Canon

Vantage *Galan* 3T

Quiet. Digital. Quick.

Outstanding patient comfort
Pure image quality
Streamlined workflow

Cross over to a new era of MRI with a 3T system fully capable of meeting the imaging needs of a cutting-edge healthcare facility. Vantage Galan 3T from Canon Medical evolves into the AI era with Advanced intelligent Clear-IQ Engine (AiCE) technology and fast scanning without compromise with Compressed SPEEDER. Combined with outstanding automated workflow, pure digital image quality, and industry leading patient focused design, Vantage Galan 3T is the MRI system you need now, and in to the future.
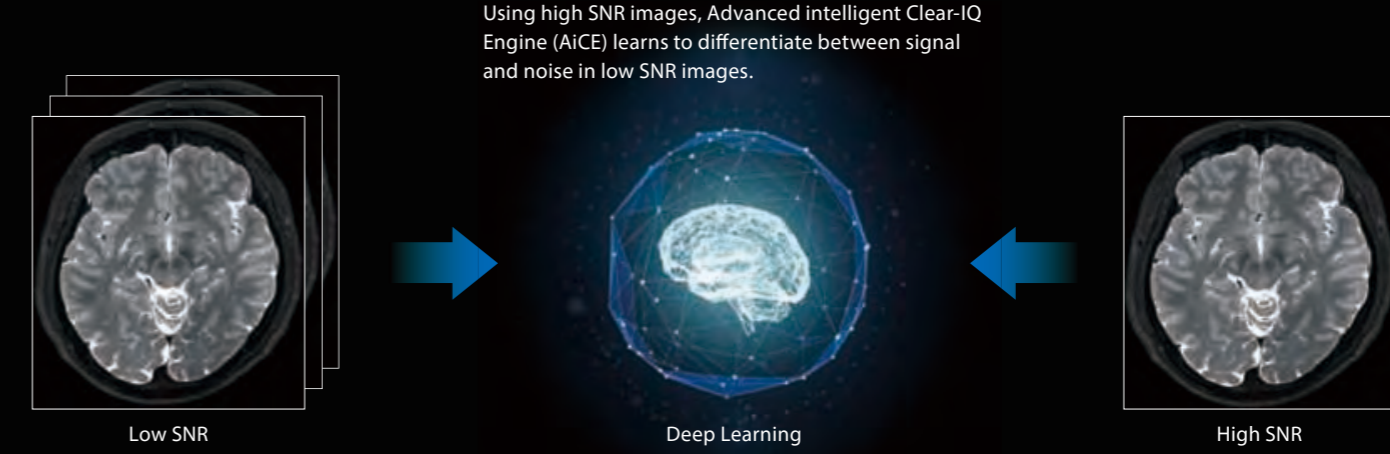
Vantage *Galan* 3T

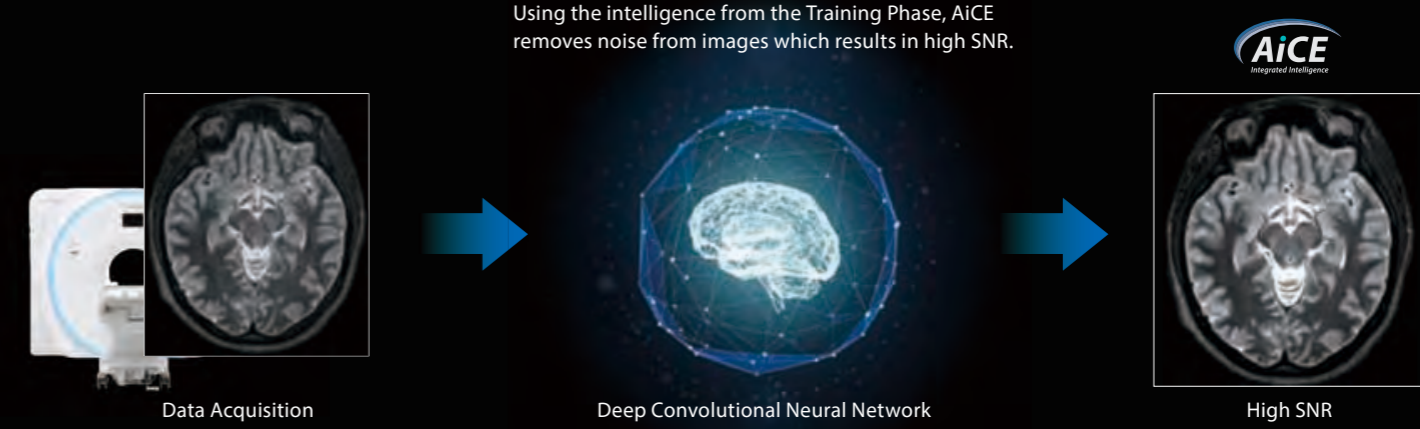# Achieve High SNR Images with Deep Learning Reconstruction
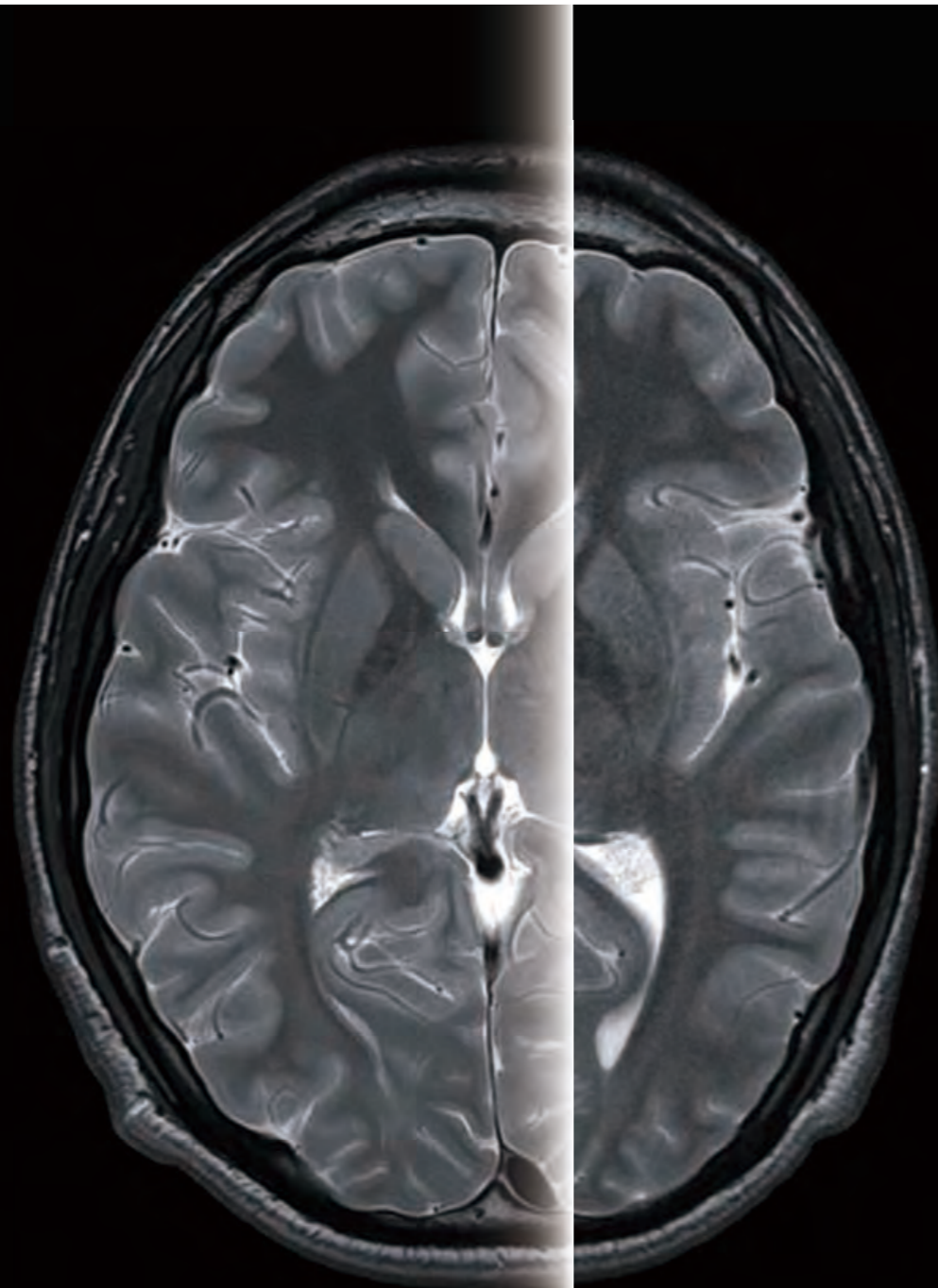
See through the noise. This is intelligence.

Advanced intelligent Clear-IQ Engine (AiCE) is the world's first Deep Learning Reconstruction technology for MRI. Producing stunning MR images that are exceptionally detailed. Harnessing the enormous computational power of a Deep Convolutional Neural Network (DCNN), AiCE is trained to restore low SNR MR data to match the properties of high SNR images.

Training Phase

Using high SNR images, Advanced intelligent Clear-IQ Engine (AiCE) learns to differentiate between signal and noise in low SNR images.

Low SNR

Deep Learning

High SNR

Operational Phase

Using the intelligence from the Training Phase, AiCE removes noise from images which results in high SNR.

