



Beyond the Bore

June 2007

News about Philips Panorama High Field Open

Panorama HFO builds patient volume for OHSU's growing cardiac program

With a robust radiology department that already included two 3.0T MR scanners and two 1.5T MR scanners, Oregon Health & Science University (OHSU) added a Philips Panorama HFO in November 2006 to expand its imaging capabilities and to help increase its patient volume. Many of OHSU's 22 radiologists are sub-specialized, offering anatomy-specific expertise that is not available at most competing imaging centers. One area of specialty where the Panorama HFO is adding value is the university's growing cardiac imaging program.



Craig Broberg, M.D., cardiologist, OHSU

is less than half that at 1.5T. This allows the use of higher duty cycle scans as well as larger RF flip angles in balanced gradient echo imaging, resulting in improved blood pool signal within the heart."

Dr. Broberg goes on to explain some of the features that make MR an excellent complement to other imaging

modalities already used in cardiology. "MR gives you the ability to see right through the chest, so you can identify every structure, whereas modalities such as ultrasound and echocardiography can sometimes be limited in that respect," he continues. "With MR, we can measure flow, with other modalities we can only estimate flow. We can differentiate tissues – for example, fat or nonviable myocardium from normal muscle – which we cannot do with any other technique. And, unlike 1.5T and 3.0T, the issue of SAR (specific absorption rate) is essentially non-existent on the Panorama HFO."

For pregnant cardiac patients, the Panorama HFO's wide-open aperture provides the advantage of positioning a patient supine in the magnet. Plus, the low SAR is important because clinicians cannot monitor fetus temperature during an

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"By virtue of operating at 1.0 Tesla, both motion and phase artifacts are substantially reduced in cardiac images relative to higher field strengths."

Excelling in cardiac MR

According to Craig Broberg, M.D., cardiologist at OHSU, the Panorama HFO offers additional flexibility and benefits due to its open aperture and high field strength. The scanner allows radiologists and cardiologists to scan patients faster without compromising image quality.

"By virtue of operating at 1.0 Tesla, both motion and phase artifacts are substantially reduced in cardiac images relative to higher field strengths," Dr. Broberg says. "Additionally, the amount of RF power required with the Panorama HFO





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exam. These same features benefit pediatric cardiac patients. A parent or caretaker can be in the scanner or next to it to comfort the infant or child and observe how they are reacting.

More convenient stress testing

Michael Jerosch-Herold, Ph.D., associate professor, OHSU Advanced Imaging Research Center, adds that the open aperture of the Panorama HFO offers the ability to more easily conduct stress tests. Since there are potential side effects and risks associated with cardiac stress tests, interaction with the patient is essential. "Monitoring a patient in a tube is not as easy as monitoring a patient in a Panorama open system," says Dr. Jerosch-Herold.

He also notes that the Panorama HFO's lower field strength relative to OHSU's other scanners is beneficial for scanning patients with implants.

Panorama HFO expands scanning opportunities

Dr. Broberg comments that previously the site had to turn away approximately 10 percent of patients because of claustrophobia or their inability to fit into a cylindrical system. With the large aperture of the Panorama HFO, the center now is able to cater to pediatric, claustrophobic and generous-sized patients.

"Monitoring a patient in a tube is not as easy as monitoring a patient in a Panorama open system."

"We had one patient who we tried to study on the 1.5T scanner who just wouldn't get in it because of severe claustrophobia, despite being offered sedation," says Dr. Broberg. "We had her come back to be scanned in the Panorama and she did fine with no anxiolytics at all. We completed the scan without sedation and got impressive images."

Rising patient volume and referrals

Located in a separate clinic that offers convenient access and parking, the Panorama HFO has attracted a significant number of patients. In addition to cardiac procedures, it is being used for spine, neuro and other scans. "The overall response from patients to the Panorama has been phenomenally positive, leading to increasing referrals and higher patient volume," says Erwin Schwarz, director of diagnostic imaging at OHSU.



