

TOMORROW TODAY

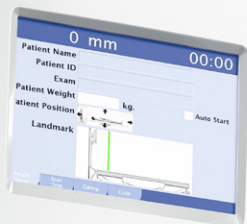


# SIGNA Voyager

Fueled by SIGNA™Works

[gehealthcare.com/mr](http://gehealthcare.com/mr)





SIGNA  
Voyager





OUTCLASS

# Power performer

On the outside, SIGNA™ Voyager is a space-saving 1.5T, but on the inside, it's a highly calibrated MR system. Its powerful computational capabilities make it possible to perform fast exams with acceleration techniques, like HyperWorks, that improve workflow.

- Industry-best magnet homogeneity for a 1.5T wide-bore system.
- Fast performance for quick exams with the Ultra High Efficiency Gradient System.
- Total Digital Imaging (TDI) contributes to 25 percent improved SNR for sharper image resolution.

# A total digital approach to imaging

Total Digital Imaging (TDI) offers advances in imaging through its unique technology. Digital Surround Technology and Direct Digital Interface take full advantage of your system by digitizing every input from both the high-density surface coils and the deep signal penetration of an integrated RF body coil. These technologies, along with eMode, enable faster imaging with greater clarity and 25 percent improved SNR.

## I Digital Surround Technology (DST)

Simultaneous reception of signals from the QD body coil and surface coils to give you rich image quality.

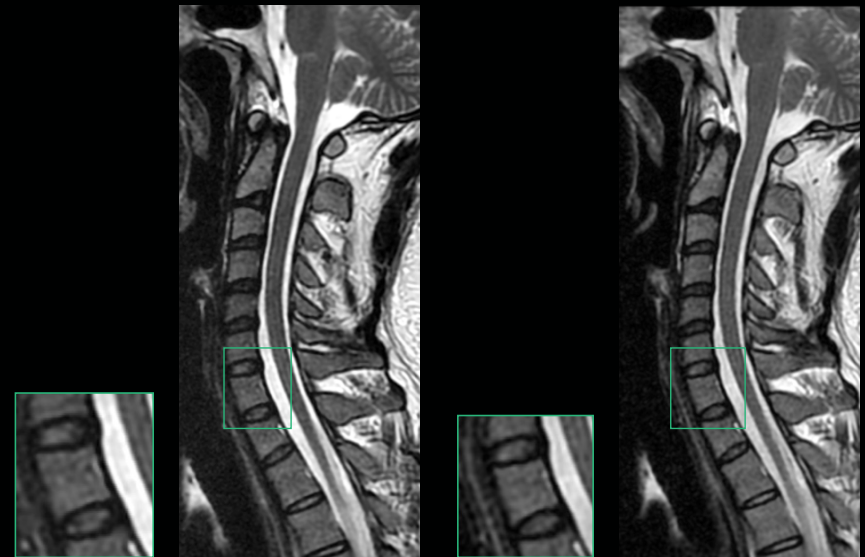
## I Direct Digital Interface

Digitizing every input from up to 65 channels creates sharper images with a higher signal-to-noise ratio.

## I eMode Technology

Ultra-fast coil switching times allow you to image tissues that are hard to see with MR using zero TE techniques.

## Up to 65 digitized channels for high image quality



Without DST

With DST

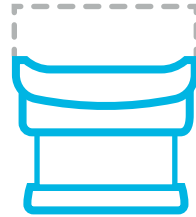
Sagittal T2 FSE  
288 x 224, 3 mm slice



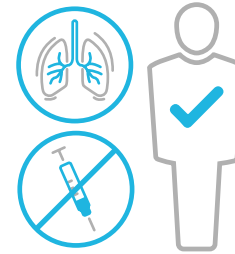
# Widen your patients' comfort zone

From making the patient table more accessible to reducing noise levels and offering needle-free applications during exams, SIGNA™ Voyager elevates patient comfort across the entire MR experience. It's also roomier with a wide, 70 cm bore and the Comfort Plus Table, which is also lower to the ground.

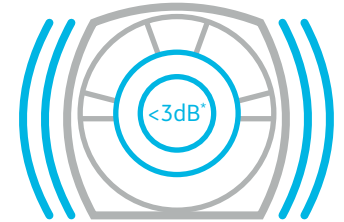
Give your patients an MR experience they can take comfort in.



Extra-wide, low-height table gives patients easy access



Free-breathing and needle-free applications improve the patient experience



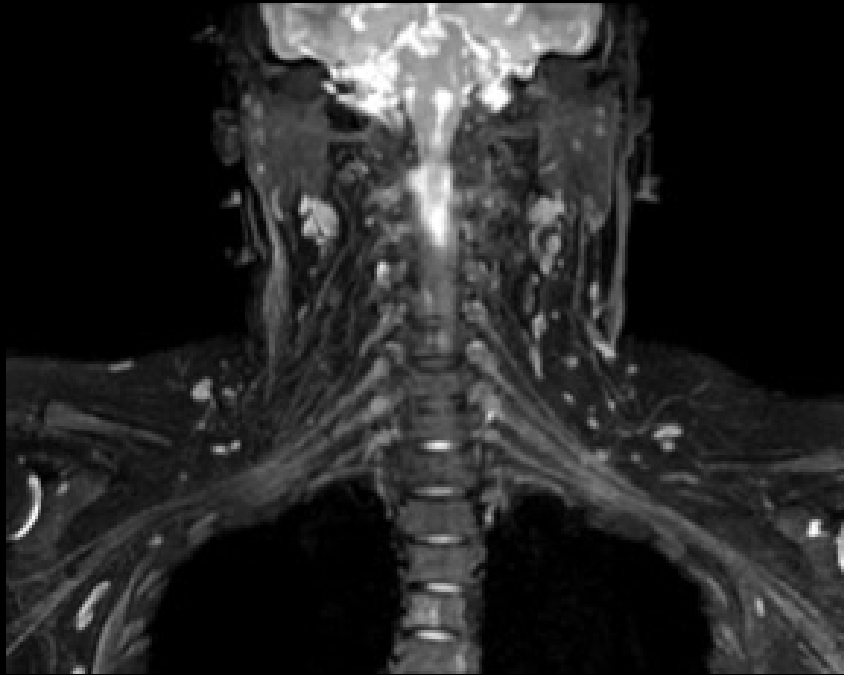
SilentScan reduces noise to near ambient levels (< 3 dB\*)

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

## Clarity at the new speed of MR

Imaging speed plays an important role in productivity and throughput. SIGNA™ Voyager includes three accelerating techniques, HyperBand, HyperSense and HyperCube.

Provides astonishing images with remarkable speed during routine exam slots so the patient spends less time in the bore.



