Embrace human nature

From MAGNETOM Skyra to MAGNETOM Vida Fit with BioMatrix

siemens-healthineers.com/BioMatrix-Upgrades

SIEMENS Healthineers

"BioMatrix as a core technology on our latest MRI scanner platform will make your MRI even more consistent and robust. This is key for taking the next step to quantification, as well as for future artificial intelligence guided systems and clinical decision support."

Arthur Kaindl
Senior Vice President, General Manager
Magnetic Resonance, Siemens Healthineers

Our journey to precision medicine

The world's population will grow by 30% to 9.6 billion by 2050, with life expectancy increasing by 10%.[1] A higher number of ill patients and chronic disease cases will lead to greater cost pressure on healthcare systems. Each and every patient, as well as their disease states, is different and individualized treatment paths are necessary.

The future of healthcare can be precision medicine: the right treatment for the right patient at the right point of time.

In order to pave the way for precision medicine in MRI, one of the greatest challenges – the variability of the individual patient – needs to be addressed. Only by reducing unwarranted variations in MRI examinations and adjusting to patient biovariability healthcare institutions can provide standardized results.

Standardization means robust, consistent results are made available, aiding in diagnosis. In the future, this may enable treatment decisions and therapy response assessment based on quantitative tissue characterization with MRI.

As a results, healthcare providers would be enabled to deliver individualized therapy, as well as potentially more accurately predict treatment success. MRI will play a major role in this context.

Upgrade your MAGNETOM Skyra to the new MAGNETOM Vida Fit

The increasing number of exams, complexity, and cost-pressure are placing challenges on MRI. MRI needs to better handle patient variability, deliver fast and robust results for all patient types, and become more cost-effective. With an upgrade of your MRI scanner to BioMatrix Technology, you can master the challenges facing MRI today, helping you to expand your services and make the most of your initial investment.

Contents

Embrace consistency with BioMatrix

Patients have unique, individual characteristics. Their different physiologies and anatomies – but also the way we interact with them and with technology – cause unwarranted variations in MRI examinations. These pose significant challenges in MRI: inconsistent exams, poor image quality, increased need for rescans and unpredictable scheduling. They all can negatively impact the quality and cost of the care you provide.

An upgrade to BioMatrix technology helps to overcome these challenges with a whole new approach: embracing human nature. Instead of expecting patients to adjust to the technology, BioMatrix automatically adjusts to the patient. The result: more consistent examinations with fewer rescans and higher diagnostic confidence.

BioMatrix technology

Anticipate motion for high-quality results with BioMatrix Sensors.

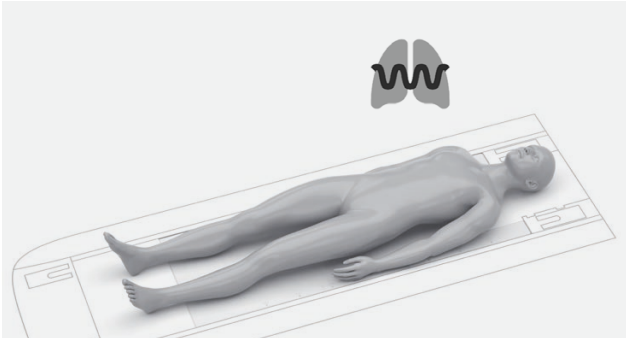
Adapt to challenging anatomies for reliable exams with BioMatrix Tuners.

Accelerate patient preparation for increased efficiency with BioMatrix Interfaces.

Anticipate motion for high-quality results with BioMatrix Sensors

BioMatrix Respiratory Sensors
Respiratory Sensors automatically detect breathing patterns as soon as the patient lies on the table. This provides a simplified workflow as respiratory triggered scans can be performed without additional user interaction.

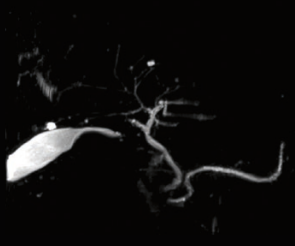
BioMatrix Beat Sensor
The Beat Sensor is seamlessly integrated into the BioMatrix Body 18 coil. It is designed for automatic cardiac triggering[2] – without the need for ECG leads.



BioMatrix Spine 32 with integrated respiratory sensors.

