

GE Healthcare

Discovery NM/CT 670

Discover what lies beyond the horizon.



Expanding nuclear medicine to help you explore uncharted territory.

The Discovery* NM/CT 670 is designed to illuminate both the body and your mind. Allowing you to explore the deepest regions of your patient, while helping you see beyond what once was thought possible. Helping you expand your vision as you search for new solutions. Finding solutions that previously seemed out of reach. Empowering you to go discover new frontiers.

Let your vision guide your sight.

Built on GE's pioneering legacy in molecular imaging, the Discovery NM/CT 670 leverages our decades of imaging excellence and advanced SPECT and CT technology. Helping you obtain a clear, more complete understanding of the challenges you face, from heart disease and stroke to bone disease, neurological disorders and renal failure.

With advanced hybrid technology that is geared to extend the boundaries of nuclear medicine, the Discovery NM/CT 670 offers the advanced scanning capability, analysis tools and diagnostics that may not only affect individual patient outcomes, but also help to find and address entire areas of affliction. Your vision, enhanced by this technology, can potentially help change the face of healthcare and win the war against disease.



Cutting-edge medicine can give your practice a competitive edge.

The Discovery NM/CT 670 can do more than just enhance your vision and help improve your diagnostic capabilities; it can also potentially help strengthen your patient relationships and enhance the reputation of your practice.

Increased productivity - Half-time bone scans, automated acquisition and camera setup and IHE** compliant worklist-scheduled workflow can help improve efficiency and give you the ability to complete a hybrid SPECT/CT study plus WB bone scan in as little as 16 minutes imaging time.

Outstanding image quality - Innovative Elite NXT detector design, advanced scanning capabilities and the BrightSpeed* Elite CT scanner can help you to see clearly and diagnose with confidence.



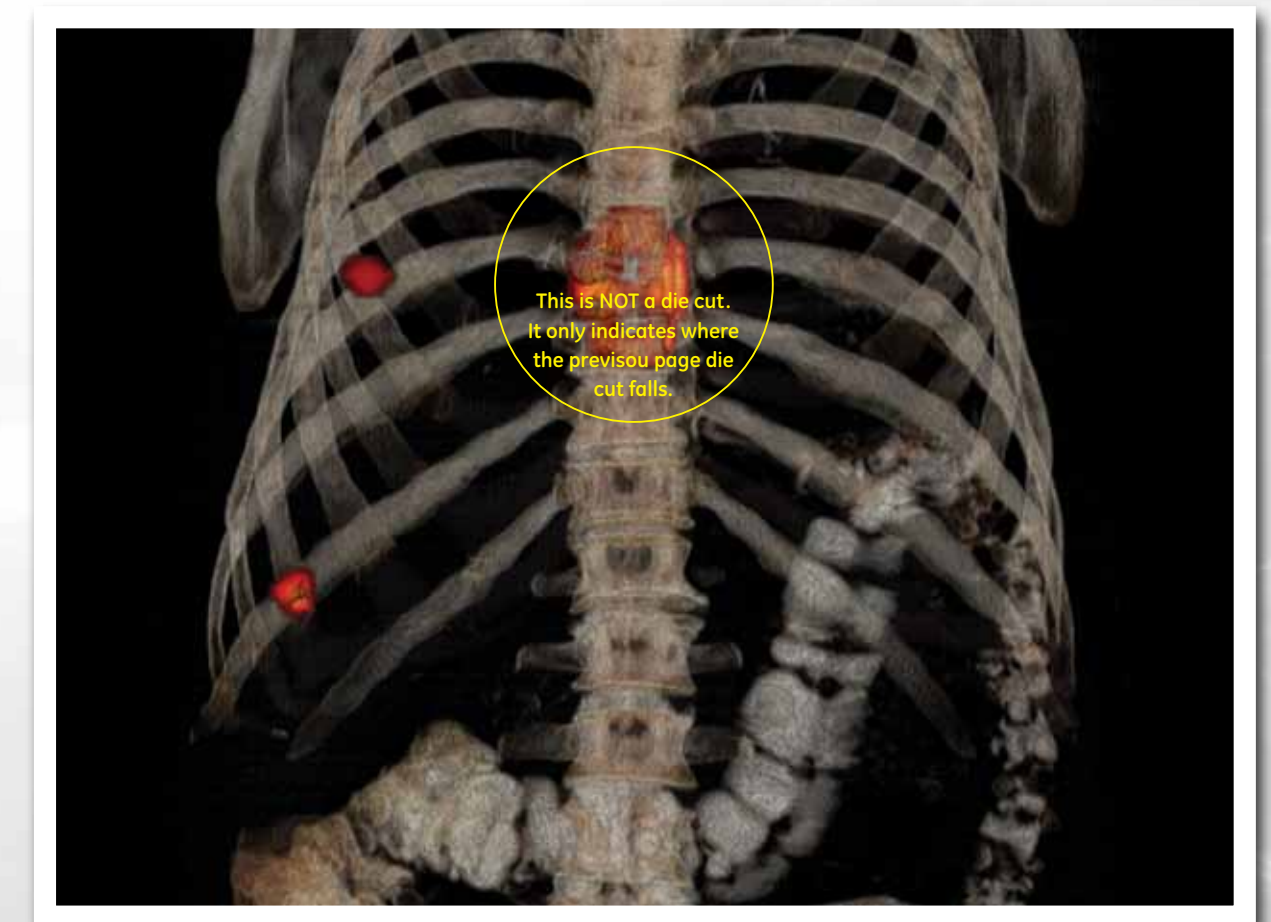
Dose management - Effective dose reduction technology allows you to reduce your patient dose by as much as half when compared to standard CT and NM scanning protocols.