Michael Jerosch-Herold, Ph.D., associate professor, OHSU Advanced Imaging Research Center (left) and Erwin Schwarz, director of diagnostic imaging, OHSU

Beyond clinical applications, OHSU plans to use the Panorama HFO to help build its research program. "There may be areas where the 1.0T will open new possibilities. One could be pulmonary imaging. We have done some lung imaging at 3.0T and in the future I could see exploring that more," concludes Dr. Jerosch-Herold.

Road Show features



Philips MR Road Show - Indianapolis, Indiana, USA

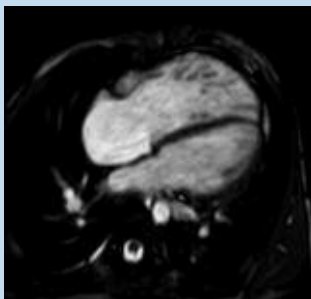
Panorama HFO

Simplicity in MR will be on display as the 2007 Philips MR Road Show travels across the United States. Providing a forum for Panorama HFO owners and MR professionals to share best practices, the event will include addresses from some of the nation's top clinical speakers about the latest advancements in MR. In addition, a 9-minute video featuring Desert Medical Imaging (Palm Springs, California, USA) will highlight how one Ambassador site has used the Panorama HFO to increase its imaging capability in a demanding market. The road show will be stopping at 11 U.S. cities. For more information or to register online, visit <http://www.medical.philips.com/goto/mroadshow>.

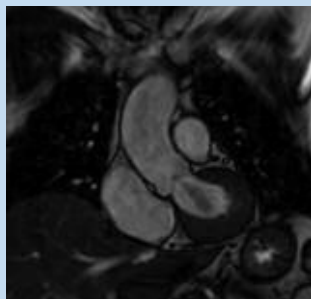
CLINICAL CASE Study

The Panorama HFO allows “Beyond-the-Bore” exams that are either not possible in cylindrical scanners or extremely difficult, enabling you to offer a wider range of services to referring physicians. The clinical case study in this issue highlights the Panorama HFO’s capability to excel in cardiac imaging.

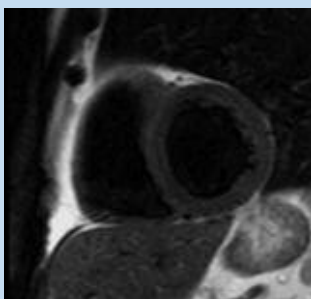
Apart from providing optimum tissue contrast, the one Tesla field strength of the Panorama HFO also leads to far less pronounced susceptibility effects, thereby enabling excellent results in high-resolution cardiac cine imaging. Philips unique technique of the VCG enables simple, reliable ECG triggering and gating.



14-year-old child, B-TFE 4CH view using VCG, scan time 13 sec.



B-TFE coronal view using VCG, scan time 13 sec.



T2W TSE Black Blood imaging, scan time 16 sec.



B-TFE SA view using VCG, scan time 13 sec.

Images courtesy of: OHSU, Portland, Oregon, USA
NEWisconsin MRI, Green Bay, Wisconsin, USA



Access Diagnostics Imaging Center, Sarasota, Florida, USA

Orthopedic specialist praises Panorma HFO image quality

Michael Thorpe, M.D., medical director of Radiology, Doctors Hospital (Miami, Florida, USA) specializes in interpreting scans for musculoskeletal cases. Analyzing over 10,000 MRI cases each year, Dr. Thorpe's expertise is sought by more than 10 MRI centers across the state.

A Panorama Ambassador site, Access Diagnostics Imaging Center (Sarasota, Florida, USA) prides itself on providing outstanding service, exceptional images and timely, accurate interpretations. Stephen Miley, M.D., managing director, consults with Dr. Thorpe on orthopedic exams conducted at the center. Impressed by the image quality of scans performed on the Panorama HFO in comparison to cylindrical systems, Dr. Thorpe wrote a complimentary letter to Dr. Miley.

