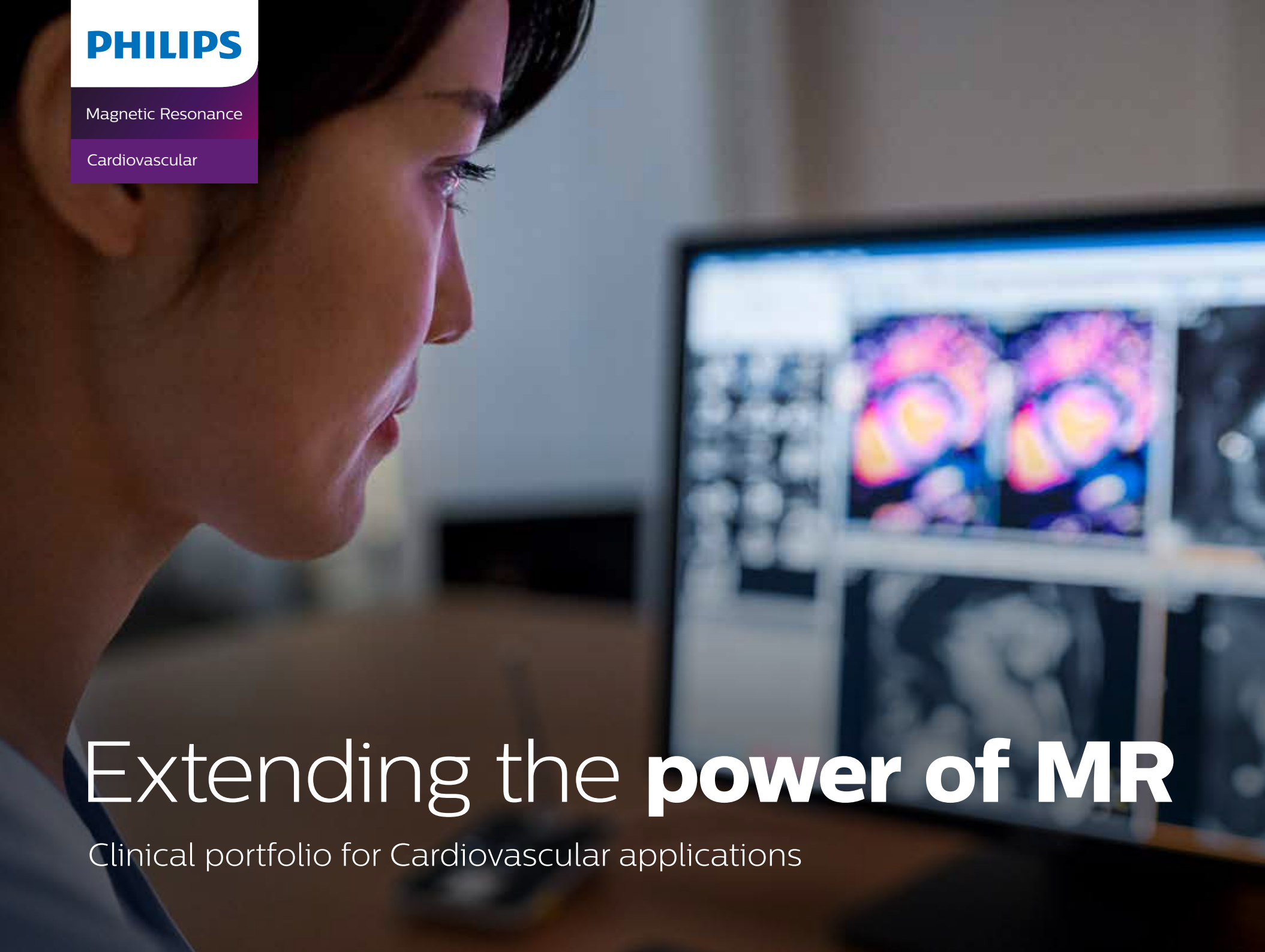
PHILIPS

Magnetic Resonance

Cardiovascular



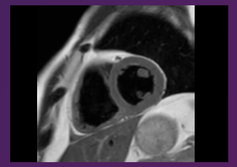
Extending the **power of MR**

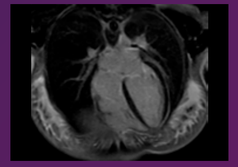
Clinical portfolio for Cardiovascular applications

