

GE Healthcare

Revolution EVO

More than just high tech.
Higher purpose.





Today's healthcare environment is about creating new solutions to pressing needs. It's about understanding how one CT exam can improve patient outcomes while lowering the cost of providing care

Simple and fast, CT is arguably the most valuable diagnostic imaging tool. Yet its capacity to improve the health of the world is far from tapped.

The Revolution™ family of CT scanners helps you redefine what's possible with CT. Designed with your needs in mind, each Revolution product in the family is designed to deliver four key benefits: diagnostic confidence, patient care, financial performance and clinical excellence.

All revolutions start somewhere. Our revolution began with the Revolution CT system—designed from the ground up for pioneering the future of CT.

The revolution family has since grown to include Revolution EVO, a CT system that helps you easily expand your capabilities as your needs evolve.





Revolution EVO. Designed with purpose.

Revolution EVO is designed with the purpose of operating in the reality of now, while anticipating the challenges of tomorrow.

It's designed to support the widest variety of patients and applications, from complex trauma or cardiac cases, to large patient backlogs in busy emergency departments that strain workflows and resources.

The design of Revolution EVO is made for institutions that are unable to sacrifice advanced capabilities such as high resolution for daily productivity. It is well suited for those who need to provide the lowest dose possible. And it provides options to expand your referral physician base and the services you provide to your community.

Revolution EVO is designed for you.



Benefits

“I need high resolution.”

Experience and intuition alone aren't enough to help you make the difficult decisions you face daily. In your world seeing is a big part of solving. For the greatest diagnostic confidence, you need a CT that provides even greater degrees of resolution, clarity and definition.

Revolution EVO is designed to provide the high-resolution, low-dose images and answers that increase your confidence—even when performing advanced procedures. It helps you stay on top of today's standard of care.

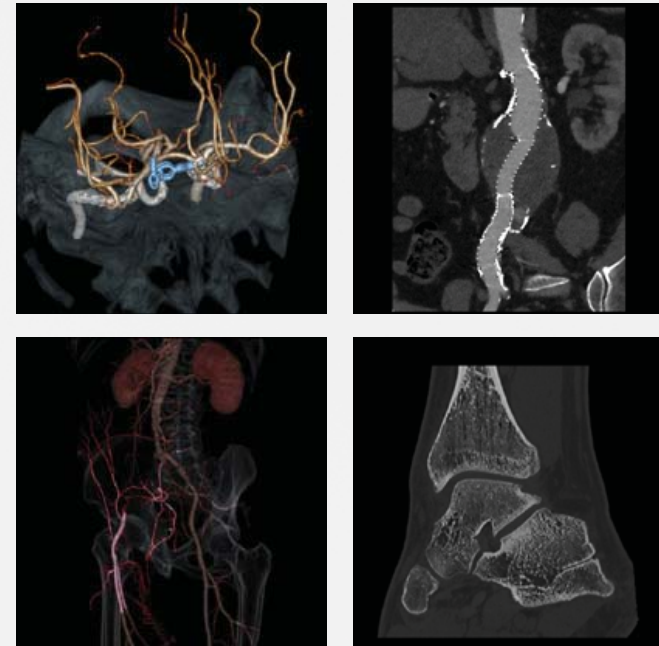
0.28 mm

Increase in spatial resolution

Clarity Imaging System Available with ASiR-V™ (ASiR™) advanced reconstruction

Helping you make a confident diagnosis is our mission, and image clarity is a big part of that. Revolution EVO gives you the image clarity you need to see fine anatomical details, providing a pathway to a quick, confident diagnosis. And with the available ASiR-V (ASiR) option, Revolution EVO also improves your ability to visualize with up to 135% (25%) improvement in low-contrast detectability.¹ Delivering vastly improved image quality across the entire body enables you to broaden your clinical applications and potentially improve treatment paths for diverse patient needs.

Revolution EVO delivers high spatial resolution thanks to its redesigned Clarity Imaging System. It features the Performix™ 40 Plus tube with ultra-stable dual focal spots, the GE-proprietary HiLight detector, and the low-noise Clarity data acquisition system inherited from our Revolution CT.