Data Acquisition

Deep Convolutional Neural Network

High SNR

# Outstanding resolution with Deep Learning

AiCE intelligently removes noise from images which results in higher SNR and enables increased resolution. Achieve sharp, clear and distinct images utilizing the power of Deep Learning, allowing you to see through the noise.
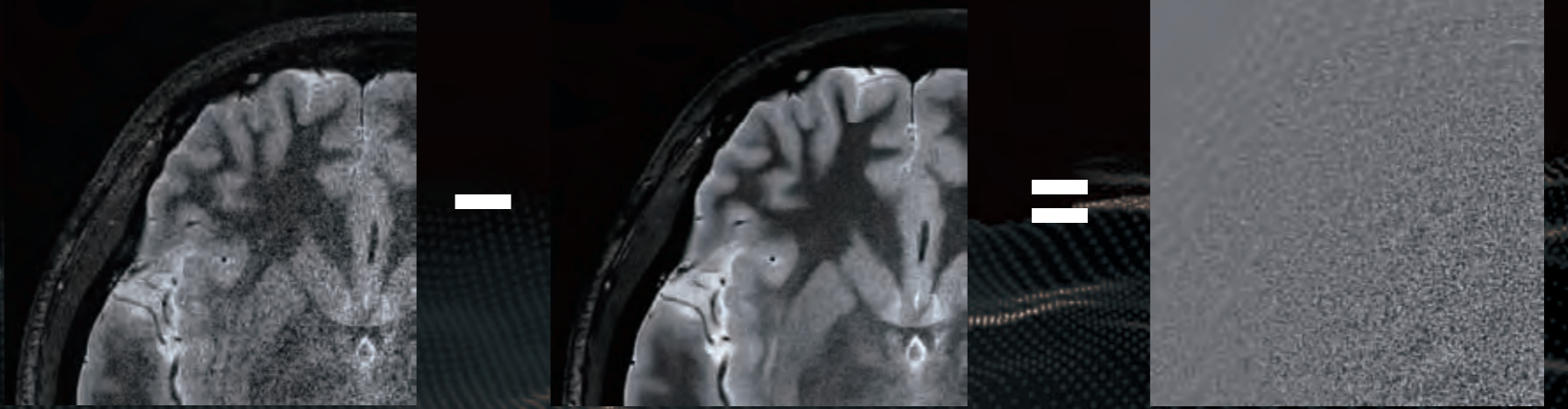

Original image
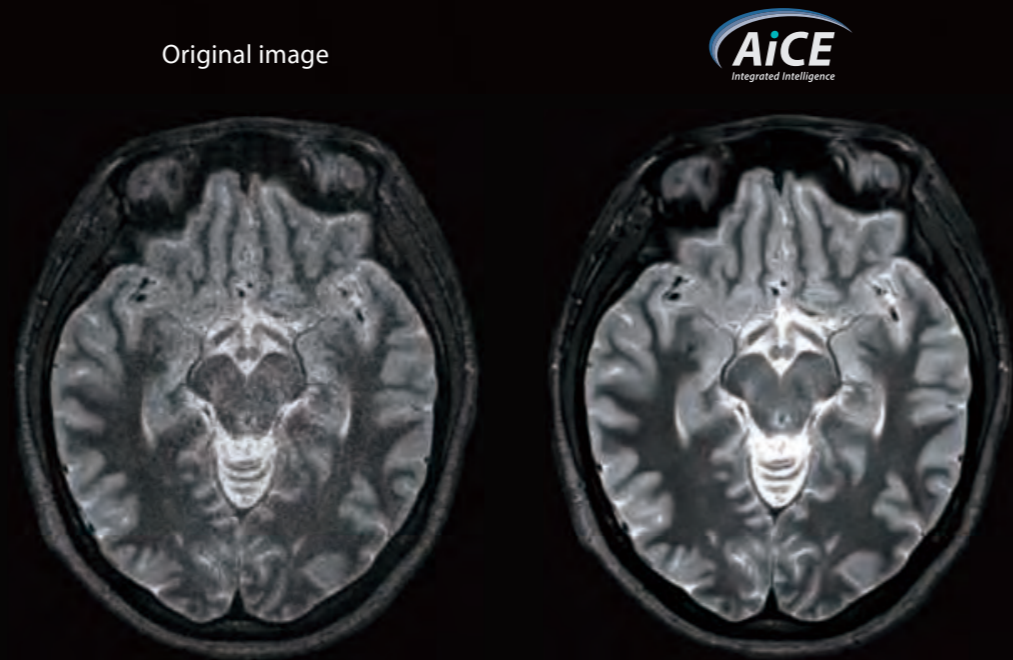
AiCE

1024 x 1024 matrix, 3 mm slice, NAQ1, 1:45

Original image
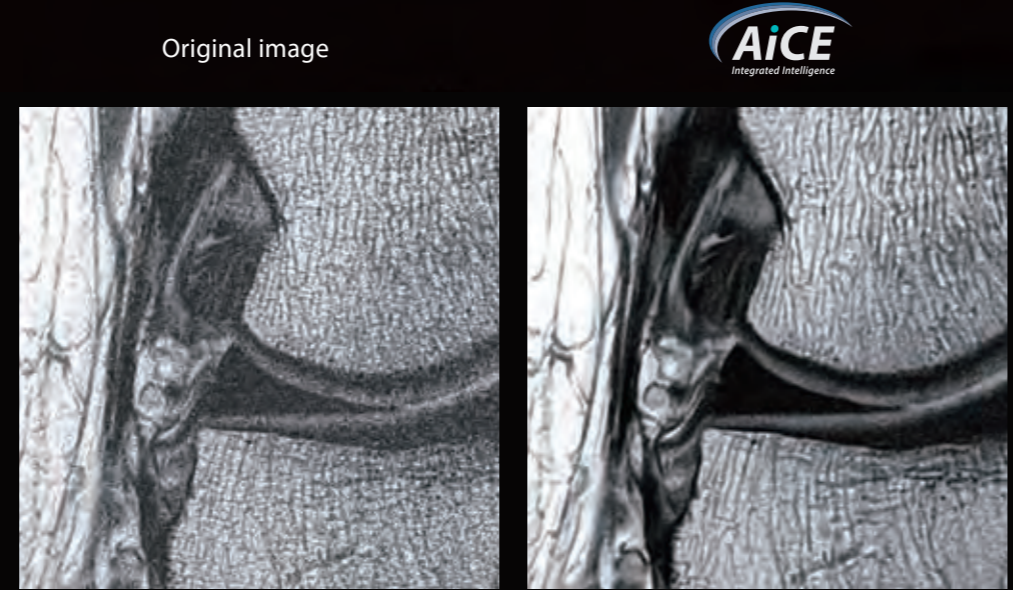
AiCE

0.1 x 0.1 mm resolution, 1 mm slice
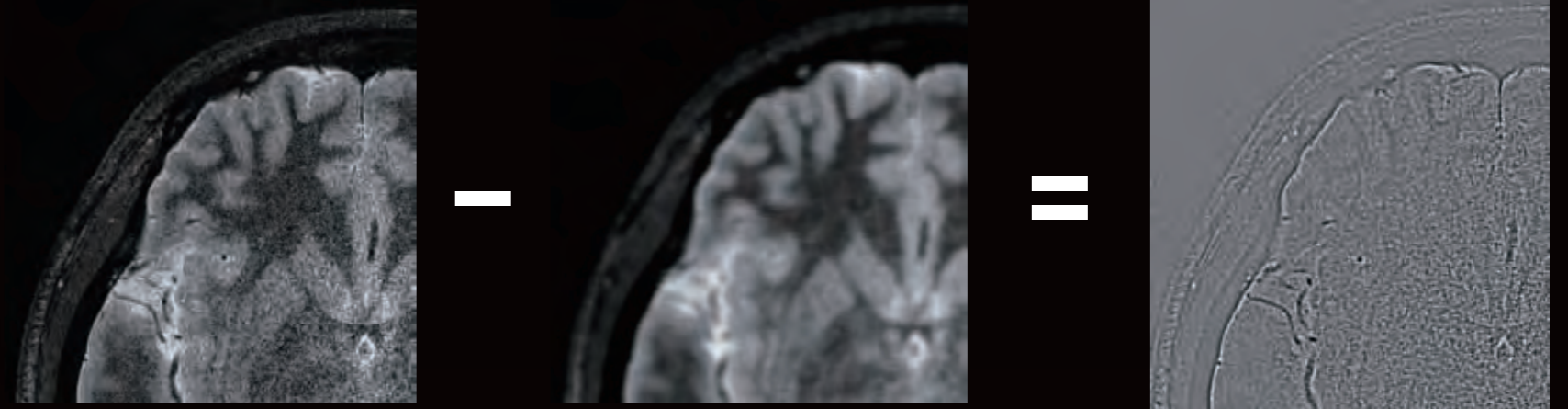
Original image   Conventional   Subtraction


Original image   AiCE   Subtraction

Above images demonstrates noise subtraction from the same original image utilizing a conventional filter (top images) compared to AiCE (bottom images). With the conventional filter some necessary anatomical information has been removed along with the noise, AiCE intelligently identifies noise from the original image due to the deep learning algorithms.

