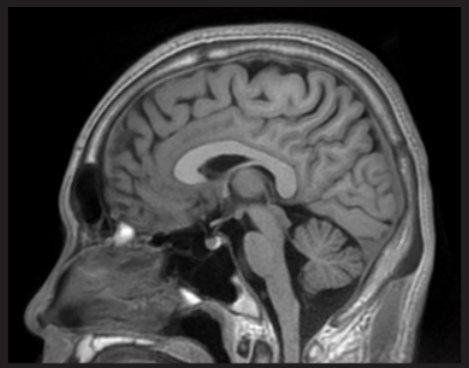


Coronal HyperCube T1

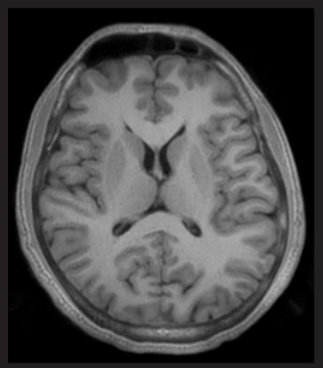
# SilentWorks

Virtually eliminate the acoustic noise of MR across all anatomies without compromising image quality with SilentScan.

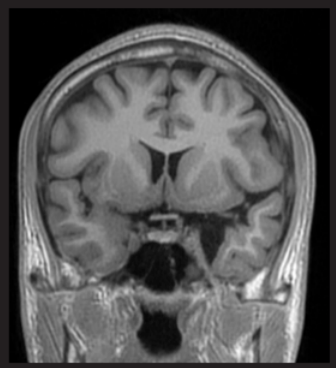
- Use with multiple coils and weightings, including DWI.
- Reduces artifacts in vasculature structures commonly seen in traditional scans when used with Zero TE techniques.



