At the time of printing this product has not yet fulfilled all the essential requirements according to the European Medical Device Directive (93/42/EEC) and its national implementations. It has not yet been commercially available in the European Union.

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 sales organization worldwide. Availability and packaging may vary by country and is subject to change without prior notice. Some/All of the features and products described herein may not be available in the United States.

All devices listed herein may not be licensed according to Canadian Medical Devices Regulations. The information in this document contains general technical descriptions of specifications and options as well as standard and optional features which do not always have to be present in individual cases.

Siemens reserves the right to modify the design, packaging, specifications and options described herein without prior notice. Please contact your local Siemens 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.

Please find fitting accessories:
www.siemens.com/medical-accessories

Local Contact Information

In the USA
Siemens Medical Solutions USA, Inc.
51 Valley Stream Parkway
Malvern, PA 19355
Phone: +1 888-826-9702
Phone: +1 610-448-4500
Fax: +1 610-448-2554

In China
Siemens Medical Park, Shanghai
278, Zhouzhu Road
SIMZ, Nanhui District
Shanghai, 201318,
P.R.China
Phone: +86-21-38895000
Fax: +86-10-28895001

In Japan
Siemens-Asahi
Medical Technologies Ltd.
Takanawa Park Tower 14F
20-14, Higashi-Gotanda 3-chome
Shinagawa-ku
Tokyo 141-8644
Phone: +81 3 5423 8411

In Asia
Siemens Pte Ltd
Healthcare Sector
Regional Headquarters
The Siemens Center
60 MacPherson Road
Singapore 348615
Phone: +65 6490-6000
Fax: +65 6490-6001

Global Business Unit

Siemens AG
Medical Solutions
Magnetic Resonance
Henkestr. 127
91052 Erlangen
Germany
Phone: +49 9131 84-0

Global Siemens Headquarters

Siemens AG
Wittelsbacherplatz 2
80333 Muenchen
Germany

Global Siemens Healthcare Headquarters

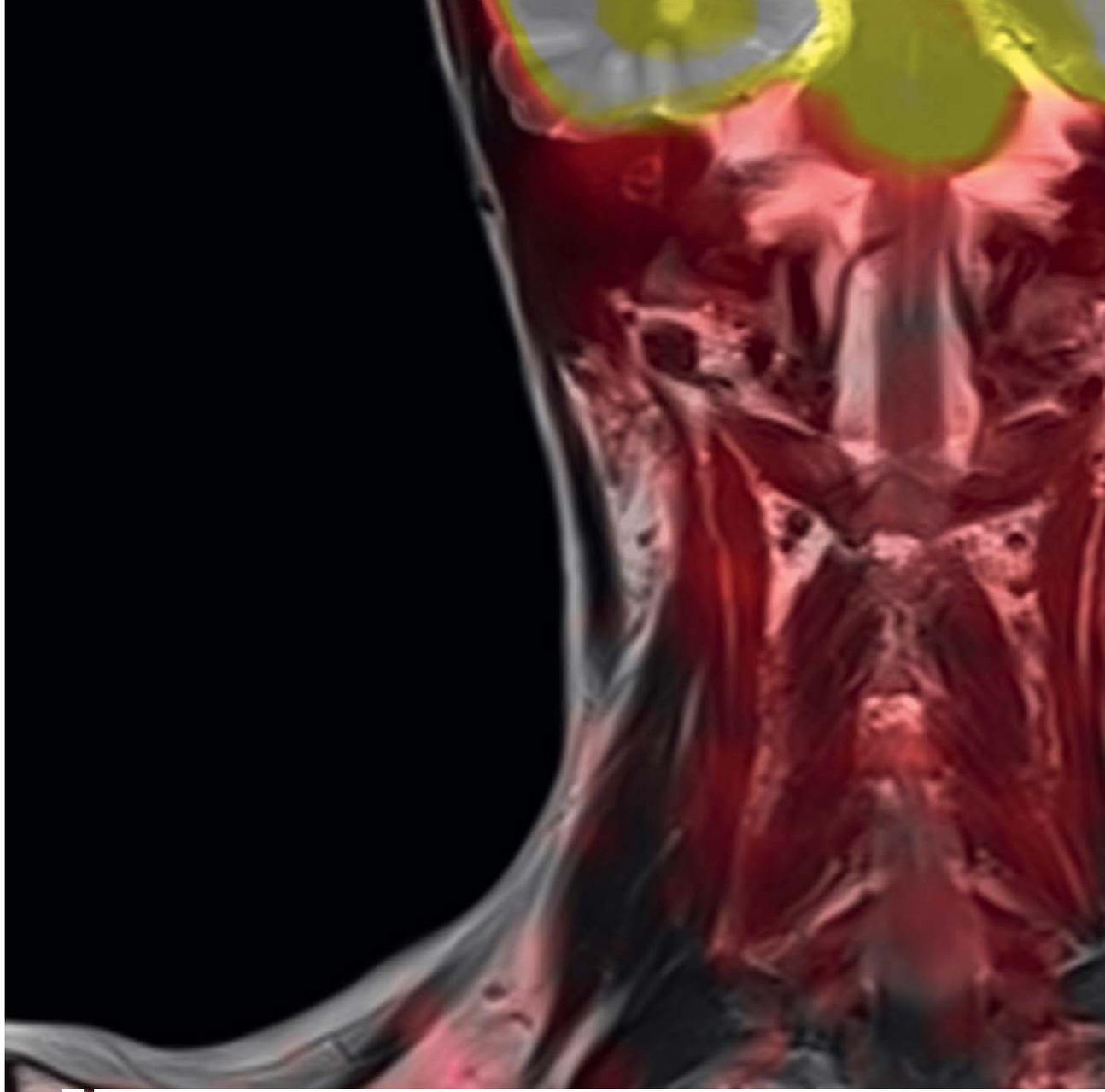
Siemens AG
Healthcare Sector
Henkestr. 127
91052 Erlangen
Germany
Phone: +49 9131 84-0
www.siemens.com/healthcare

