BIOGRAPH One

Shape the new era

siemens-healthineers.com/biograph-one



SIEMENS
Healthineers

New era in the fight against diseases

We are entering in a new era in the fight against our world's most complex diseases where theranostics and other novel drug therapies make truly targeted personalized treatments possible for the very first time.

But to realize this potential, an imaging system is needed that shortens the patients' pathway to a precise diagnosis and timely treatment.



Shape the new era with new PET/MR BIOGRAPH One



BIOGRAPH One – the game-changing PET/MR scanner designed to shape a new era of personalized care.

Based on over a decade in collaboration with the world's leading institutions, BIOGRAPH One redefines PET/MR aiming for a new level in precision, speed, and simplicity. Shape the new era for one simplified patient-centric pathway with BIOGRAPH One.

Excel PET precision

Excellent PET performance
Ultra-fast 187ps TOF

Accelerate MR performance

New level in clinical productivity
with Deep Resolve 2D & 3D

Simplify PET/MR workflow

First truly-unified PET/MR workflow

Impact clinical care

Offering a one-stop-shop solution
while theranostics & novel drug
therapies are changing care provision

The power of PET/MR

For more than two decades, Siemens Healthineers has led the evolution of PET/MR: pushing hybrid imaging from simultaneous acquisition to truly synergistic precision.

BIOGRAPH One marks the next breakthrough: combining highly sensitive PET with fast, high-resolution MR performance, to deliver the precision needed to guide complex theranostic pathways and enable confident, timely clinical decisions.

Designed with the patient experience in mind, BIOGRAPH One reduces exam complexity, enhances diagnostic clarity, and helps shorten the path to treatment – empowering clinicians to act earlier and more effectively in the fight against today's most challenging diseases.



LSO 3.2 mm

Smaller crystals, sharper imaging

aFOV 35 cm

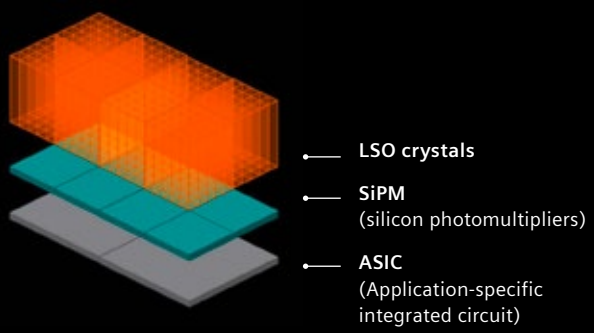
The largest axial FOV in PET/MR[1] for enhanced workflow efficiency

187 ps TOF

Industry leading performance[1]

Excel PET precision

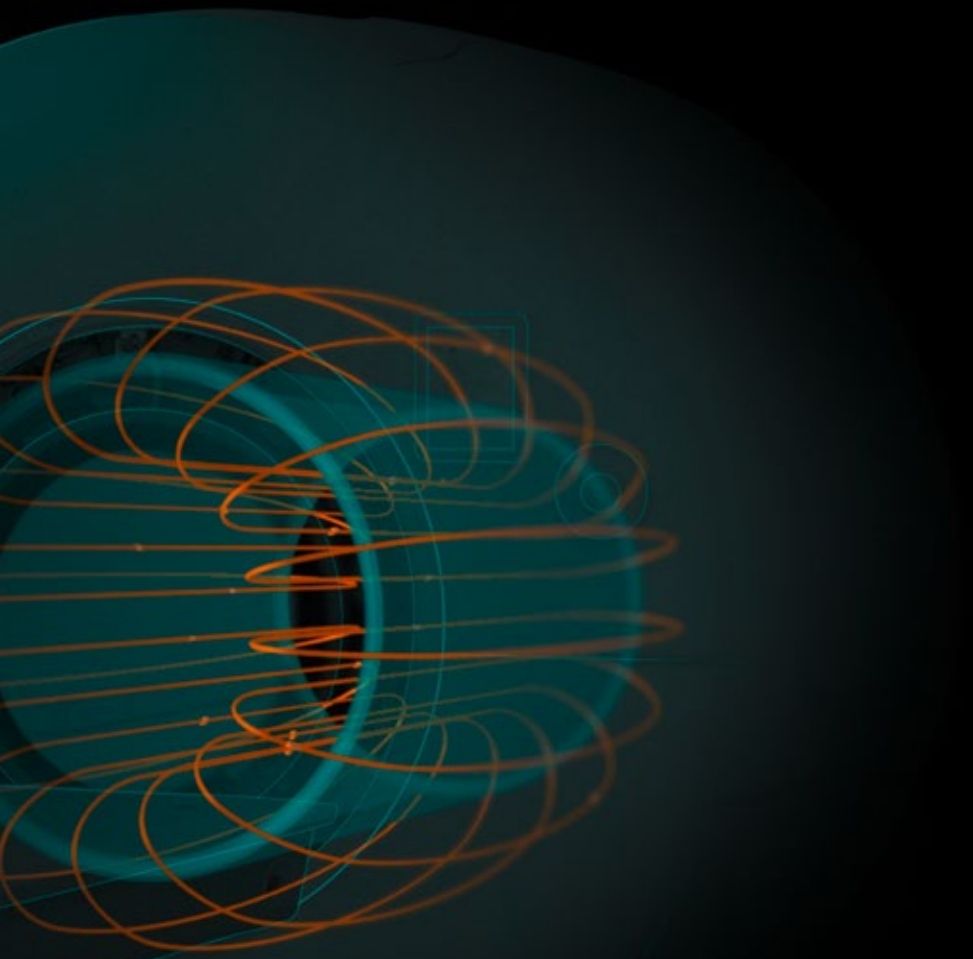
With 3.2 mm x 3.2 mm LSO crystals 100% covered by SiPMs, delivering excellent 45 cm^3 volumetric resolution and industry leading 187ps time-of-flight (TOF) performance and 35 cm axial FOV[2], the largest in PET/MR, the Optiso UDR Pro detector enables comprehensive capture with excellent sensitivity – delivering clear, detailed images.



