

# Forge

Make the unimaginable the expected



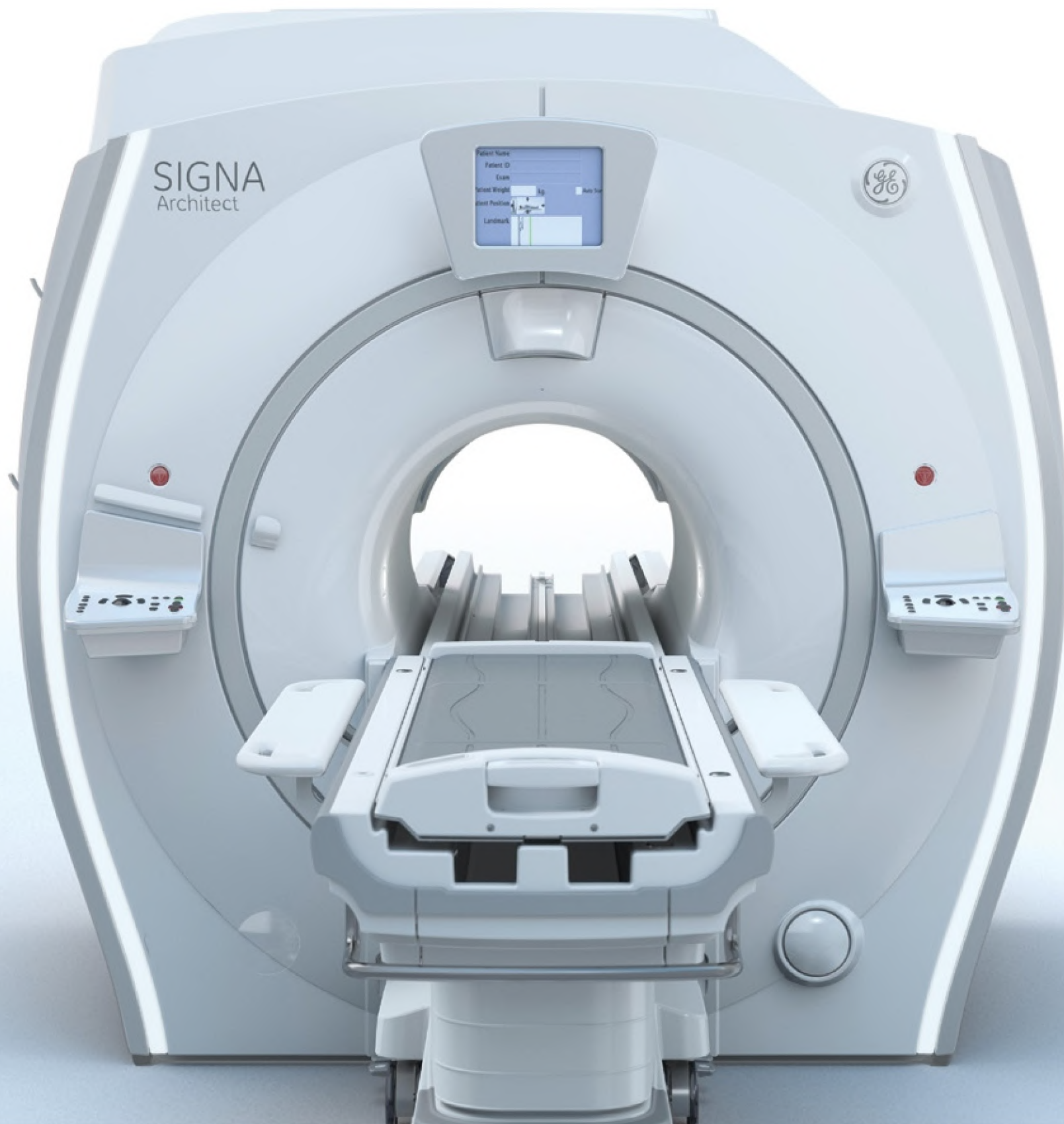
СПУТНИК  
МЕДИЦИНА

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## SIGNA™ Architect

Imagine what MR can be





Бесплатный звонок по России **8 (800) 700-61-87** / [sales@cmedicine.ru](mailto:sales@cmedicine.ru)

# Unleash

Clear advances with clear advantages

Now the potential for MR is even more astonishing with the SIGNA™ Architect 3.0T, a state-of-the-art imaging solution that combines the advancements in MR technology with GE Healthcare's intuitive engineering. Fueled by our new SIGNA™Works productivity platform, the SIGNA™ Architect is a harmonious design of form and function. Everything in its blueprint is crafted to significantly energize your productivity, enhance security, improve diagnostics and boost your bottom line.

Welcome to the future of MR. Forge ahead with SIGNA™ Architect.



# SIGNA™ Works

fueling the future of MR

# SIGNA™ Works

The new standard is extraordinary

Our new SIGNA™Works platform redefines productivity across the breadth of our core imaging techniques with solutions. The SIGNA™Works standard applications portfolio is an extensive set of high quality and efficient imaging capabilities that enables you to achieve desired outcomes across your entire practice area.

SIGNA™Works is the lifeblood, the soul and the muscle - literally the fuel that drives your imaging to the next level and beyond. SIGNA™Works standard applications come pre-loaded with the SIGNA™ Architect as a fully integrated solution. It's value-added technology that's upgradeable and can be customized further, giving you the flexibility to add applications to suit the needs of your growing practice.

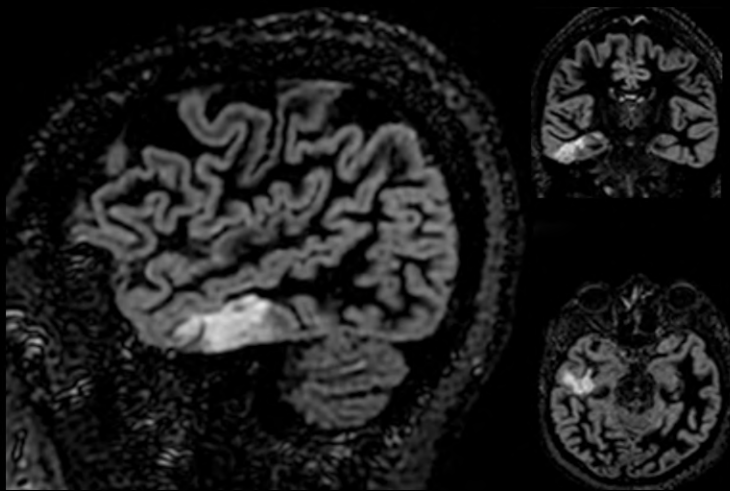
SIGNA™Works takes full advantage of TDI (Total Digital Imaging), further advancing diagnostics and quickening throughput, while simultaneously improving patient outcomes and your ROI.