Legal Manufacturer

Siemens AG
Wittelsbacherplatz 2
DE-80333 Muenchen
Germany

www.siemens.com/healthcare

Order No. A91MR-1400-2C-7600 | Printed in Germany | CC MR WS 09100.4 | © 09.2010, Siemens AG



For the first time, MR and PET are one.

Introducing Biograph **m**MR.
The world's only simultaneous, whole-body molecular MR.

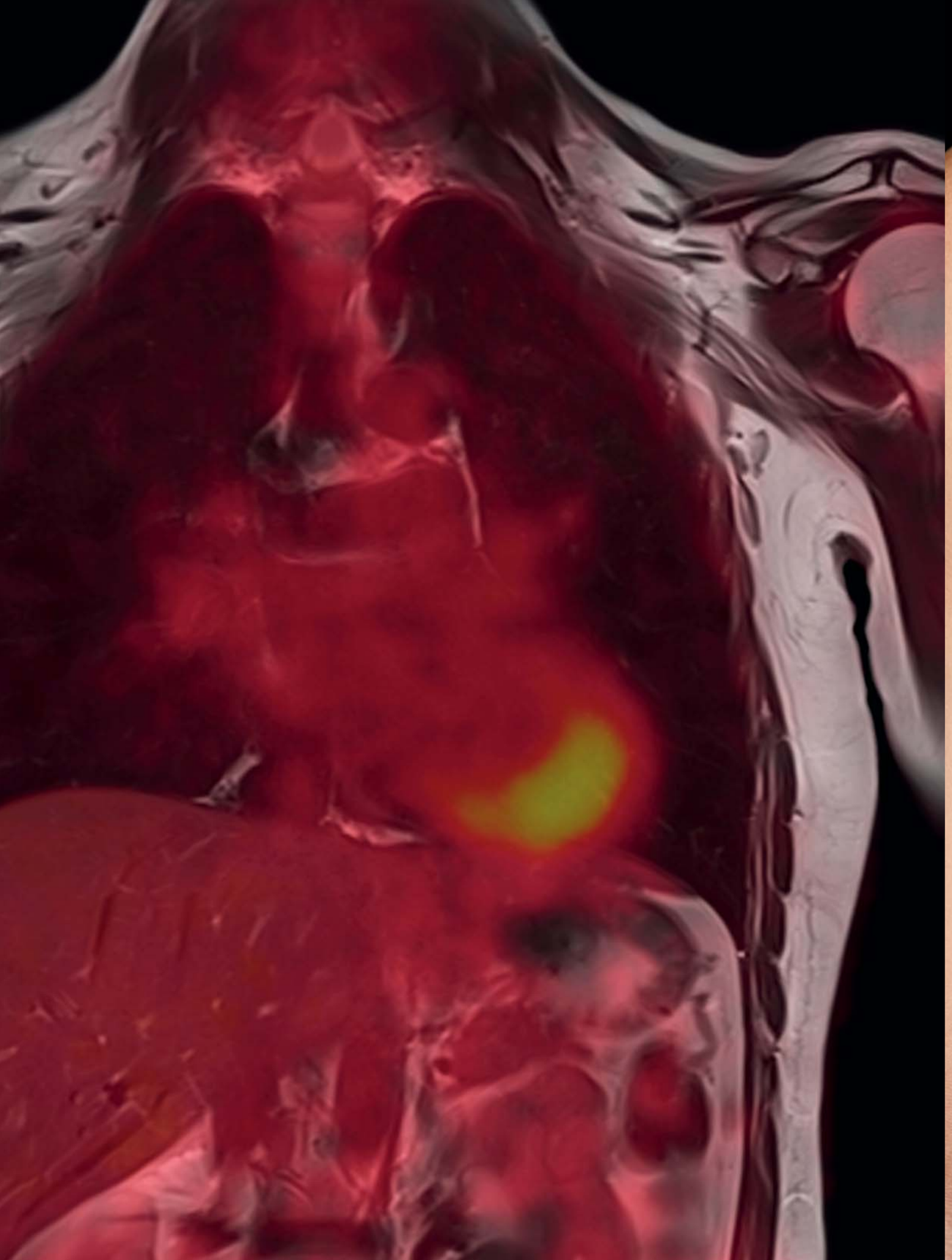
www.siemens.com/mMR

SIEMENS

It’s the firsts that define the world.