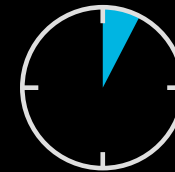
Coronal HyperCube T2 Flex with HyperSense  
Brachial Plexus  
22 mm MIP  
Water image  
3:47 min

### HyperBand



Excites multiple slices during a single acquisition to accelerate scan speed

### HyperSense



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

### HyperCube




Selective excitation for higher spatial resolutions and reduced 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 ViosWorks.

This groundbreaking application portfolio enhances the capabilities of SIGNA™ Voyager. 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](#) 





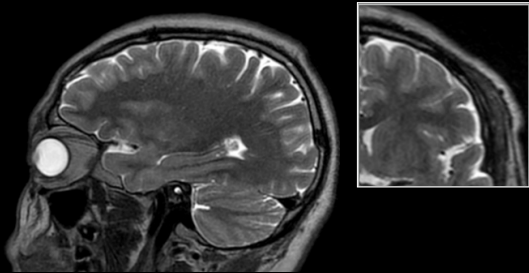
# NeuroWorks

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

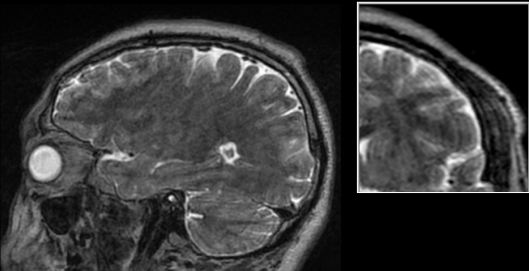
Use an imaging option that delivers prospective motion correction for 3D brain imaging with PROMO.

■ Motion-correction 3D imaging is great for non-sedated patients with 3D PROMO.

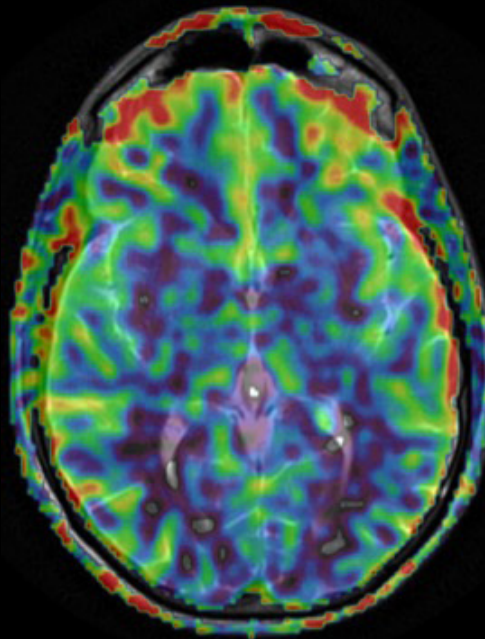
■ View quantitative cerebral blood flow volumes (CBF) with 3D Arterial Spin Labeling (ASL).



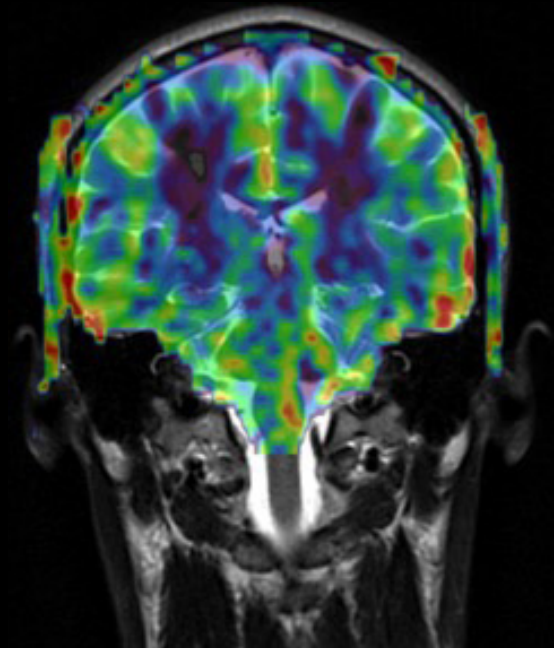
T2 Cube with PROMO



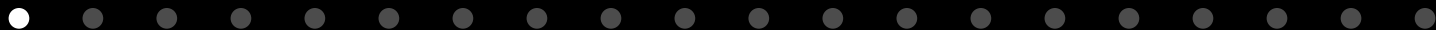
T2 Cube without PROMO



3D ASL fused with Axial T2 PROPELLER



3D ASL fused with Coronal T2 PROPELLER

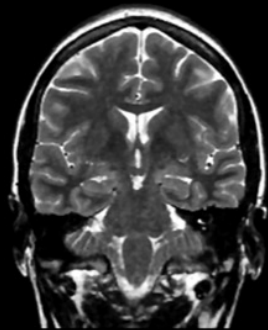


# NeuroWorks

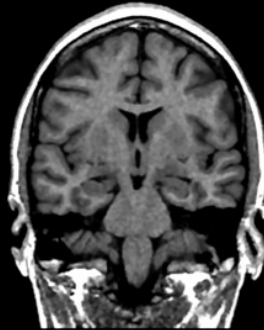
Deliver multiple contrasts in a single scan with MAGiC, reducing scan time by up to 50 percent compared to acquiring all contrasts separately.

▮ Scans up to eight contrasts in one five-and-a-half-minute scan.

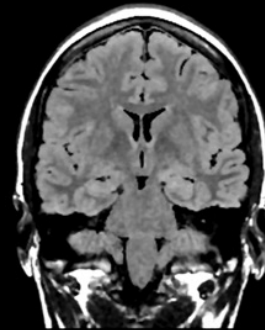
▮ Allows you to change the contrast after acquisition.