¹Low contrast detectability (LCD), image noise, spatial resolution and artifact were assessed using reference factory protocols comparing ASiR-V (ASiR) and FBP. The LCD measured in 0.625-mm slices and tested for both head and body modes using the MITA CT IQ Phantom (CCT183, The Phantom Laboratory), using model observer method.

“I need to make low dose routine.”

Diagnostic images at the right dose add up to great care. That’s why it’s essential for you to limit your patients’ radiation exposure to just what’s necessary. To do that, you need a CT that makes it easier for you to lower radiation dose without making it harder to make the right diagnosis.

Revolution EVO delivers several dose-lowering capabilities. Our innovative ASiR-V (ASiR) iterative reconstruction method is designed to reduce noise levels, improve low-contrast detectability and reduce dose by up to 82% (40%) in routine imaging for all exams and all patients.¹

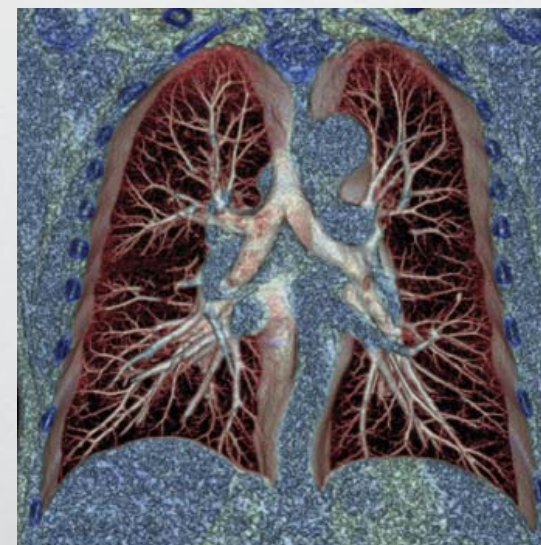
In addition, a comprehensive collection of Smart Dose technologies helps you monitor, measure and manage your dose delivery and select the optimum parameters for low dose and diagnostic images.

¹Image quality as defined by low contrast detectability. In clinical practice, the use of ASiR-V (ASiR) may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task. Low Contrast Detectability (LCD), Image Noise, Spatial Resolution and Artifact were assessed using reference factory protocols comparing ASiR-V (ASiR) and FBP. The LCD measured in 0.625mm slices and tested for both head and body modes using the MITA CT IQ Phantom (CCT183, The Phantom Laboratory), using model observer method.



Up to 82% (40%) reduced dose.

In routine imaging, ASiR-V (ASiR) has been shown to reduce dose by up to 82% (40%) compared to standard FBP reconstruction at the same image quality.²



Ultra-low dose chest exam, reconstructed using ASiR.

¹ASiR-V (ASiR) is an option on some configurations.

²Image quality as defined by low contrast detectability. In clinical practice, the use of ASiR-V (ASiR) may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task. Low Contrast Detectability (LCD), Image Noise, Spatial Resolution and Artifact were assessed using reference factory protocols comparing ASiR-V (ASiR) and FBP. The LCD measured in 0.625mm mm slices and tested for both head and body modes using the MITA CT IQ Phantom (CCT183, The Phantom Laboratory), using model observer method.



“I need to help more patients.”

Leading a radiology department isn't easy, especially these days. You want to help your patients, the community and your institution. As new clinical and financial models evolve in healthcare, you need a CT that can help you attract new referring physicians, and grow the services you offer and the patients you serve.

Revolution EVO is designed to help you compete in your market by helping to manage the health of your patient population today with precision, efficiency and the right dose. ASiR-V (ASiR) low-dose capabilities make it ideal for pediatric scans, oncology and chronic disease follow-up. At the same time, Revolution EVO gives you the flexibility to expand your services to the fastest growing procedures like advanced coronary CCTA and TAVI planning.