Achieve clinical freedom with Vantage Galan 3T

Vantage Galan 3T's fully digitized technology purifies the input and output signals which delivers sharper images. Achieve enhanced signal to noise ratio (SNR) supporting diffusion weighted and high resolution imaging.
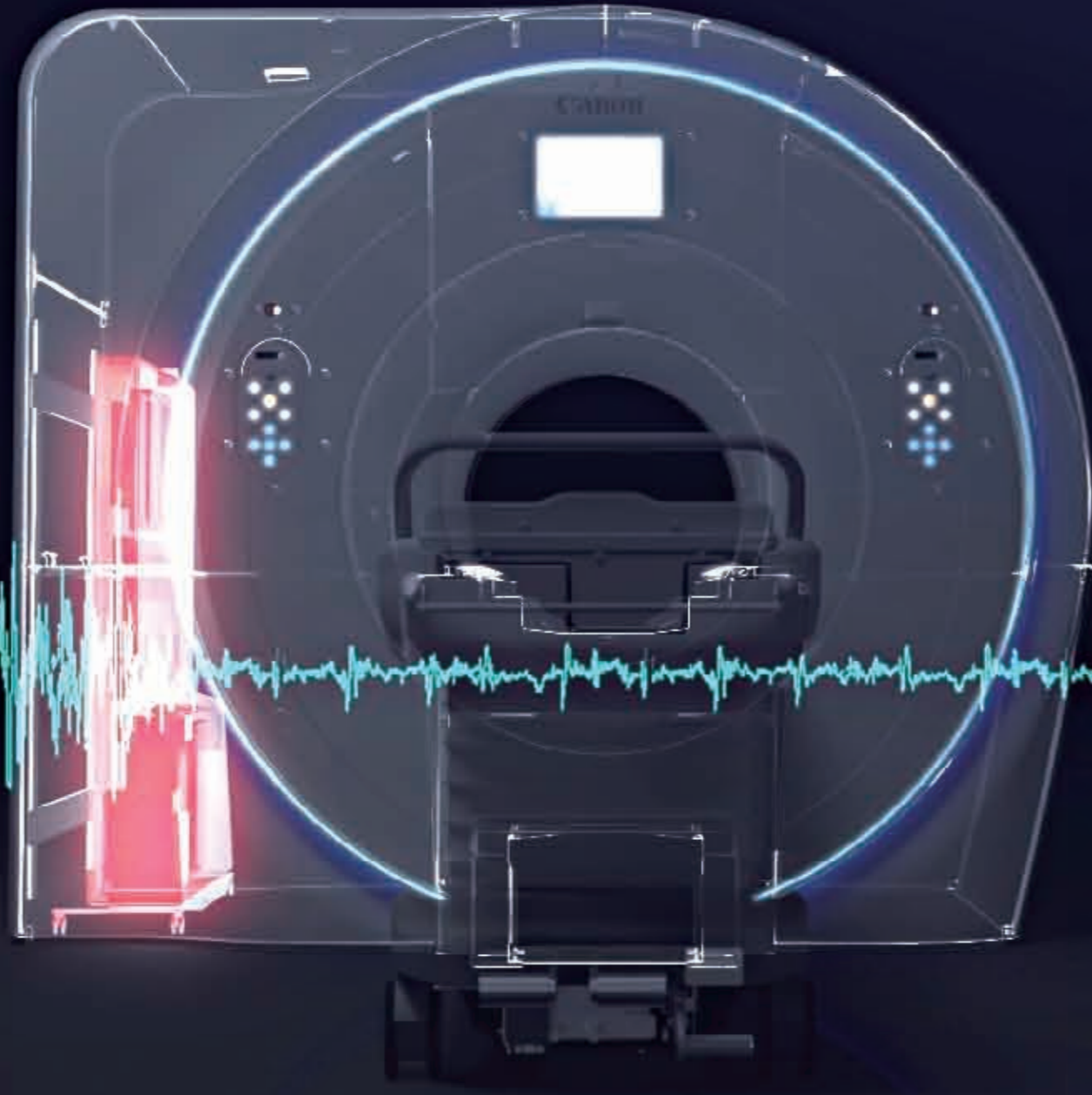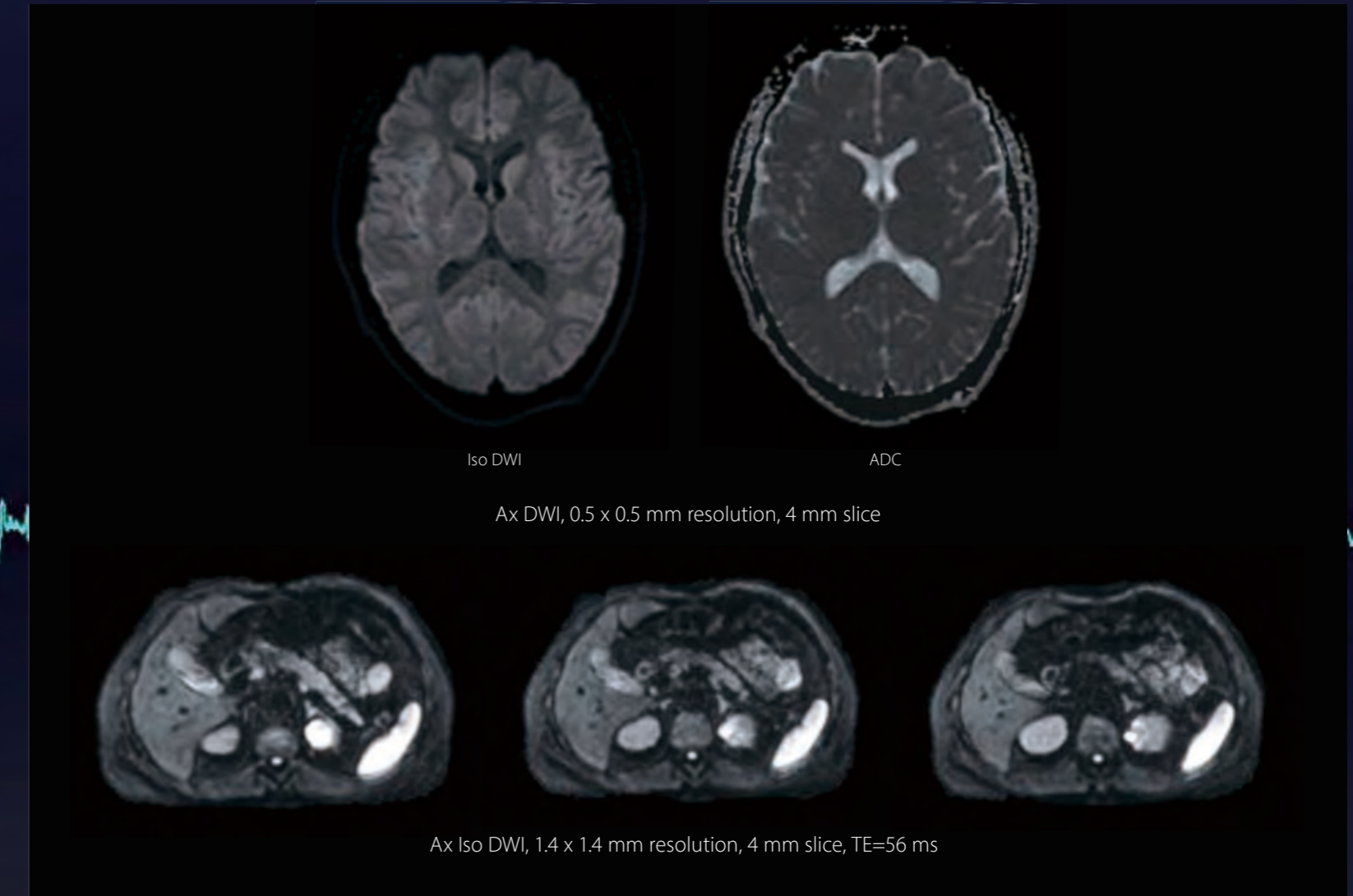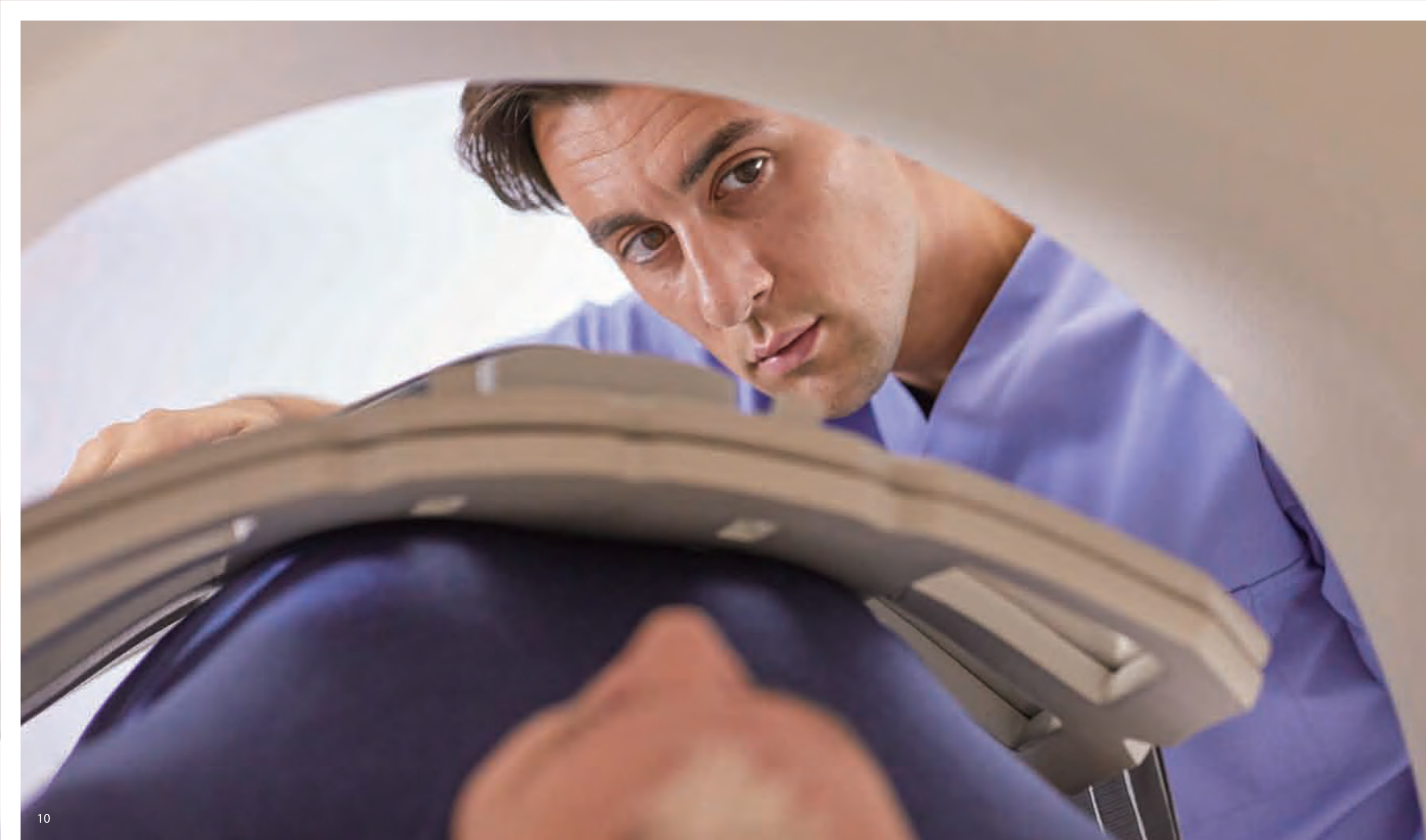
Pure digital signal for sharper images

Our unique PURERF technology increases the SNR by up to 20% for all clinical applications.

Diffusion Weighted Imaging with PUREGradient

With 45 mT/m, 200 T/m/s Saturn X Gradient performance, up to 30% increase in SNR in Diffusion Weighted Imaging in the brain and up to 51% in the liver can be achieved, resulting in enhanced diagnostic capability in diffusion imaging.

Iso DWI   ADC

Ax DWI, 0.5 x 0.5 mm resolution, 4 mm slice

Ax Iso DWI, 1.4 x 1.4 mm resolution, 4 mm slice, TE=56 ms

Compressed SPEEDER

Compressed SPEEDER is a new imaging technique that can accelerate scan times across the whole body. This unique imaging approach enables high-speed imaging up to four times compared to current scan speeds while maintaining excellent image performance.