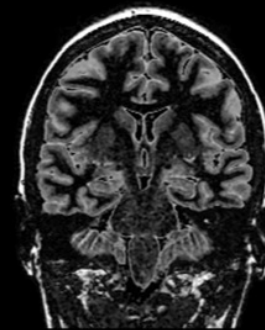
T2



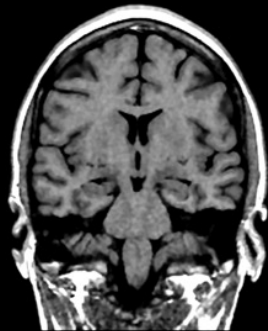
T1



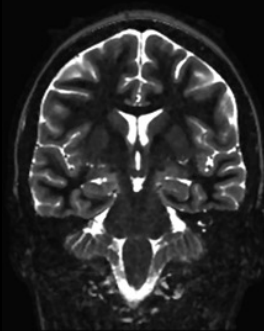
T2 FLAIR



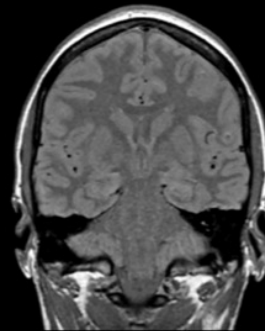
DIR



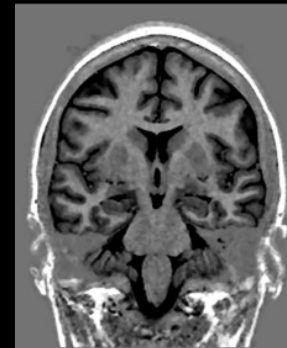
T1 FLAIR



STIR

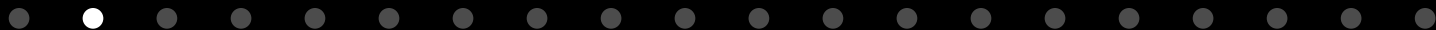


PD



PSIR

Coronal MAGiC  
3 mm, 5:40 min



# OrthoWorks

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

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.

Enable imaging around MR Conditional implants with MAVRIC SL.



Sagittal PD Flex  
Water image



Sagittal T1 FSE  
Small flex coil



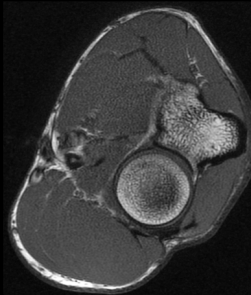
Sagittal PD FSE  
Large flex coil



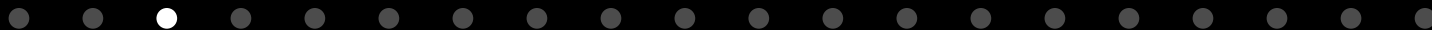
Sagittal PD with MAVRIC SL for  
MR Conditional metal implant  
Large flex coil



Sagittal PD Flex  
In-phase image



Axial T1 FSE  
Small flex coil



# OrthoWorks

Achieve shorter TE's and improved motion correction, allowing for true T1 and PD contrast imaging with PROPELLER MB.

■ Motion artifact suppression with real-time tracing and no sensor needed.

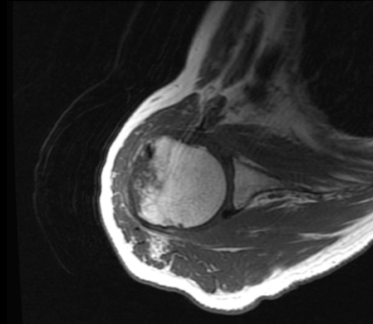


Coronal T1 FSE

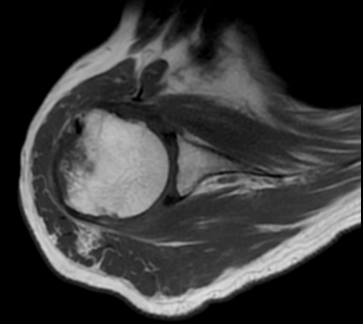


Coronal T2 FSE Flex

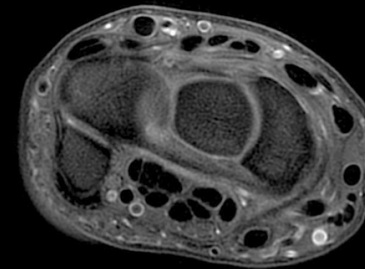
16 ch hand/wrist coil



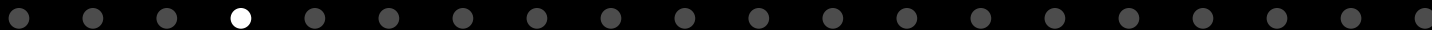
Axial T1 FSE



Motion-correction with Axial T1 PROPELLER



Motion-correction with Axial PD PROPELLER

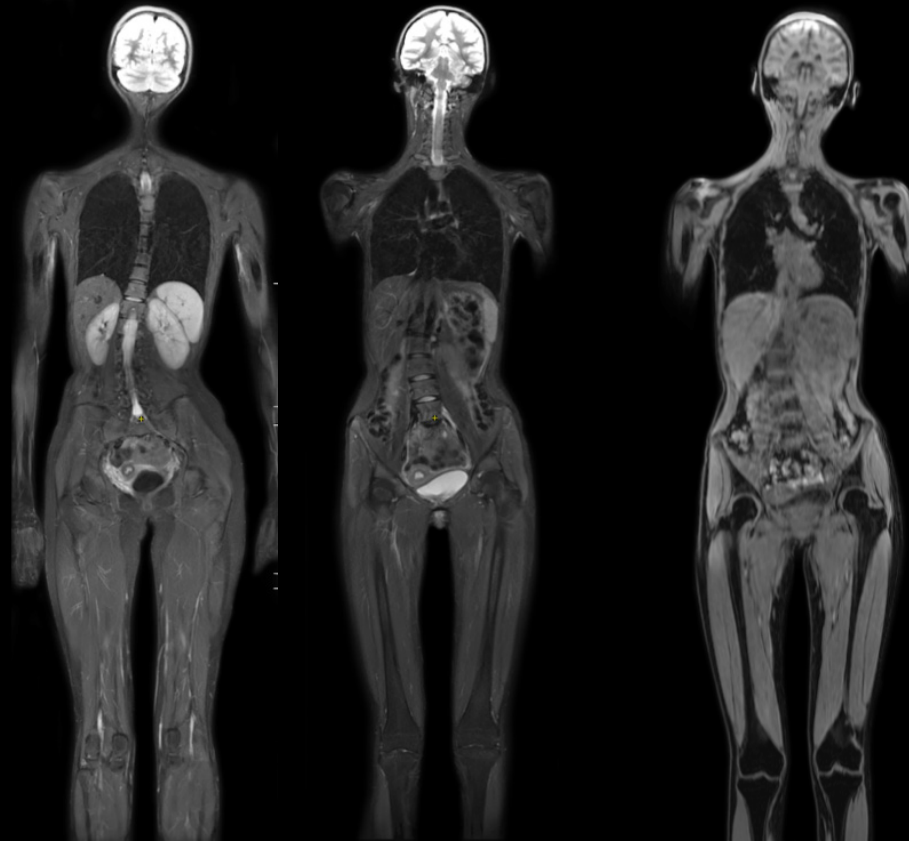


# BodyWorks

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

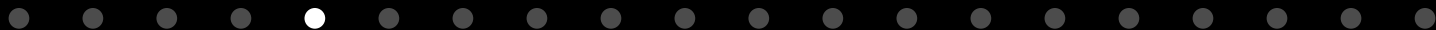
■ Body imaging with the flexibility to adapt to different patient types.