Lung cancer screening

Low-dose CT lung cancer screening reduces lung cancer deaths by 20% in high-risk patients.¹

We're proud to be the first CT manufacturer with an indication for low-dose CT lung cancer screening.^{2,3} Using qualified GE CT scanners and our new low-dose CT lung cancer screening protocols, you can increase early detection in high-risk patients and help prevent a substantial number of lung cancer related deaths.⁴

GE low-dose CT lung cancer screening protocols are tailored to the CT system, patient size and the most current recommendations from a wide range of professional medical and governmental organizations.

Implementing a low-dose CT lung cancer screening program gives you the ability to change lives in your patient community but also has the potential to dramatically increase the demands of your radiology department and beyond. Ask us how we can help.

¹The National Lung Screening Trial Research Team. Reduced Lung-Cancer Mortality with Low-Dose Computed Tomographic Screening. *N Engl J Med* 2011; 365:395-409.

²See gehealthcare.com/lungscreening for a complete list of qualified GE CT scanners and indications for use.

³Not yet CE marked. For countries that require CE marking, this product cannot be placed on the market or put into service until made to comply with the Medical Device Directive requirements for CE marking. Not available for sale in all regions.

⁴Moyer V. Screening for Lung Cancer: U.S. Preventive Services Task Force Recommendation Statement. *Ann Intern Med.* 2014; 160:330-338.

“I need to accomplish more in my day.”

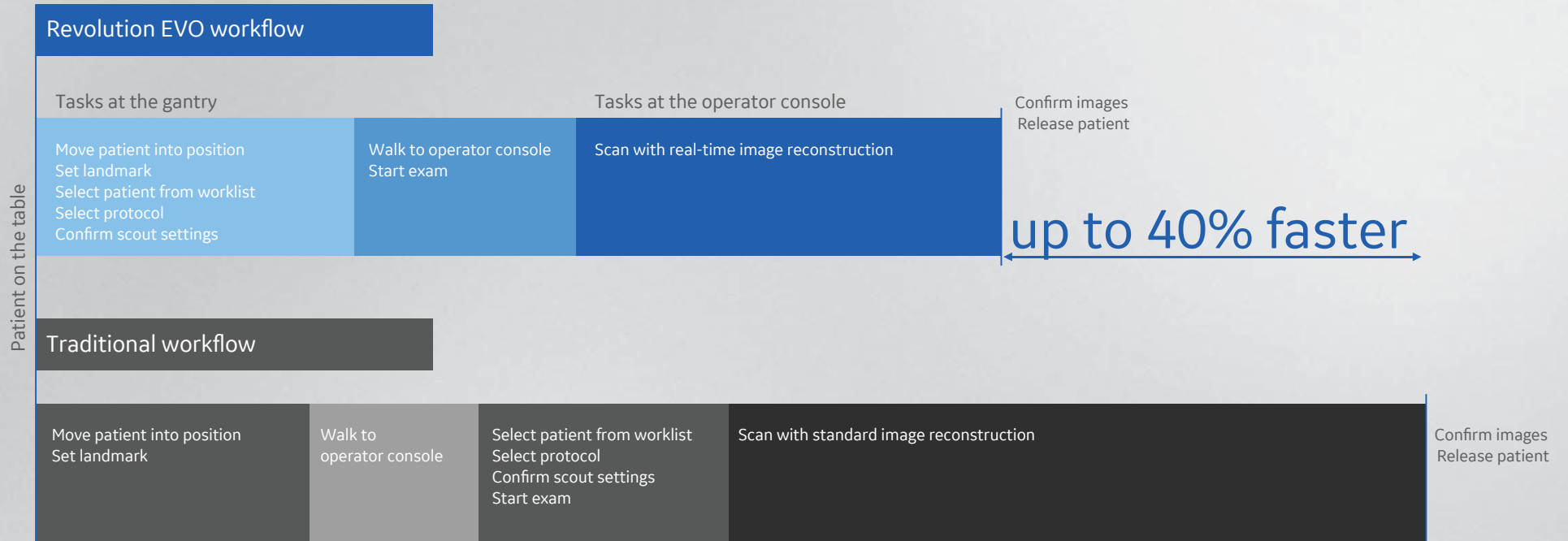
The only thing you can predict for sure about your workday is how unpredictable it will be. Unanticipated complex exams, large numbers of emergency department exams, add-on patients and patients who arrive late all put pressure on you to get more done in your day.