Excel diagnostic precision

Reduce patient dose[3]

Shorter Acquisition



Full 3T performance

Large FOV, 60/200 XT gradients

BioMatrix technology

Adapts to patient variability for consistent, personalized imaging

AI-powered MR acquistion

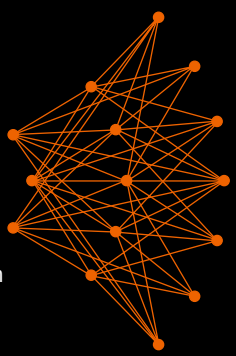
Enabling sharper images, faster than ever before

Accelerate MR performance

BIOGRAPH One brings the proven power of our 3T MR technology to PET/MR. With high-performance gradients, the BioMatrix coil technology, and the latest *syngo* MR XB software, it delivers fast, high-quality MR imaging – seamlessly acquired simultaneous to PET. This cutting-edge MR engine ensures exceptional image quality, fast acquisition times, and the flexibility to support advanced clinical applications across the entire body.

Unrivaled speed in MRI with Deep Resolve 2D and 3D

Deep Resolve is at the forefront of the revolution in MRI acceleration. Our advanced algorithms for noise reduction and high-resolution MRI are specifically tailored for maximum productivity.

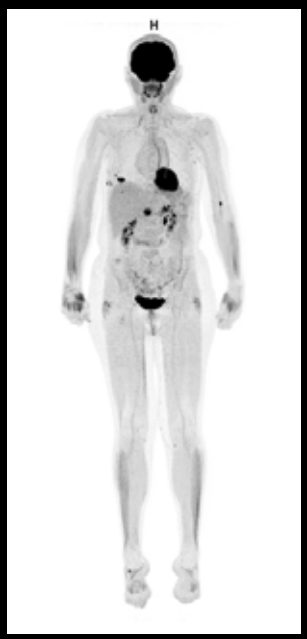


Powered by Artificial Intelligence

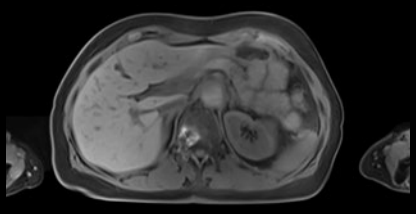
Advance precision imaging with latest PET/MR technology

Complete total-body exam in <13 min

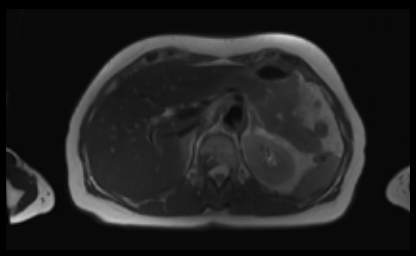
Large aFOV saves up to 2 beds per whole-body exam



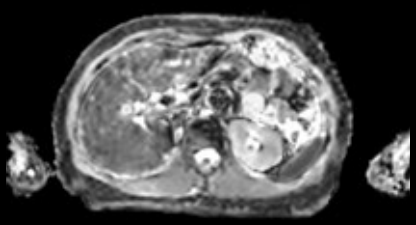
F18-FDG PET[4], 3 MBq/kg,
142 min p.i.