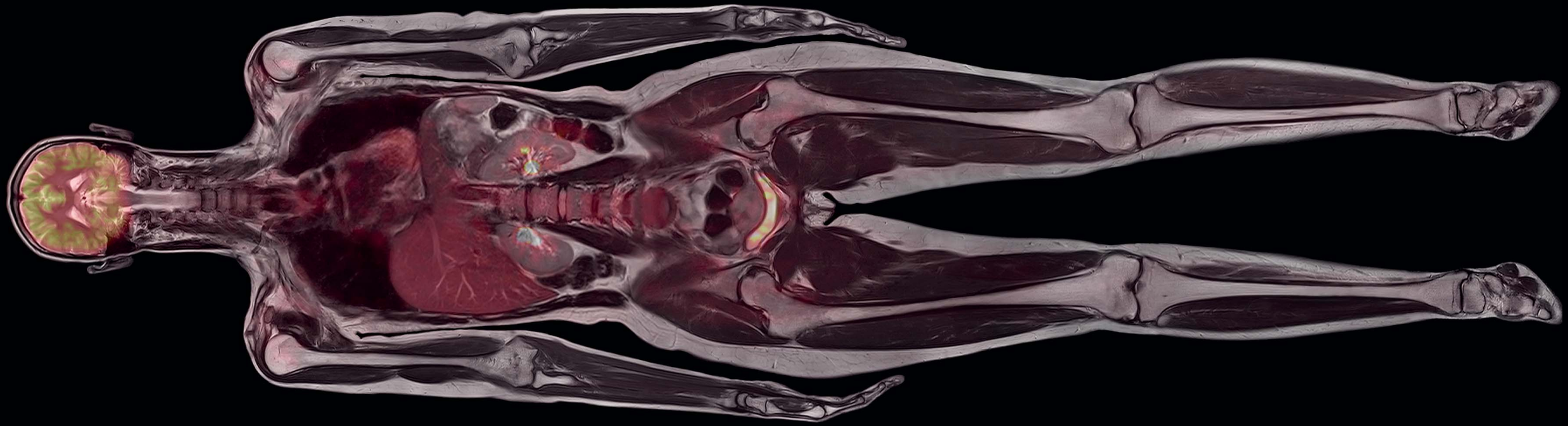
Biograph mMR brings a revolution in diagnostic imaging to life. For the first time, state-of-the-art 3T MRI and cutting-edge molecular imaging are fully integrated as one. Only Siemens makes possible the simultaneous acquisition of morphology, function, and metabolism. Now, whole-body MR and PET fully integrated. Precisely aligned. For breathtakingly accurate imaging. Enabling new insights into the progress of disease. Unlocking new paths to treatment. Opening new areas of research. And ultimately, expanding the understanding of life.

Are you ready for your first look?



Introducing Biograph mMR.

Meet the world's only simultaneous, whole-body molecular MR system. Biograph mMR. For the first time, MR and PET are together in a single scanner. Empowering you to redefine the way you visualize, diagnose, treat and manage disease.

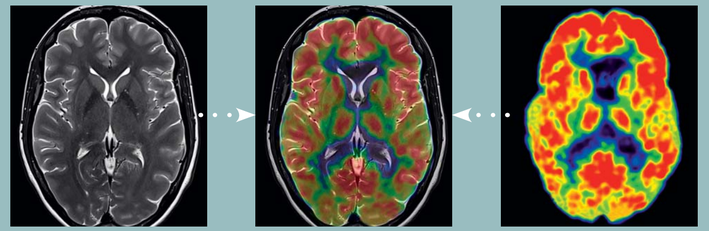

sequential is now simultaneous.

sequential is now simultaneous.

Biograph mMR sets a new standard. As the only system that can simultaneously acquire MR and PET data across the whole body, it is a tremendous leap forward in imaging capabilities. Opening new doors in the diagnosis and understanding of disease. Fully supporting you from detection and planning through monitoring and follow-up.

Now you have the power to scan once and obtain a comprehensive diagnostic picture. One that shows MR and PET data in virtually seamless spatial alignment. That's the promise of our new mMR technology. It brings MR and PET together in striking detail to provide a more thorough understanding of disease, over the entire body.

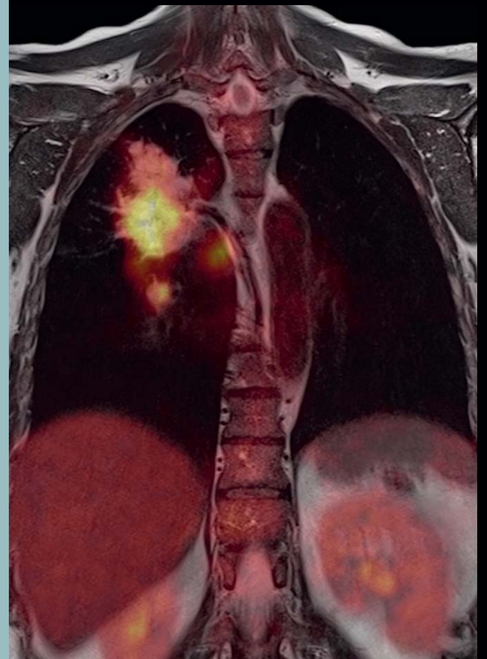
In the brain, the structural and functional detail of MR combines with PET metabolic activity to support early detection of disease, precise planning of intervention, and effective follow-up after treatment. In the musculo-skeletal system, MR and PET combine to provide a thorough assessment of soft-tissues and bone marrow. And in the body, PET provides metabolic details in the chest, heart and abdominal structures while MR brings structural and additional functional information to the image. In addition, the MR acquisition can be used to correct for motion-related effects in PET, greatly improving image quality.

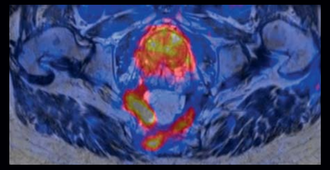


sequential is now simultaneous.