■ Less scans needed with large FOV.



Coronal STIR

Axial T1 3D LAVA Flex  
Coronal reformat



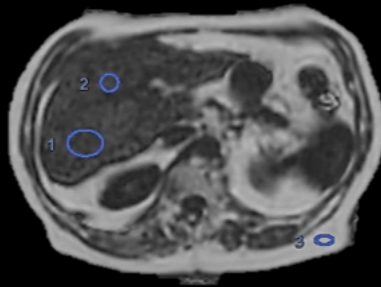
# BodyWorks

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

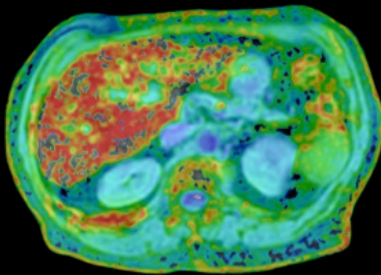
3D images meet the challenge of capturing multiple dynamic phases over time.

Compatible with Auto Navigator for free-breathing dynamic scans.

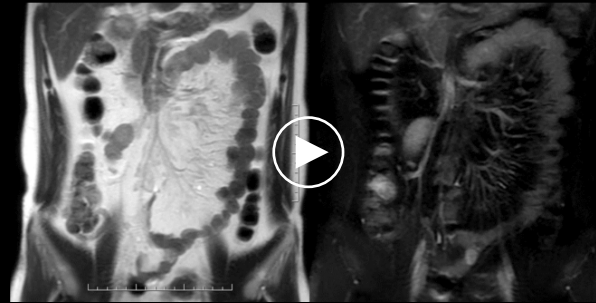
Measure fat in the liver by generating quantitative triglyceride fat-fraction maps with IDEAL IQ.



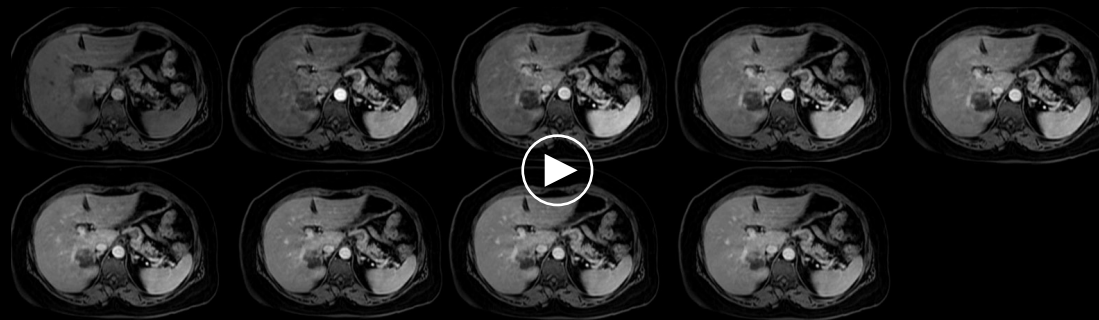
IDEAL IQ  
Fat Fraction  
FOV 44, 8 mm



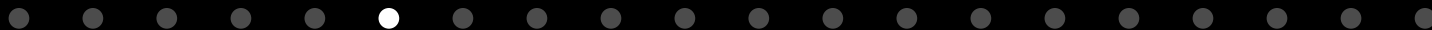
T2\* Map



Coronal T2 SSFSE Multi-phase



Dynamic Axial 3D DISCO Flex  
Free-breathing with Auto Navigator  
16 sec/phase, 2:10 min total time

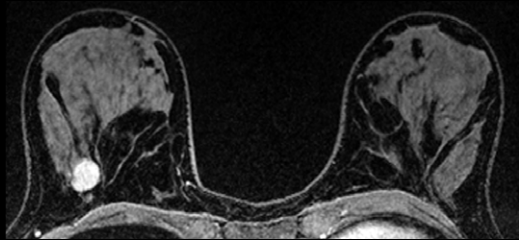


# BodyWorks - Women's health imaging

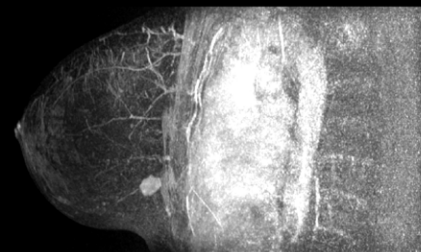
Enables fast, high-resolution, quantitative and personalized MR for women's health.

■ Generate extreme, high resolution 3D dynamic imaging with DISCO.

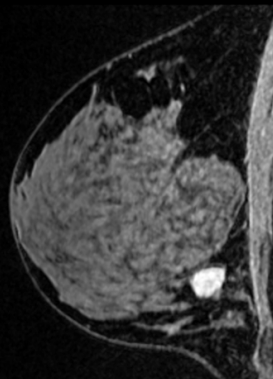
Image the entire breast in less than three-second intervals with DISCO.



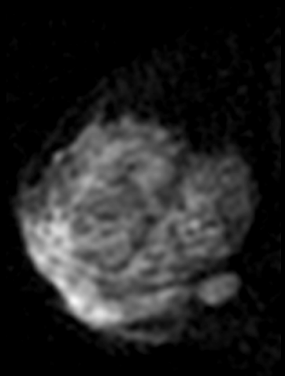
Axial DISCO Water image and sagittal reformat  
0.7 x 0.7 x 1.0 mm  
61 sec/phase



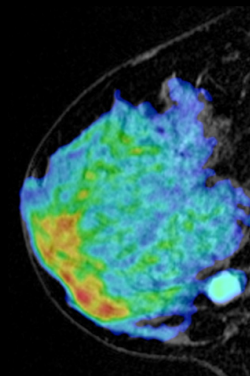
Sagittal 3D MIP  
Subtracted DISCO phase



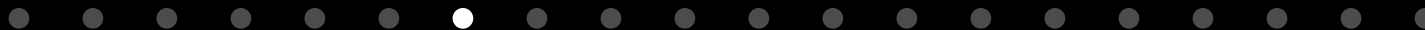
Sagittal reformat



Sagittal FOCUS DWI  
b800, 2.6 x 2.6 x 4.0 mm  
3:32 min



Sagittal DISCO reformat fused with Sagittal FOCUS DWI



# BodyWorks - Men's health imaging

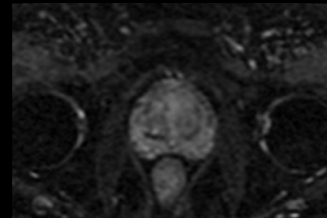
Quantitative, multi-parametric and high-resolution prostate MR imaging is fast and customized for men's health.