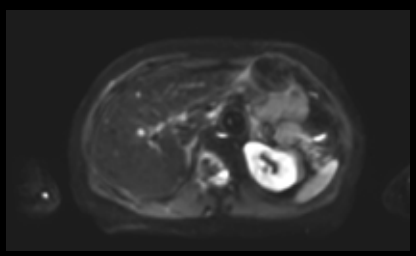
T1 VIBE
Deep Resolve
1.4 × 1.4 × 3.0 mm³
TA 1:21 min



T2 HASTE
Deep Resolve
0.6 × 0.6 × 6.0 mm³
TA 1:49 min



ADC
1.9 × 1.9 × 6.0 mm³
TA 8:17 min



DWI b800
1.9 × 1.9 × 6.0 mm³

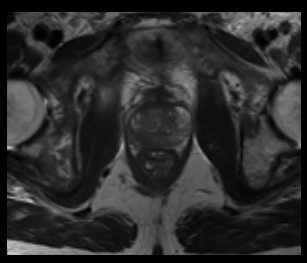
Study-ID: 2aaaa3602

Courtesy of University Hospital of Erlangen, Erlangen, Germany

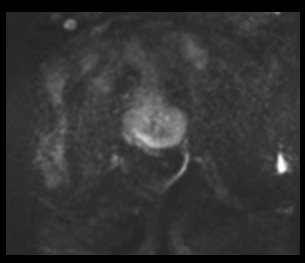
Prostate exam in < 20 min

Small crystals improve small lesion detectability

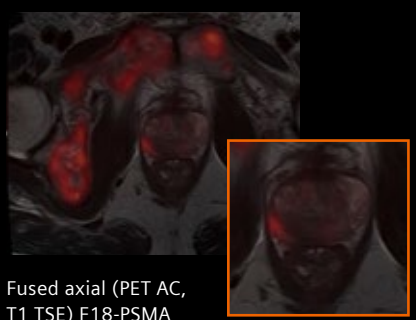
↑ 44%
volumetric resolution[5]



T2 TSE
Deep Resolve
0.3 × 0.3 × 3.0 mm³
TA 0:50 min



DWI b800
Deep Resolve
0.9 × 0.9 × 3.0 mm³
TA 1:49 min



Fused axial (PET AC,
T1 TSE) F18-PSMA
PET, 2.9MBq/kg
127 min p.i.

Study-ID: 2aaaa3604

Courtesy of University Hospital of Erlangen, Erlangen, Germany

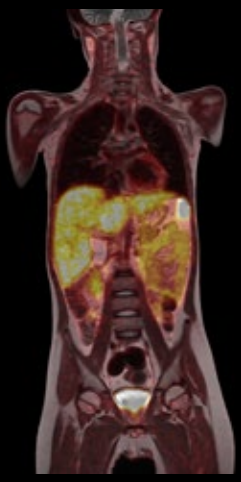
Pediatric[6] fast whole-body exam in <12 min

Low dose PET/MR delivering fast whole-body imaging in a single exam

Study-ID: 2aaaa3947



T2 HASTE
Deep Resolve
1.2 × 1.2 × 4.0 mm³
TA 0:41 min



68Ga-DOTATOC PET,
2MBq/kg, 60 min p.i.

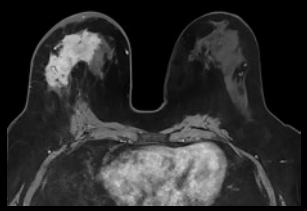
↑ **12 x sensitivity[3]**

Courtesy of University Hospital Pilsen, Pilsen, Czech Republic

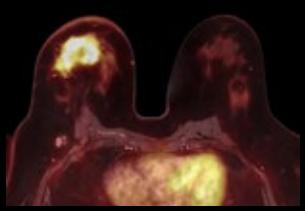
One-stop-shop for breast cancer imaging

Capture tracer's real time dynamic in 35 cm range

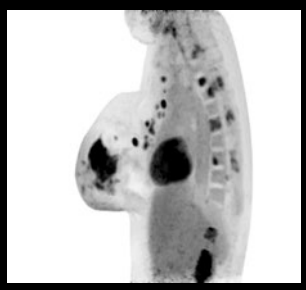
Study-ID: 2aaaa3946



T1 TWIST FS
0.79 x 0.79 x 1.5 mm³
TA: 01:24 min



F18-FDG PET[4], 2.4 MBq/kg,
54 min p.i.