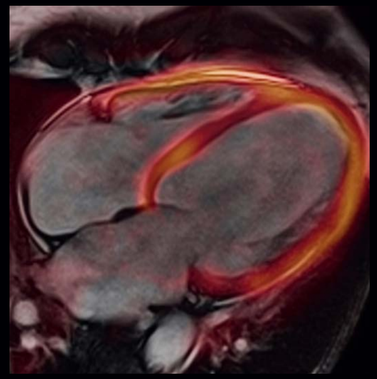
Spatial registration.

With Biograph mMR, you no longer have to perform image registration of MR and PET visually or through an alternative fusion software. It enables the precise alignment of MR and PET for the first time — by performing both scans at the same time. For one frame of reference. Minimal motion artifacts. And exact spatial registration.





Precise Registration. To improve the precision of spatial registration, Biograph mMR collects MR and PET simultaneously from a single frame of reference. The result is MR and PET data acquired at the same point in time while reflecting the same point in physiologic processes such as respiration.



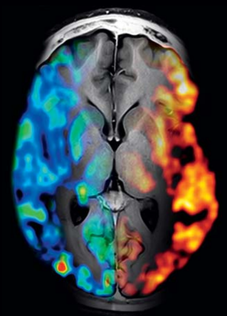
Cardiac Imaging. The constant motion of the beating heart is well imaged with state-of-the-art triggering and gating tools found in today's 3T MRI systems. This gating information can also be used to drastically reduce the motion effects in the PET data leading to a clearer image.

Minimizing the effects of motion.

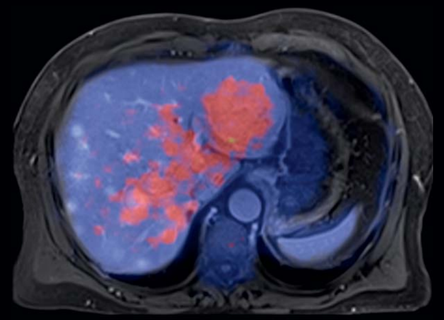
mMR technology helps eliminate the motion effects that may degrade PET results. Delivering brilliant MR images through gating tools that freeze motion, while at the same time providing information about the gated exam to improve the overall quality of the PET images. This is essential when structures like the liver or other moving organs must be imaged.

Temporal co-registration.

The human body is in a constant state of change. Minimizing the time between imaging techniques helps ensure a better understanding of the true nature of physiologic processes. By acquiring MR and PET data simultaneously, Biograph mMR captures metabolic and functional processes at the exact same time for a precise and accurate assessment of disease.