■ Small FOV diffusion imaging of dedicated anatomy, such as prostate imaging, for increased resolution with FOCUS DWI.

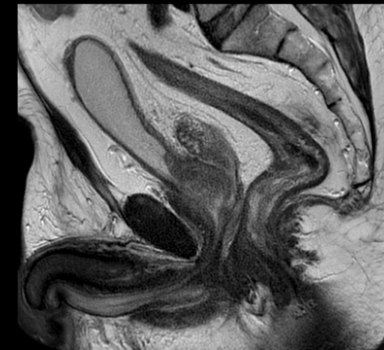
■ Measure, locate and score lesions according to PI-RADS™ v2 guidelines with PROView post-processing.



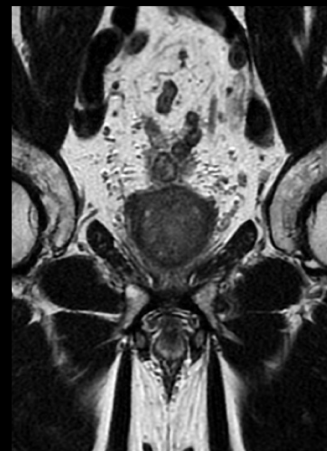
Axial T2 FSE  
256 x 224  
FOV 24  
3 mm 2:39 min



Axial FOCUS DWI  
b600, FOV 24 x 12  
4 mm, 3:06 min



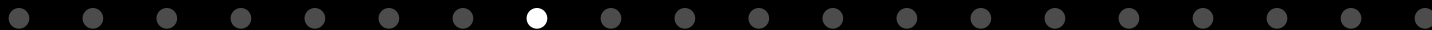
Sagittal T2 PROPELLER  
352 x 352, FOV 24  
3 mm, 2:54 min



Coronal T2 FSE  
288 x 224, FOV 24  
3 mm, 3:09 min



Axial 3D DISCO  
256 x 224, FOV 34, 3 mm  
13 Phases, 5:15 min



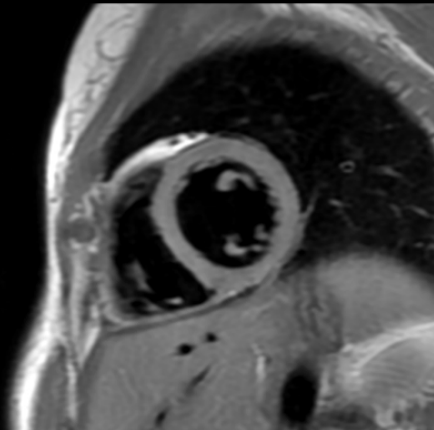


# CVWorks

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.

Assess the heart's anatomy and function by providing excellent tissue contrast between blood pool, myocardium and valves with 2D FIESTA CINE.

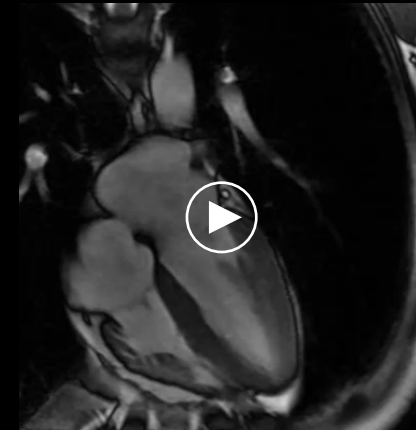
■ Suppress the signal of flowing blood for faster scanning during free-breathing or within a single breath-hold with Black Blood SS FSE to reduce repeats.



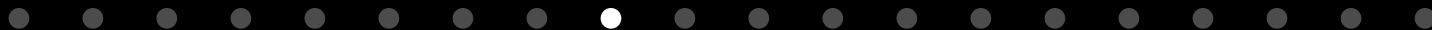
Short Axis T1 Black Blood



FIESTA Cine, Short Axis  
256 x 192  
FOV 36, 8 mm  
0:20 min



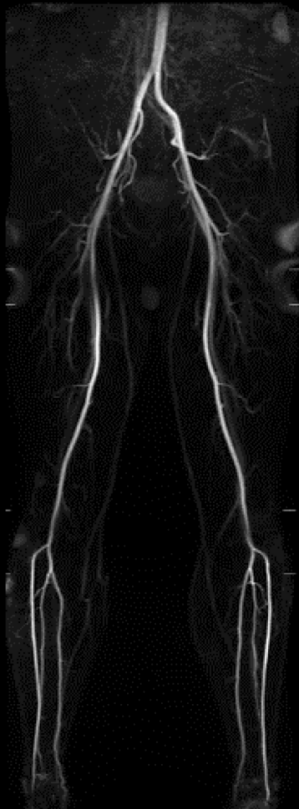
FIESTA Cine, 4 Chamber  
128 x 224  
FOV 25, 8 mm  
0:14 min



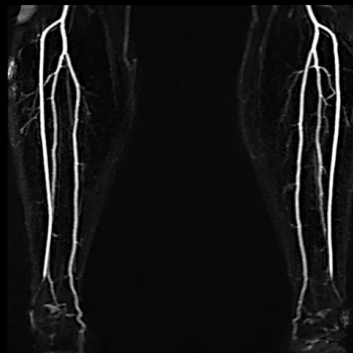
# CVWorks

The Inhance Suite improves your workflow with easy setup by allowing visualization of blood flow in diverse anatomies with an advanced array of powerful pulse sequences – with no need for gadolinium. The suite includes 3D IFIR, 3D Velocity, 2D InFlow and 3D DeltaFlow.

Visualize blood flow in diverse anatomies without gadolinium with Inhance DeltaFlow.