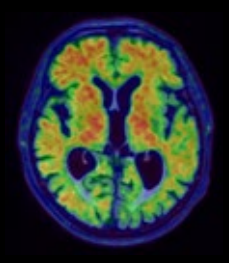


Largest
axial FOV in PET/MR

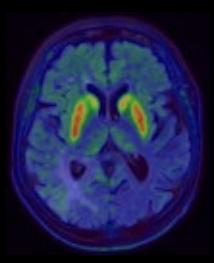
Courtesy of University Hospital Pilsen, Pilsen, Czech Republic

Complete neuro exam in 11 min

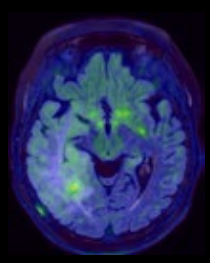
AI-powered MR acquisition combined with ultra-fast TOF performance



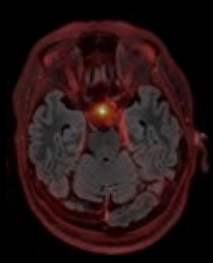
18F-Flutemetamol,
Alzheimer's disease



18F-FDOPA,
normal finding on suspected
Parkinson's disease



18F-FDOPA
accumulation in the
tumorous tissue



68Ga-DOTATOC,
meningioma of the
atrocic cell

Courtesy of University Hospital Pilsen, Pilsen, Czech Republic

Simplify PET/MR workflow

BIOGRAPH One simplifies the entire PET/MR experience through the first truly unified workflow – combining intuitive planning, automated positioning, and intelligent myExam Companion guidance to make every step faster, more consistent, and easier for operators of any experience level.

- BioMatrix Technology
- myExam Companion
- Deep Resolve
- *syngo* MR X-line
- Latest coils







BioMatrix Contour XL coil

Comfortable. Smart. Flexible.
BIOGRAPH One makes PET/MR patient positioning easier and more efficient so operators can spend more time on patient care. The new BioMatrix Contour XL Coil enables operators to reduce setup times and minimize exposure to radiation.



BioMatrix Respiratory Sensor
Automated detection of individual breathing patterns for a simplified workflow for respiratory-triggered scans without additional user interaction.

BioMatrix Beat Sensor
Automated detection of cardiac motion enabling the acquisition of an entire cardiac scan without the need for ECG leads.

BioMatrix Position Sensor
Easy, push-button positioning for a streamlined workflow. The center of the coil is always recognized by the system regardless of the location on the patient table.

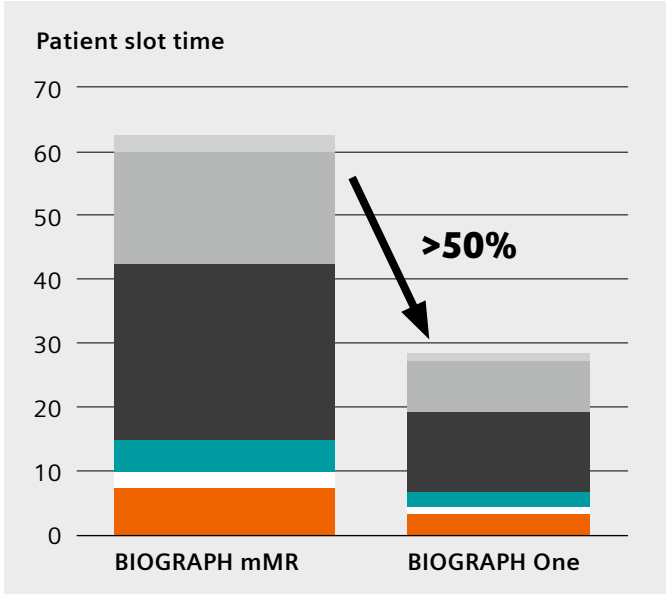


First unified PET/MR workflow

Simplified user interface
Built with familiar features for PET and MR planning.

New level of automation
myExam Companion empowers operators of all experience levels with simplicity and consistency.

Innovative acquisition modes
myExam SinglePass and myExam MultiPass provide a tailored scanning mode for each patient and condition.