Watch first-hand customer experiences with the new BioMatrix features on MAGNETOM Vida Fit from the Cantonal Hospital in Lucerne, Switzerland

Respiratory triggering with Respiratory Sensors – no navigator setup, no breathing belt



MRCP T2 SPACE MIP – respiratory triggered with Respiratory Sensors
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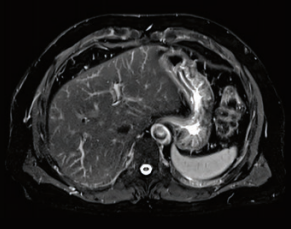

T2 HASTE in a patient with ascites – respiratory triggered acquisition
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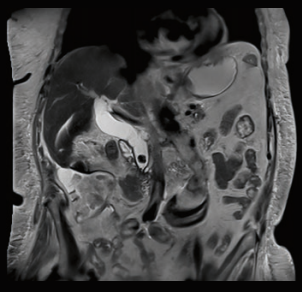

T2 HASTE – respiratory triggered with Respiratory Sensors
3aaaa1338

Courtesy of Cantonal Hospital Lucerne, Switzerland

NATIVE – respiratory triggered with Respiratory Sensors
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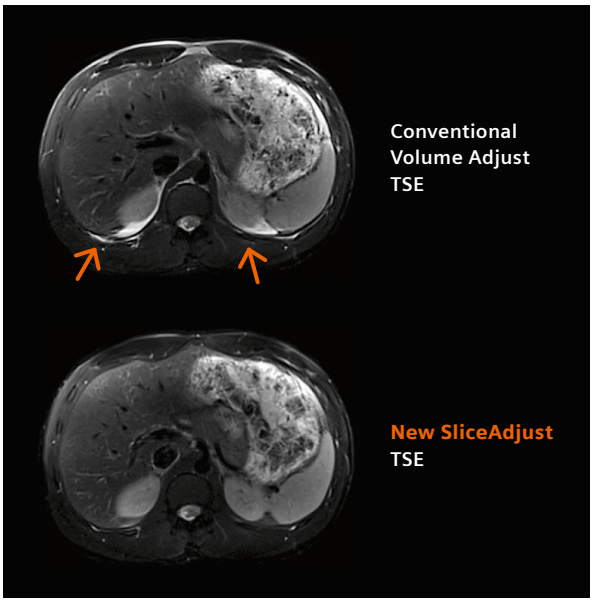
Adapt to challenging anatomies for consistent results with BioMatrix Tuners

BioMatrix Tuners adapt to challenging anatomies, such as the head/neck area, the spine and the abdomen, for reliable exams. Even for difficult scan regions, our intelligent coil technology consistently delivers excellent homogeneity and fat saturation for every patient, every time.

BioMatrix Tuner CoilShim
Integrated into the new BioMatrix Head/Neck coil, CoilShim increases diagnostic quality and reduces the need for repeat scans by delivering improved fat saturation and better DWI quality in the neck region as the area of interest is automatically and optimally shimmed.

BioMatrix Tuner SliceAdjust
The BioMatrix Tuner SliceAdjust provides reliable fat saturation for both TSE and DWI sequences, as well as distortion-free whole-body DWI scans. It avoids broken spine artifacts in whole-body DWI for excellent correlation with anatomical scans.