3D DeltaFlow  
3 stations



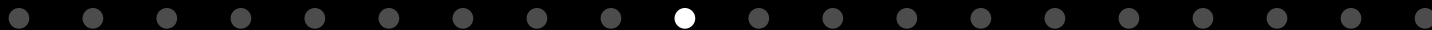
Non-contrast 3D Inhance  
4:41 min



Non-contrast IFIR  
3:58 min



Portal MRA  
Non-contrast Inhance IFIR



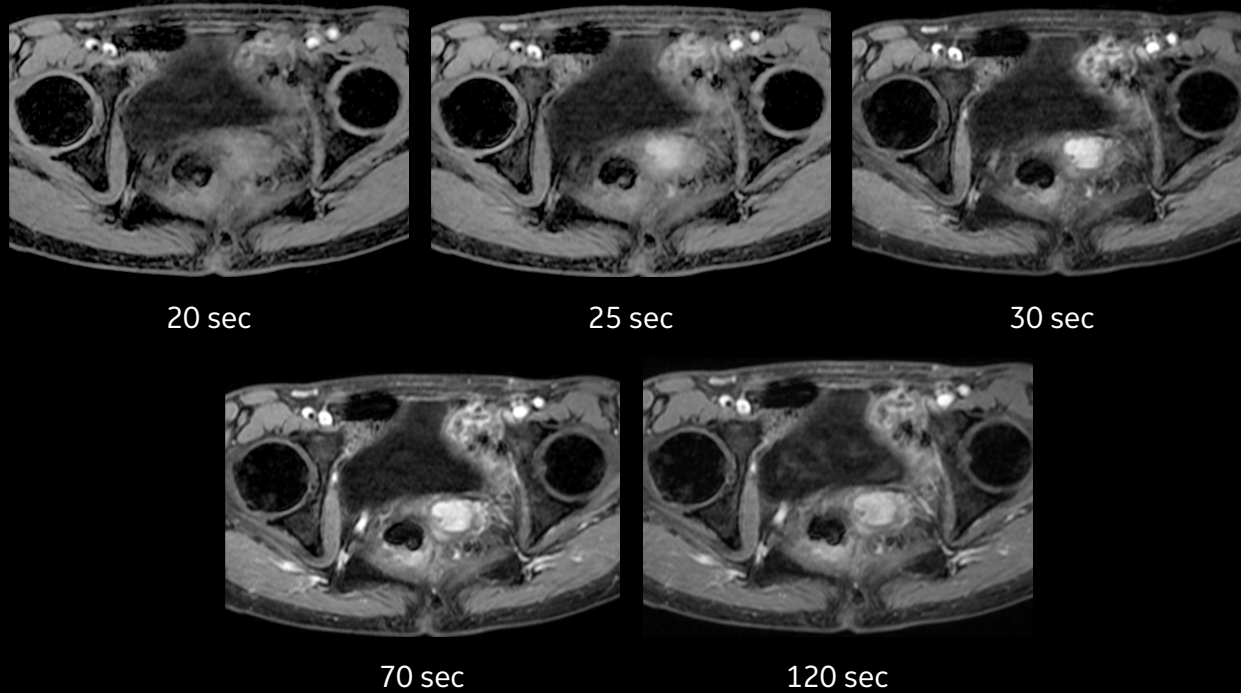
# OncoWorks

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

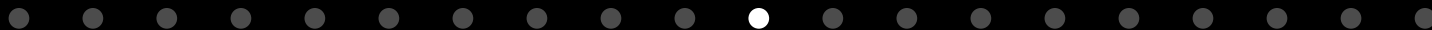
Dynamic Scan Optimization (DISCO) drastically reduces scan time and uses novel techniques to disperse motion and view sharing to improve temporal resolution.

3D images meet the challenges of capturing multiple dynamic phases over time with DISCO.

Compatible with Auto Navigator for free-breathing dynamic scans.



Axial DISCO DCE-MRI  
Phase 4, 5, 6, 14 and 24  
5 sec temporal resolution



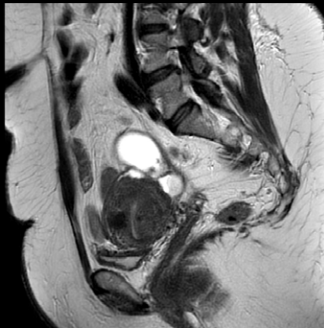
# OncoWorks

Increase resolution using FOCUS DWI, a highly efficient diffusion technique.

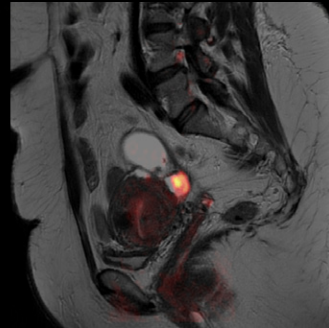
Provides a higher spatial resolution diffusion via smaller FOV.

■ Reduces motion contamination outside the region of interest with FOCUS DWI.

■ Reduces distortion in challenging areas in any plane.

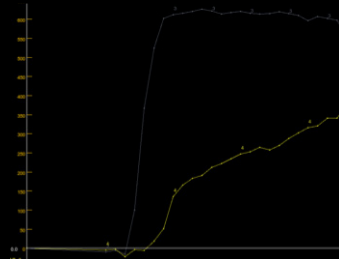
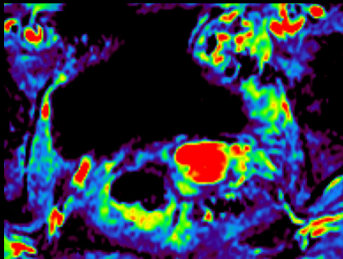


Sagittal T2 PROPELLER



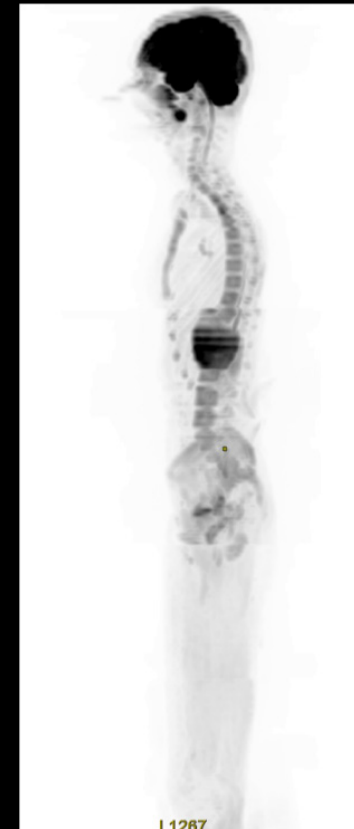
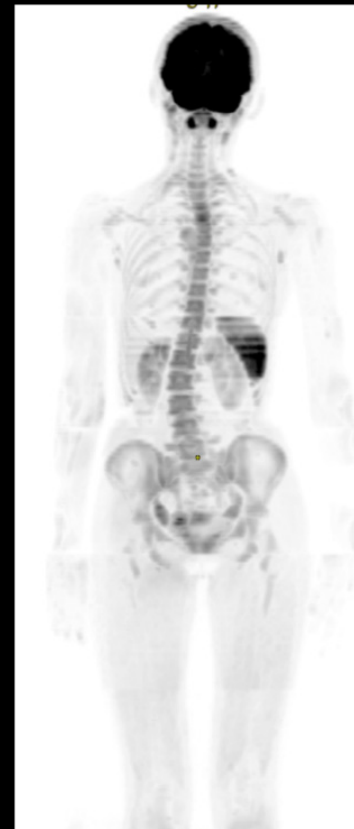
Sagittal FOCUS DWI  
b1000