Drastic reduction of patient slot time

5x faster[7]
patient setup

2x faster[7]
aquisition

Impact clinical care



Diagnosis & Staging

"PET/MR could avoid 83% of unnecessary biopsies in prostate cancer patients"[8]

Personalized therapy decisions

"53-75% demonstrated changes in patient management based on PET/MRI"[9]

Therapy assessment

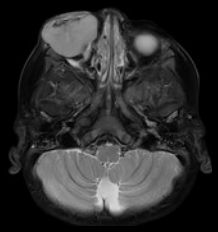
"PET/MR can detect treatment response after 48-72h"[10]

Personalized care

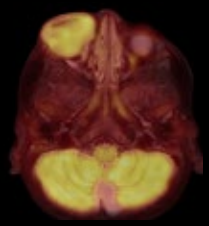
Find more clinical cases:
siemens-healthineers.com/biograph-one-cases

Diagnosis & Staging

First diagnosis of orbit rhabdosarcoma in a 2 year old boy[6] in one single examination



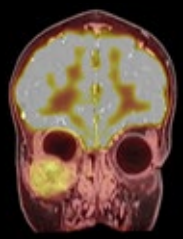
T2 TSE
Deep Resolve



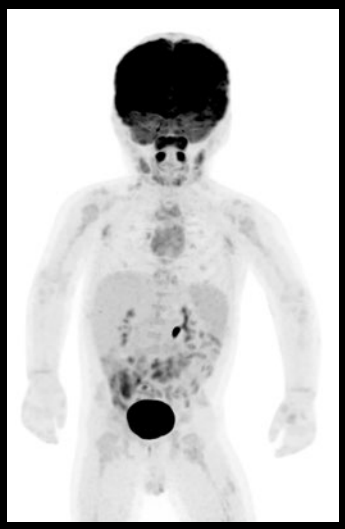
PET AC



T1 VIBE
Deep Resolve



T1 VIBE (fused)



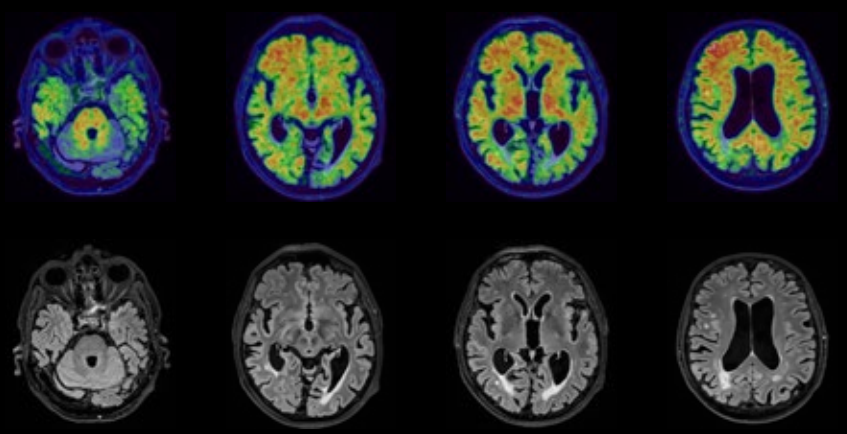
F18-FDG PET[4], 3.3 MBq/kg,58 min p.i.

- **High-resolution MR** precisely localizes tumor origin in the orbit
- **Metabolic PET** information confirms malignant activity
- Clear identification of **inferior rectus muscle involvement**
- **Decisive input for surgical planning** and resection strategy

Courtesy of University Hospital Pilsen, Pilsen, Czech Republic

Study-ID: 2aaaa3948

First diagnosis of Alzheimer's disease in a patient with progressive cognitive decline



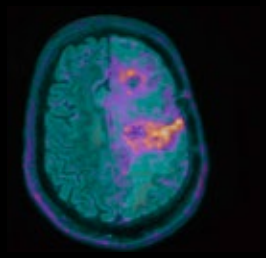
F18 Flutemetamol PET, 185 MBq, 80 min p.i

- **Amyloid PET** reveals AD-specific metabolic patterns, **3T MR** simultaneously demonstrates **regional cortical and hippocampal atrophy**
- Comprehensive, **low-dose single-session exam** streamlines the **diagnostic pathway**

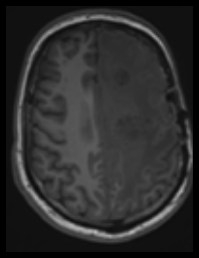
Courtesy of University Hospital Pilsen, Pilsen, Czech Republic

Personalized therapy decisions

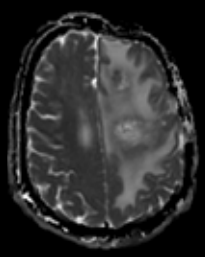
PET/MR guides true tumor target in anaplastic astrocytoma



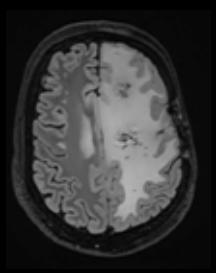
18F-FET PET AC 68min p.i. and T2 FLAIR (fused)