CS x2 3:05   CS x3 2:01   CS x4 1:36

0.6 x 0.6 mm resolution, 3 mm slice


CS x2 3:05   CS x3 1:56   CS x4 1:29

0.4 x 0.4 mm resolution, 2.5 mm slice

Intelligent technology to advance productivity

Reducing scan time improves the patient experience and increases throughput. With intelligent technology that advances our rapid scan technology, Vantage Galan 3T delivers productivity that goes beyond expectations.

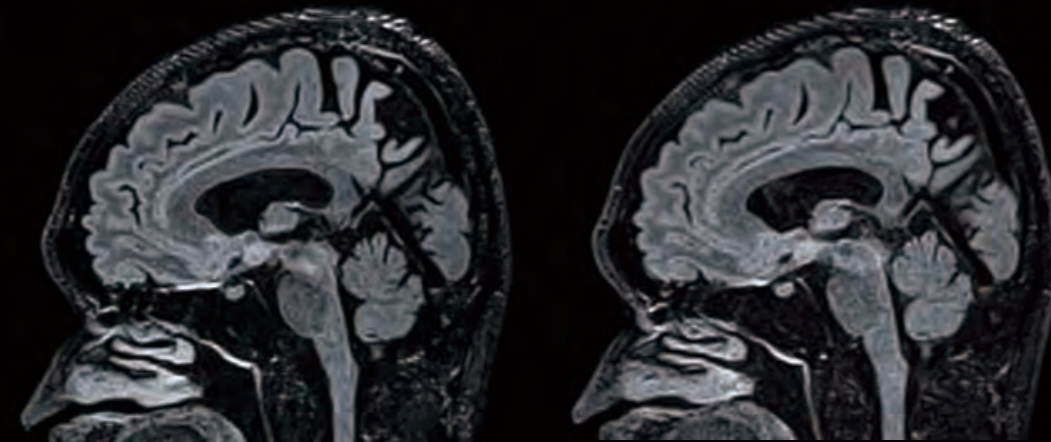## Accelerated Diffusion Weighted Imaging with MultiBand SPEEDER
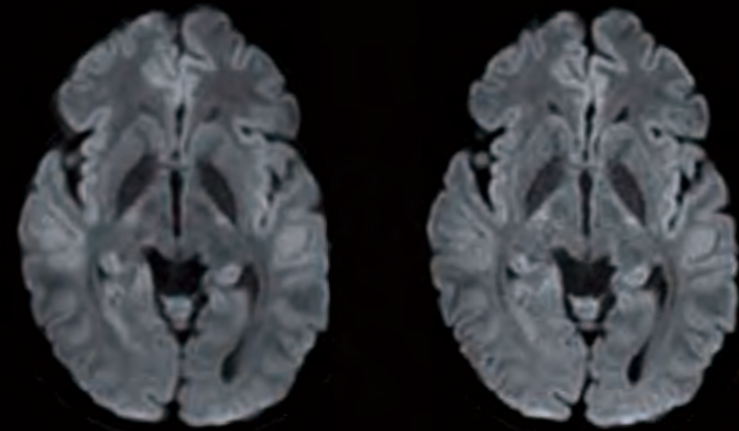
SPEEDER x3 6:27   MultiBand x2, SPEEDER x3 3:24

Ax DWI, 3 mm slice

MultiBand SPEEDER acquires multiple slices simultaneously, which enables reduced scan times. DWI scans in particular can be acquired in about half the time compared to previous sequences.

Faster scans with Fast 3D mode
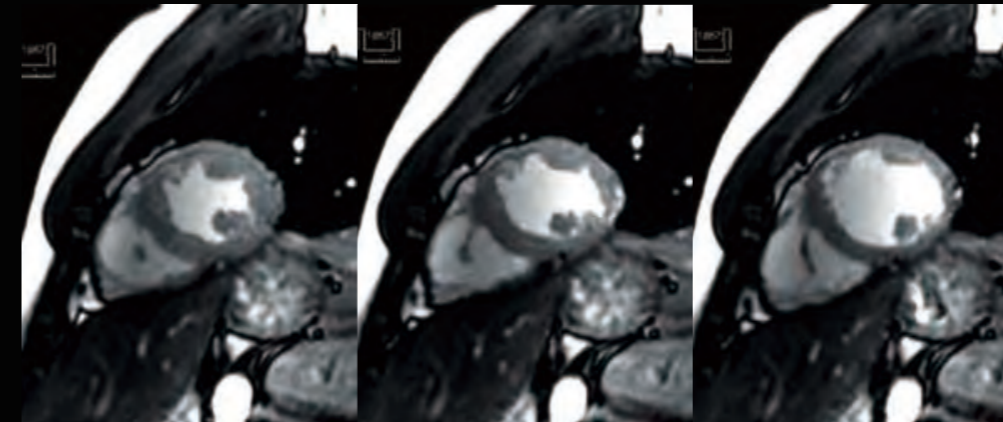

3D FLAIR 6:05   Fast 3D FLAIR 3:00

Fast 3D reduces mVox scan time by up to 50%[1], allowing you to more quickly collect 3D isotropic imaging that can be reformatted into any plane.

1 As compared to standard FASE3D sequence

Higher temporal resolution and fewer breath holds with k-t SPEEDER

7 seconds breath hold with 48 cardiac phases

k-t SPEEDER provides up to 8x acceleration, enabling you to acquire high temporal resolution cardiac cine. The high acceleration factor can also reduce breath hold times so your patients can be scanned more comfortably.

Reduce scans with Water Fat Separation

In Phase   Out of Phase

Water   Fat
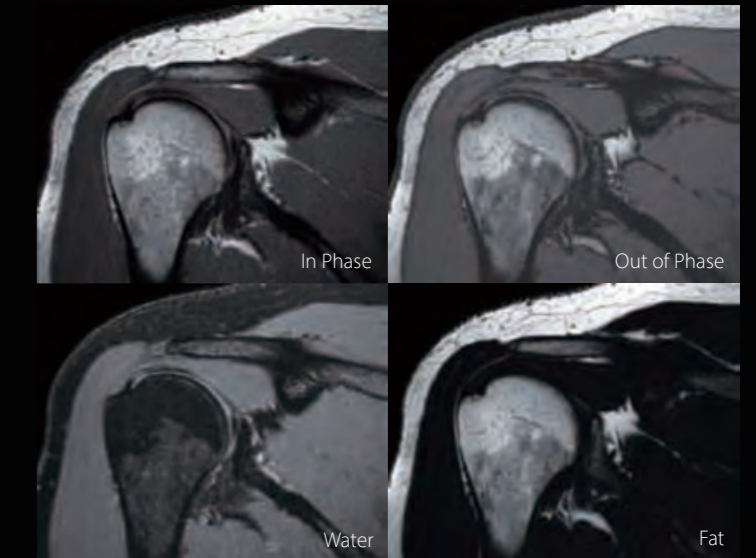
The technology based on FSE2D achieves consistent fat suppression and homogeneity while acquiring four different tissue contrasts in one scan, reducing the total number of scans you need to acquire.

# Outstanding imaging applications for every day performance

With the complexity of scan planning, achieving scan plane reproducibility can be a challenge. EasyTech provides automatic slice alignment for cardiac, knee, neuro and spine taking away the variability and helping to improve and standardize the workflow with automatic positioning.

EasyTech

^{SURE}VOI Cardiac and CardioLine+

^{SURE}VOI Cardiac and CardioLine+ improve reproducibility and image quality by supporting the alignment and centering of the heart to the magnet isocenter and the positioning of the exam's standard planes automatically.
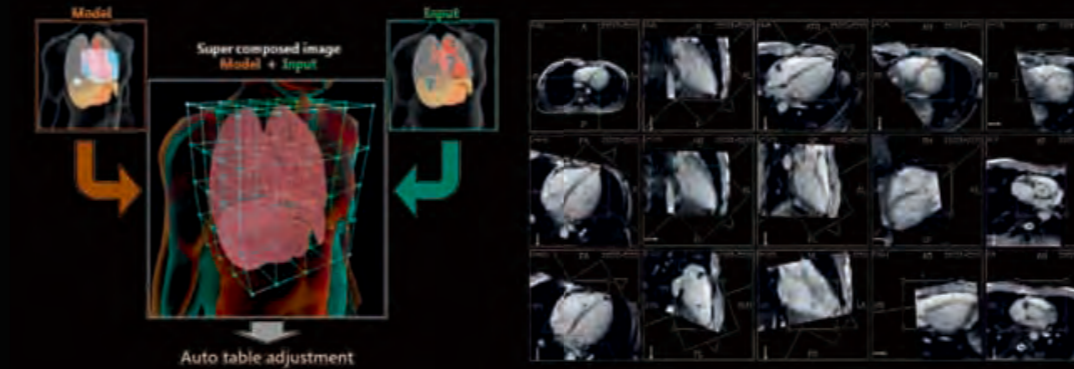
^{SURE}VOI Knee and KneeLine+

^{SURE}VOI Knee supports the accurate alignment of the knee to the iso-center which reduces artifact related re-scans. KneeLine+ improves reproducibility and image quality.


NeuroLine+

Achieve outstanding scan consistency for all your brain exams with NeuroLine+. The function's alignment algorithm allows you to automatically set up according to AC-PC or OM line.

SpineLine+

With its auto-locator functionality, SpineLine+ allows you to plan spine studies quickly and easily. Sagittal and coronal locators allow you to set double-oblique slices, enhancing the reproducibility of follow-up exams.
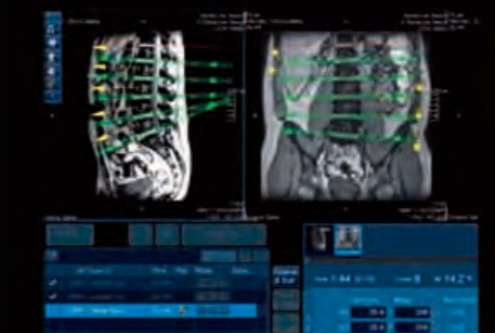
Enhanced scan planning with ForeSee View

ForeSee View is an essential scan planning tool designed to allow you to preview your slice planning in real time. This tool is particularly useful in anatomies that can be difficult to plan such as the pancreas, the heart, and certain orthopedic joints, reducing the need for re-scanning and saving time on scan planning for all body regions.

