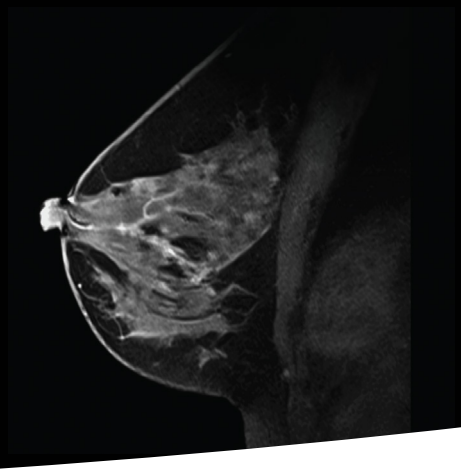
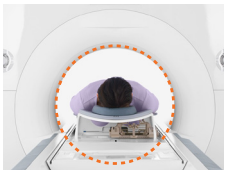
MR imaging
in breast care



MR imaging in breast care can help provide early and reliable diagnosis especially in difficult cases. It can support accurate preoperative staging and differential diagnosis, resulting in faster and more cost-effective patient management. Extremely high spatial and temporal resolution can be achieved in very short acquisition times by using iPAT with GRAPPA and CAIPIRINHA. Excellent soft tissue differentiation protocols (e.g. with fat saturation or water excitation or silicone excitation), as well as flexible multiplanar visualization allow a fast, simple and reproducible evaluation of MR breast examinations.

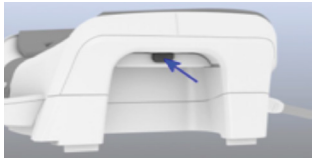
Create a relaxing atmosphere for your patients

For a successful breast MR imaging, always welcome patients in a positive atmosphere. Flexibly choose between feet-first and head-first positioning. Avoid dizziness and claustrophobia – the patient's head can always remain outside the bore.



Constant development and innovation in breast coil design – Breast 18 Coil

The Breast 18 provides excellent high-resolution, multi-parametric breast imaging. It gives an outstanding comfort for patients. Its 18 independent channels provide exceptional iPAT capabilities resulting in high-speed image acquisition. Its easy installation and handling is a great advantage for technologist and patient throughput.

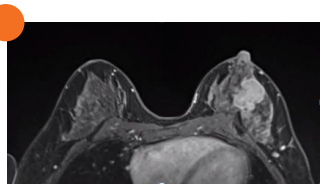


Breast Suite includes

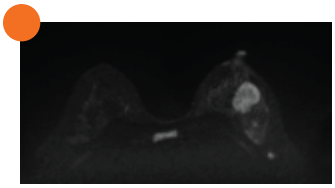
- High-resolution 2D and 3D protocols for morphology evaluation covering both breasts simultaneously
- Protocols for evaluating breasts with silicone implants
- Automatic and manual frequency adjustment, taking into account the silicone signal
- SPAIR and DIXON fat suppression techniques are available for Breast Imaging
- For speeding up the acquisition time, we have iPAT with GRAPPA and iPAT2 with CAIPIRINHA
- Inline subtraction and MIP display
- REVEAL: diffusion imaging for breast exams
- RADIANT Ultrasound-like reconstruction around the nipple.
- Siemens Healthineers Technique: VIEWS (Volume Imaging with Enhanced Water Signal)

Advanced applications in Breast Imaging

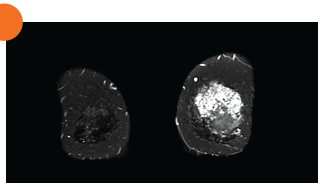
Tim® (Total imaging matrix) technology has made fast, flexible and accurate scans the rule, rather than the exception. Tim Breast Suite offers comprehensive high-resolution protocols for routine breast exams.



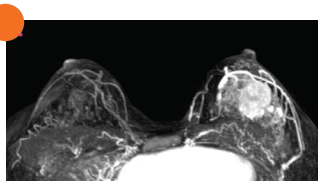
High-resolution T1 postcontrast
0.9 mm ISO, TA 3:40 min



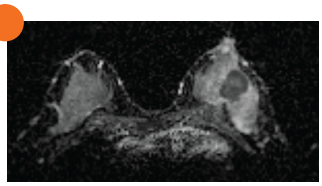
RESOLVE, b 5, 500, 1000, ADC
2 x 2 x 4 mm, TA 5:28 min



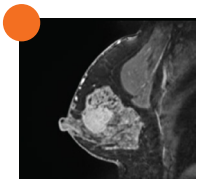
High-resolution T2 TIRM,
matrix 512, 1.5 mm TA 2:24 min



Automatically Generated
Substractions and Dynamic MIP
from Dynamic Series



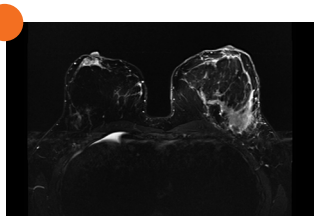
RESOLVE, b 5, 500, 1000, ADC
2 x 2 x 4 mm, TA 5:28 min



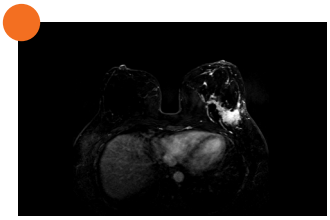
High-resolution T1 post-contrast
Sagittal Reconstruction