You need a CT that provides the best images and helps you and your staff get through the chaos calmly and efficiently. Revolution EVO is designed to help you manage unpredictable patient loads and unexpected exam demands—quickly and compassionately.

Revolution EVO features the latest in Smart Flow technologies designed to help you improve productivity by streamlining user workflow and access to information. With more intelligence and automation from patient preparation through post processing, you can perform more studies in less time and manage your patient flow up to 40% more efficiently.

Up to 40%

Improved productivity¹



up to 40% faster

¹Actual results may vary depending on the circumstances, including but not limited to, exam type, clinical practice, and image reconstruction technique. This information was based on a simulation using and is presented for illustrative purposes only.

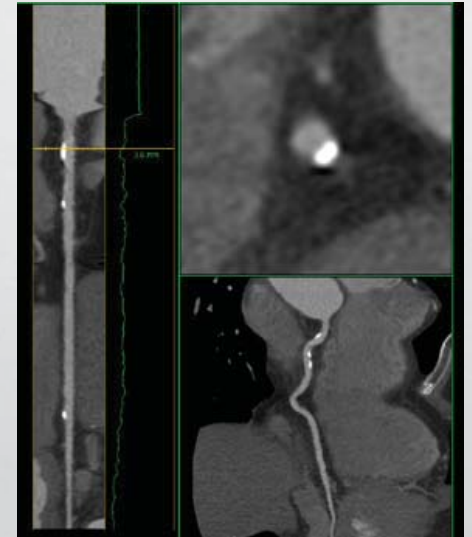
Core Technologies

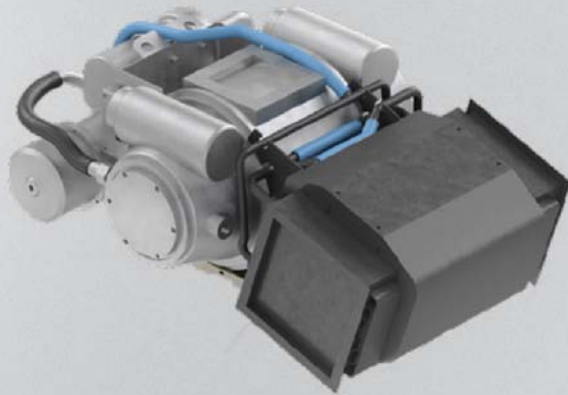
Clarity Imaging System

See clearly down to 0.28 millimeters.

For Revolution EVO we redesigned the entire imaging chain. It features the new Clarity detector inherited directly from the breakthrough technology introduced on Revolution CT.

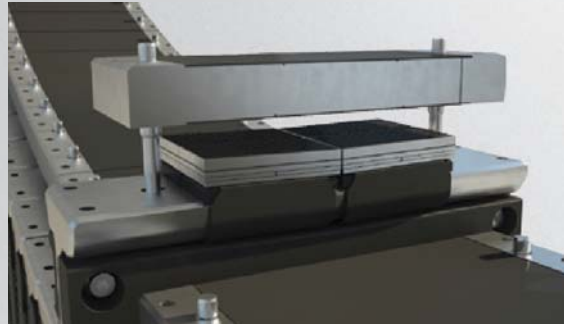
The result: a CT system with the best spatial resolution in its class—20% higher than previous GE systems—to clearly show you details as small as just 0.28 millimeters.