Advanced applications - The Xeleris* processing and review station delivers the power and versatility to help you diagnose, investigate and treat entire categories of disease.

Patient comfort - Ergonomic design and a wide gantry bore combine with advanced robotics for faster setup and dramatically reduced acquisition times. This may increase patient comfort while reducing patient stress and time on the table.

Exceptional connectivity - With the Xeleris Floating License, you have real-time access, no matter where you happen to be.

World-class support - Maximize uptime and usability with world-renowned GE service, which includes local service complemented by advanced remote digital support.



Your ability to see further is only surpassed by your ability to do more.

Workflow matters. Whether you need to increase patient throughput or want more time to focus on the critical details of a single case, the Discovery NM/CT 670 is designed for efficiency.

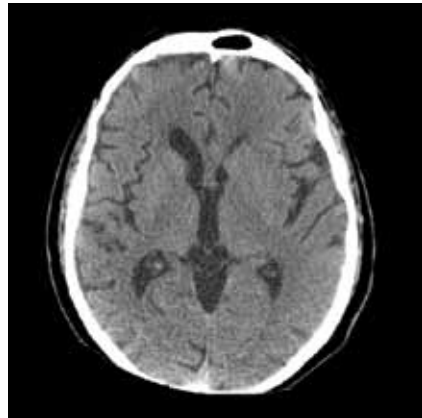
Advanced robotics mean outstanding operational simplicity and reliability. Plus simultaneous motions on multiple axes allow for faster gantry movement and deliver faster setup and shorter overall imaging time. This gives you the ability to do complete bone protocol imaging time in 16 min — including Evolution for Bone planar half-time WB scanning and Evolution for Bone half-time SPECT scan combined with 40 cm axial Brightspeed CT scan.

Expedite setup and reporting while minimizing errors with IHE Scheduled Workflow, including Modality Worklist.

For frequently used imaging protocols, eliminate the need to reenter data and parameters for the various modules in a sequence using Ignite one-step auto positioning and auto processing.

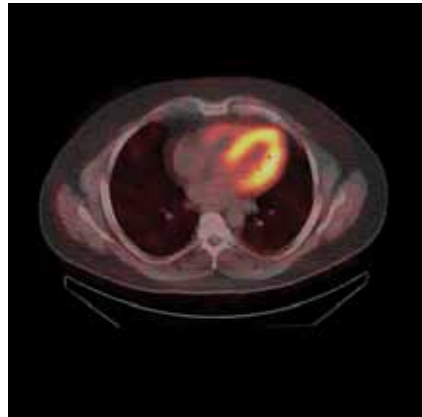
Minimize calibration time and cost with a single set of energy, uniformity and linearity maps that utilize one radionuclide for all calibrations.



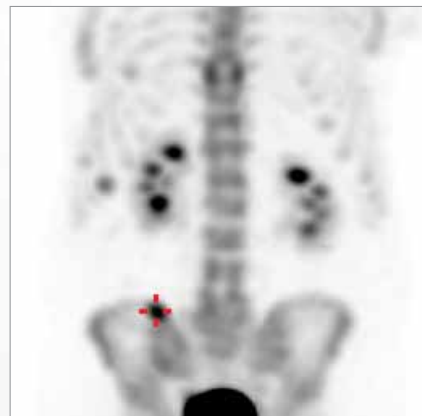


Specializing in healthcare's most important field. Yours.

The versatile and flexible Discovery NM/CT 670 can aid investigations in many care areas. Plus advanced algorithms and the Xeleris workstation can help you assemble, review, combine and analyze images more effectively—helping you maximize the data and insights you receive from every scan.



Advanced Elite NXT detector technology, including Ultra-Short PMTs, an Ultra-Thin Pressure Sensitive layer and miniaturized electronics, yields superb energy resolution, outstanding SPECT resolution and very high count rate. Plus, with BrightSpeed Elite 16 slice CT, the Discovery NM/CT 670 is also a fully functional premium diagnostic CT in its own right, so you're prepared when routine workflow turns into overflow.