Boost workflow with new advanced hardware

With a new Intelligent Monitor and Dockable Table, Vantage Galan 3T delivers productivity and efficiency to your daily routine.

Dockable Table

The Dockable Table enhances workflow and provides easy patient handling allowing medical staff to respond to any patient requirement quickly and easily.

Intelligent Monitor

The intelligent gantry interface has been completely re-designed to enhance workflow and save set-up time, displaying important patient related and coil information, and allowing you to ensure a proper and complete setup without leaving the patient's side.

Atlas SPEEDER

Integrated workflow solution Atlas SPEEDER coils are uniquely designed to improve workflow and patient comfort. Vantage Galan 3T easily handles multiple studies by allowing you to position the patient and utilize the coils you need in one easy step.

Be the 3T MR imaging center of choice for challenging patients

With new applications addressing even the most challenging patients, ensure your 3T imaging facility is the preferred choice for referrals. Free breathing and contrast-free applications help to deliver a comfortable patient experience.

Adaptive Scan Mode

Control imaging parameters in real time to overcome challenging patients with Adaptive Scan Mode. In addition, by saving parameter settings you can improve work-flow for future procedures.

Non-Contrast MRA

An increasing awareness of the potential risks associated with gadolinium-based contrast agents has revealed the need for alternative, contrast-free MRA techniques. Non-Contrast MRA sequences minimize risk to patients with sensitivity to contrast while producing exceptional diagnostic images.
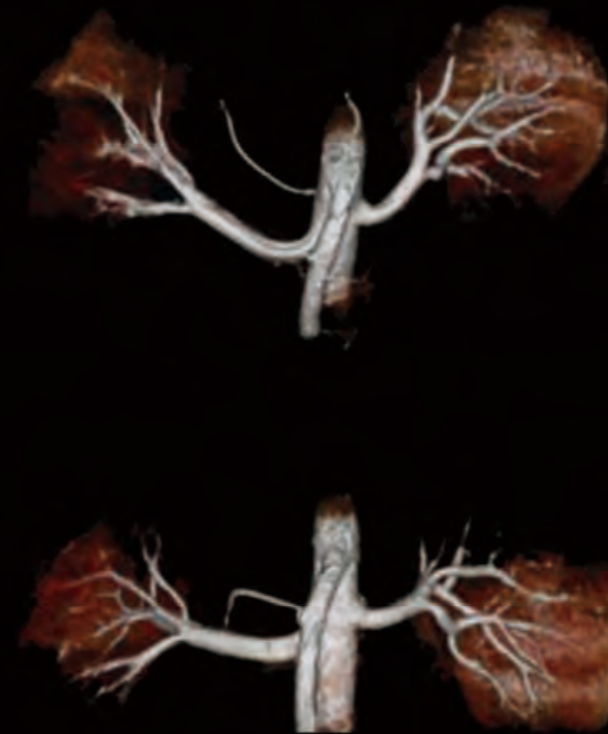
Quick Star

Quick Star reduced motion artifacts can be helpful for challenging patients that have difficulty holding their breath or especially for liver examination.
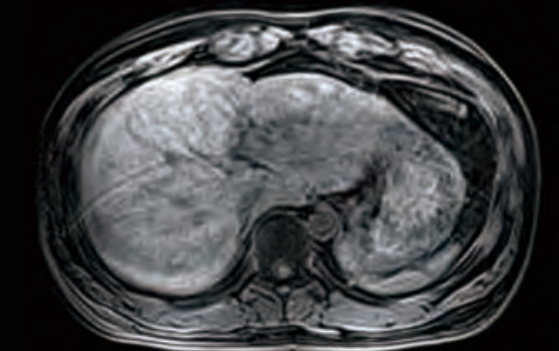
Free breathing without Quick Star
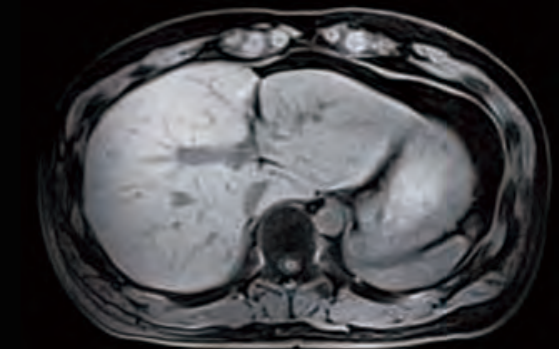
Free breathing with Quick Star

Total cost of ownership a smart investment choice

Every inch on Vantage Galan 3T's design has been considered to maximize use of space while minimizing energy consumption. The system's zero boil-off magnet fits into a small space, while providing a comfortable, open environment for your patients at the same time.

Minimize energy use in a compact space

Vantage Galan 3T's power-saving ECO Mode is automatically triggered when you lower the patient couch to help you minimize your running costs. At only 70 kVA[2] Vantage Galan 3T has the lowest rated power requirement in its class.
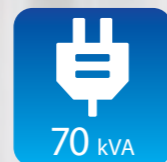
2 For Saturn X Gradient, 90 kVA is required.

ECO Mode

70 kVA
Power Requirement

Save space

Small size, big performance. The system's short and compact bore minimizes patient anxiety and at the same time allows a 3T scanner to be installed in a room originally designed to hold a 1.5T system. The eco-friendly cabinet design simplifies and shortens installation time.

27 m²
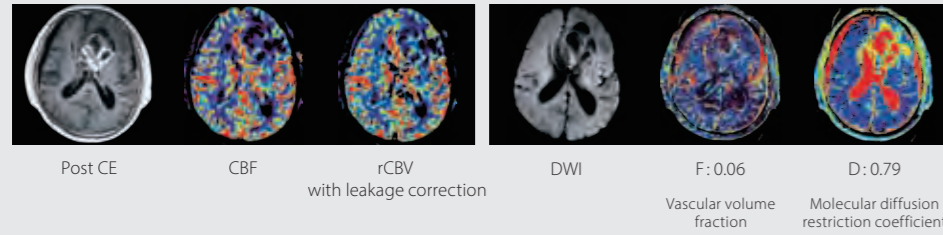Total Installation Space [3]
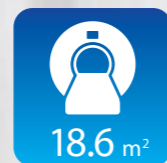
18.6 m²
Scan Room Space

3 The 5 Gauss line is not confined within the scan room. Controlled access area should be taken into account by the facility when preparing for installation. The above specifications may not meet the local requirements such as for access as is required by the Americans with Disabilities Act in the United States. Please consult with your architectural and/or electric consultant for coding requirements. Some power equipment may be required to be placed in a dedicated electrical room.
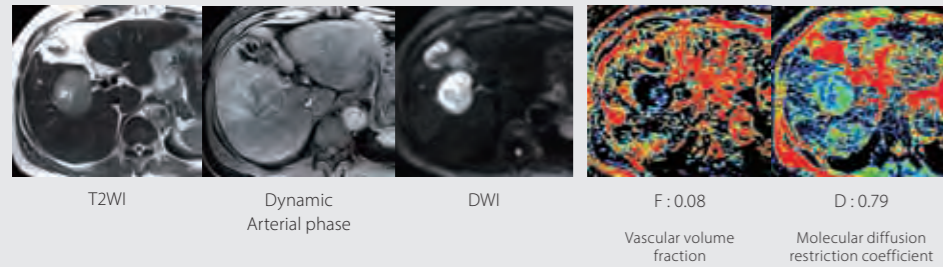
Clinical Confidence

Perfusion package

Perfusion automatically and accurately computes perfusion maps. IVIM automatically quantifies micro-perfusion with diffusion only or computes non-acquired diffusion b-values.

| Post CE | CBF | rCBV with leakage correction | DWI | F : 0.06 Vascular volume fraction | D : 0.79 Molecular diffusion restriction coefficient |

Courtesy of St. Marianna University School of Medicine, Japan

Bayesian IVIM

Bayesian-based method provides a rigorous probabilistic estimation of parameters. It is fully adaptive, delay-insensitive and highlighted better results than other methods.

| T2WI | Dynamic Arterial phase | DWI | F : 0.08 Vascular volume fraction | D : 0.79 Molecular diffusion restriction coefficient |

Courtesy of St. Marianna University School of Medicine, Japan

Volume segmentation

Automatic or semi-automatic segmentation tools to compute volume of interests from various anatomical areas such as cartilage or brain.
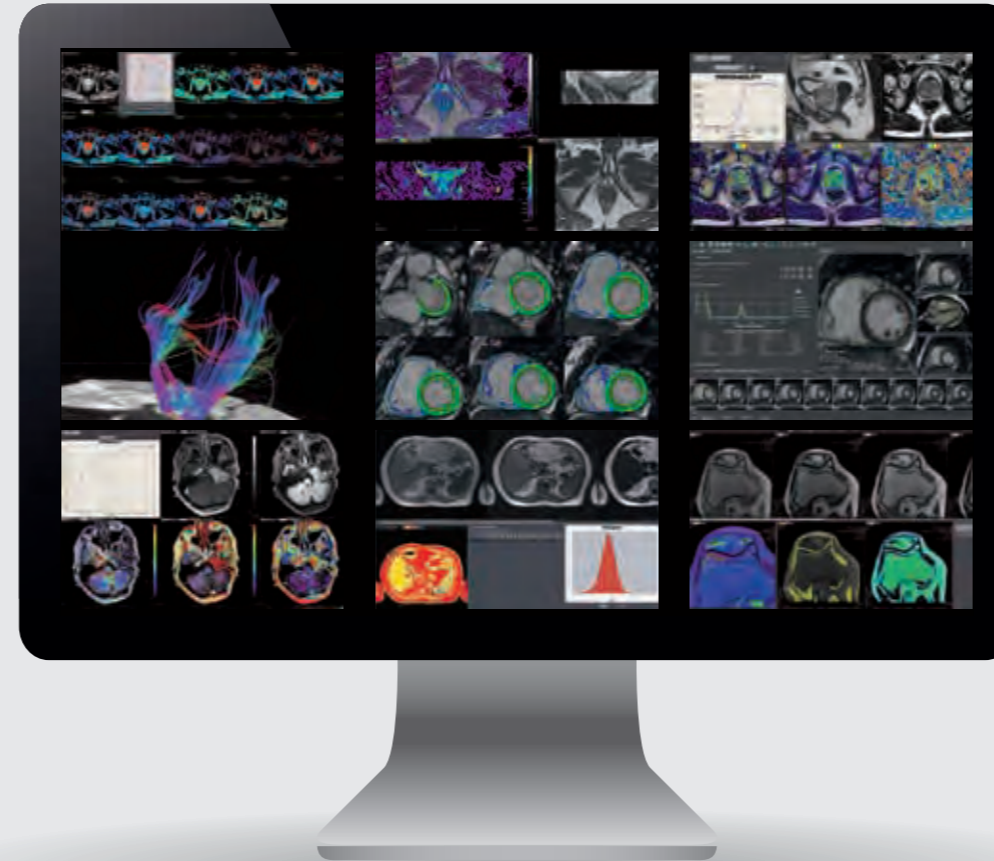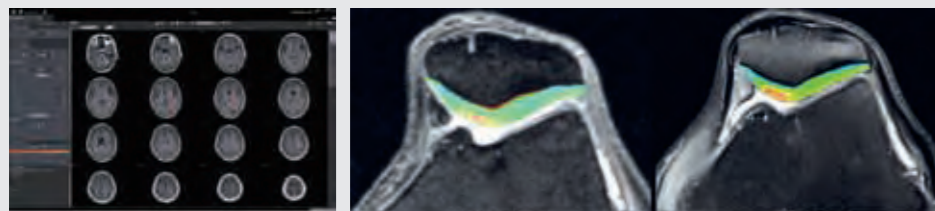
Dedicated automatic reporting