T1 VIBE
Deep Resolve



DWI b-1000
Deep Resolve



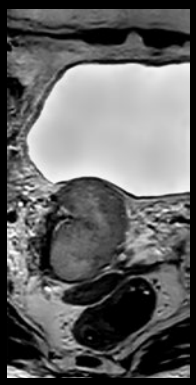
T2 FLAIR
Deep Resolve

Study-ID:2aaaa3606

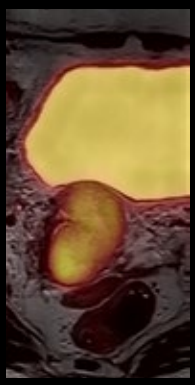
- PET/MR allows to **localize the most metabolically** active tumor components within the abnormal T2 FLAIR region
- Clear **distinction** of **aggressive tumor** from t**reatment-related changes** when morphology alone is inconclusive
- PET/MR findings help guide re-irradiation or systemic therapy by identifying the most active disease regions

Courtesy of University Hospital of Erlangen, Erlangen, Germany

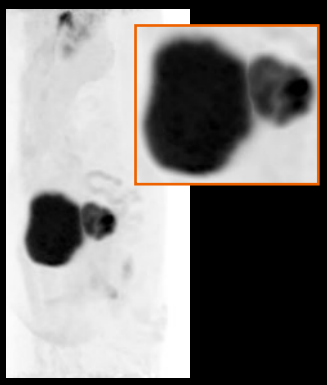
PET/MR defines disease extent in cervical carcinoma to tailor therapy



T2 TSE
Deep Resolve



PET AC and T2 SPACE (fused)



F18-FDG PET[4], 2.5 MBq/kg, 55 min p.i.

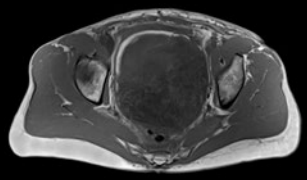
Study-ID: 2aaaa3945

- **High spatial resolution from PET** enables clear **delineation of tumor borders**, including accurate separation from adjacent bladder structures seen on the MR

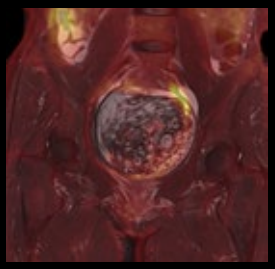
Courtesy of University Hospital Pilsen, Pilsen, Czech Republic

Therapy assesment & follow-up

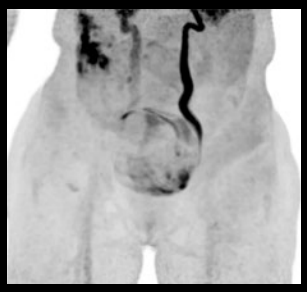
PET/MR detects metabolically active recurrence in pelvic carcinosarcoma



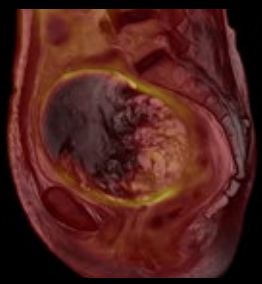
T1 VIBE
Deep Resolve



PET AC (fused)



F18-FDG PET[4], 3.3 MBq/kg,
88 min p.i.



T2 TSE (fused)

A 54-year-old woman with prior right ovarian carcinosarcoma treated with surgery and chemotherapy presented with acute pelvic pain.

- PET/MR reveals a heterogeneously FDG-avid pelvic mass consistent with recurrent disease
- Integrated imaging improves confidence in distinguishing active recurrence from post-therapeutic tissue changes

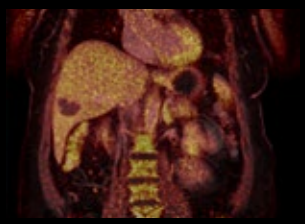
Courtesy of Rigshospitalet, Copenhagen, Denmark

Study-ID: 2aaaa3831

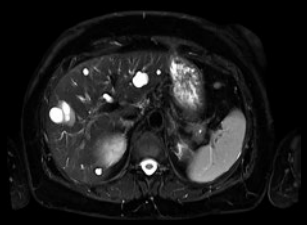
PET/MR confirms therapy response in hepatic echinococcosis



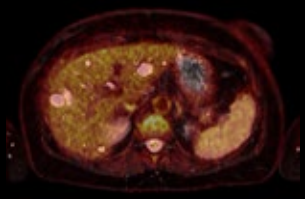
T2 HASTE (cor)
Deep Resolve



PET AC and T1 VIBE
(fused)



T2 HASTE (tra)
Deep Resolve



F18-FDG PET[4], 3.0 MB/kg,
185 min p.i.