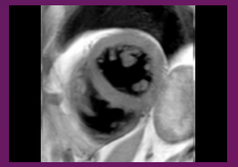
Our **Cardiovascular** applications

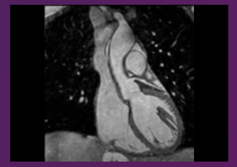
Cardiac imaging is a dynamic, fast-moving field. Philips provides solutions to help you keep pace with trends, including support for image analysis and direct quantification. Our clinical applications support fast, robust cardiac imaging and visualization, helping you make an informed diagnosis. This advanced toolset lets you make MR personalized and definitive through quantitative results.

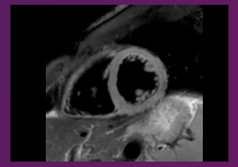
Philips MR clinical applications for vascular exams deliver robust and fast insights into intricate vascular structures. High spatial and temporal resolution helps you clearly visualize the information you need to help make diagnostic and treatment decisions.

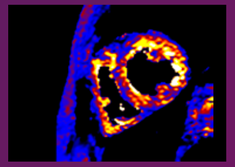


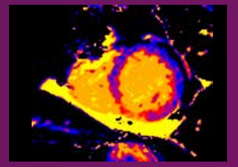


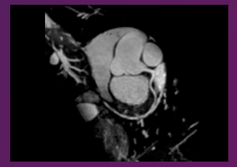


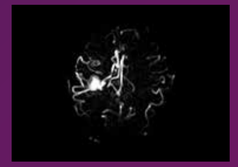


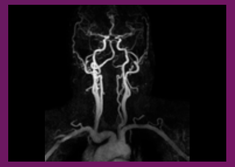


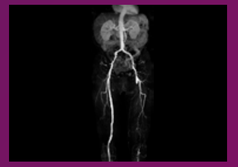






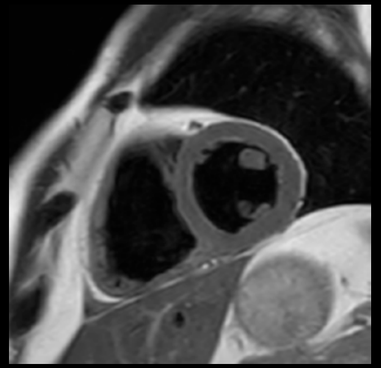




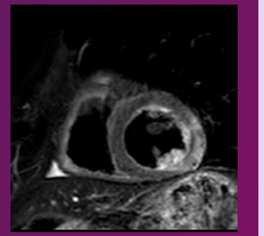


Compressed SENSE Cardiac

Speed done right, every time



To meet the increased demand for productivity, a technology break-through in acceleration is required. Leveraging our long standing leadership position in speed (i.e. SENSE), Philips brings a breakthrough in productivity. Compressed SENSE is about accelerating full patient examinations to empower your staff to focus where it matters the most, enhanced patient care. This new paradigm in productivity is available for Cardiac imaging, for all anatomical contrasts, and not only 3D scans but also 2D scans are significantly faster (up to 50%).[1]



Fast 2D Cardiac imaging with a short breath hold

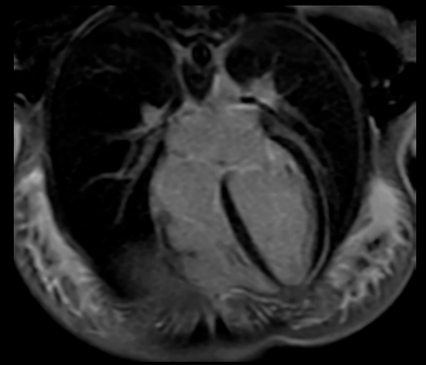
Additional information:

- Available for multiple cartesian scan techniques like FFE, SE, TFE and TSE.
- Available for all anatomical contrasts (e.g. T1, T2, PD, FLAIR, DIR, fat sat).
- A break-through acceleration technique speeding up not only sequences but your entire exam.
- Unique implementation enabling 2D and 3D scans to be up to 50% faster with virtually equivalent image quality[1].