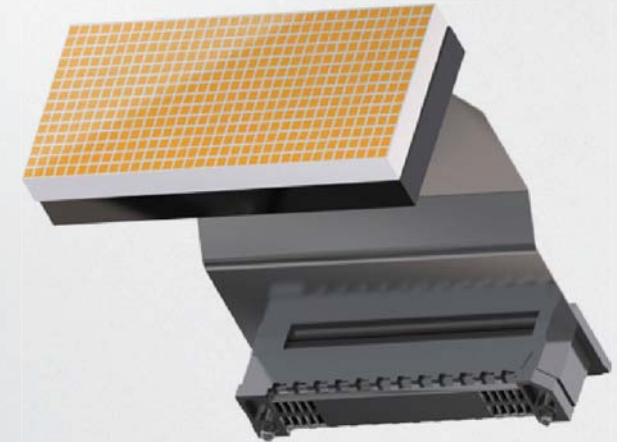
Performix 40 Plus tube

At the beginning of the Clarity imaging chain, the Performix 40 Plus tube delivers exceptional performance. Its stable dual focal spot improves precision, and its 0.4 sec routine rotation speed (*0.35 sec option) enables faster scan times. This may allow for shorter breath holds, may reduce the need for sedation, reduce motion artifacts from patient and organ movement, and enable faster workflow for all applications.



HiLight Clarity detector

Inherited directly from our breakthrough Revolution CT system, the Clarity detector is the heart of Revolution EVO. With its high-resolution imaging capabilities, you can see details as small as 0.28 mm. The Clarity detector delivers improved dose efficiency and signal-to-noise ratio as well, plus large coverage with z-axis uniformity.



Integrated Clarity data acquisition system

Thanks to its revolutionary, patented design, the data acquisition system is integrated directly onto the photo diode. This reduces the size of the data acquisition system by 75%, reduces noise by 44%, and lowers power consumption by 90% compared to previous-generation systems.

ASiR-V (ASiR)

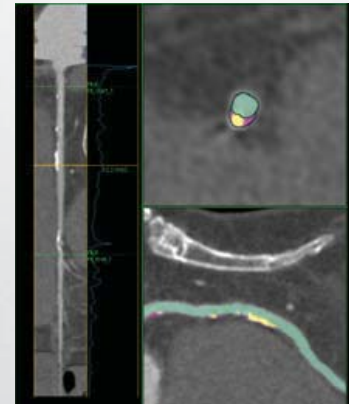
**Routinely image with up to 82% (40%) less dose.¹
Achieve twice the spatial resolution.**

Model-based iterative reconstruction, the novel ASiR-V (ASiR) reconstruction algorithm brings low dose and improved quality to routine imaging.

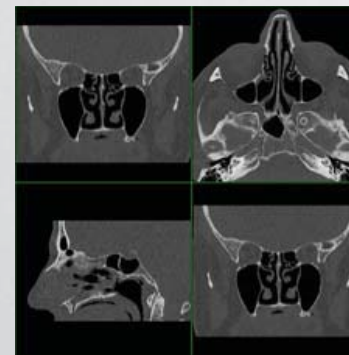
Leveraging our extensive statistical modeling system, ASiR-V (ASiR) focuses primarily on more advanced noise and object modeling to help reduce noise, improve low-contrast detectability. By focusing on these iterative reconstruction components, ASiR-V (ASiR) can significantly improve image quality at reconstruction speeds similar to filtered back projection (FBP).²

¹ASiR-V (ASiR) is an option on some configurations.

²Image quality as defined by low contrast detectability. In clinical practice, the use of ASiR-V (ASiR) may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task. Low Contrast Detectability (LCD), Image Noise, Spatial Resolution and Artifact were assessed using reference factory protocols comparing ASiR-V (ASiR) and FBP. The LCD measured in 0.625mm slices and tested for both head and body modes using the MITA CT IQ Phantom (CCT183, The Phantom Laboratory), using model observer method.



Cardiac case with calcifications and plaque ID. DLP: 31 mGy, 0.4 mSv. Effective dose estimated using an adult chest factor of 0.014xDLP (AAPM Technical Report 96, 2008).



Sinus case combining low dose and high spatial resolution. DLP: 29.4 mGy, 0.06 mSv. Effective dose estimated using an adult head factor of 0.0021xDLP (AAPM Technical Report 96, 2008).