Female pelvis

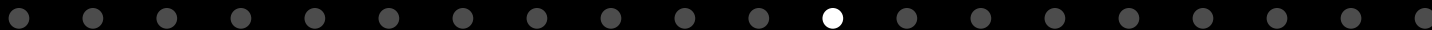


Axial DISCO

Positive Enhancement Integral (PEI) map  
with signal intensity over time curves



DWI b1000



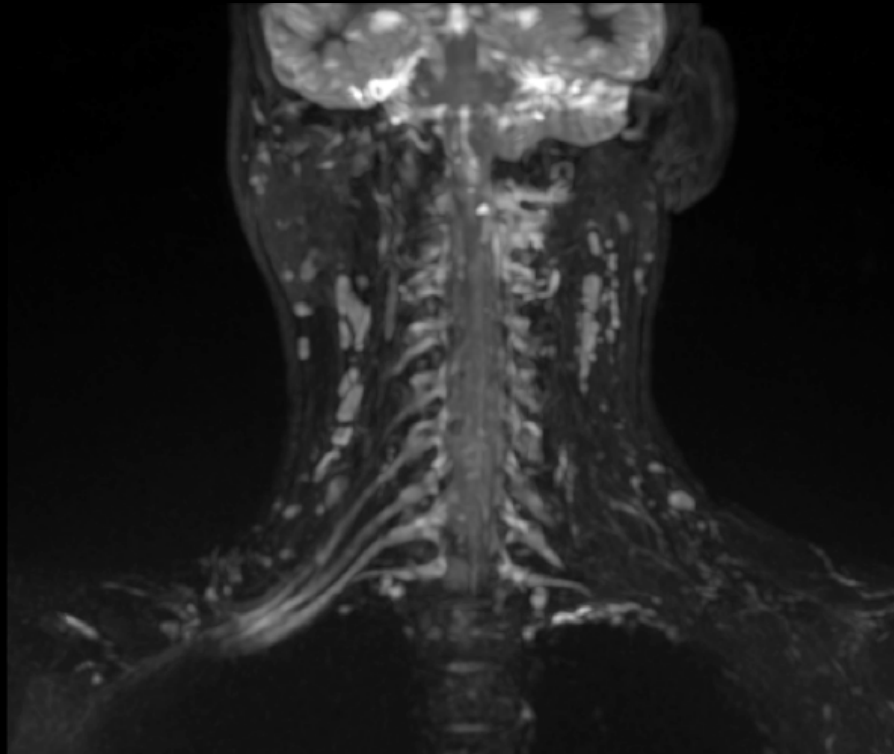
# HyperWorks

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

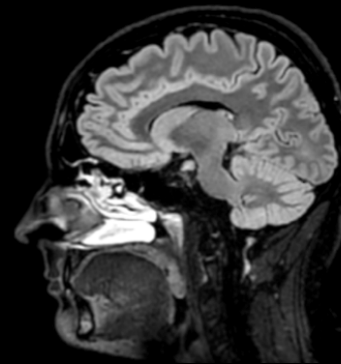
Accelerate 3D scan times with HyperSense, including Cube and time-of-flight (TOF).

Reduce scan times by up to 50 percent.

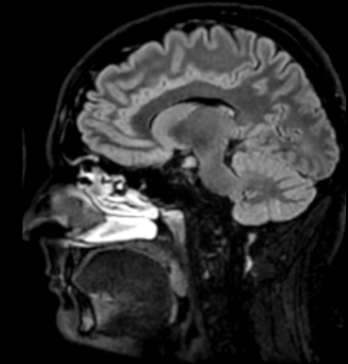
Can be used in 88 percent of all clinical procedures.



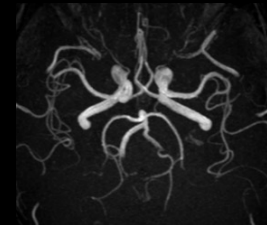
Coronal Cube STIR HyperSense  
3:19 min



Sagittal Cube FLAIR  
without HyperSense  
5:12 min



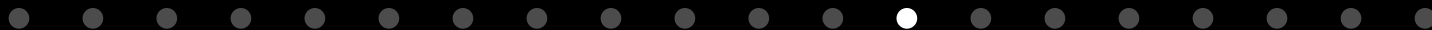
Sagittal Cube FLAIR  
With HyperSense  
3:41 min



3D TOF without  
HyperSense  
4:34 min



3D TOF with  
HyperSense  
3:18 min



# HyperWorks

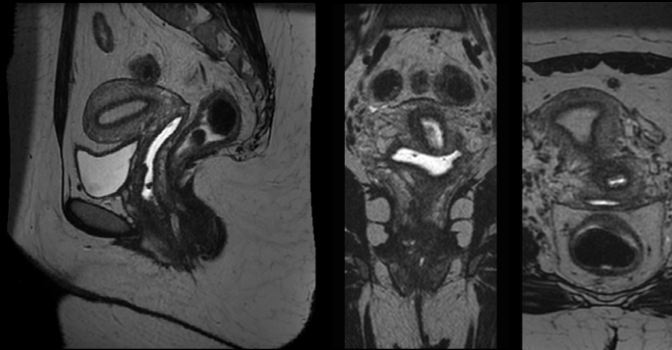
Expand the capabilities of 3D imaging by reducing scan times and minimizing artifacts with HyperCube.

Reduce scan times even further by simultaneously using HyperSense and HyperCube.

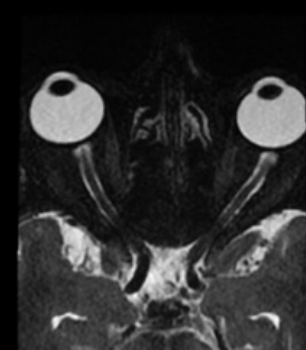
8x speed gain with Flex, HyperSense and HyperCube.