# Energize

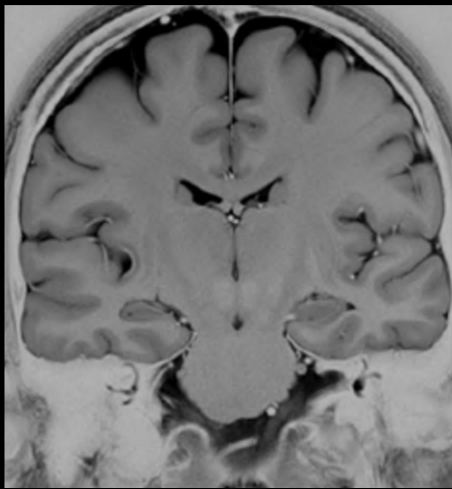
Phenomenal exams to meet your clinical needs

The SIGNA™Works applications portfolio contains NeuroWorks, OrthoWorks, BodyWorks, OncoWorks, CVWorks and PaedWorks. These imaging solutions cover a wide variety of contrasts, 2D and 3D volumetric data, including motion correction capabilities. SIGNA™Works provides all the tools you need to complete a clinical exam.





Cube DIR  
1.4 x 1.4 x 1.4mm



T2 PROPELLER MB Coronal (inverted)  
.6 x .6 x 3mm

## NeuroWorks

This one-stop solution enables you to image brain, spine, vascular and peripheral nerve anatomy with exceptional tissue contrast. These motion-insensitive techniques feature single-click auto alignment, providing the complete neuro solution from scanning to post processing.

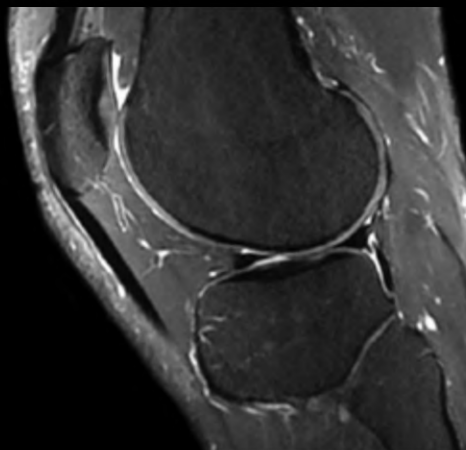
NeuroWorks also includes Cube, our 3D volumetric imaging suite, standard with every system. This application allows you to suppress CSF and either white or gray matter to increase lesion conspicuity.

PROPELLER MB, our latest PROPELLER enhancement, is a multi-shot approach that preserves tissue contrast regardless of weighting while also reducing motion artifacts. Additionally, this new technique introduces new contrasts such as T1 FSE.

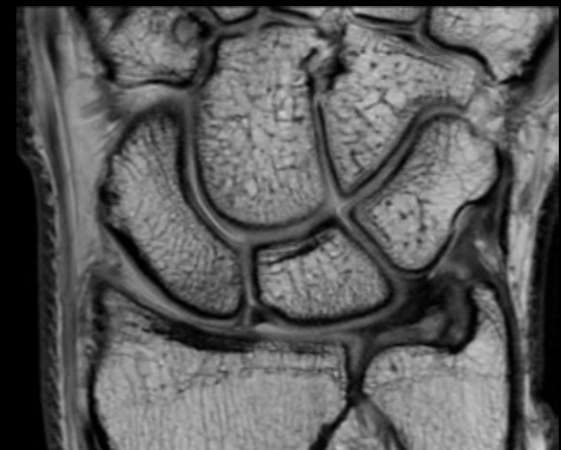
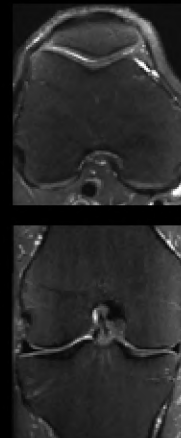
## OrthoWorks

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

OrthoWorks also includes 3D volumetric Cube with proton-density, combined with ASPiR, which enables improved fat suppression uniformity, which is routinely done as three separate 2D scans. With one 3D acquisition and multi-planar reformats, Cube may replace individual 2D scans.



PD FatSat Cube Sagittal  
.6 x .6 x 1.2mm

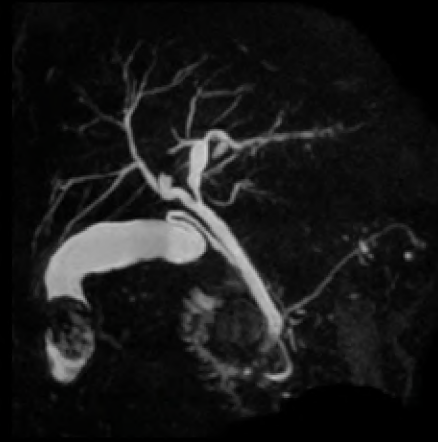


PD FatSat Coronal  
.2 x .3 x 2.5mm

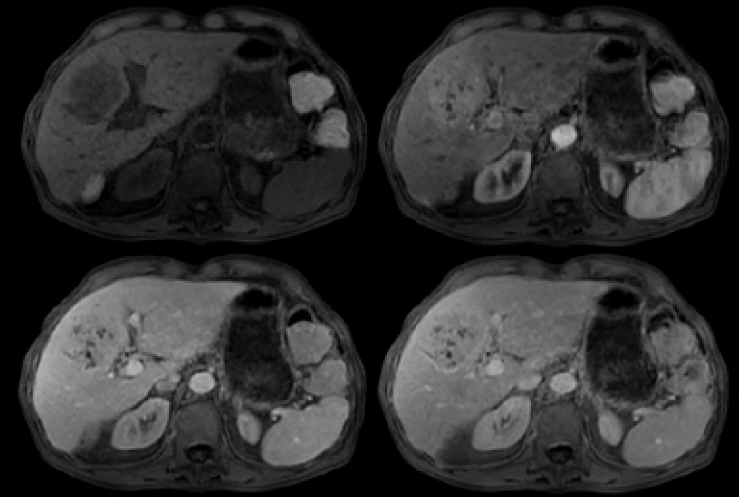
# BodyWorks

With BodyWorks, we address one of the fastest growing areas in MR. This all-inclusive library allows you to image abdominal and pelvic anatomy with user flexibility to adapt to different patient types.