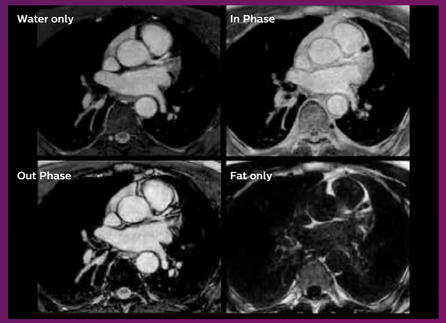
1 Compared to scans without Philips Compressed SENSE

mDIXON XD FFE

Fat-free cardiac imaging



mDIXON XD FFE improves your fat-free imaging for high resolution scans and provides more efficient dynamic scans. With up to four image types in one single scan, including with or without fat suppression contrasts, mDIXON XD FFE will enable you to enhance your imaging strategies by simplifying your cardiac dynamic FFE procedures.

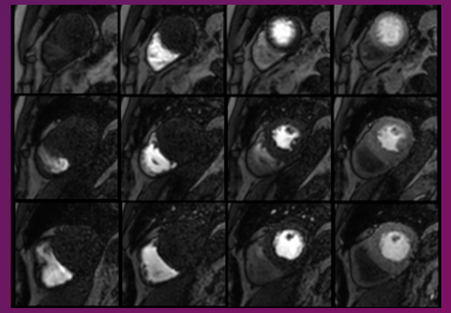


Acquire up to four image types in one single scan

Cardiac Expert

Expand your cardiac MR functionality

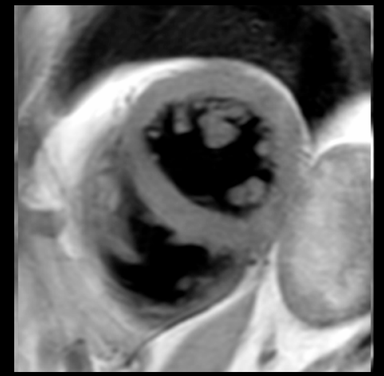
Cardiac Expert supports the acquisition of multi-slice, dynamic tissue studies with T1 weighting and uniform tissue suppression[1] by including Look Locker methods for determining an optimal inversion delay time. Cardiac Expert also provides myocardial tagging[2] to allow assessment of regional wall motion and allows for real-time interactive planning of challenging cardiac views.



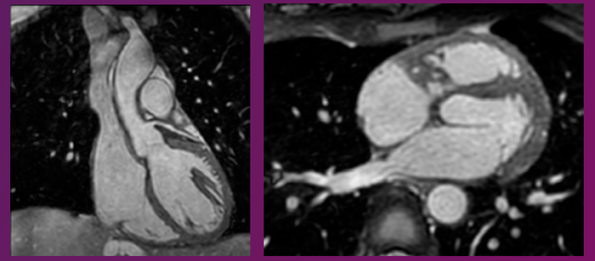
1 With a (B1 insensitive) saturation pre-pulse
2 By means of REST grids

Cardiac Expert extension

Fast CMR methods for anatomy, function and more



Cardiac Expert extension is an add-on to the comprehensive Cardiac Expert option. It provides additional techniques for fast black blood imaging, functional imaging and dynamic cardiac MR studies. Cardiac Zoom is a small FOV imaging technique that accelerates black blood TSE of the heart and great vessels. It decreases the required breath hold duration by up to 30% without changing spatial resolution by enabling single beat (shot)imaging, which is challenging for conventional (multi-beat) imaging approaches[1]. 3D Non-selective delivers 3D bFFE with reduced banding artifacts compared to Philips 3D Selective 3D FFE imaging. Retrospective EPI combines retrospective triggering with EPI sampling. kt-SENSE is a spatio-temporal acceleration technique that offers all the benefits of k-t BLAST in addition to enhanced image uniformity[2].