Stroke, breast (BI-RADS®) and prostate (PI-RADS® v1 and v2) automatic compliant reports.

Olea **MEDICAL**
Improved diagnosis for life™
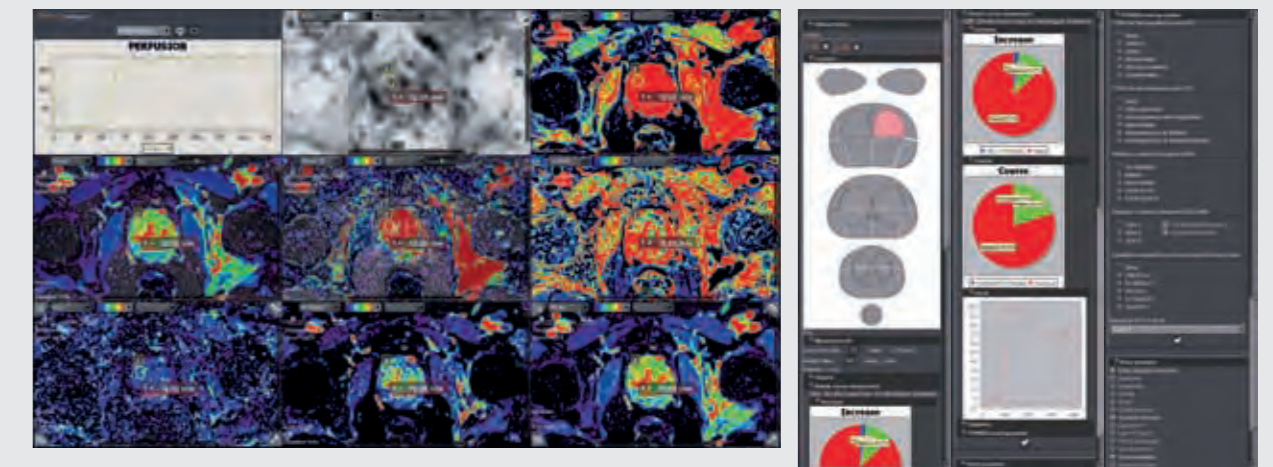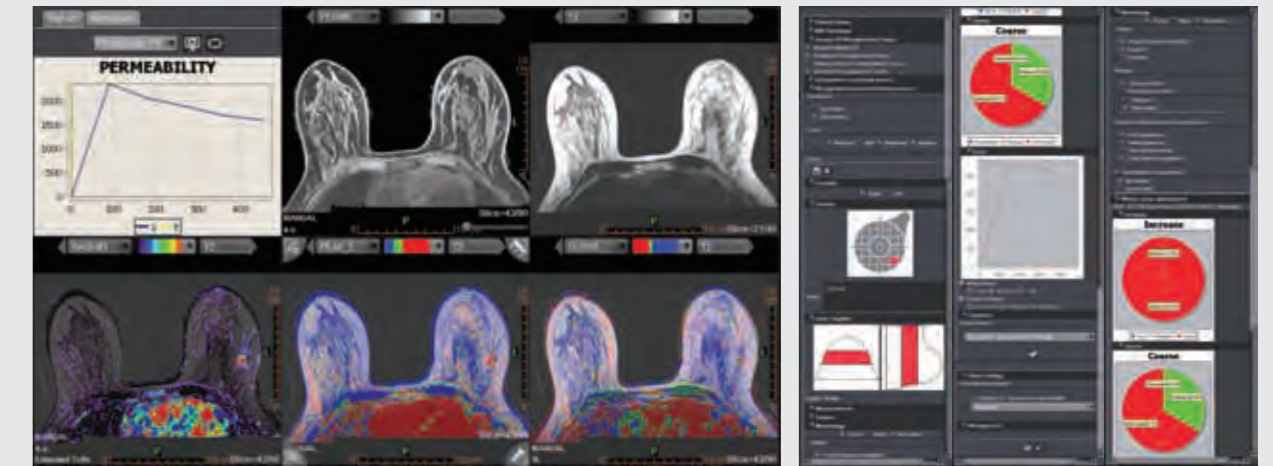
Deliver a quieter, more comfortable
MR exam with Vantage Galan 3T's patient-focused design

A successful exam begins with a comfortable patient. Vantage Galan 3T is designed to maximize patient comfort without compromising image quality. The 71 cm bore opening and a short magnet delivers an open feeling and enables patients of all sizes to be imaged successfully. This is achieved by the slim gradient design which provides ample space between the patient and the inside of the bore.

Quiet exams with Pianissimo and Pianissimo Zen

Pianissimo technology significantly reduces the noise in and around the MRI environment for every patient, every sequence, every time thanks to the vacuum chamber encasing the super slim gradient coil which suppresses acoustic noise. And Pianissimo Zen quiet sequences further reduce noise by up to 99%[4], making exams even more comfortable and easier to complete.

4 Depending on the condition of usage and examination.

Silently capturing hemodynamics with mUTE[5] 4D MRA

Vantage Galan 3T's UTE sequences allow for less dephasing and more homogeneous vessel signals. At the same time, the use of multiple inversion times (TIs) allows the generation of dynamic images (4D) visualizing the blood flow without the need for contrast agents.
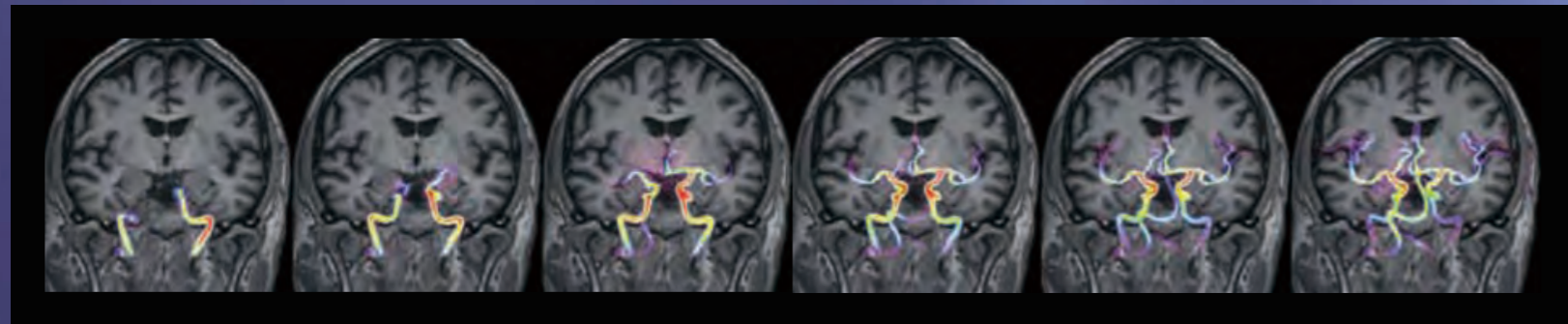
5 mUTE : minimized acoustic noise utilizing UTE

Up To
99%
Noise
Reduction

# Give your patients a greater sense of freedom

Along with a 71 cm bore opening, Vantage Galan 3T offers an immersive in-bore MR Theater option which creates a unique environment where patients hardly notice they are moving into the bore, helping to maximize comfort and put the patient at ease.
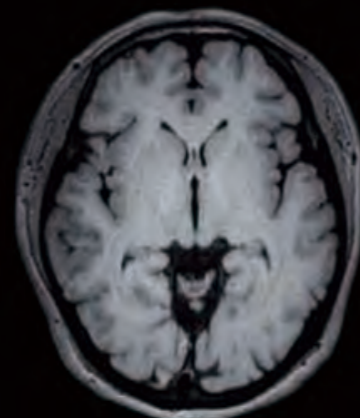

With a range of gantry ring color choices available at installation, your facility can create the mood and atmosphere you want to provide to your patients.
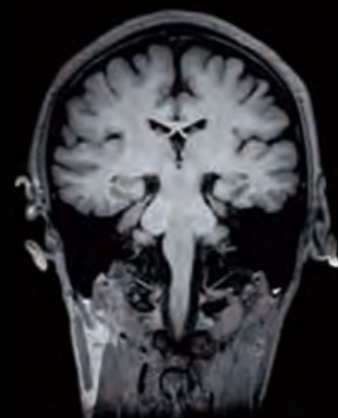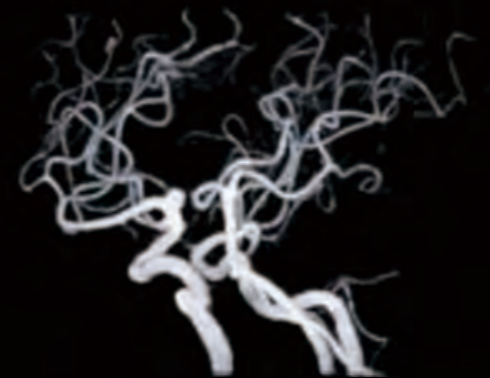
Image gallery