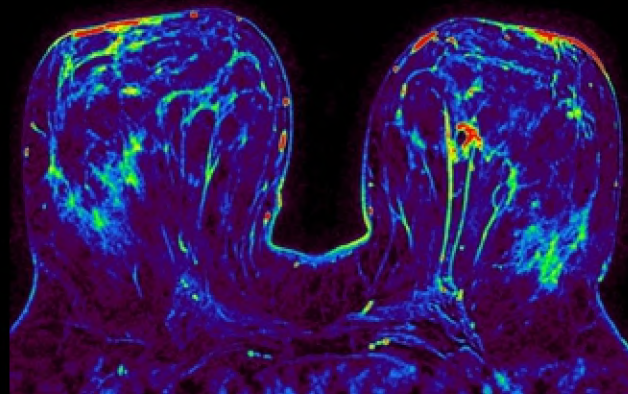
PB Navigators are GE's solution to combat respiratory motion in abdominal imaging. This free-breathing approach is compatible with multiple pulse sequences including diffusion, PROPELLER MB, MRCP and dynamic T1 imaging.



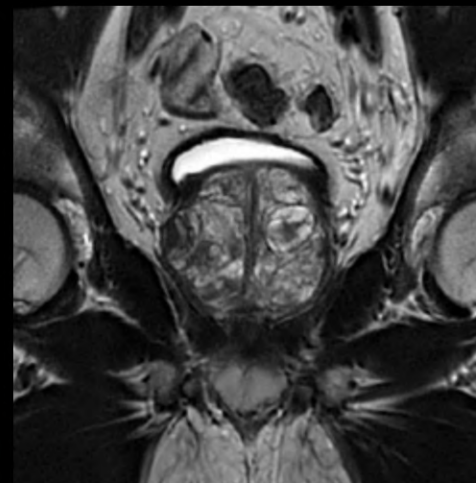
3D MRCP  
1.4 x 1.4 x 1.2mm



Navigated Turbo LAVA  
Free-breathing Dynamic Liver  
1.9 x 2 x 4mm  
:20 sec / phase



FSPGR Axial Dynamic  
1 x 1 x 1.5mm



T2 PROPELLER Coronal  
.8 x .8 x 3mm

# OncoWorks

This extensive library of techniques captures anatomic and morphologic data to uniquely enable oncological assessment of the anatomy. OncoWorks includes robust tissue contrast, motion-insensitive, high temporal and spatial resolution imaging.

3D volumetric imaging with an optimized adiabatic fat suppression, combined with ARC or ASSET, provides high spatial and temporal resolution capture contrast uptake patterns. The images on the left show lesion characteristics generated using AW VS7's positive enhancement map. The T2 PROPELLER image demonstrates small FOV and motion-correction through the prostate.



# CVWorks

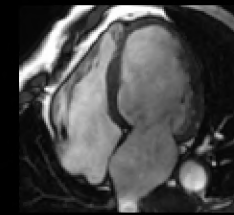
With our intuitive cardiac techniques, you can assess morphology, flow, function and tissue viability plus gain crucial insights into vascular structure and flow dynamics. CVWorks provides the flexibility to adapt to different patient types with exams that vastly simplify workflow.

With CVWorks, multi breath-hold imaging can be a thing of the past. Our latest Single Shot MDE and Black Blood techniques provide patient-friendly alternatives to uncomfortable breath-holds.

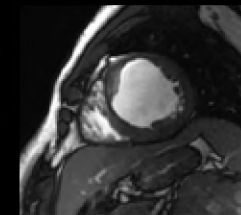
With our workflow-simplified QuickStep protocols, scanning whole body vasculature can be done in less than 6 minutes. High-performance gradients allow bright blood pool and myocardial tissue contrast on Cine FIESTA while preserving spatial resolution.



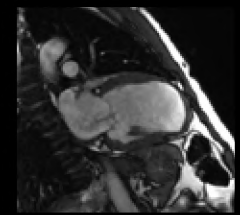
QuickStep MRA



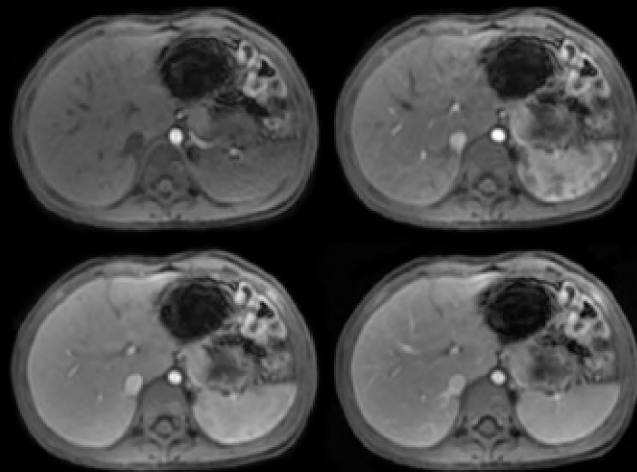
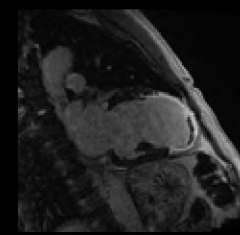
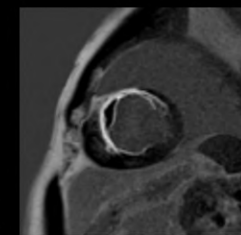
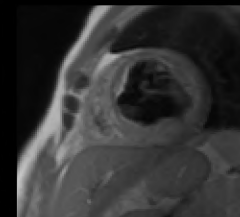
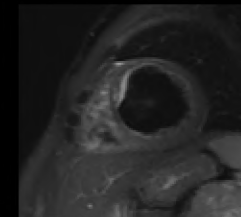
2D Cine FIESTA