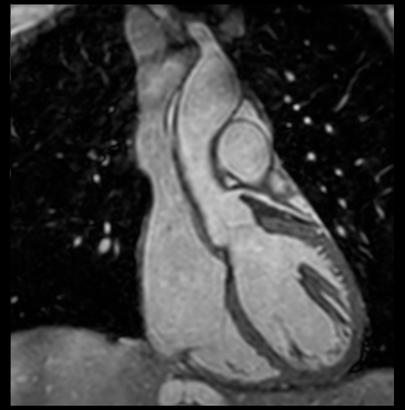


3D Non-selective bFFE in cardiac applications

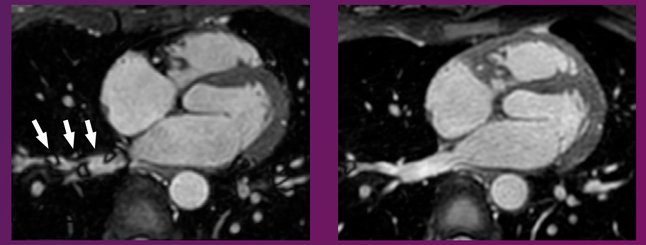
1 Compared to conventional Philips black blood imaging
2 Compared to regular k-t BLAST

3D Non-selective

Fast and robust large volume 3D FFE imaging



3D Non-selective enables faster and more robust large volume 3D FFE imaging in cardiac applications, compared to previous imaging methods. Thanks to shorter TR and TE, 3D Non-selective delivers a 9% faster protocol and 3D bFFE with reduced banding artifacts, compared to 3D selective imaging.

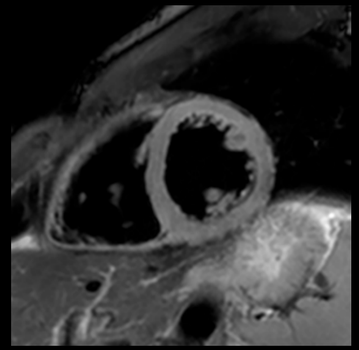


3D bFFE selective (left) versus non-selective (right)

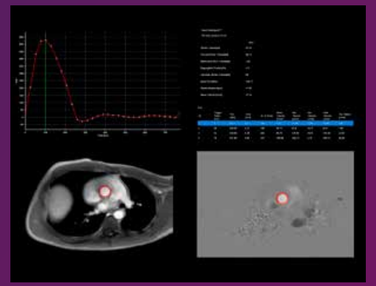
1 Compared to Philips 3D Selective 3D FFE imaging

Cardiac MS/QF

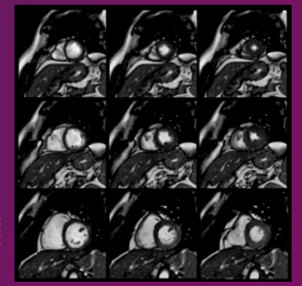
Elevate your cardiac imaging to clinical routine level



Cardiac MS/QF adds multi-slice capability to your multi-phase cine acquisitions, and supports myocardial tissue characterization by allowing for black blood imaging. Cardiac MS/QF also allows for non-invasive measurements of blood flow by including display of color-encoded flow maps.