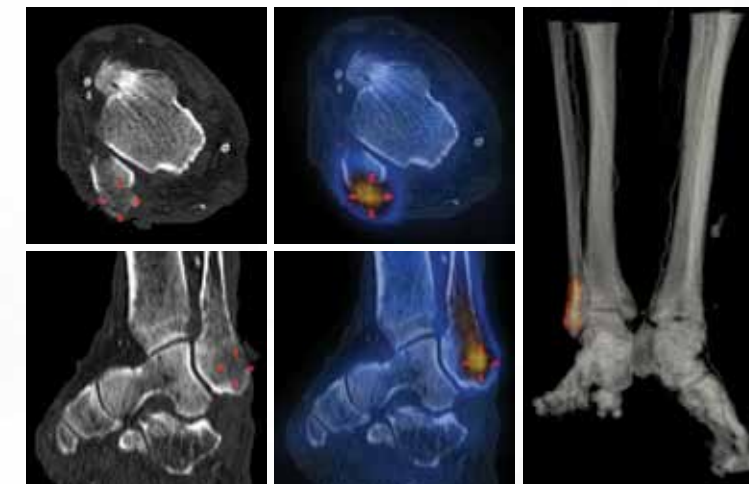
Orthopedics

Evolution for Bone planar and SPECT are advanced noise-reduction algorithms that improve structure delineation in the image while enabling up to a 50% reduction in count density compared to standard protocol with the same image quality.

The Evolution for Bone algorithms can:

- Improve WB planar image quality for the same scan time
- Shorten scan time by up to 50% while preserving image quality
- Reduce injected dose by up to 50% while preserving scan time and image quality

And BrightSpeed Elite 16 slice CT with 0.625 mm per slice and 20 mm coverage can reveal the finest anatomic details more efficiently and help localize disorders more precisely.



Volumetric MI



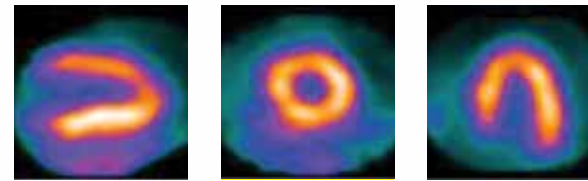
Evolution for Bone planar, 1/2 time

Cardiology

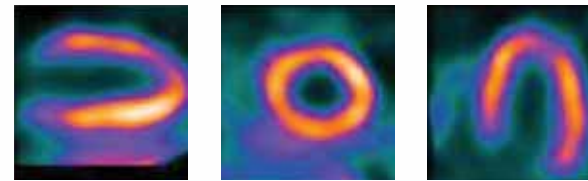
Half-time SPECT with Evolution* for Cardiac may help reduce the likelihood of patient motion, improve patient experience and increase patient throughput while delivering the same diagnostic accuracy in half the time or at half the dose compared to conventional full-dose image quality without Evolution.

BrightSpeed Elite 16 slice CT with 0.5 sec rotation speed and 20 mm coverage can enable accurate Calcium Scoring with comprehensive 4DM analysis and reporting. A single CT scan can be used for attenuation correction of both rest and stress SPECT studies, saving time and reducing patient dose, while ACQC enables effective alignment of CT attenuation correction maps to cardiac SPECT data sets to help enable diagnostic confidence.

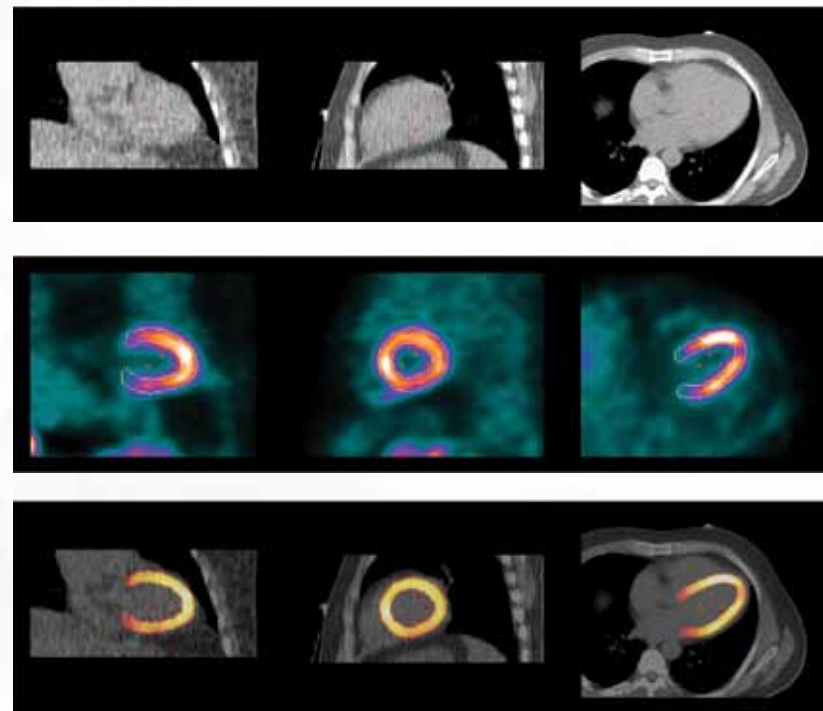
Cardiac Morphing remaps the myocardial perimeters in tomograms of the entire cardiac cycle to match the myocardial end-diastolic perimeter size. It then sums the remapped bins to provide a clearer image of the myocardium.