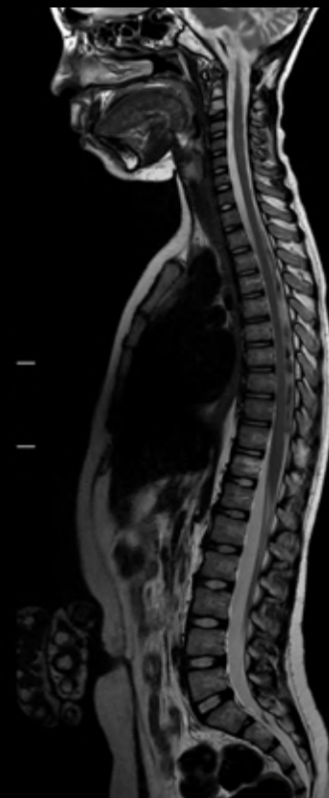
Black Blood - SSFSE



PS MDE



Navigated Turbo LAVA  
Free Breathing Dynamic Liver  
1.2 x 1.7 x 2.6mm  
:25 sec / phase



T2 frFSE Sagittal

# PaedWorks

PaedWorks provides specialized protocols to simply address the needs of your smallest, most fragile patients. Techniques such as PB Navigators combined with PROPELLER MB are used with advanced techniques like diffusion imaging, allowing for patient-friendly, entirely free-breathing exams. Additionally, cardiac exams using Single Shot MDE provide faster, more reliable results.

Images on the left demonstrate dynamic T1 imaging with PB Navigator, which enables the patient to breathe freely while capturing contrast in fast temporal phases. Whole spine evaluation can be obtained simply with routine T2 frFSE imaging (right).



HyperWorks

ViosWorks

ImageWorks

SilentWorks

# Expand

## Broaden your areas of expertise

Take your expertise to the next level when you move beyond the standard with SIGNA™Works innovative applications. Improved image quality, higher efficiency and a more streamlined workflow help you perform better than ever before.

### **HyperWorks**

HyperWorks means hyper scanning with astonishing imaging and impressive speed. Exclusively introduced on SIGNA™ Architect's hardware and TDI platform, HyperWorks includes HyperSense, which can deliver higher spatial resolution images or reduced scan times.

### **ViosWorks**

For the first time, all 7 dimensions of information; 3D in space, 1D in time and 3D in velocity can be captured in a 10-minute or less cardiovascular scan. ViosWorks includes a cloud-based, real-time visualization tool, powered by Arterys™. ViosWorks is truly groundbreaking as it reduces the complexity and cost of cardiac imaging with improved results in a shorter amount of time.

### **SilentWorks**

SilentWorks is GE's most advanced noise-reducing technology and strengthens our promise to transform the patient experience. Traditional exams can be as loud as a rock concert, but our innovative SilentWorks technology reduces sound levels to roughly the same as ambient noise.

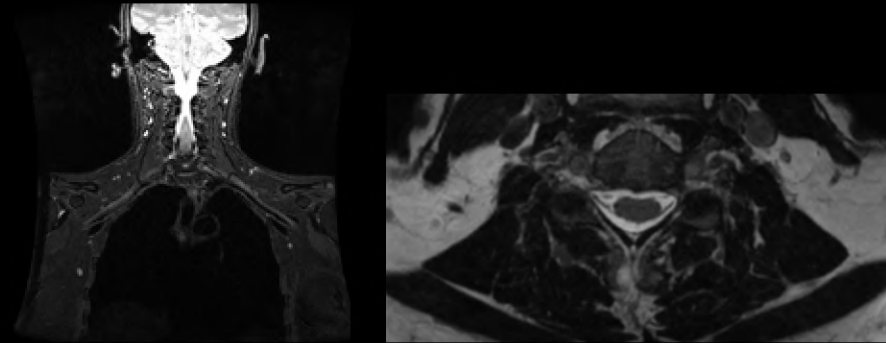
### **ImageWorks**

ImageWorks boosts your overall MR performance through automation and advanced post-processing capabilities. READYView visualization and MAGiC one-and-done scanning help ensure consistent and clear results.

# HyperWorks

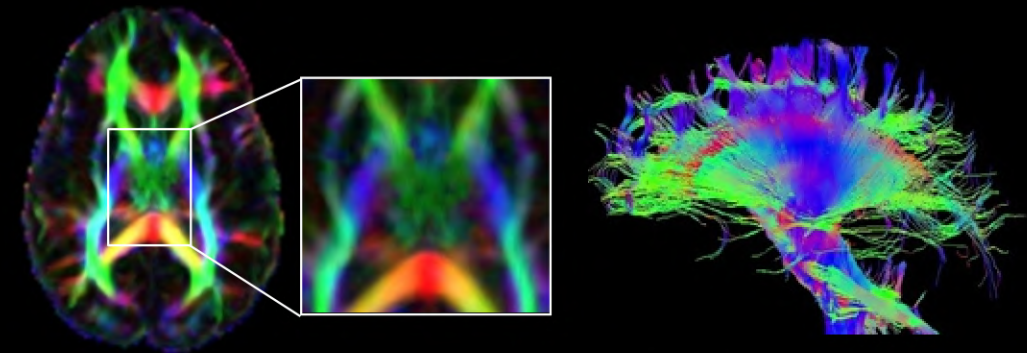
## HyperCube

HyperCube expands the capabilities of 3D imaging, allowing you to significantly reduce scan times and eliminate artifacts such as motion and aliasing by reducing the phase field of view without the presence of aliasing artifacts.



HyperCube with Flex

HyperCube Axial



HyperBand FA Map

HyperBand DTI

## HyperBand

HyperBand takes your diffusion to a new level by allowing you to acquire more slices or diffusion directions within a typical scan.