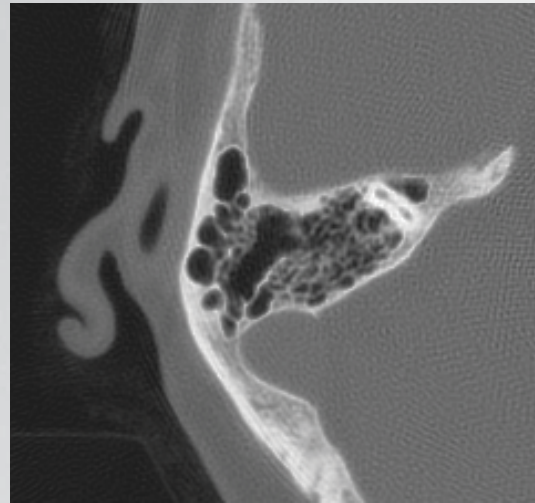




100%

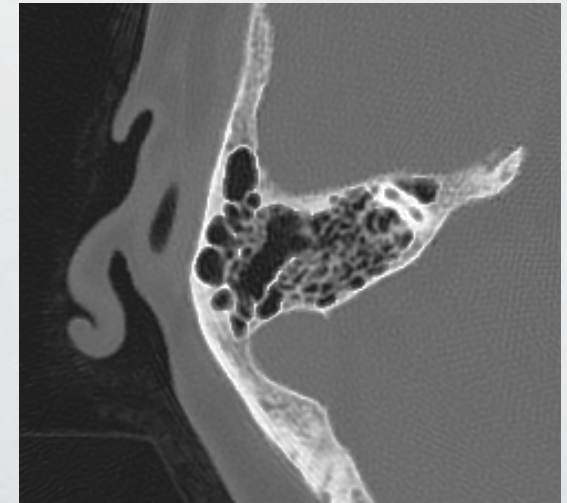
**Up to 100% better
spatial resolution.**

ASiR-V has the capability to improve spatial resolution compared to FBP by allowing the reconstruction of higher-resolution images with no increase in image noise.^{1,2}



FBP

An inner ear case. The ASiR-V reconstruction clearly demonstrates better spatial resolution with similar image noise.



ASiR-V

¹Low contrast detectability (LCD), image noise, spatial resolution and artifact were assessed using reference factory protocols comparing ASiR and FBP. The LCD measured in 0.625-mm slices and tested for both head and body modes using the MITA CT IQ Phantom (CCT183, The Phantom Laboratory), using model observer method.

²ASiR-V (ASiR) is an option on some configurations.

Smart Technologies¹

Modern imaging intelligence.

Smart Flow

Designed to help you improve productivity and patient experience by streamlining your workflow and access to information, Smart Flow technologies enable fast, hands-free patient positioning, exam prescription from the patient's side, integrated injections, real-time reconstruction during the scan and access to advanced applications right on the console.

Real-time reconstruction

Reconstruction of images in real time helps you focus solely on the diagnosis of your patient. With Image Check, up to 55 images are reconstructed and available per second. For trauma patients, when the extent of the injuries is unknown, you can prospectively prescribe up to 10 multiphase reconstructions and easily prioritize which one you need first.

IQ enhance pitch booster

Scan a chest in as fast as two seconds with 175 mm/sec acquisition speed to help shorten patient breath-holds while maintaining image quality.



Main screen



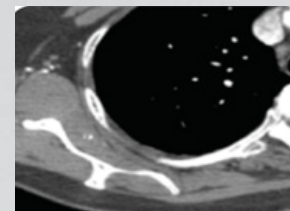
Instruction video



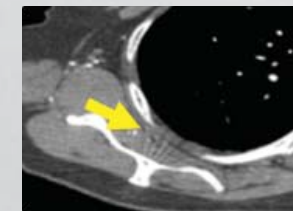
Patient worklist



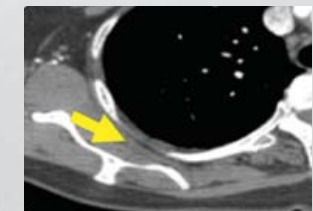
Protocol selection



Without pitch booster.
Slow pitch.
Good exam quality.