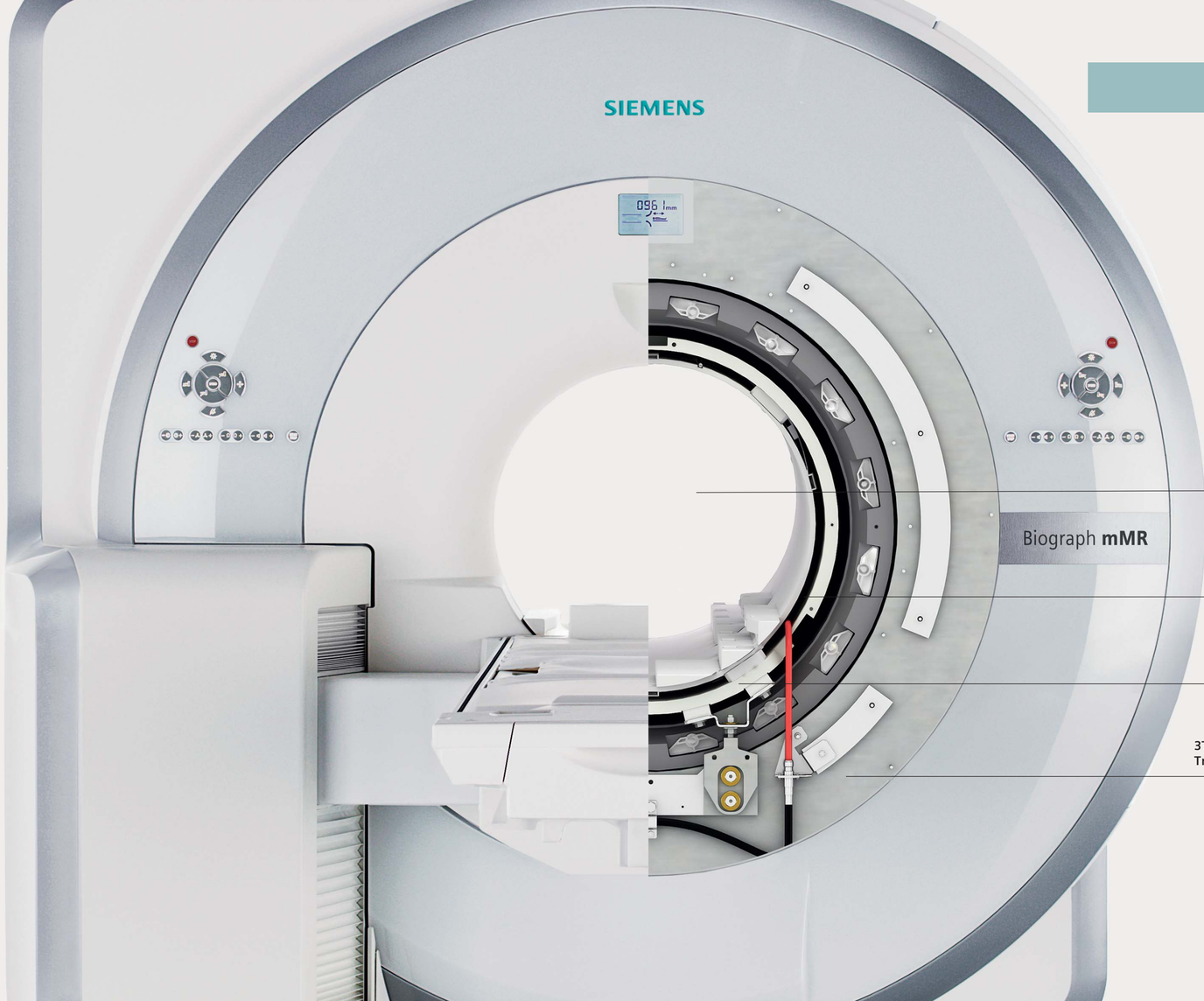


Temporal Evaluation. Dynamic MR and PET come together with exquisite structural detail in the brain offering a comprehensive view of physiology and metabolic activity.



Temporal Co-registration. PET tracer uptake in the liver can be combined with the time-varying enhancement of dynamic MR liver scans to visualize tumor characteristics.

two is now one.



60 cm system opening

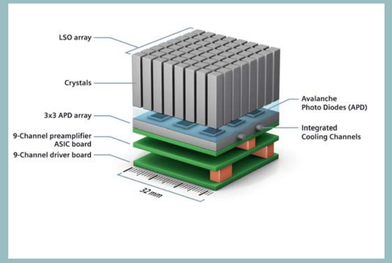
Integrated state-of-the-art PET detector and detector cooling channels

Integrated MR gradient coil (45 mT/m and 200 T/m/s)

3T magnet with TrueForm magnet design

The inside story on mMR technology.

As the world leader in both MR and PET, Siemens possesses the engineering expertise to fully integrate the two. It's our understanding of both modalities that has enabled us to bring Biograph mMR to life.

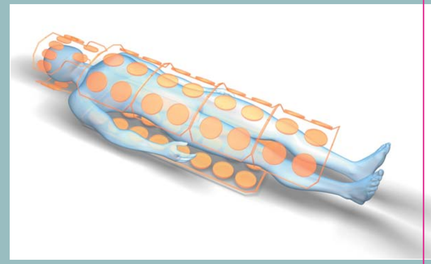


The first MR-friendly PET detectors.

We've designed the first PET detectors that allow for the full integration of whole-body MR and PET while maintaining the performance of each modality. Our unique mMR PET detector architecture includes integrated cooling features to assure optimal PET performance, as well as specialized shielding to virtually eliminate magnetic field interference in the PET data processing chain.

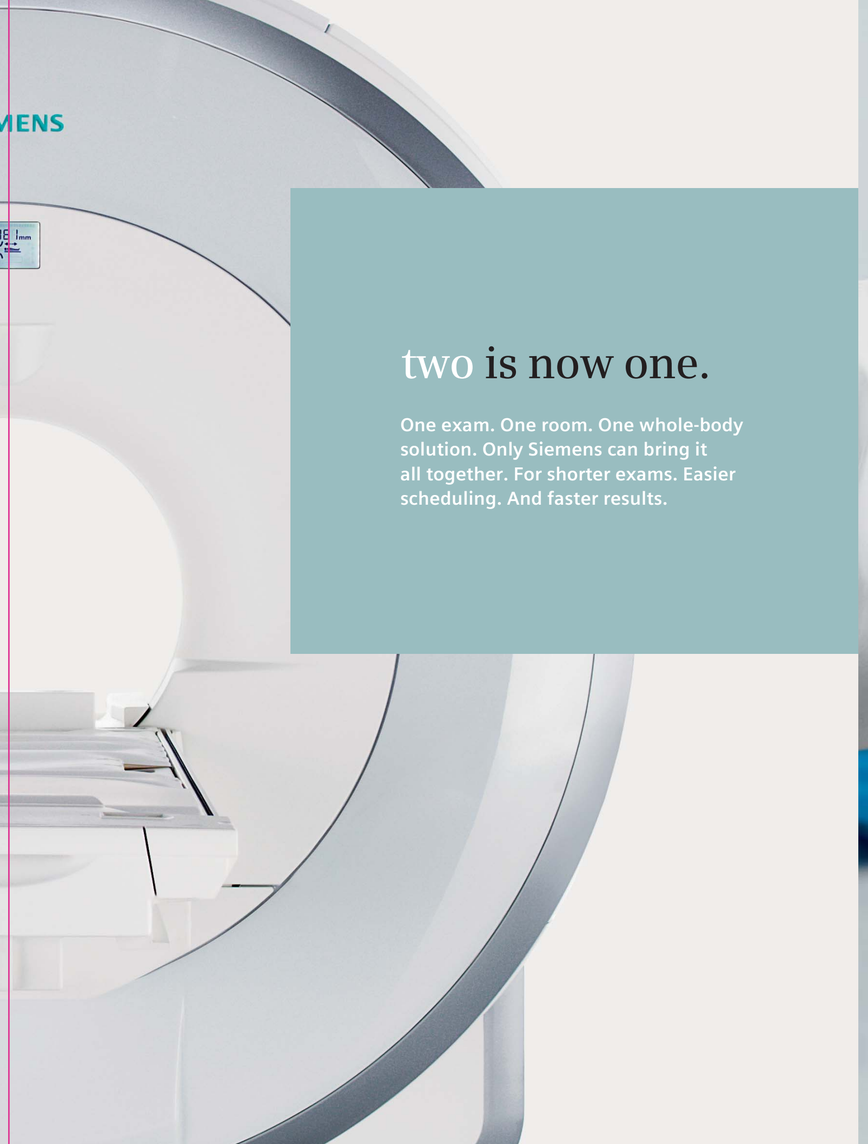
Optimized for a strong signal.