T2 Cube Two Station

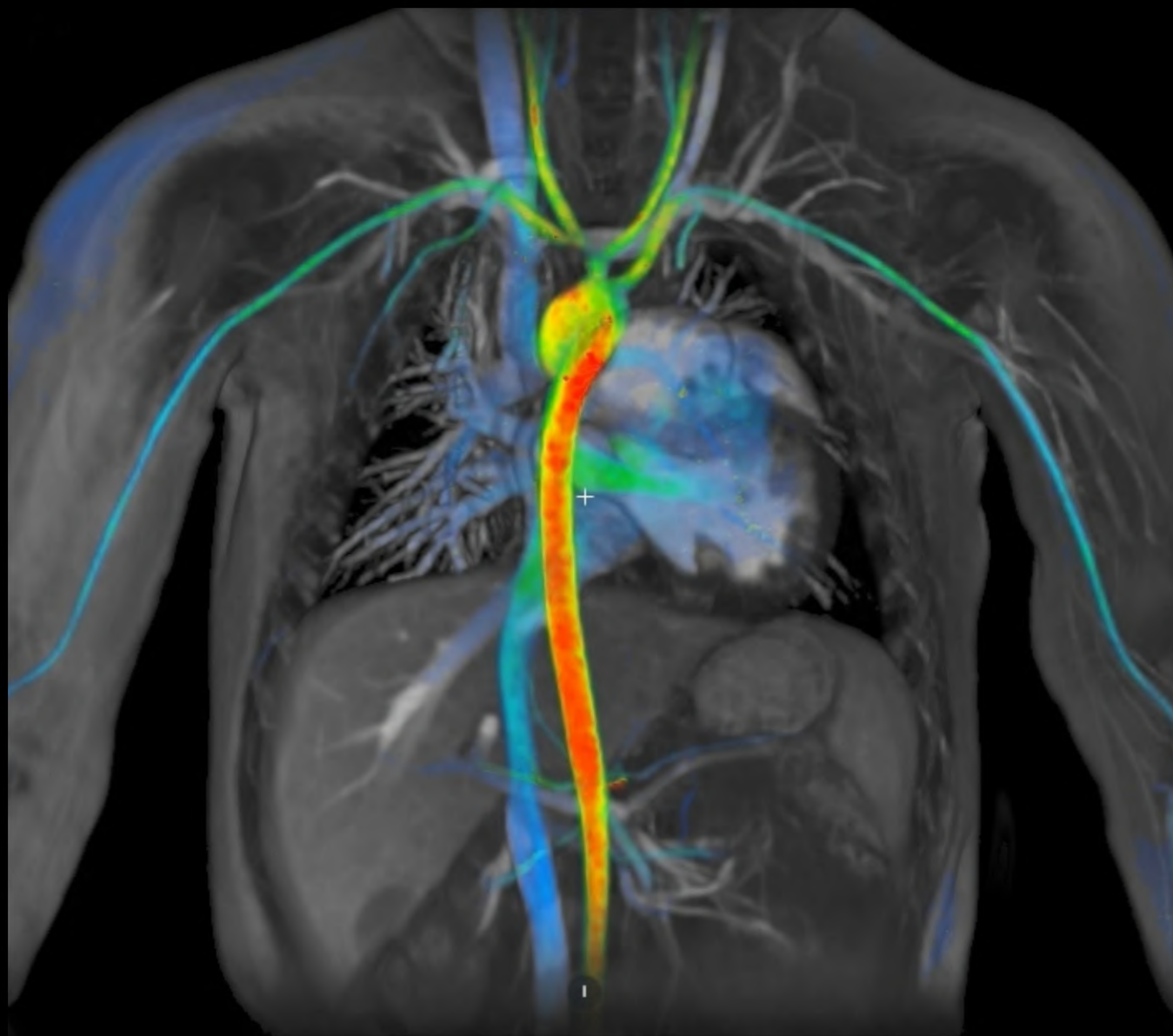
Knee Cube  
.4 x .4 x .4mm

3D MRCP

3D TOF

## HyperSense

HyperSense is an acceleration technique based on sparse data sampling and iterative reconstruction. This application can deliver higher spatial resolution images or reduced scan times, enabling faster imaging without the penalties commonly found with conventional parallel imaging. HyperSense can also be combined with other methods of acceleration (ARC) for achieving high signal-to-noise ratio with shorter acquisition times.



## ViosWorks

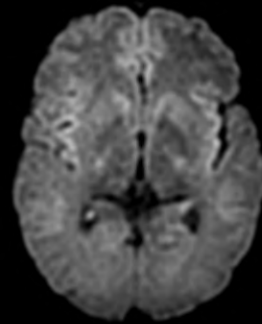
ViosWorks, powered by Arterys™, provides detailed quantitative flow, regurgitant measurements and stroke volume. Thickness and mass and ejection fractions can be obtained with this precise and non-invasive solution.

# SilentWorks

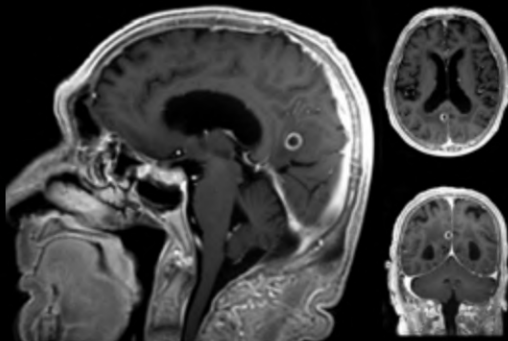
SilentWorks is available across all anatomies and can be done with multiple weightings and coils, including DWI. Zero TE techniques enable imaging in vasculature structures with less artifacts that are commonly seen on traditional scans. And with new enhancements like 3D Silenz and PROPELLER MB, your exam time is shortened without compromise.