Echinococcosis first diagnosed in 1997, relapse in 2024. Follow-up PET/MR after one year of albendazole therapy

- MRI identifies hydatid cysts in the liver, including differentiation from simple cystic lesions
- Late-phase FDG-PET demonstrates absence of residual inflammatory or metabolic activity around the cysts
- PET/MR helps to confidently rule out active pericystic inflammation

Courtesy of University Hospital of Erlangen, Erlangen, Germany

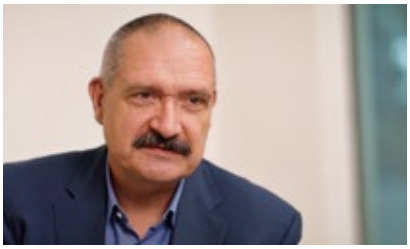
Study-ID: 2aaaa3918

First user voices



"At the Rigshospitalet, the BIOGRAPH One changed the way we do PET/MR"[11]

Prof. Dr. Flemming Andersen
Dept. Clinical Physiology and
Nuclear Medicine Rigshospitalet,
University of Copenhagen, Denmark



"It's not an evolution, it's a revolution in the imaging of PET/MR"[11]

Prof. Dr. Jiri Ferda, MD
Imaging Dept.
University Hospital Pilsen,
Czech Republic



"Reality has surpassed imagination"[11]

Dr. Kirsten Korsholm MD
Dept. Clinical Physiology and
Nuclear Medicine Rigshospitalet,
University of Copenhagen, Denmark

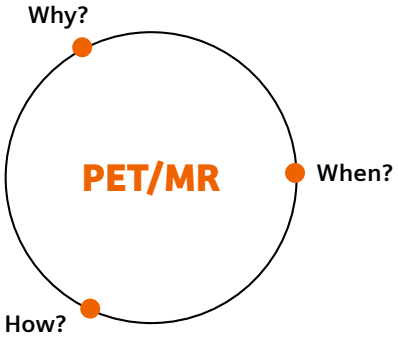


"When you think about personalized medicine, the tremendous cost you have and side effects for patients, then you need to assess early treatment response – and the BIOGRAPH One provides that information."[11]

Prof. Dr. Ambros Beer and Prof. Dr. Meinrad Beer
Departments of Radiology and Nuclear Medicine,
Ulm University Medical Center, Germany

Discover our PET/MR seminar series

Dive into an exclusive collection of expert-led sessions designed to educate and engage clinicians, researchers, and healthcare professionals. Through concise episodes, we answer key questions:



Find all talks here: magnetomworld.siemens-healthineers.com/hot-topics/pet-mr-imaging

World-class equipment deserves world-class service

Allowing you to have your systems ready when you need them.
While you care for your patients, we care for your PET/MR – keeping it ready for every case, shift, and challenge. Siemens Healthineers is your trusted partner, supporting you through high workloads, staff shortages, and constant change. With proactive solutions like the Guardian Program, we fix issues before they disrupt your workflow.

Experience expert, digitally powered service with true OEM excellence.

Advance Plans

Stay Ahead with Secure Systems and Continuous Innovation

- Access the latest innovations and maintain cybersecurity – automatically
- With our Advanced Plan, your [system name] platform stays future-ready throughout its service life
- Receive regular OEM hardware and software updates, plus automated cybersecurity protection to keep patient data safe and ensure compliance
- Deliver high-quality care with confidence – your system is secure, efficient, and always up to date