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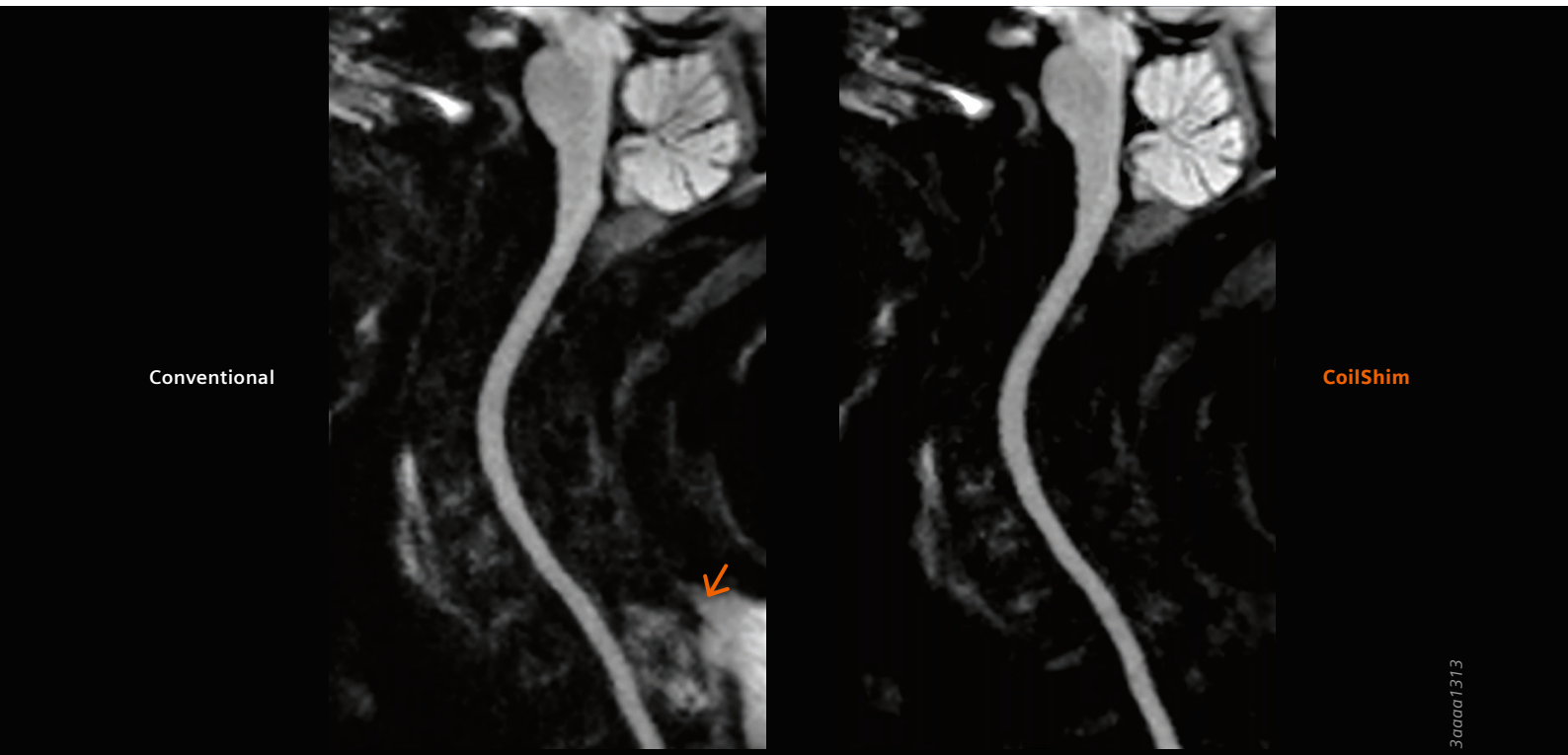

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Accelerate patient preparation for increased efficiency with BioMatrix Interfaces

BioMatrix Interfaces simplify how the user interacts with the scanner and the patient, accelerating patient preparation in order to increase quality and improve cost-effectiveness.

BioMatrix Interface Select&GO
The Select&GO touch display enables one-touch positioning with an intelligent Body Model based on Artificial Intelligence. Positioning can be accelerated by up to 30%[3]. Delays due to incorrect positioning can now be avoided.

BioMatrix dockable table with eDrive[4]
The BioMatrix dockable table with eDrive support provides motorized assistance so that even the heaviest patient can be effortlessly moved to and from the scanner.

BioMatrix Interface Select&GO

Simplify and speed up patient transportation with BioMatrix dockable table and eDrive support.

Embrace efficiency with GO technologies and Turbo Suite

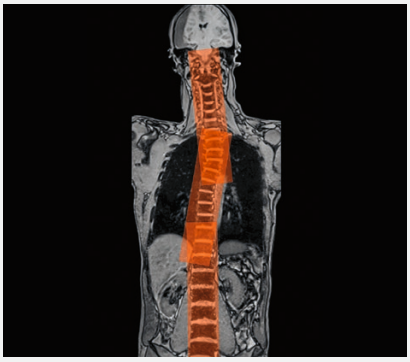
With rising patient volumes in the face of falling reimbursement, there is a clear need for greater efficiency in MRI. At the same time, the quality of exam results should not diminish. After the upgrade Turbo Suite acceleration packages and GO technologies will enable routine push-button, high quality imaging, while reducing total workflow time.

See how GO technologies and myExam Companion help to accelerate the workflow and drive consistency and robustness in spine examinations.

Preparation

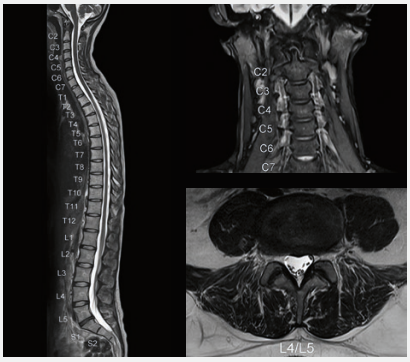
Select&GO
BioMatrix Select&GO enables exam positioning with one touch on the display – by anyone, on any patient. The intelligent body model will correctly center the region to be examined, allowing support staff to set up the patient while the technician prepares the scan.