3D MRCP with HyperSense  
Free-breathing with Auto Navigator  
320 x 256, 1.6 mm  
2:17 min



Female pelvis  
T2 Cube Sagittal with HyperSense and HyperCube

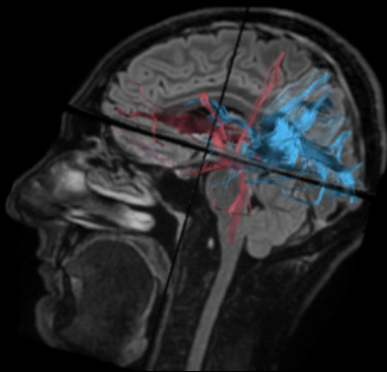


Axial HyperCube  
T2 Flex Orbits  
0.7 x 0.7 x 1 mm

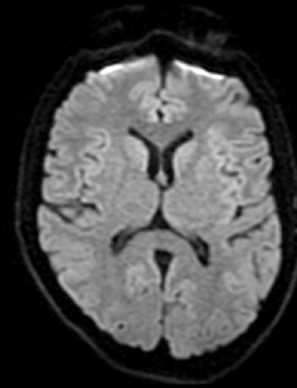
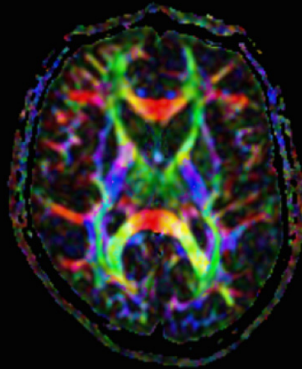


# HyperWorks

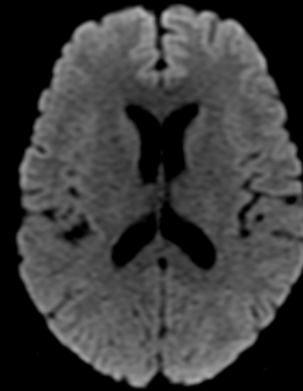
Scan more diffusion directions or temporal resolution, without increasing scan time, by exciting and acquiring multiple slices simultaneously with HyperBand.



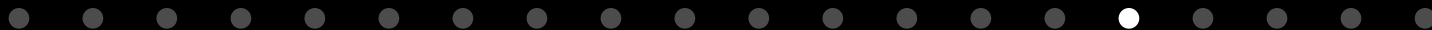
Axial DTI HyperBand  
2.5 mm/0, 30 directions  
2:33 min



Axial DWI  
HyperBand 2  
4 mm/0.4 mm  
128 x 160  
36 sec



DWI Axial with HyperBand  
b1000  
22 sec



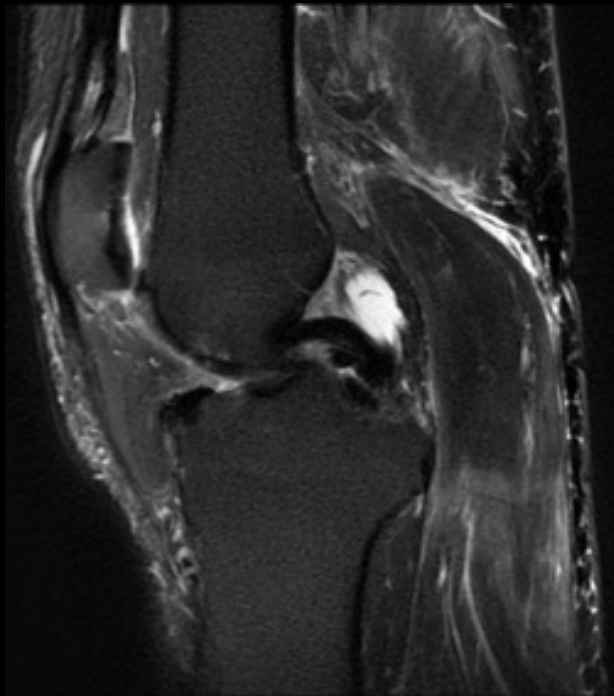




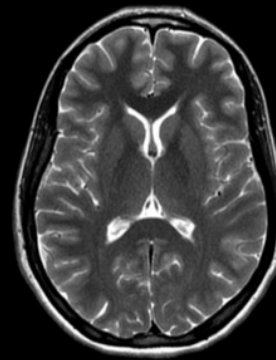
# SilentWorks

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

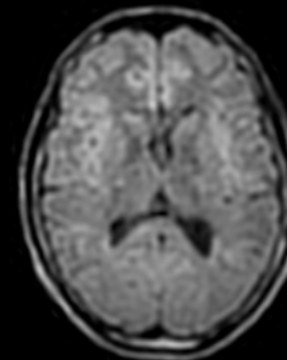
Use with multiple coils and weightings, including DWI.



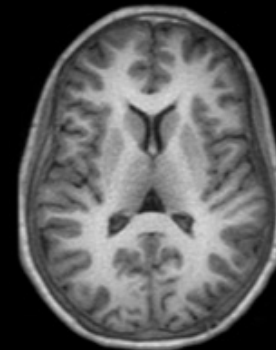
Sagittal T2 FatSat PROPELLER Silent



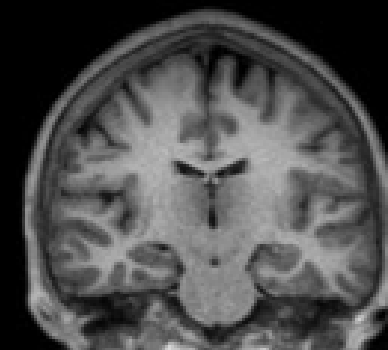
Axial T2 PROPELLER Silent



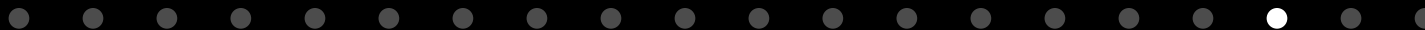
Silent DWI PROPELLER



Axial 3D T1 Silenz



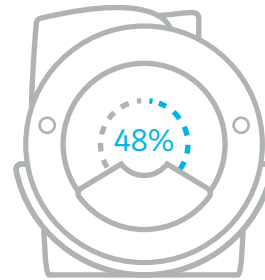
Coronal Reformat 3D T1 Silenz



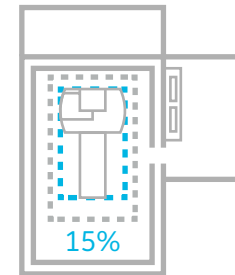
# Up your power, not your footprint

SIGNA™ Voyager fits both a wide bore and the entire 1.5T experience in a 27 square meter footprint. The Ultra High Efficiency Gradient System provides lower power consumption with high-performance gradient technology, equivalent to 45/200 mT/m.\*

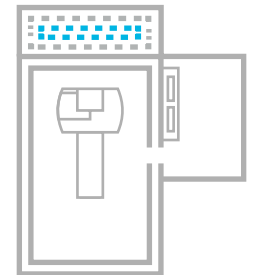
Multiply the value of advanced 1.5T imaging in a smaller, more efficient MR.



Up to 48 percent lower power consumption with eco-friendly UHE gradients, minimizing operating costs\*\*



Over 15 percent smaller footprint significantly lowers setup cost\*\*



Save space with low capacity chiller and power distribution hardware

\* UHE gradient technology delivers minimal TE/TR values, equivalent with other gradient technologies running at 45 mT/m peak amplitude and 200 T/m/s peak slew-rate

\*\* Compared to conventional 1.5T wide-bore systems



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**Imagination at work**

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