Without pitch booster.
Fast pitch.
Good exam speed.



With pitch booster.
Fast pitch.
Good exam quality and speed.

¹Not all Smart Technologies are available on all configurations.

Smart Cardiac (Optional)

Set up and perform complex cardiac procedures quickly, reliably, and repeatedly with Smart Cardiac tools on the Advantage Workstation.

SnapShot Assist

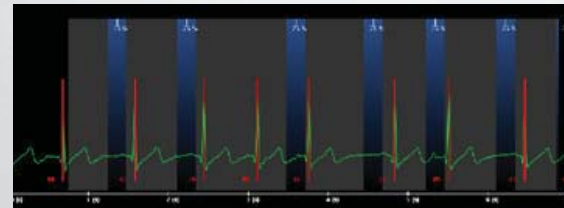
Easily complete cardiac exams in as few as five beats with SnapShot Assist, which advises you of the best acquisition technique based on the patient's heart rate and BMI.

SnapShot Pulse

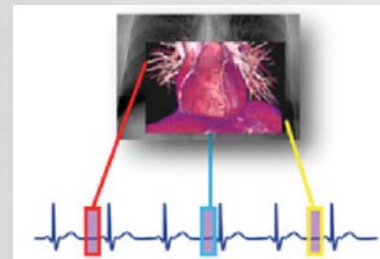
Prospective gating with SnapShot Pulse allows for significant reduction in coronary imaging as compared to an ECG-gated helical acquisition mode.

SnapShot Freeze

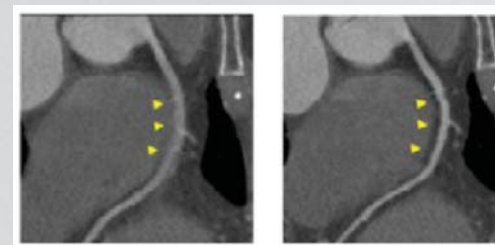
Reducing motion blurring in vessels by up to a factor of six, SnapShot Freeze facilitates your diagnosis by freezing coronary motion even in higher-heart-rate coronary CT exams. It delivers a 58 msec-equivalent gantry speed with an effective temporal resolution of 29 msec.¹



SnapShot Assist



SnapShot Pulse



Without
SnapShot Freeze

With
SnapShot Freeze

¹As demonstrated in cardiac phantom testing.

Smart MAR

Smart Metal Artifact Reduction (MAR) is designed to reveal anatomic details obscured by metal artifacts, helping you utilize CT scans and diagnose disease with greater confidence.

MAR offers the following benefits:

Exceptional image quality

MAR uses a three-stage, projection-based process to help deliver consistent, enhanced image quality that addresses both beam hardening and photon starvation artifacts.

Dose conscious

MAR requires just a single scan to create an exceptionally clear image, helping you to deliver dose conscious care.

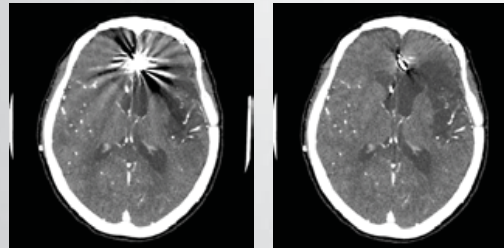
Streamlined workflow for patient comfort

The efficient, single-scan process helps to keep patient time inside the scanner short.

Versatility

MAR is designed to enhance clarity across a range of cases with metal including scans with hip implants, dental fillings, screws or other metal in the body.