Acquisition

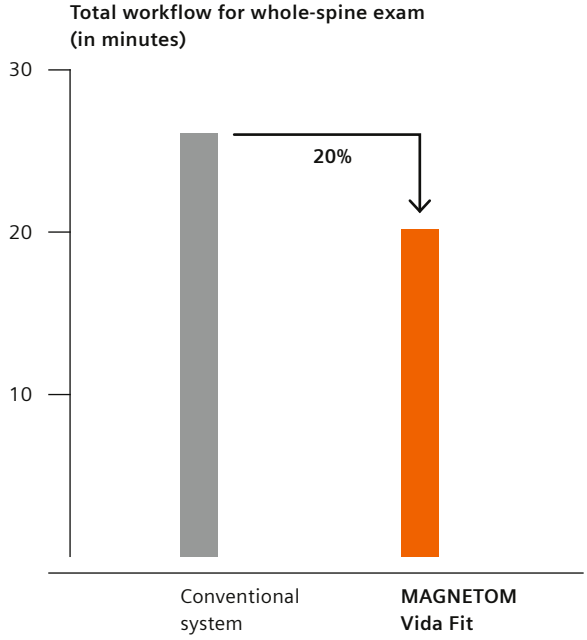


myExam Companion
An intuitive workflow with automatic placement of the imaging slices, e.g. using AI-powered AutoAlign Spine, turns whole-spine imaging into a push-button exam. User guidance and scan assistance save time. Clinically validated GO protocols for brain, knee and liver enable reliable push-button exams in a very short time.

Reconstruction



Recon&GO
Recon&GO automatically performs postprocessing steps in the background. For example: vertebrae in the sagittal, axial, and coronal views are automatically labeled in all contrasts with Inline Spine Labeling, multi-station exams are composed, and Inline MPRs can be calculated without user interaction.



20% faster
spine exams with GO technologies[3]

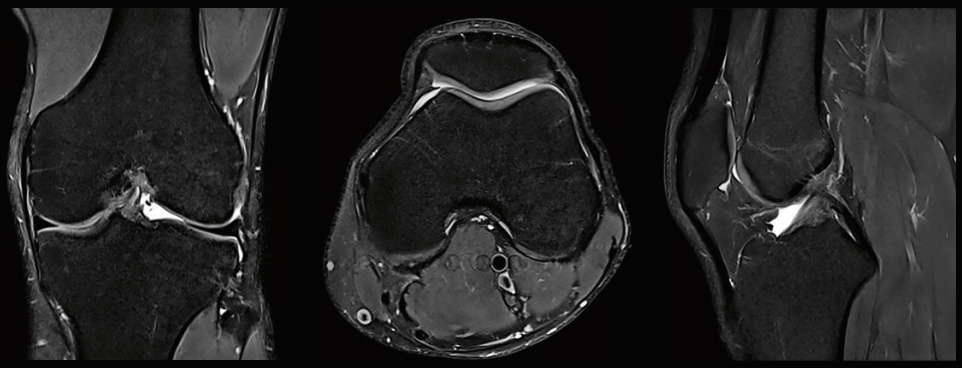
Distribution

View&GO
Optional Dual screens allow the user to control scans on the left monitor while checking the results on the right monitor in real time. Steps such as generating computed high b-value images or 3D reconstructions of the plexus can be easily performed directly at the scanner.

Accelerate MR examinations up to 50% with Turbo Suite

Turbo Suite Excelerate introduces a paradigm shift in productivity with up to 50%[3] time savings, for all contrasts, orientations, and body regions. Dramatically transform care delivery with cutting-edge acceleration technologies Simultaneous Multi-Slice and Compressed Sensing for static 2D and 3D imaging, covering neurological, orthopedic, and body MRI.