ZTE Silent MRA



DWI with SilentScan



3D T1 Sagittal SilentScan  
with Axial and Coronal MPR's

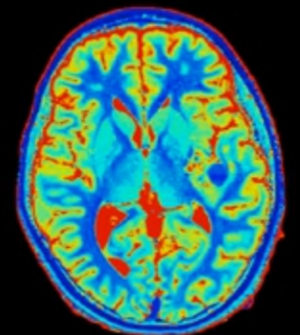
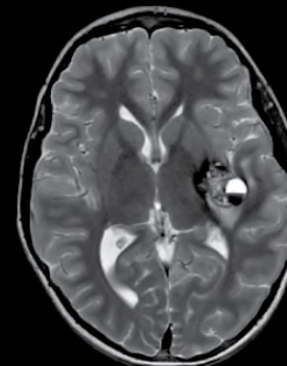
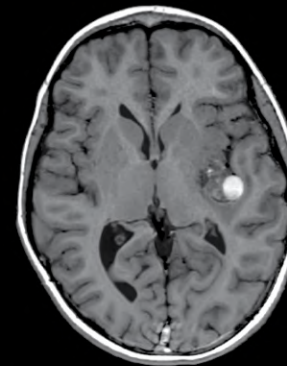
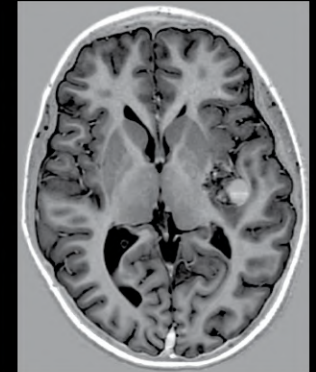
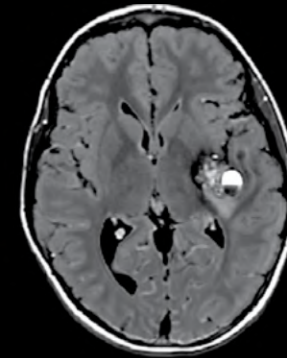
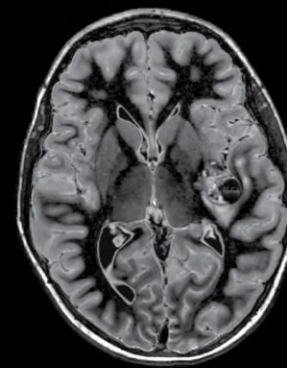


T2 PROPELLER FatSat  
Coronal with SilentScan

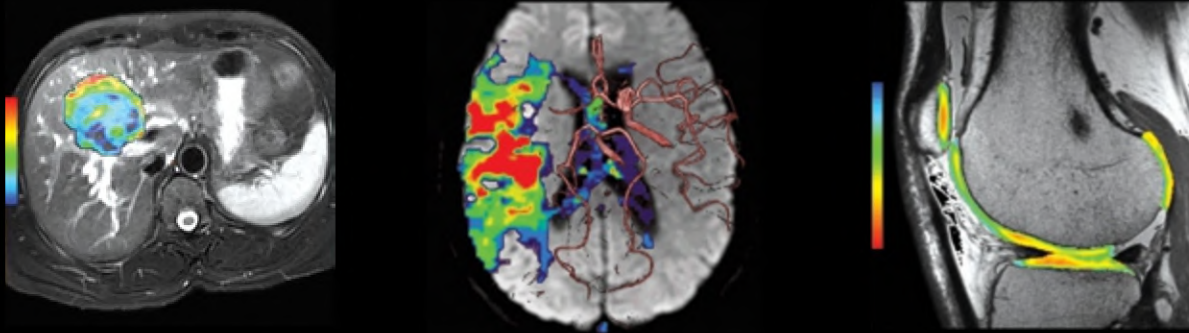
# ImageWorks

## MAGiC

The secret of MAGiC lies in its unique ability to make possible multiple image contrasts in a single neuro scan. MAGiC delivers enhanced clinical flexibility by freeing up time for advanced imaging. MAGiC goes beyond the routine, providing complementary parametric data for a more complete picture. Image contrast can be changed by applying simple adjustments after acquisition.

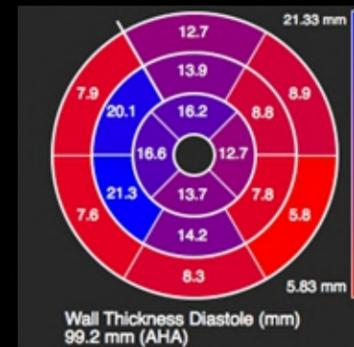
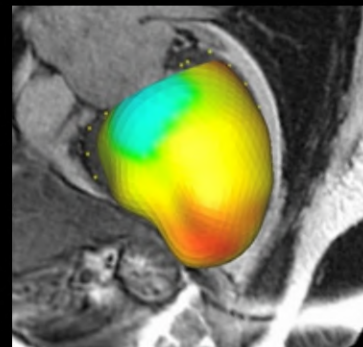
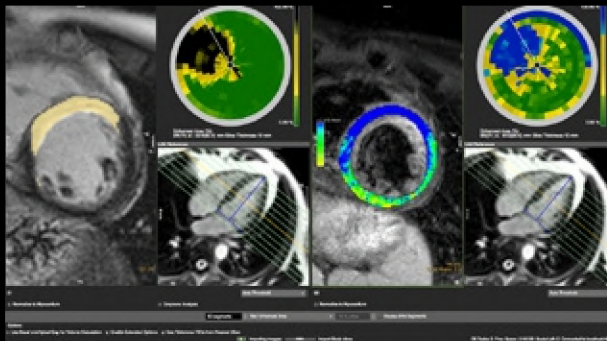


DIR, FLAIR, PSIR (top), T2, T1 and T2 maps (bottom) were acquired in one scan



## READYView

READYView helps simplify complex exams by providing a visualization platform that gives you access to advanced post processing technology. With READYView being directly available on the MR operator console, it accelerates workflow and reading readiness by eliminating time consuming post processing steps.

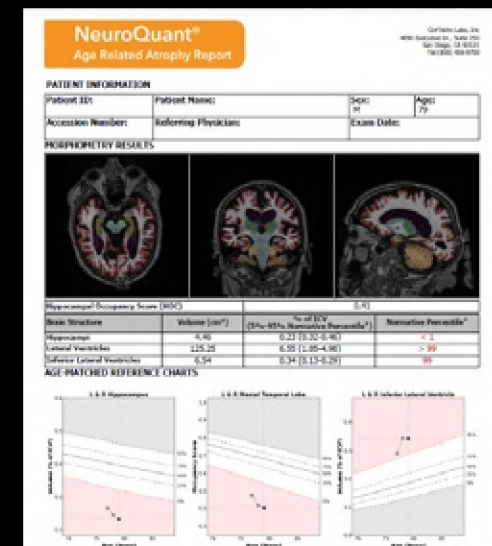


## cmr<sup>42</sup>

cmr<sup>42</sup> is a comprehensive cardiovascular post processing solution that uses automated algorithms to assess tissue characterization, mapping, flow and function.