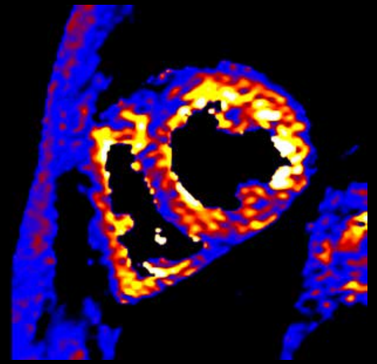


Non-invasive measurements of blood flow

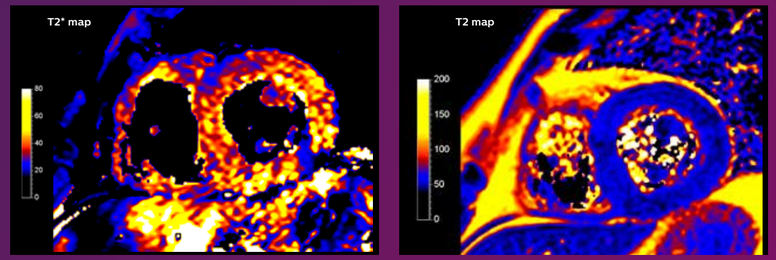


StarQuant

Non-invasive T2* and T2 assessment of myocardial tissue



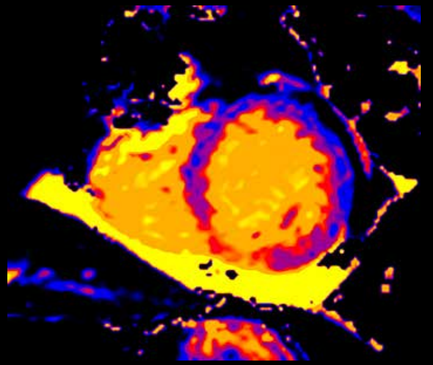
With StarQuant you get access to exciting new applications for cardiology, which can help in the non-invasive assessment of myocardial tissue characteristics by providing you with comprehensive graphs and pixel-based, quantitative T2/R2 and T2*/R2* maps in a single breathhold scan helping you to make early decisions for therapy.



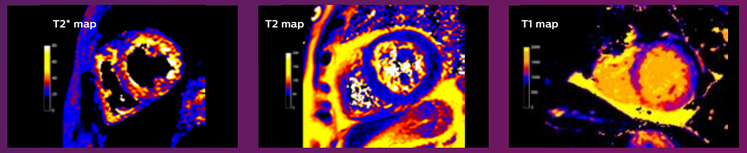
Quantitative T2* and T2 maps in a single breathhold scan

CardiacQuant

Non-invasive T2*, T2 and T1 assessment of myocardial tissue



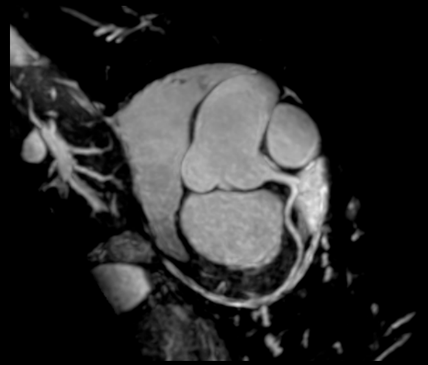
With CardiacQuant you get access to exciting new applications for cardiology, which can help in the non-invasive assessment of myocardial tissue characteristics by providing you with comprehensive graphs and pixel-based, quantitative information in different regions of the myocardium helping you to make early decisions for therapy.



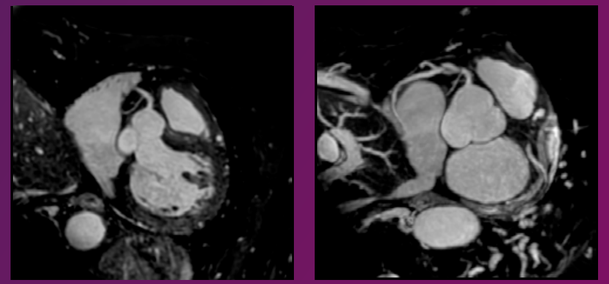
Quantitative T2*, T2 and T1 maps in a single breathhold scan

Coronary Acquisition

Perform non-invasive imaging of coronary arteries



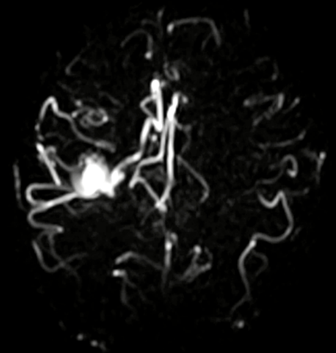
Coronary Acquisition allows for non-invasive imaging of coronary arteries by displaying good contrast between myocardium and vessels by deploying 3D sequences combined with MotionTrak respiratory navigators for real-time motion correction and T2-preparation.