Attenuation correction of the human body is an essential part of a PET exam. It helps improve the consistency of PET data results across varying tissue densities. With Biograph mMR, attenuation information is collected from MR data during the simultaneous exam. In addition, we've re-engineered every relevant component—from our new, PET-compatible Tim® (Total imaging matrix) coils to the mMR Tim Table designed with low attenuation materials—to further ensure high-quality simultaneous exams.



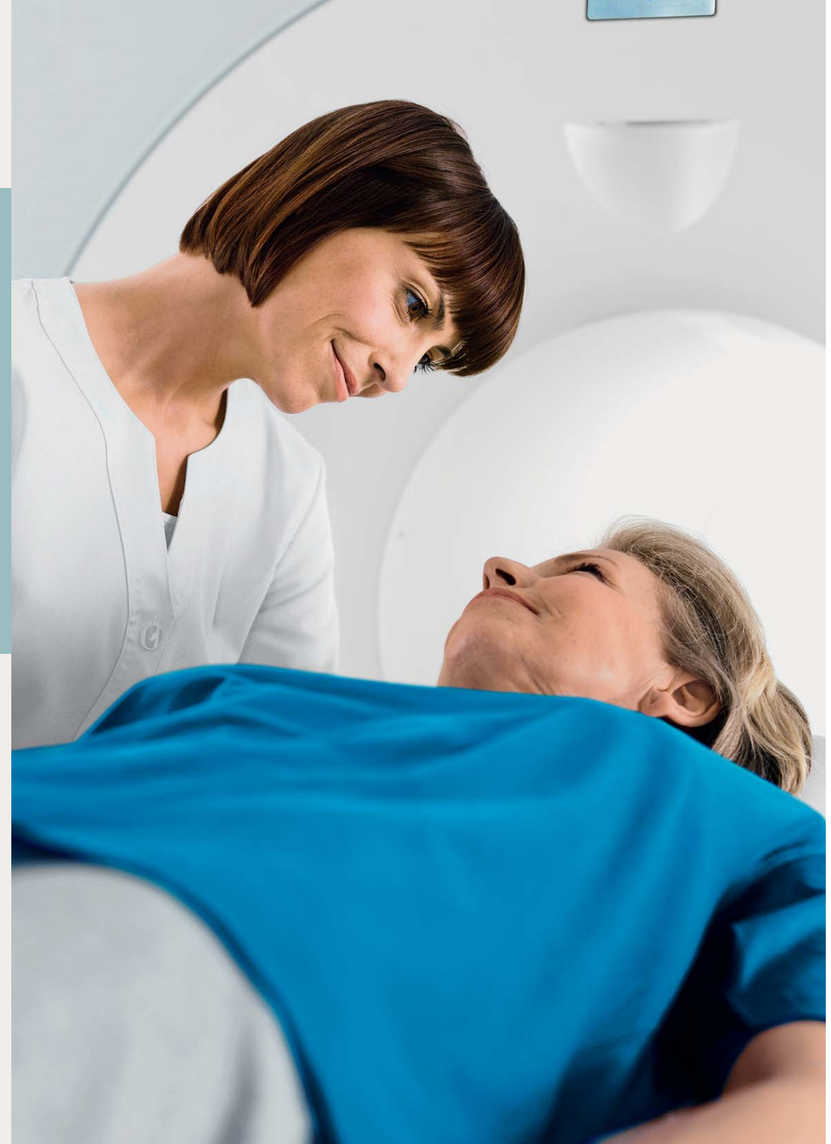
Tim delivers state-of-the-art 3T.

Around the world, Tim (Total imaging matrix) technology has become the new standard in MR coil design. With more than 5000 installations, Tim is proving it every day, with unprecedented flexibility, accuracy and speed. For Biograph mMR, we've optimized the design and incorporated low attenuation materials into the Tim's mMR coils to minimize attenuation of the PET signals. The result is outstanding 3T MRI performance and high resolution PET exams.



two is now one.

One exam. One room. One whole-body solution. Only Siemens can bring it all together. For shorter exams. Easier scheduling. And faster results.



two is now one.

With Biograph mMR, efficiency soars. Work simply flows. And everyone enjoys the benefits of shorter, more comprehensive exams.

In a standard MR time slot, Biograph mMR simultaneously captures all of the MR and PET data you need to produce exceptional clinical images. By performing two exams at once — rather than sequential MR and PET exams — you can shorten acquisition times by up to 50%. And get everything done in one time slot versus two. Not only does this boost workflow, it can reduce costs, lead to faster diagnoses and ensure patient satisfaction.

Patients and technologists alike are more comfortable with Biograph mMR:

- Position once for both MR and PET exams
- No coil changing or repositioning, thanks to Tim
- Reduced radiation exposure to technologist
- And, significantly lower ionizing radiation dose for all patients, including pediatric compared to PET·CT.

A single exam means happier patients. Now there's no need for patients to schedule multiple visits, or to get on and off the table between exams. With Biograph mMR, you can perform a single, simultaneous exam without changing coils or repositioning the patient on the table. This can significantly reduce patient stress which is crucial in pediatrics or when performing procedures that require sedation.