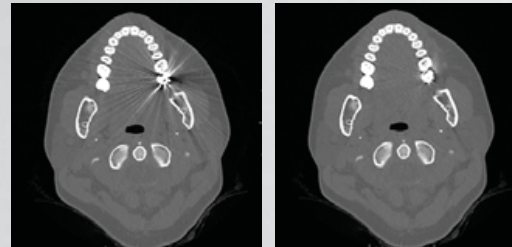
Aneurism clip



Before MAR

After MAR

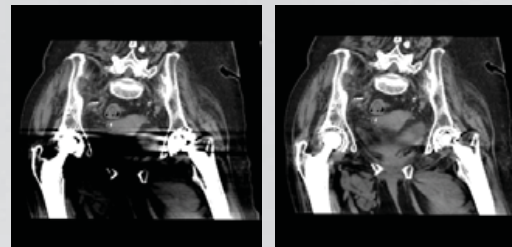
Dental fillings



Before MAR

After MAR

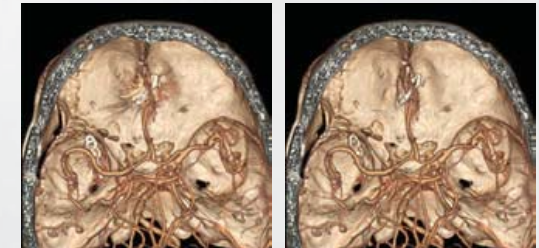
Double hip replacement



Before MAR

After MAR

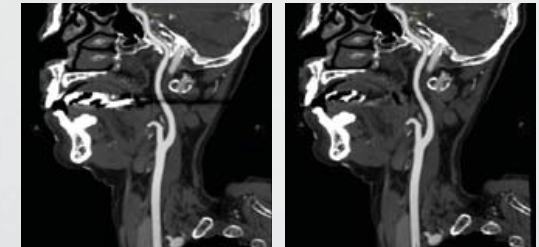
Aneurism clip



Before MAR

After MAR

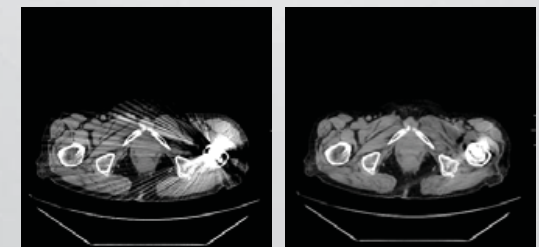
Dental fillings



Before MAR

After MAR

Single hip replacement



Before MAR

After MAR

Solutions & Services

Solutions beyond the scanner.

Optimize your investment.

Lift your organization to a new level of performance with our complete portfolio of consulting and support services. GE Healthcare Services will work with you to address your healthcare system's growth, quality and operational excellence, so you can meet your business objectives.

Asset optimization.

Using proprietary software and data analytics, we can help you optimize your maintenance contracts and establish benchmarks for utilization of assets which can help reduce costs and drive productivity.

Patient flow optimization.

We track patient flow from admission to discharge in real time. The ability to capture and analyze this data can help you decrease wait time, reduce costs, and improve the quality and safety of care.

Workforce optimization.

We can help improve workforce utilization across the continuum of care, which can have an impact on the bottom line. All while improving the quality of care and staff satisfaction.

Right dose by design.

Improving dose management starts with a strategy. GE Blueprint helps healthcare organizations build a strategic roadmap for a comprehensive radiation dose management program encompassing leadership, practices and technology. We start with our GE Blueprint Benchmark Assessment to compare and assess your current performance against industry guidelines and best practices to help you balance your dose management priorities and develop your program across your entire healthcare system. Then we partner with you to go beyond meeting compliance and regulatory guidelines to help you improve clinical and quality outcomes.

Flexible equipment financing.

GE Capital, Healthcare Financial Services has the financial expertise, combined with healthcare industry knowledge and resources to provide your organization with a complete range of equipment financing solutions for every stage of your growth.

With Revolution EVO you can get the high resolution you need, make low dose routine, accomplish more in your day and help more patients. It enables you to serve the widest variety of patients and referring physicians with a diversity of applications today—while positioning your institution to rise to the challenges you'll face going forward.

Revolution EVO.
More than just high tech. Higher purpose.

Contact your GE Healthcare Sales Representative to learn more about Revolution EVO.





www.gehealthcare.com

GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality and more affordable healthcare around the world. GE (NYSE: GE) works on things that matter - great people and technologies taking on tough challenges. From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.

imagination at work

GE Healthcare
3000 N Grandview Blvd.
Waukesha, WI 53188
U.S.A.

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