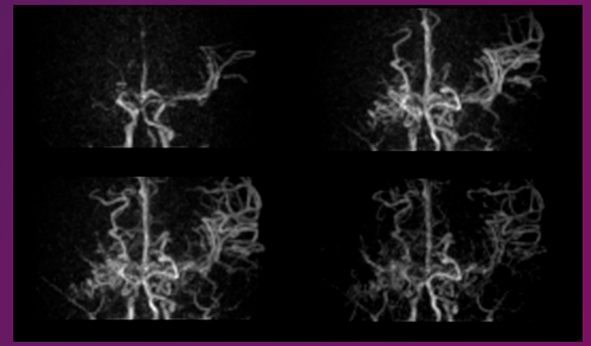
Non-invasive imaging of coronary arteries

4D-TRANCE

Contrast-free imaging of brain vascular anatomy



4D-TRANCE is a time-resolved technique for non-contrast angiography, promoting patient comfort and enabling you to evaluate the patency of the vascular anatomy in the brain using endogenous contrast with MIP visualization of multiple phases. 4D-TRANCE enables high temporal resolution down to 160 msec.

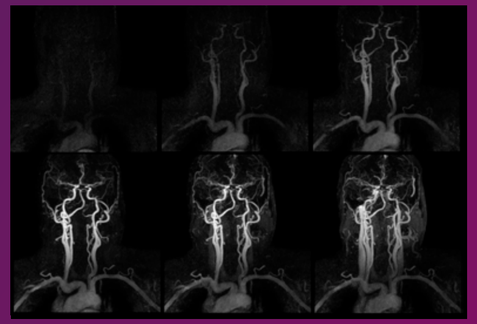


Non-contrast time-resolved angiography of the brain

4D-TRAK XD

Flexibility in your MR Angiography studies

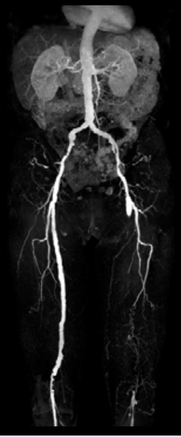
4D-TRAK XD provides a fast, dynamic contrast-enhanced MR Angiography method with flexible sampling of both the arterial- and venous phase, by applying view sharing technique, enabling high spatial and temporal resolution simultaneously.



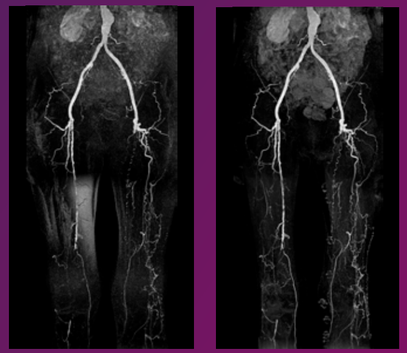
Fast, dynamic contrast-enhanced MR Angiography

mDIXON XD MultiStation

Non-subtraction peripheral MR Angiography



mDIXON XD MultiStation allows you to perform peripheral MR Angiography with improved vessel-to-background contrast in only one single pass1. You will be able to perform your peripheral MR Angiography acquisitions without the use of a subtraction mask, eliminating artifacts that could arise from misalignment, due to patient motion, between the pre and post contrast scan. Enjoy fast, robust peripheral MR Angiography.



MR Angiography with subtraction (left) and in one single pass (right) with improved vessel-to-background contrast

Additional information:

- Subtraction-less peripheral MR Angiography
- Improved vessel-tobackground contrast by 30-36%[1]

1 As opposed to standard MRA technology relying on the subtraction of a pre and post contrast scan.

Clinical package **overview**

	ScanTools Pro	dS Performance Suite Plus	dS Performance Suite Premium	dS Cardiac Suite Pro	dS Cardiac Suite Premium	dS Vascular Suite	A la Carte
Compressed SENSE			•				
mDIXON XD FFE		•					
Cardiac Expert				•			
Cardiac Expert extension							•
3D Non-selective							•
Cardiac MS/QF	•						
StarQuant							•
CardiacQuant				•			
Coronary Acquisition					•		
4D-TRANCE						•	
4D-TRAK XD						•	
mDIXON XD MultiStation						•	

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