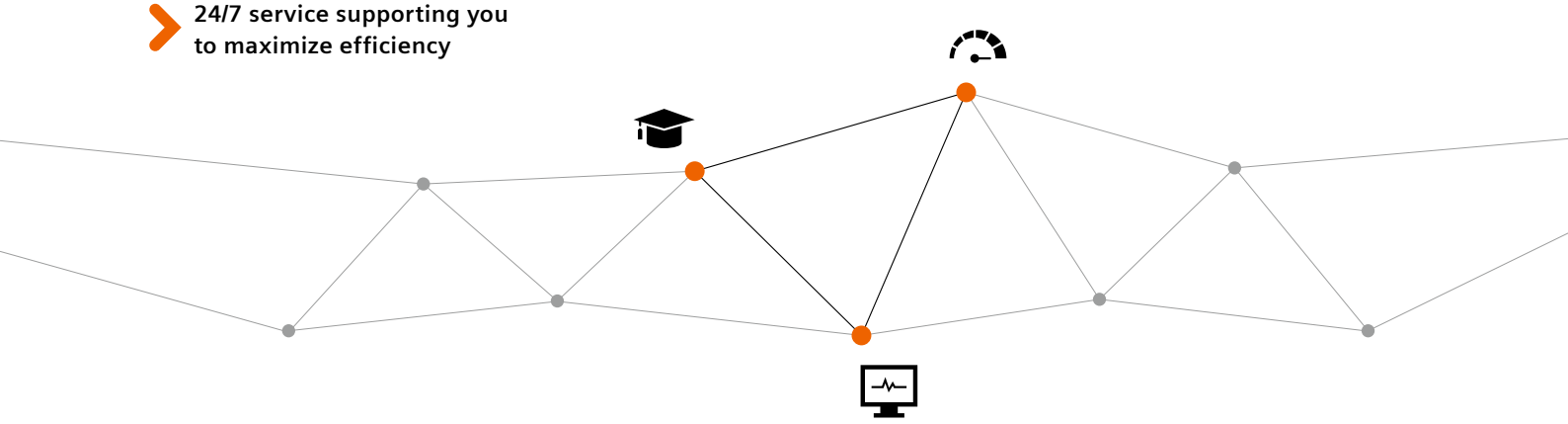
24/7 service supporting you to maximize efficiency

Hybrid learning

Hybrid Learning Solutions combine flexible formats, personalized education, and hands-on simulation – so your team is ready from Day

- Flexible formats: Onsite and virtual training for anytime, anywhere learning
- SmartSimulator: Realistic scanner training – even before installation
- Siemens Healthineers Academy: Expert-designed online education and performance support

Scanning from day 1 due to our SmartSimulator and Siemens Healthineers Academy



Proactive monitoring

Maximize Uptime with Magnet Monitoring

- Ensure continuous system readiness – even when your MRI is powered down.
- Enabled by the Guardian Program, our Magnet Monitoring remotely tracks your [system name] platform with up to 49 intelligent sensors.
- This AI-powered, proactive service detects issues early and helps prevent unplanned downtime – so you can deliver care without interruption.
- Stay confident in your system's performance – powered by smart analytics and global service expertise.

Digitalization and data to ensure maximum system uptime

BIOGRAPH One is not commercially available in all countries. Due to regulatory reasons, its future availability cannot be guaranteed. Please contact your local Siemens Healthineers organization for further details.

On account of certain regional limitations of sales rights and service availability, we cannot guarantee that all products included in this brochure are available through the Siemens Healthineers sales organization worldwide. Availability and packaging may vary by country and are subject to change without prior notice.

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.

In the interest of complying with legal requirements concerning the environmental compatibility of our products (protection of natural resources and waste conservation), we may recycle certain components where legally permissible. For recycled components we use the same extensive quality assurance measures as for factory-new components.

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

[1] Based on literature available at time of publication. Data on file.

[2] Compared to BIOGRAPH mMR. For a 35 cm object.

[3] Compared to BIOGRAPH mMR. Please consult radiopharmaceutical labeling for dosage instructions.

[4] Please see Indications and Important Safety Information for Fludeoxyglucose F18 (18F FDG) Injection and full Prescribing Information on this website: https://www.siemens-healthineers.com/molecular-imaging/radiopharma/prescribing-information

[5] Compared to BIOGRAPH mMR. For a 35 cm object.

[6] MR scanning has not been established as safe for imaging fetuses and infants younger than two years of age. The physician must evaluate the benefits of the MR examination over other imaging procedures.

[7] Preliminary data based on an internal single measurement. Patient slot time is defined as time in PET/MR exam room. Data on file.

[8] Shi J et al. J Nucl Med. 2024;65(4):555-559. Published 2024 Apr 1. doi:10.2967/jnumed.123.266742

[9] Michael C:M Gammel, et al. A Clinical Role of PET/MRI in Prostate Cancer? Seminars in Nuclear Medicine. Volume 54, Issue 1 , January 2024, Pages 132-140.

[10] Marius E. Mayerhoefer et al. European Journal of Nuclear Medicine and Molecular Imaging (2018) 45:931–940.

[11] The statements by Siemens Healthineers customers described herein are based on results that were achieved in the customer's unique setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption) there can be no guarantee that other customers will achieve the same results. This statement is from a person, who or whose institution is engaged in a collaboration with Siemens Healthineers.

Siemens Healthineers Headquarters
Siemens Healthineers AG
Siemensstr. 3
91301 Forchheim, Germany
Phone: +49 9191 18-0
siemens-healthineers.com

Published by Siemens Healthineers AG · 18125 0926 · *©Siemens Healthineers AG, 2026*