One streamlined exam boosts productivity. No more sequential exams. No more switching systems. No more transporting patients between exam rooms. With Biograph mMR, you can acquire complete MR and PET data in less than half the time it takes to perform separate, consecutive MR and PET exams. For dramatic improvements in efficiency, productivity and staff satisfaction. Not to mention faster results for referring physicians.

two is now one.

It’s not just about clinical efficiencies. Siting one system instead of two presents significant business benefits as well. Allowing you to significantly reduce costs while making the most of the precious space in your facility.

The same size as a typical MR scanner, the Biograph mMR system requires an installation space similar to a conventional 3T MRI system. The ability to perform MR and PET with a single scanner virtually eliminates the siting and operational costs of a second system, while offering the potential for shorter exams and more patients per day.

- One room for MR and PET
- One cooling system
- One operator

syngo®.via, the revolutionary imaging software.

***syngo*.via* creates an exciting experience in efficiency and ease of use—anywhere**. It allows you to review and share images between departments and throughout your hospital network for more efficient, successful collaboration.**

syngo.via is the one image management and reading solution for all modalities. It enables you to view, share and manage your Biograph mMR images with ease. With our *syngo*.via advanced visualization software application (*syngo*.mMR General), your cases are automatically organized and registered. With step-by-step insightful guidance you can fuse images easily according to your needs and optimize collaboration with a centralized Findings Navigator for all readers. *syngo*.via also gives you the ability to work in a completely networked way—giving you access to image results anywhere within the hospital and beyond.

* *syngo*.via can be used as a standalone device or together with a variety of *syngo*.via-based software options which are medical devices in their own rights.

** Prerequisite include: Internet connection to clinical network, DICOM compliance, meeting of minimum hardware requirements and adherence to local data security regulations.

potential is now reality.

The arrival of simultaneous, whole-body MR and PET creates a synergy far beyond the capabilities of each. One that will unlock new medical applications now, and advance new areas of research in the future.

The future is wide open. Biograph mMR gives you the ability to meet the needs of demanding high-end research. While exploring the boundaries of exciting — and important — clinical applications. Biograph mMR is designed to support you in all aspects of MR and PET development. Including simultaneous acquisition of PET tracers with the additional morphologic, physiologic and metabolic understanding provided by MR.

Ultimately, the advent of true simultaneous molecular MR changes the playing field and can put you at the very frontier of medical diagnostics and research. Offering new opportunities in the areas of funding, grants, donations, and publishing. Attracting the attention of referring physicians as well as the most highly talented staff. Differentiating your facility in a powerful way.

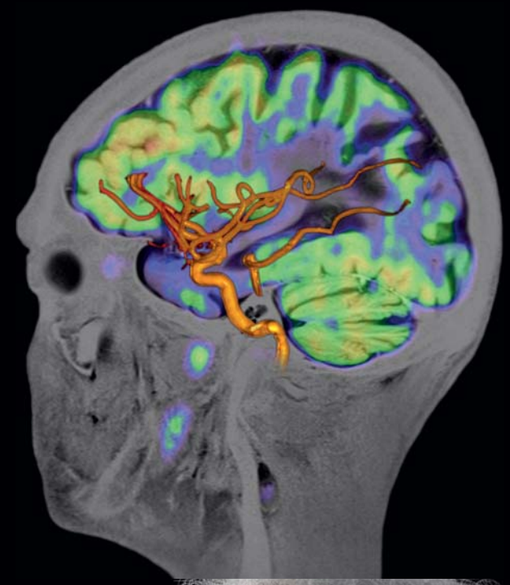
potential is now reality.

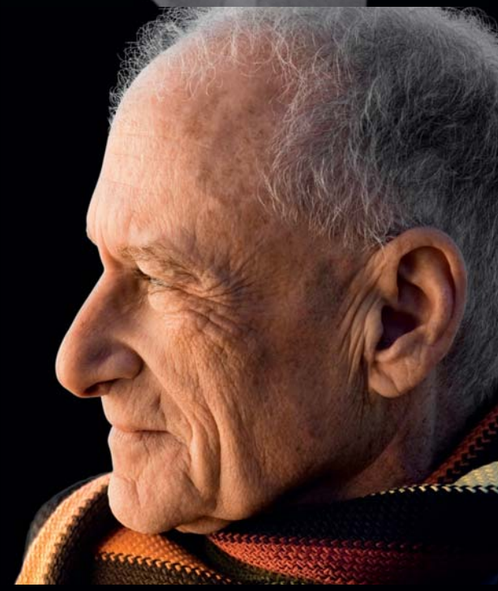
Expand into new areas of clinical research.

Biograph mMR provides unique technology to help you tackle the toughest challenges facing the world of healthcare today while setting the stage for the way disease is managed tomorrow.