## NeuroQuant

NeuroQuant automatically segments and measures volumes of brain structures and compares these volumes to norms. This information helps make a diagnosis and follow the progression of a disease. NeuroQuant can provide reports for a variety of clinical impressions, including Age Related Atrophy, Hippocampal Volume Asymmetry, Multi-Structure Atrophy, Triage Brain Atrophy, Brain Development and General Morphometry.





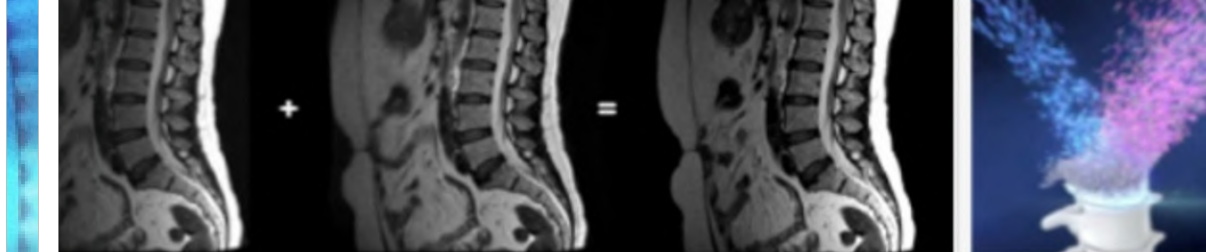
# Elevate

Raise your MR performance to new heights  
with groundbreaking technology

The SIGNA™ Architect is designed to overcome barriers that held you back. The cutting-edge platform makes it one of the most versatile, adaptable and powerful systems available from GE Healthcare to date. Now, feet-first, whole body coverage is made easy. Dynamic yet insightful, the SIGNA™ Architect is MR built to work for you, not the other way around.



# Total Digital Imaging (TDI)



The SIGNA™ Architect offers startling advances in imaging and a total imaging win with TDI.

GE's **Direct Digital Interface (DDI)** employs an independent analog-to-digital converter to digitize inputs from each of 128 RF channels, eliminating unnecessary noise enhancement. In other words, every element translates to a digitized signal. The result? Not only does DDI technology improve the SNR of our images but it also works with legacy GE coils for unmatched flexibility.

**Digital Micro Switching (DMS)** technology represents a revolutionary advance in RF coil design by replacing analog blocking circuits with intelligent Micro Electro-Mechanical Switches (MEMS). The result? Coil design supports ultrafast coil switching times for further expansion of zero TE imaging capabilities and reduced power consumption.

**Digital Surround Technology (DST).** The SIGNA™ Architect comes prepared for DST. DST combines signals from every coil element. The exceptional SNR and sensitivity of the high-density surface coils are combined with the superior homogeneity and deeper signal penetration of the integrated RF body coil, resulting in richer spine and body image quality.