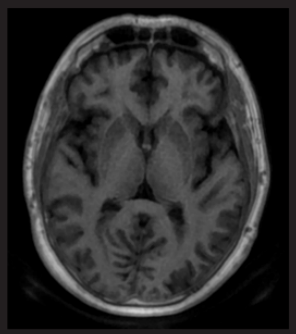
Sagittal reformat
T1 Silenz



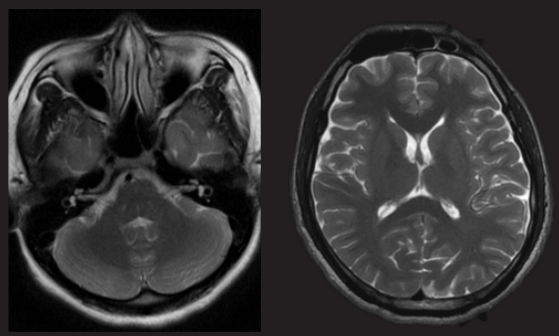
Axial reformat
T1 Silenz



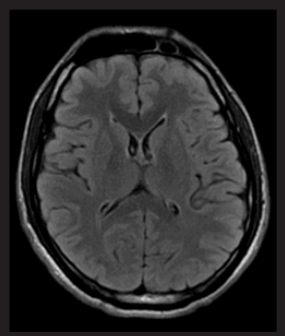
Coronal reformat
T1 Silenz



Axial 3D T1 Silenz
Anisotropic



Axial Silent T2 PROPELLER

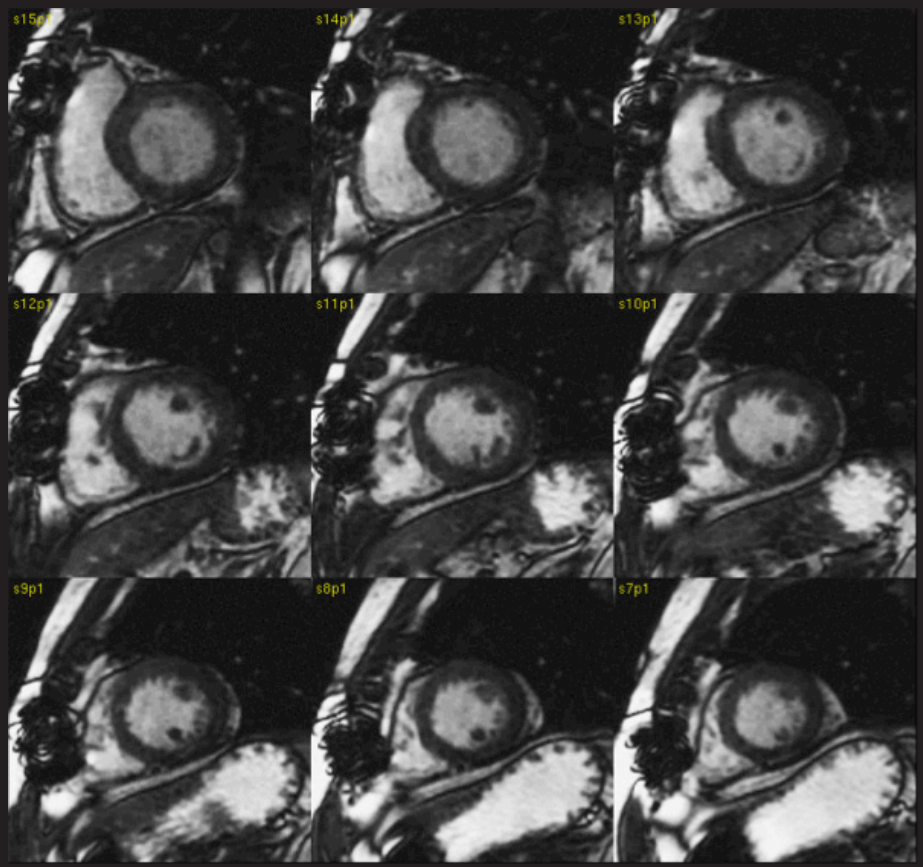


Axial Silent
T2 FLAIR PROPELLER

# ViosWorks

Visualize and quantify with 3D ViosWorks.

Increase patient comfort with a quick eight-minute, free-breathing scan.




3D ViosWorks*

* Representational images showing ViosWorks capability available on SIGNA™ Explorer.

# ImageWorks

Boost your overall MR performance with ImageWorks applications.

Streamline your analysis workflow of advanced function, flow, tissue characterization, perfusion and tissue mapping of the heart with cmr$^{42}$, a post-processing and visualization solution.

One-stop processing for cardiac imaging analysis.

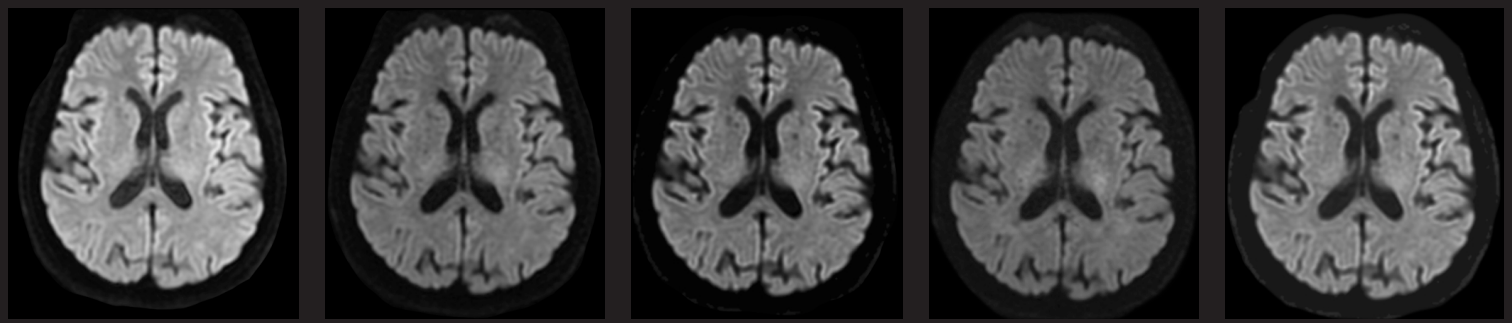
cmr$^{42}$ post-processing*

* Representational images showing cmr$^{42}$ capability available on SIGNA™ Explorer.

# ImageWorks

Generate multiple synthetic b-values from one DWI scanned series with MAGiC DWI so you can view diffusion contrast changes in real time after acquisition.

Increase productivity by enabling higher b-values in shorter scan times.