Turbo Suite Essential

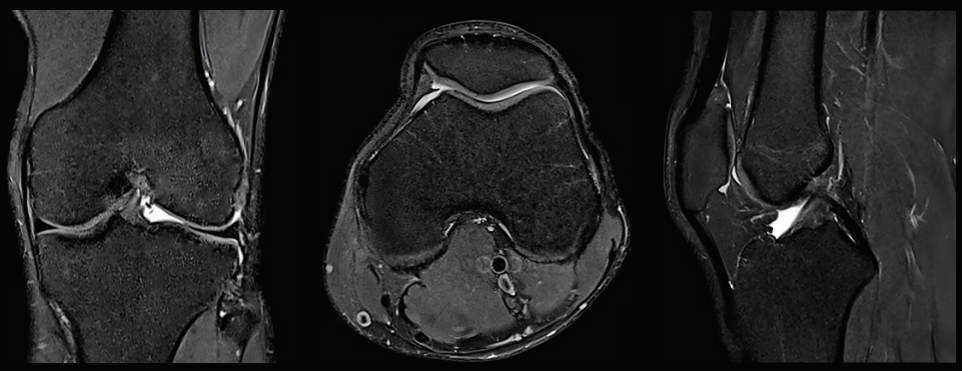


PD TSE FS
0.3 x 0.3 x 3 mm³
TA 1:32 min

PD TSE FS
0.3 x 0.3 x 3 mm³
TA 1:32 min

PD TSE FS
0.4 x 0.4 x 3 mm³
TA 1:47 min

Turbo Suite Excelerate

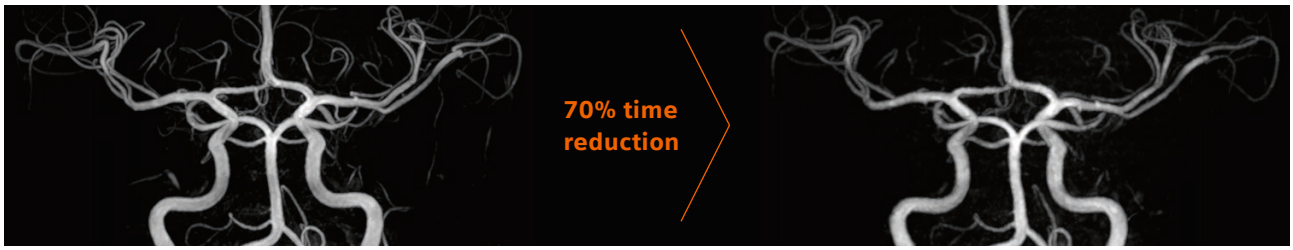


PD TSE FS, SMS 2
0.3 x 0.3 x 3 mm³
TA 0:41 min

PD TSE FS, SMS 2
0.3 x 0.3 x 3 mm³
TA 0:42 min

PD TSE FS, SMS 2
0.4 x 0.4 x 3 mm³
TA 0:48 min

Achieve uncompromised ToF image quality in 70% less time



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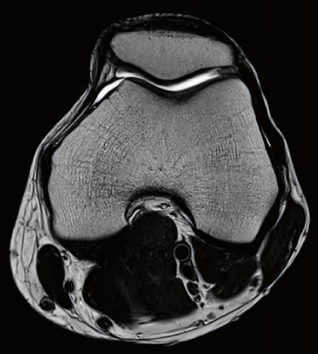
3D TOF Angio, PAT 2
0.3 x 0.3 x 0.4 mm³
TA 7:52 min