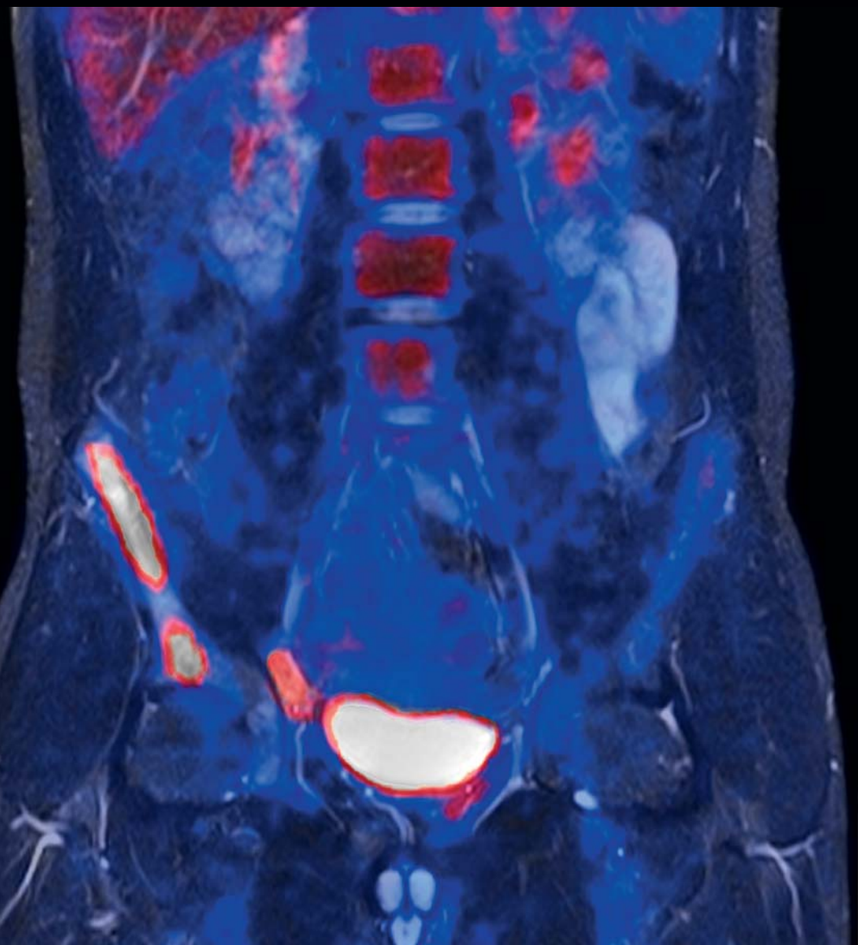
Pediatric Oncology. Minimizing radiation dose is especially critical for pediatric patients. Since there is no radiation dose from MR, the overall dose of a Biograph mMR exam is much lower than with PET-CT.

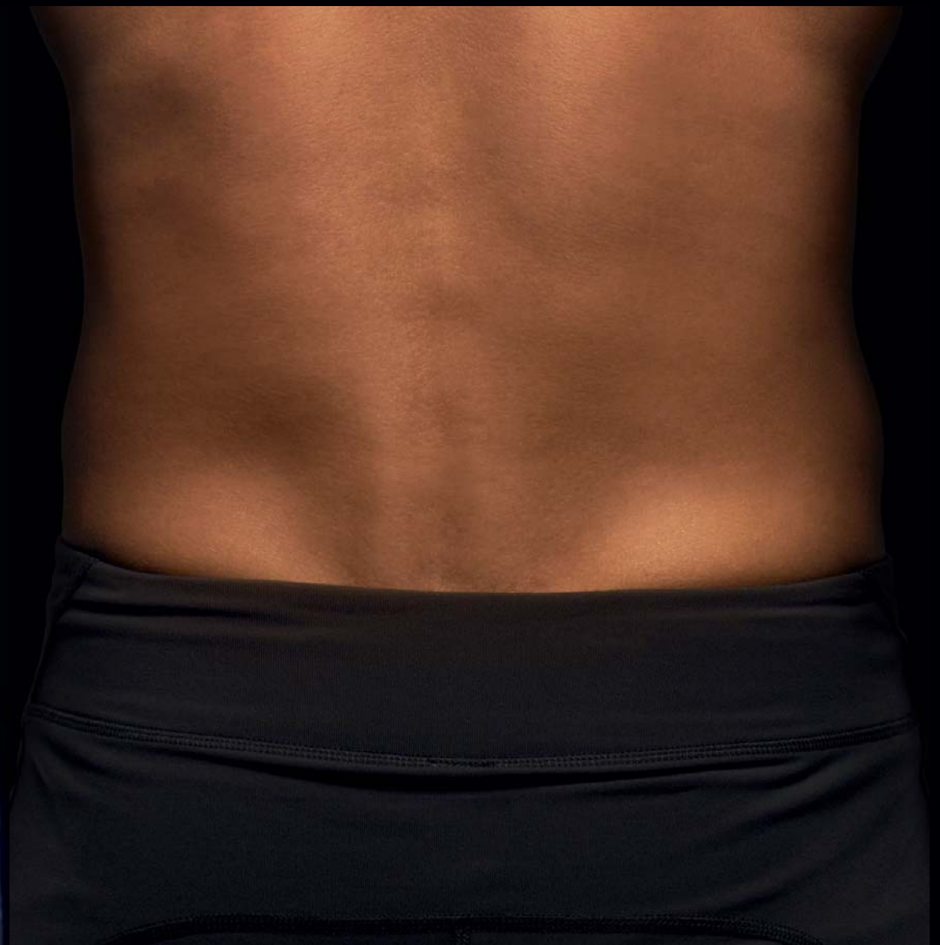
Neurology. The benefits of MR and PET in the study of neurologic diseases are widely implemented. Bringing them together offers the potential for a more complete imaging picture and better understanding of neurologic pathologies.





Staging. MR and PET come together to support tumor staging. In this example, high resolution MR provides a clear image of the pathology within the pelvic structure while PET displays well the hypermetabolism component of the lesion.





Molecular MR supports our joint vision for healthcare — to advance the management of disease and improve care for all patients. Biograph mMR represents a bold move forward in making this vision a reality. The future is now truly wide open. At this singular point in time, there's only one question to ask:

What will you do first?