Head
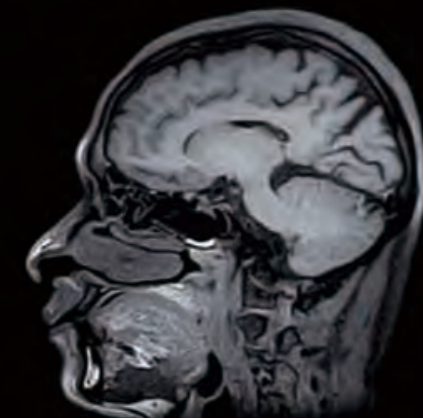
Sg RAW

Ax MPR

Fast 3D T1w / 1 mm iso

Co MPR

3D TOF

C-Spine

Sg T2w

Sg DWI b800

Image gallery

Neck

In Phase

Water

Co T2w Water Fat Separation

3D mVox Co Fat Sat / MIP reconstruction

Abdomen

b50

b100

b150

b200

b300

b500

b750

b1000
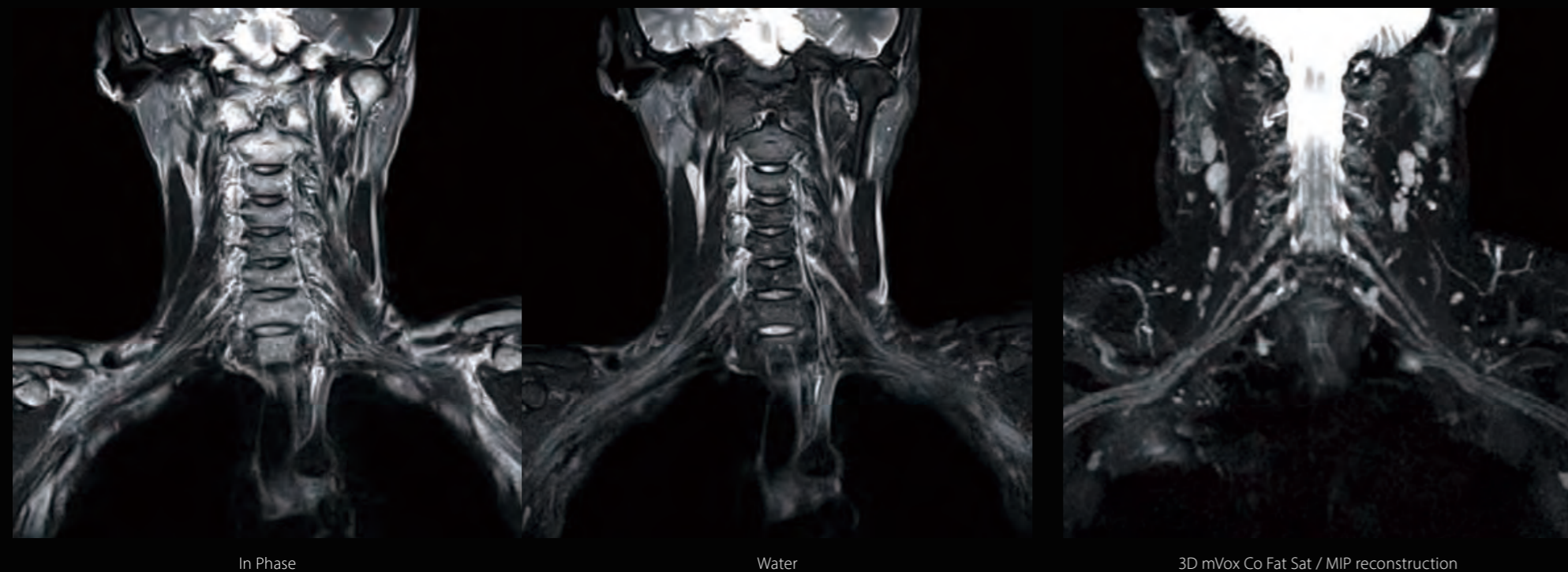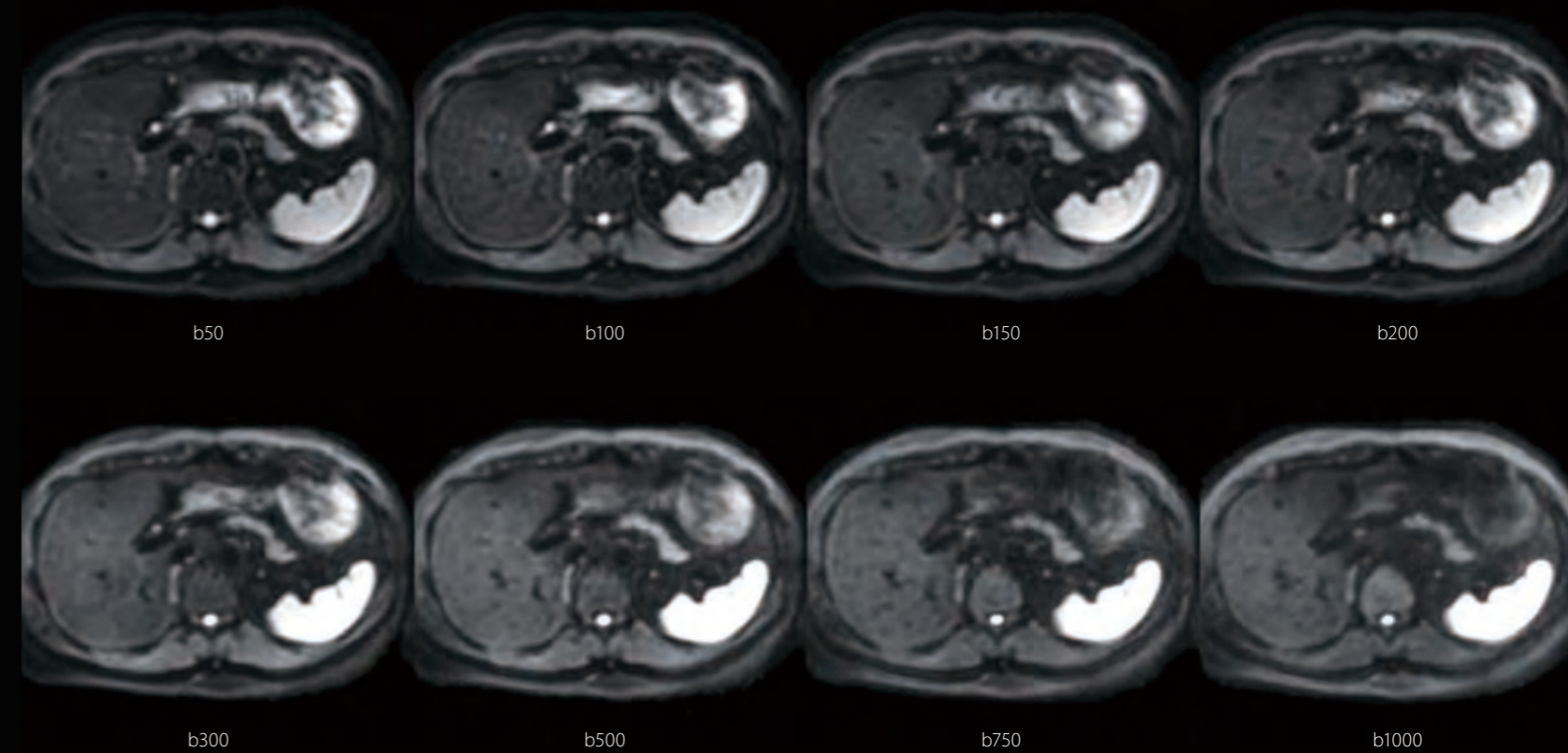
Ax DWI multi b-value, TE=60 ms with RMC

Image gallery

Pelvis
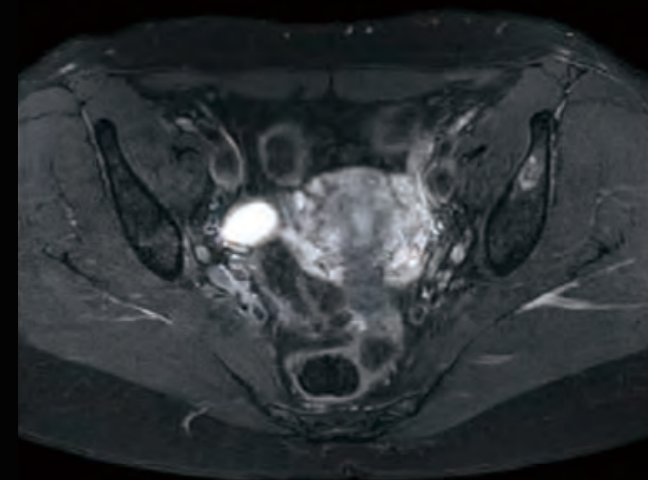
Ax T2w Fat Sat
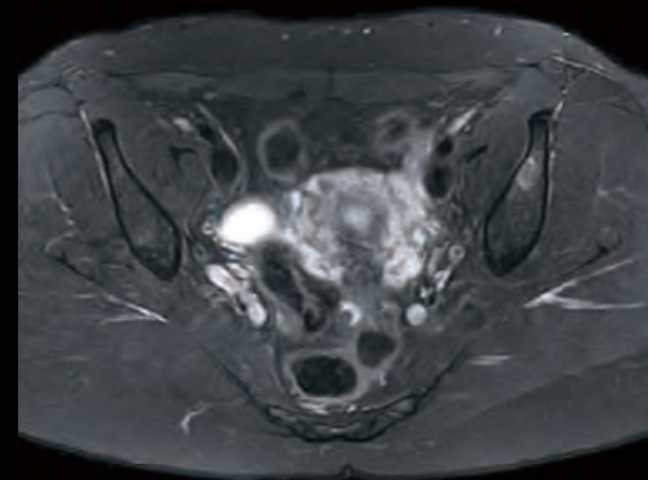
Water
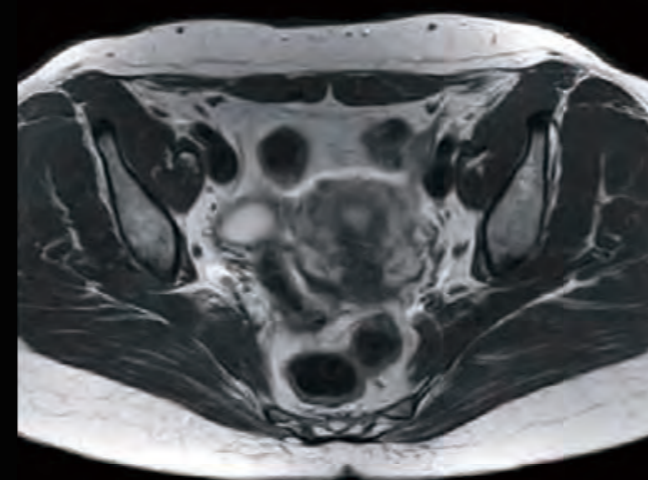
In Phase