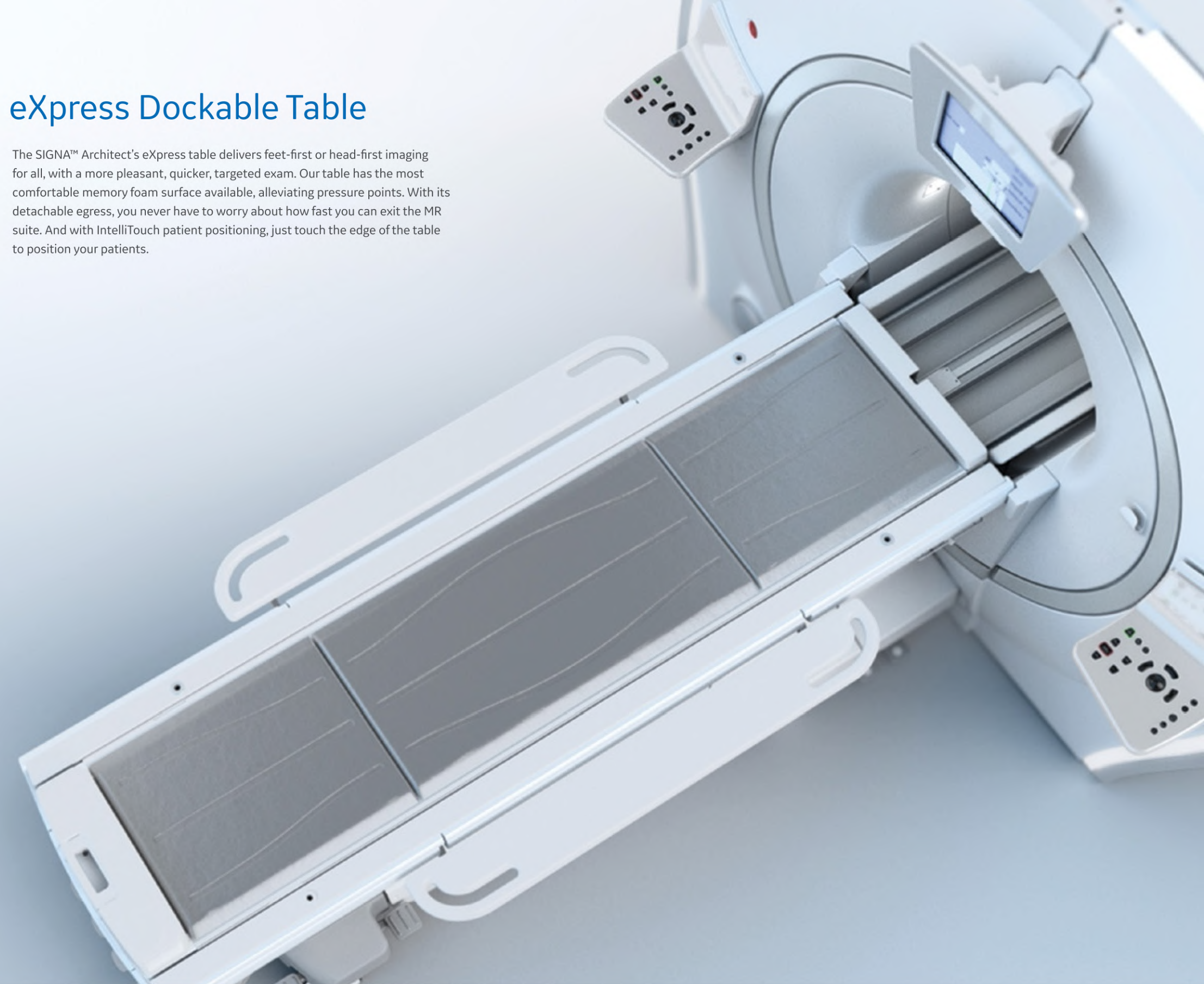


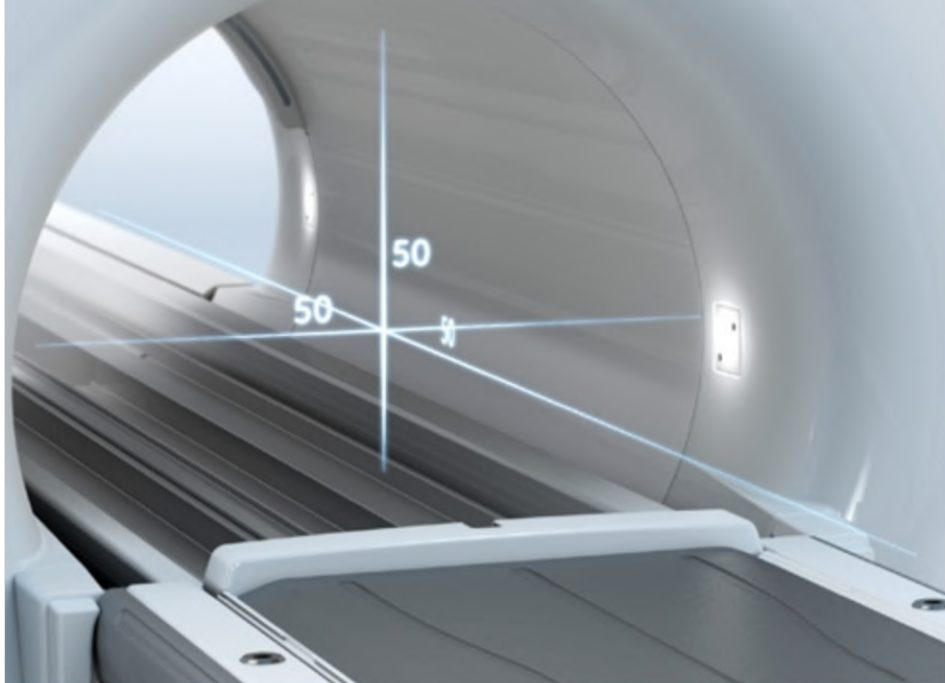
## TDI 48 Channel Head Coil and Coil Suite

Introduced with the SIGNA™ Architect, the TDI 48 Channel Head Coil delivers phenomenal performance for every patient, with a fit-adaptable design that addresses 99.99% of the population while preserving the highest SNR and supporting advanced imaging capabilities such as HyperWorks technologies. The TDI 48 Channel Head Coil also includes advanced features such as video goggles for patient comfort and fMRI studies, plus an industry-leading EEG-compatible design.

## eXpress Dockable Table

The SIGNA™ Architect's eXpress table delivers feet-first or head-first imaging for all, with a more pleasant, quicker, targeted exam. Our table has the most comfortable memory foam surface available, alleviating pressure points. With its detachable egress, you never have to worry about how fast you can exit the MR suite. And with IntelliTouch patient positioning, just touch the edge of the table to position your patients.





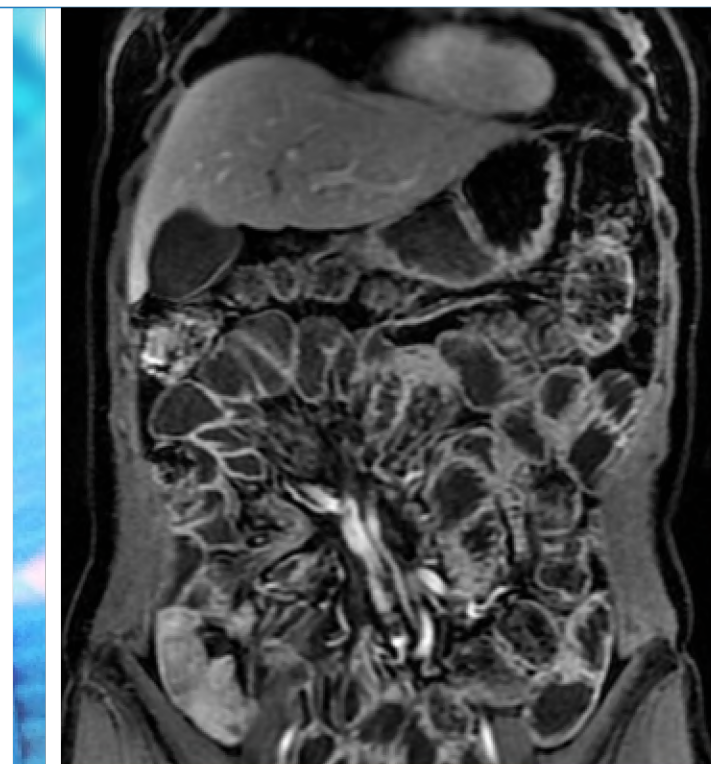
## FOV

In addition to accommodating larger patients, full 50x50x50cm FOV in a 70cm wide bore allows you to properly image off-center anatomy such as shoulders and hips. The SIGNA™ Architect's phenomenal homogeneity enables our largest FOV ever, with higher gradient specifications. Additionally, excellent spatial integrity is provided by 3D GradWarp distortion correction. And no body part is left behind.

## reFINE and deFINE

With reFINE, the challenge of 3.0T high-field uniformity has finally met its match. Just like a home theater surround system can be optimized, with reFINE, you increase your control over improved RF pulse efficiency, so you get clearer, crisper signals no matter your patient composition or position. reFINE makes consistent 3.0T imaging the rule, not the exception.

deFINE takes the results of SIGNA™ Architect to the next level by enhancing the image appearance with integrated, in-line, optimizable settings. These settings can be generated for each individual sequence or for the entire exam. With deFINE, you meet your high quality image needs and go beyond the normal.





ПРОДАЖА И СЕРВИС  
**МЕДИЦИНСКОГО ОБОРУДОВАНИЯ**

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**Контакты:**

443058, г. Самара ул. Физкультурная 90 

8 (800) 700-61-87 

sales@cmedicine.ru 

cmedicine.ru 