3D TOF Angio, Compressed Sensing
0.4 x 0.4 x 0.4 mm³
TA 2:41 min

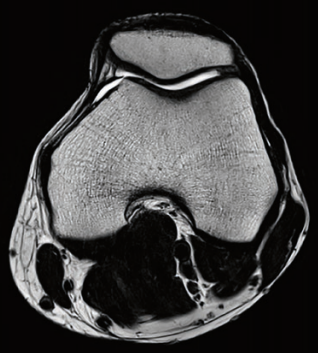


T1 TSE
0.3 x 0.3 x 3 mm³
TA 1:33 min

T2 TSE
0.3 x 0.3 x 3 mm³
TA 1:32 min

7:56 min

55% time reduction



T1 TSE, SMS 2
0.3 x 0.3 x 3 mm³
TA 0:44 min

T2 TSE, SMS 2
0.3 x 0.3 x 3 mm³
TA 0:41 min

3:36 min

with Simultaneous Multi-Slice

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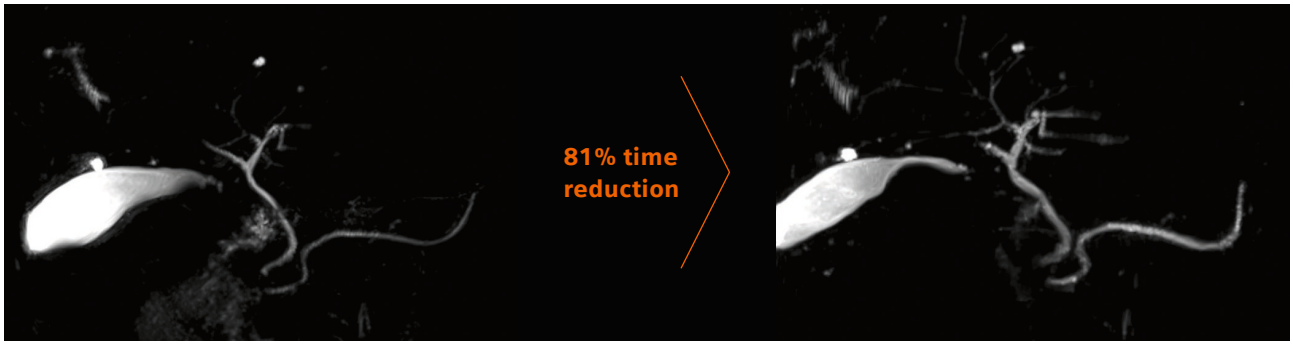
High-resolution 3D MRCP in only 1–2 min



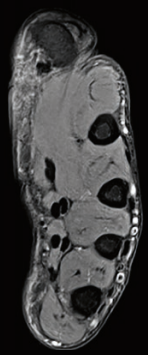
3aaa1249

3D SPACE MRCP, PAT 3
0.5 mm iso
TA 8:24 min

3D SPACE MRCP, Compressed Sensing
0.5 mm iso
TA 1:34 min

Turbo Suite Essential

PD TSE FS
0.3 x 0.3 x 3 mm³
TA 2:44 min

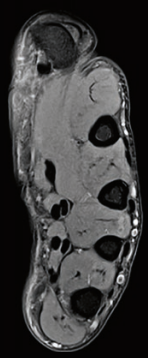


PD TSE FS
0.3 x 0.3 x 3 mm³
TA 8:04 min

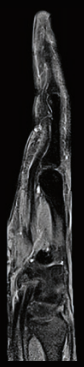
PD TSE FS
0.3 x 0.3 x 3 mm³
TA 3:18 min

Turbo Suite Excelerate

PD TSE FS, SMS 2
0.3 x 0.3 x 3 mm³
TA 1:18 min

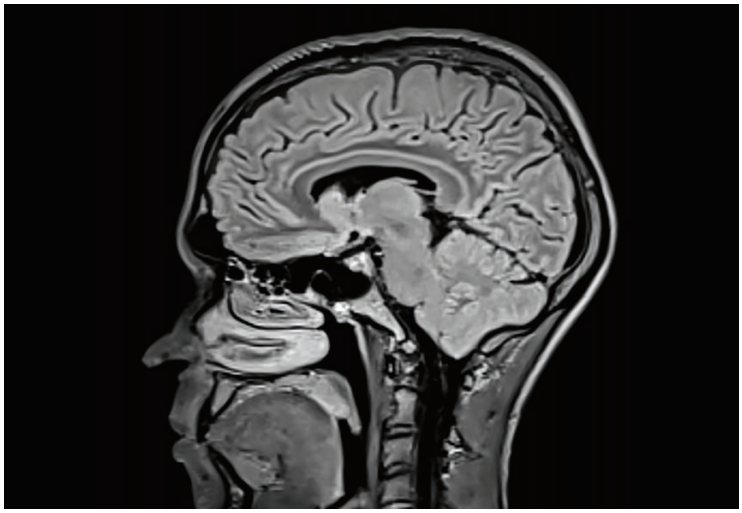


PD TSE FS, SMS 2
0.3 x 0.3 x 3 mm³
TA 4:02 min



PD TSE FS, SMS 2
0.3 x 0.3 x 3 mm³
TA 1:31 min

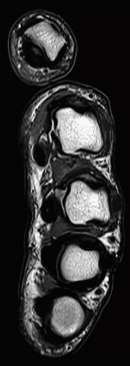
Acquire sub-millimeter isotropic 3D brain images in 3–4 minutes for each contrast