SIEMENS Healthineers

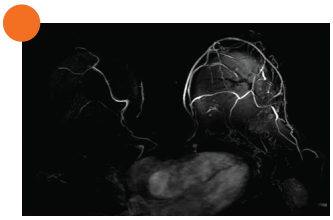
Short dynamic protocol with automated calculation of subtractions and dynamic MIPs



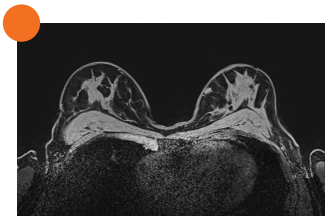
1. T2 TIRM,
matrix 448, TA 4:36 min



2. Inline motion correction and inline subtraction

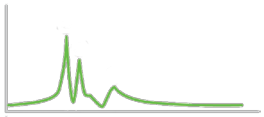


3. Inline MIP of the dynamic phases

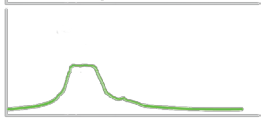


4. 3D T1 Dixon Water,
CAIPIRINHA 4 FOV 220x330,
matrix 352x396 0.6x0.8x1.5 mm
TA 1:13 of dynamic phases

Setting the resonance frequency correctly can be quite challenging in patients with implants.

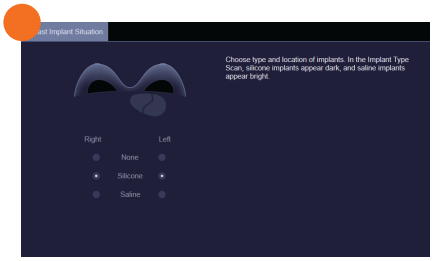


Challenge #1: Which peak to select as the resonance frequency?



Challenge #2: Where exactly is the water, fat and silicone signal?

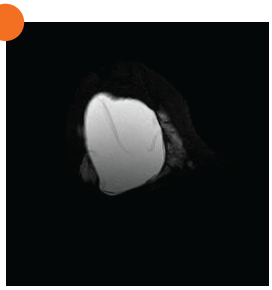
Resolved with
Breast Dot Engine



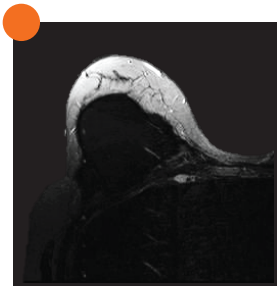
Automated implant type identification with guidance increases scan consistency in challenging cases

MRI Imaging in Patients with Implants

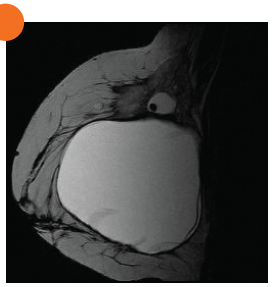
Dot™ (Day optimizing throughput) engine takes away the complexity of MR scanning. Consistent results in breast imaging are challenging, especially when the patient has breast implants of an unknown type. The Breast Dot Engine supports consistent frequency selection for fat, water, saline or silicone. Implant-type and biopsy guidance bring consistency to challenging MR Breast exams.



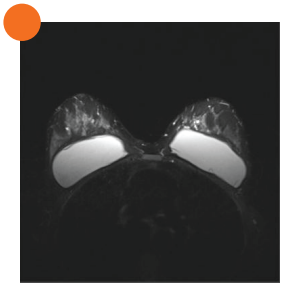
Silicone images help to display capsule contractures, prosthesis dislocation and ruptures



Silicone suppressed images help to display fat or tissue lesions

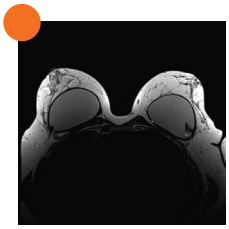


Water suppressed images suppress the signal from cysts

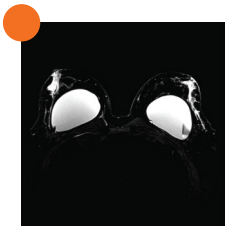


Fat suppressed images help to display cystic lesions

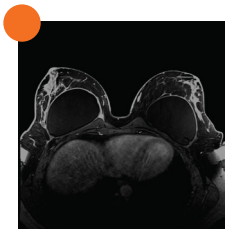
Silicone protocols are standard with Tim Breast Suite



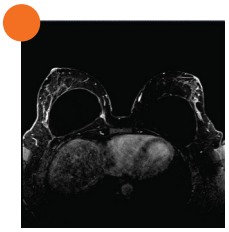
T2 TSE tra, MX=448



T2 TIRM, MX=448



T1 3D FLASH tra dyn views, MX=512

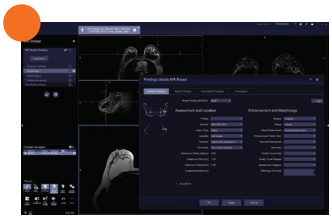


T1 3D FLASH tra dyn views sub, MX=512

Case study: Follow-up after implant rupture, 46-year-old female

syngo.MR General Engine Breast workflow

Whether it is the 3D reference point, the auto zooming functionality in multiparametric exams, or mean curve and subtraction, the *syngo*.MR General Engine extends *syngo*.via by adding software for routine and advanced MR radiology usage. It includes workflows for comprehensive reading and reporting of breast cases, thus enabling an optimized workflow from scanning to processing to reading.



Automatic display and synchronization of 2D, 3D, and 4D series; Calculation of subtractions visualization of dynamic MIPs; On-the-fly mean curve analysis; BI-RADS® report

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