Ax T2w Water Fat Separation

Non-contrast imaging

FBI Co / 3 Steps
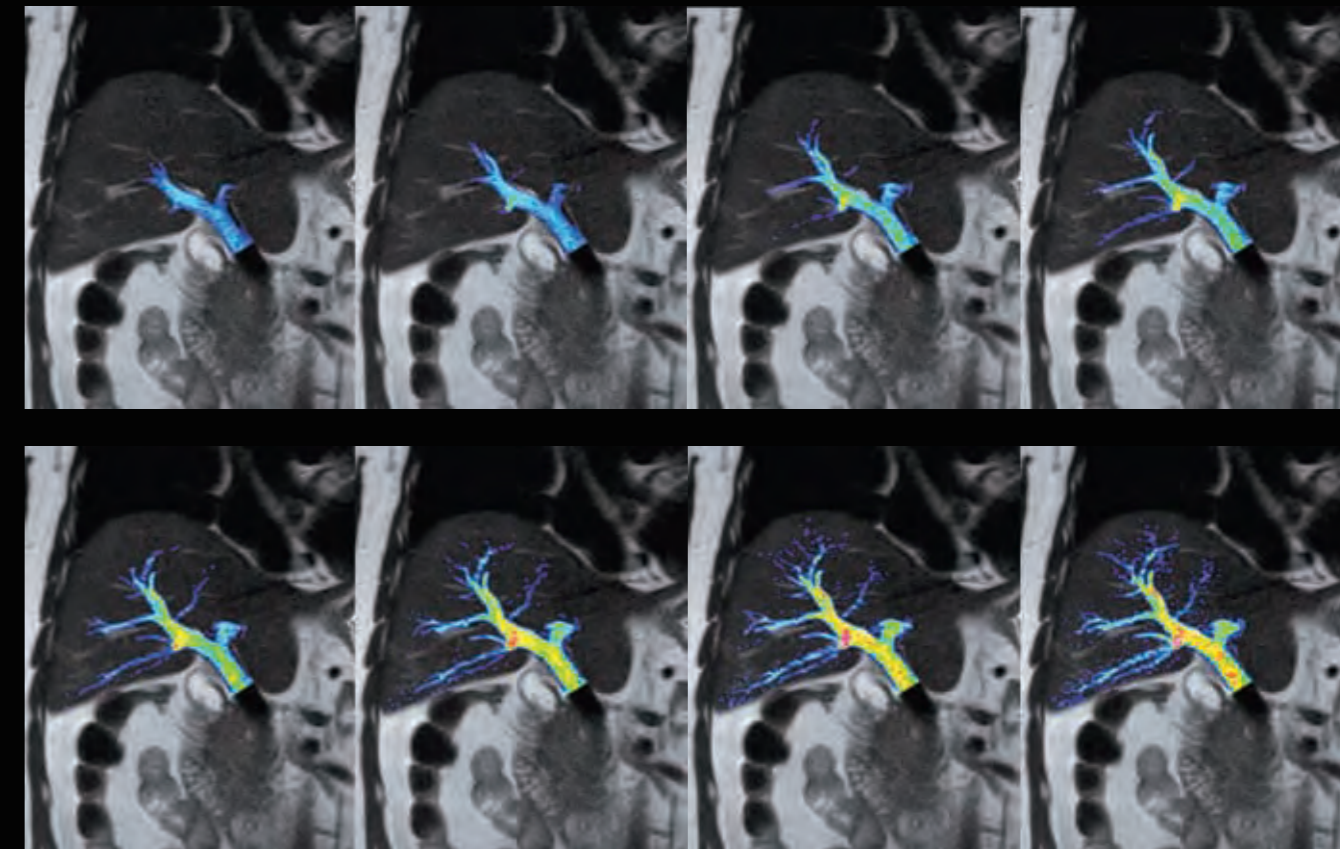
Co mASTAR
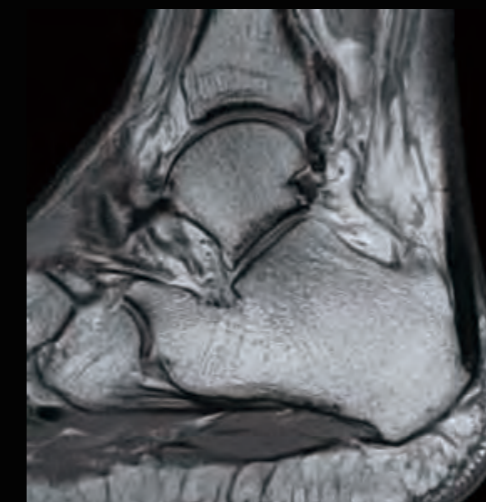TI=400 ms / TI step=126 ms / 8 steps
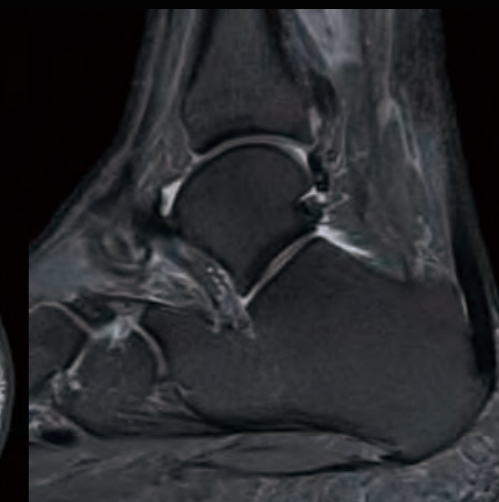
Image gallery

Co T1w

Co PDw Fat Sat

In Phase

Water

Co PDw Water Fat Separation

Sg PDw

PDw Fat Sat

TE=2.0 ms

TE=0.1 ms

Subtraction

UTE Sg

Peacefully quiet.
Remarkably fast.

Vantage Galan 3T delivers patient focused MRI with outstanding image quality and speed.

Vantage Galan 3T is designed to help you prioritize patient comfort, deliver outstanding productivity with consistently clear images, all while minimizing running costs and optimizing energy efficiency.
Now with Advanced intelligent Clear-IQ Engine (AiCE) that intelligently removes noise to increase SNR and enhance resolution, you have a tool in your hands that expands the boundaries of MRI imaging. Along with whisper quiet scan sequences, a 71 cm bore opening and MR Theater, Vantage Galan 3T is optimized to put your patients at ease. And you can also address challenging patient sets with free breathing and contrast free applications. Utilizing our unique pure digital PURERF and Saturn technology, your facilities imaging performance will meet the needs of referrers, staff and patients alike. High-gradient technology also improves SNR, especially important for diffusion weighted imaging.
Now with ForeSee View for scan planning, EasyTech automated one-click exams and new Compressed SPEEDER accelerated scanning, Vantage Galan 3T addresses the need for efficiency and throughput of facilities experiencing ever increasing case loads. Utilizing intelligent new technology, Vantage Galan 3T offers your referring physicians and patients the best 3T MRI services available today.

Intelligent
- Advanced intelligent Clear-IQ Engine (AiCE) increases SNR which helps you to see through the noise to deliver clear, sharp and distinct images

Quiet
- Short magnet and 71 cm bore offers an open MRI scanning environment
- Pianissimo technology delivers whisper quiet scanning
- MR Theater relaxes patients with a virtual immersive experience

Digital
- Crisp digitized signals offer 20% increased SNR through PURERF technology
- PUREGradient technology improves SNR for diffusion weighted imaging
- Advanced post processing capability with Olea/Vitrea™ technologies

Quick
- Now with Compressed SPEEDER, rapid scan technologies reduce scan time
- New Dockable Table, automated EasyTech and ForeSee View improve workflow
- Small footprint and low energy consumption minimizes operational costs

How to Use the medicalAR App

Images with the 🔲 icon can be viewed in motion. Download the app by scanning the QR code or visit our website:
https://global.medical.canon/about/medicalAR
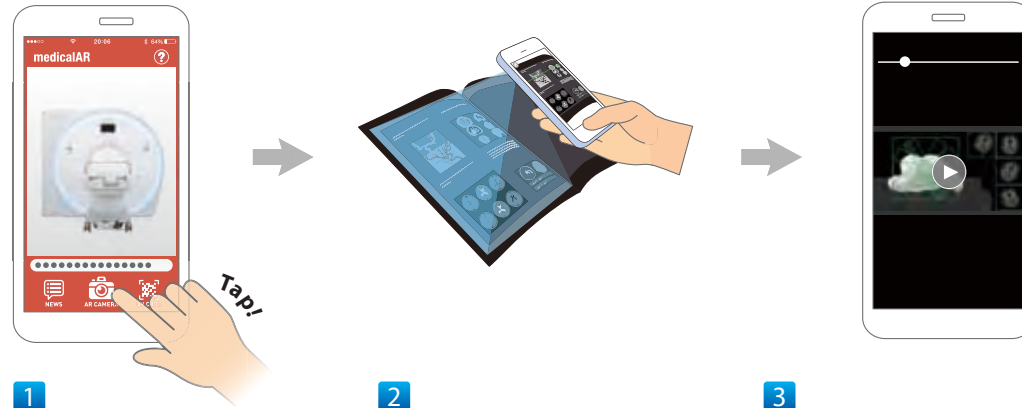
1 Launch the app and start the camera.

2 Scan the whole page, including an image with the 🔲 icon.

3 When the trigger image is captured, the linked contents will be displayed.

Canon

CANON MEDICAL SYSTEMS CORPORATION

https://global.medical.canon

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