3aaaa1248

3D T2 SPACE Dark-Fluid, Compressed Sensing
1.0 x 1.0 x 1.0 mm³
CS 4, TA 3:02 min

T1 TSE
0.3 x 0.3 x 3 mm³
TA 0:56 min

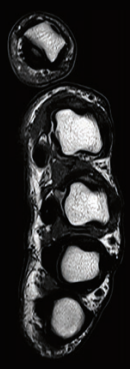


T2 TSE
0.4 x 0.4 x 3 mm³
TA 4:06 min

19:08 min

52% time reduction

T1 TSE, SMS 2
0.3 x 0.3 x 3 mm³
TA 0:25 min



T2 TSE, SMS 2
0.4 x 0.4 x 3 mm³
TA 1:50 min

9:06 min

with Simultaneous Multi-Slice

3aaaa1311

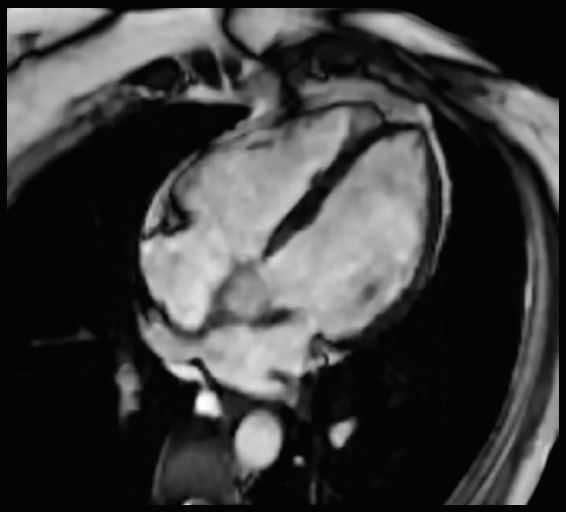
Embrace new clinical capabilities with significant procedure growth

MRI procedures are constantly growing while at the same time patients are getting older. With an upgrade to MAGNETOM Vida Fit you can expand your clinical capabilities with new applications. At the same time you can increase the number of patients eligible for MRI with short and easy acquisitions even for the most-complicated exams without a breath hold.

Compressed Sensing Cardiac Cine

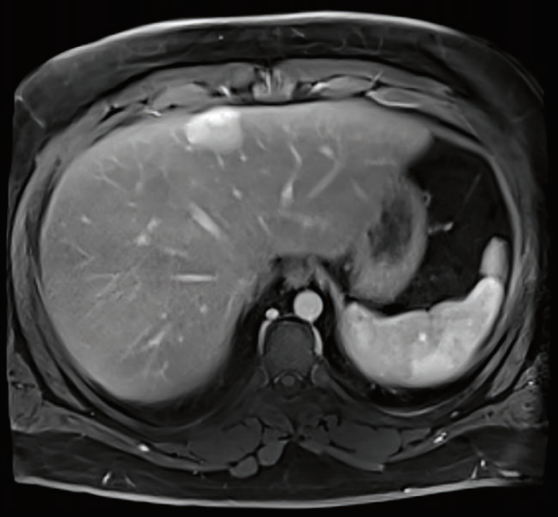
Cardiac function evaluation can now be offered to most patients – even those with arrhythmia.

- Acquire free-breathing, high-resolution cardiac Cine images
- Capture the whole cardiac cycle for precise quantification
- Expand patient population eligible for cardiac MRI



Compressed Sensing GRASP-VIBE

- Push-button, free-breathing liver dynamics
- Removes timing challenges in dynamic imaging and respiratory artifacts
- Outperforms cartesian VIBE acquisition under free breathing
- Ultra-high temporal resolution enables pharmacokinetic modeling of the data



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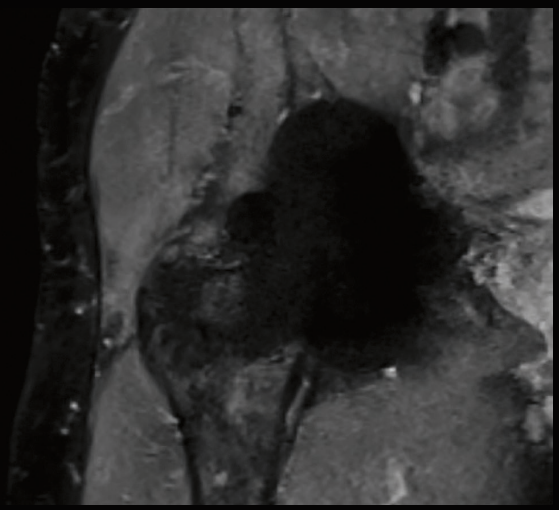
Courtesy of Cantonal Hospital Lucerne, Switzerland

Whole-body MRI from head to pelvis in less than 30 minutes[3]

myExam Whole Body Assist reduces the planning and execution of complex whole-body exams to a few clicks by simply selecting which regions need to be scanned, whether a focus region should be investigated, and setting a few patient-specific settings, e.g. breath-hold capability.