“I can honestly say that the Philips HFO open unit consistently produces some of the best orthopedic exams when compared with all the other centers I read for. The resolution of the images is definitely equal to or better than the other high field units, including the 3.0T magnets,” says Dr. Thorpe.

Dr. Thorpe explains that since the Panorama HFO can run the same pulse sequences as other Philips 1.5T and 3.0T scanners, it can achieve comparable high field quality orthopedic sets of images. In the past, performing orthopedic exams on an open system provided sub-optimal results, because the scanners were low field.

Dr. Thorpe was so impressed with the image quality of the Panorama HFO that he recommended it to a large group of neurologists in the Miami area.

PANORAMA HFO News

Kudos for Beyond the Bore

Beyond the Bore recently received an Excellence Award in the external newsletter category from the Business Marketing Association (BMA). Out of 425 entries, only 78 were chosen to receive an Excellence Award. Each year, the Milwaukee, Wisconsin (USA) chapter of the BMA recognizes outstanding business communications with its awards.

New Pediatric Package available for Panorama HFO



Philips has added a new pediatric package for the Panorama HFO that includes several accessories. For infants from birth to 1 year old, a cradle enables the child to be prepared outside of the magnet room. The child in the cradle can then be placed on the FastTrak patient table and positioned in the RF coil. For use in brain, spine, body, cardiac and hip imaging, the cradle is compatible with Panorama systems with the following ST coils: ST Sense Head; ST Multi Purpose Flex L; ST Multi Purpose Flex M and ST Multi Purpose Flex S.

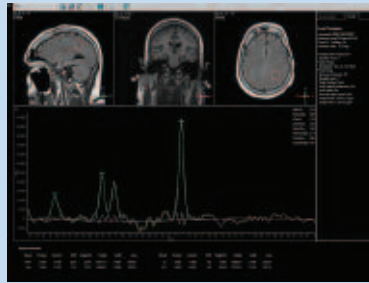


For children aged 1 to 5, a soft mattress is now available. Designed to bring the child into the isocenter of the scanner, the mattress can be used in combination with the ST Body/Spine M coil for thoracic, abdominal, pelvic, cardiac and hip imaging.

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In addition, a peripheral pulse sensor is offered with three different sizes for pediatric patients. Plugged into the FastTrak patient table, sensors can be positioned on the finger, toe or foot.

Panorama HFO enables spectroscopy for obese and claustrophobic patients



Single voxel spectrum of a 450 lb. (205 kg.) patient from the Panorama HFO (TR/TE = 2000/144 msec). The patient would not fit in the neighboring hospital's cylindrical 1.5T MR system.

The FreeWave backbone of the Panorama HFO allows it to perform studies previously reserved for 1.5T and higher magnetic field strengths. Recently, work was presented at the International Society of Magnetic Resonance in Medicine meeting in Berlin (Germany) showing that MR Spectroscopy can be performed on claustrophobic and obese patients using the Panorama HFO. The work, performed at Nevada Imaging Centers in Las Vegas, Nevada (USA) under the direction of William W. Orrison, M.D., and Philips clinical scientist Tom Perkins, Ph.D., was a pilot study to investigate the ability to collect brain MR spectra of MR challenged patients with the Panorama HFO. As part of this study a single voxel spectrum was acquired on a 450 lb. patient who had been referred by a local hospital because the patient would not fit in its cylindrical 1.5T MR system. The data obtained showed excellent spectral quality.

The Panorama HFO provides the full armament of MR diagnostic capabilities to address the clinical imaging needs of patients up to 550 lbs. (250kg.).



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Philips Medical Systems is part of Royal Philips Electronics

www.medical.philips.com
medical@philips.com
tel: +31 40 27 87246

Philips Medical Systems
22100 Bothell-Everett Highway
Bothell, WA 98021-8431
tel: 1-800-229-6417