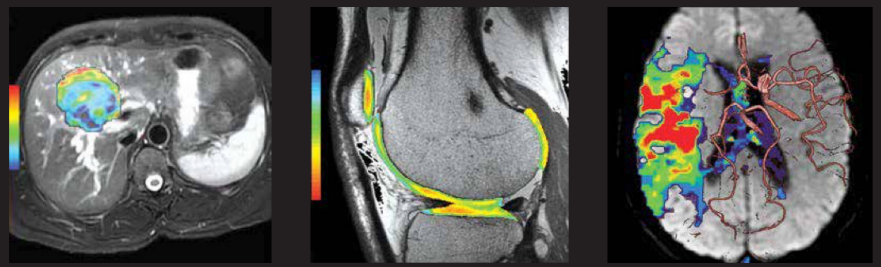
b1000 | b1400 | b1400 Synthetic | b2000 | b2000 Synthetic

MAGiC DWI

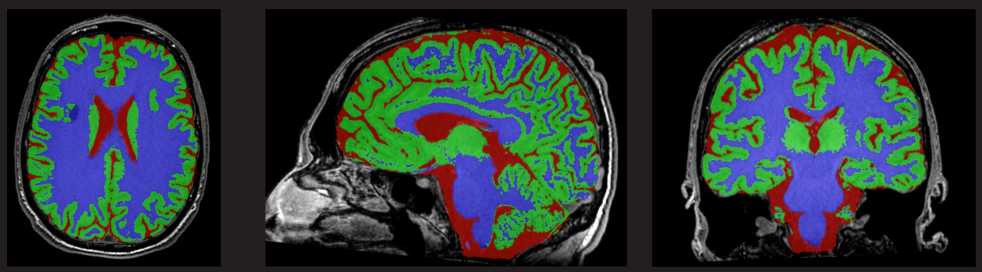
# ImageWorks

Simplify complex exams with READYView, a visualization platform that gives you access to advanced post-processing technology.

Automatically segment and label white matter hyperintensities (WMH) candidates and brain volume with Quantib Brain, which may help accelerate the assessment of brain images over time.



READYView post-processing*

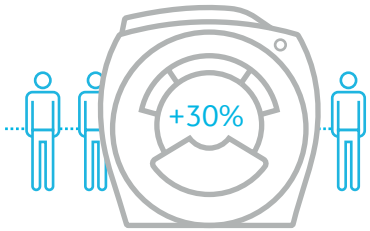


Segmented white matter, grey matter and cerebral spinal fluid
Quantib Brain BRAVO with reformats

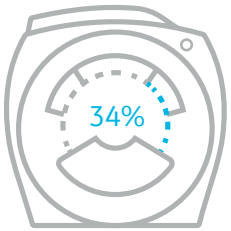
* Representational images showing READYView capability available on SIGNA™ Explorer.

# Enhance your financial performance with operational efficiency

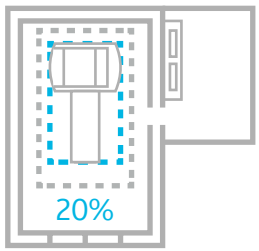
SIGNA™ Explorer has energy-saving, Ecomagination-certified technology and a space-saving footprint. We also provide customizable service and training programs with the ability to upgrade your system through our SIGNA™ Lift program, when the time is right. All of which helps to improve your operational efficiency.




Increases throughput by 30 percent to free up time for more referrals*




Ecomagination-certified technology provides up to 34 percent energy savings*




Designed to use over 20 percent less space with a small 27 $m^2$ footprint for easy siting and installation‡

Learn more about SIGNA™ Lift

* Under normal operating conditions, when compared to previous generations of MR systems.

‡ Compared to the average siting space required of other 1.5T MR systems.

# Outperform with 1.5T

SIGNA™ Explorer is built to leverage the full potential of our modern design magnet. To do this, we optimized all the surrounding technology. The result is an MR system with an improved patient experience, exceptional imaging performance and access to a wide range of innovative applications.

It's an investment packed with operational efficiencies to ensure you outperform in every aspect of your practice.

GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality and more affordable healthcare around the world. GE (NYSE: GE) works on things that matter – great people and technologies taking on tough challenges.

From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.

Imagination at work

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