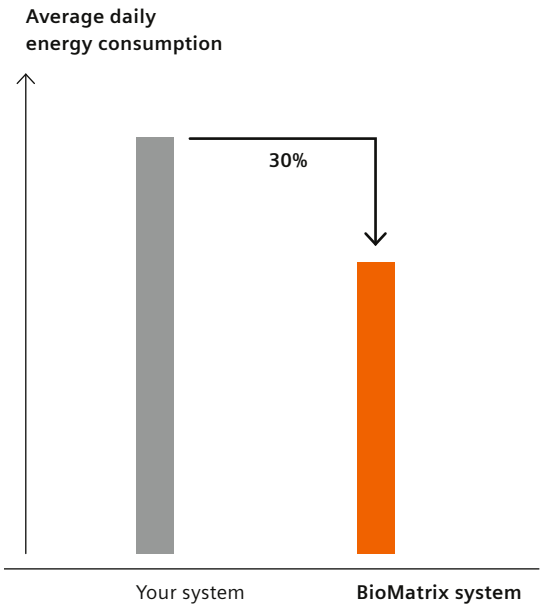
Reliably apply advanced metal artefact[5] reduction in daily clinical routine

- Less than 6 min per scan[3] with Compressed Sensing accelerated SEMAC
- Experience 51%[3] shorter acquisition time
- Serve growing population of patients with total hip or knee replacement



Embrace new financial opportunities with an upgrade into the future

- Leverage efficiency and new clinical opportunities
- Reduce the total-cost-of-ownership of your system
- Up to 30%[3] reduction of energy consumption with EcoPower, a more cost efficient energy management system
- Short installation time <10 days[6]
- No rebuilding costs



Up to 30% reduction
of energy consumption with EcoPower

Upgrade your system in up to 10 working days

1. Technical room

Control and cooling unit cabinets are removed and replaced with new ones. New efficient energy management system installed.

2. Magnet room

Installation of new DirectRF (RF transmit and receive components) at the magnet enabling BioMatrix technology.

3. New covers

All covers are removed and replaced by new ones with two Touch&Go BioMatrix interfaces.

4. New BioMatrix

New BioMatrix Respiratory Sensors, BioMatrix Head/Neck 20 tiltable with CoilShim and BioMatrix SliceAdjust technology are embedded into the scanner architecture.

5. Operator's room

All workstations, monitors, and keyboards are removed and replaced with new ones.

6. Licenses

Installed licenses are migrated into *syngo* MR XA platform and MR View&Go.

7. Hand over

After installation and image quality test, comprehensive application training is held to help you get the best out of the new system.

See how few steps it takes to upgrade MAGNETOM Skyra to MAGNETOM Vida Fit

Service and collaboration

Siemens Healthineers' end-to-end services ensure you stay at the leading edge of MRI technology throughout the entire system lifecycle – from installation, to operation, to upgrades, to ongoing support.

Continuously add value and caring for your equipment, your staff, your fleet, your workflows, your department, and your entire institution. Moreover, our diverse communication platforms and communities keep you up to speed on the world of MRI and enable you to share your ideas and experiences with your peers.

Upgrade to the new MAGNETOM Vida Fit

New BioMatrix technology
with Sensors, Tuners, and Interfaces

New efficient energy management
with Eco-Power

New patient table
Fixed, Dockable or eDrive[4]

New covers

New coils
BioMatrix Head/Neck 20 with CoilShim
BioMatrix Spine 32 with Respiratory Sesnors
BioMatrix Body 18 with Beat Sensor[2, 4]
UltraFlex 18 coils[4]

New free-breathing applications
with inline Compressed Sensing

New Turbo Suite
acceleration packages enabling up to
50%[3] faster clinical routine examinations

New push-button exams
with GO technologies and myExam Companion

New user environment
syngo MR XA platform and MR View&GO

New measurement & recon system

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The information in this document contains general technical descriptions of specifications and optional features which do not always have to be present in individual cases. Siemens Healthineers reserves the right to modify the design, packaging, specifications, and options described herein without prior notice. Please contact your local Siemens Healthineers sales representative for the most current information.

Note: Any technical data contained in this document may vary within defined tolerances. Original images always lose a certain amount of detail when reproduced.

[1] *United Nations report by United Nations Department of Economic and Social Affairs, June 13, 2013, New York.*

[2] *Beat Sensor Cardiac triggering for examinations other than Cardiac Cine is still under development and not commercially available yet. Its future availability cannot be ensured.*

[3] *Data on file.*

[4] *Optional*

[5] *The MRI restrictions (if any) of the metal implant must be considered prior to patient undergoing MRI exam. MR imaging of patients with metallic implants brings specific risks. However, certain implants are approved by the governing regulatory bodies to be MR conditionally safe.*

[6] *Depending on system configuration and installation environment 2–3 additional days might be required.*

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