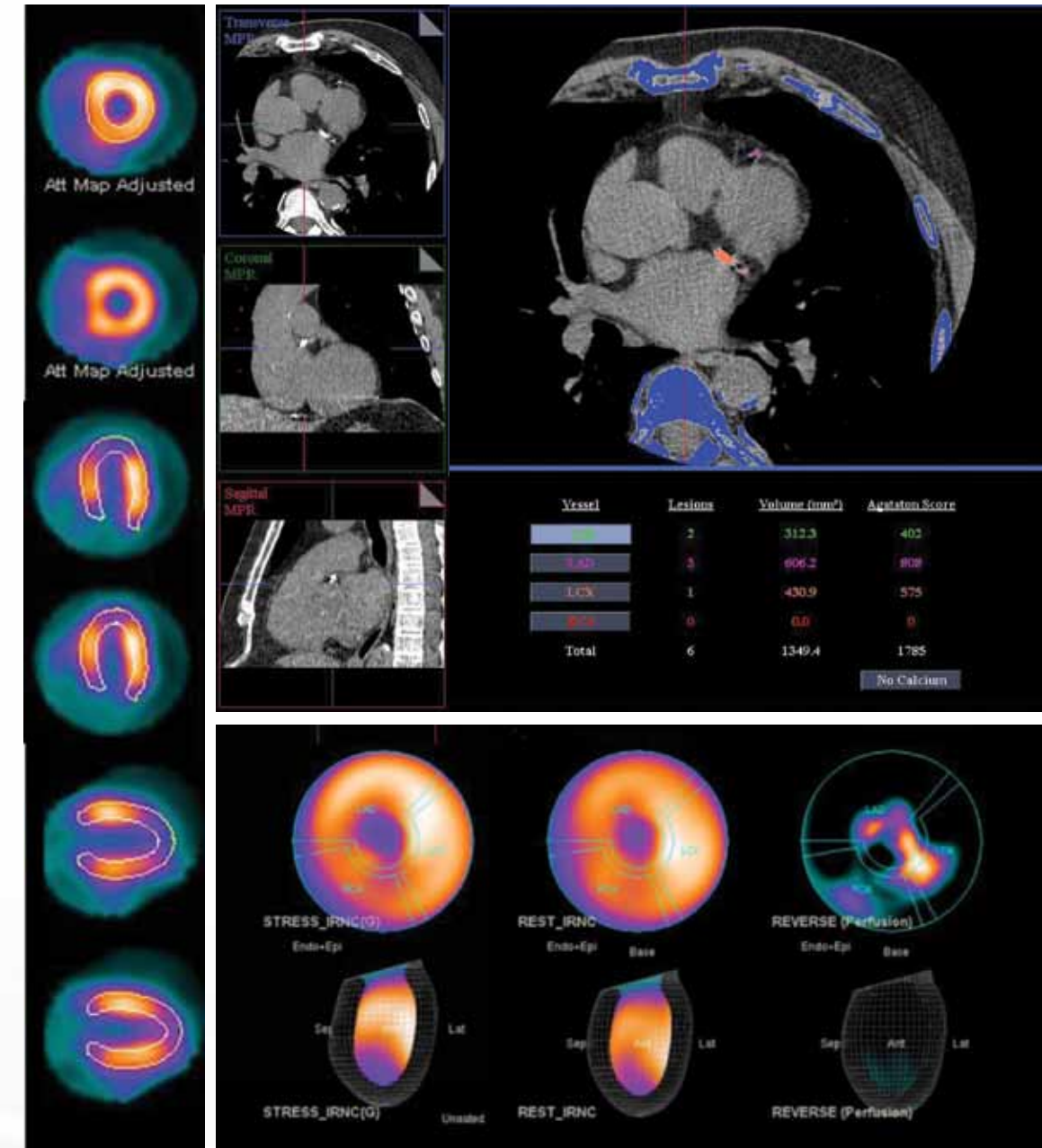
OSEM



Cardiac Morphing



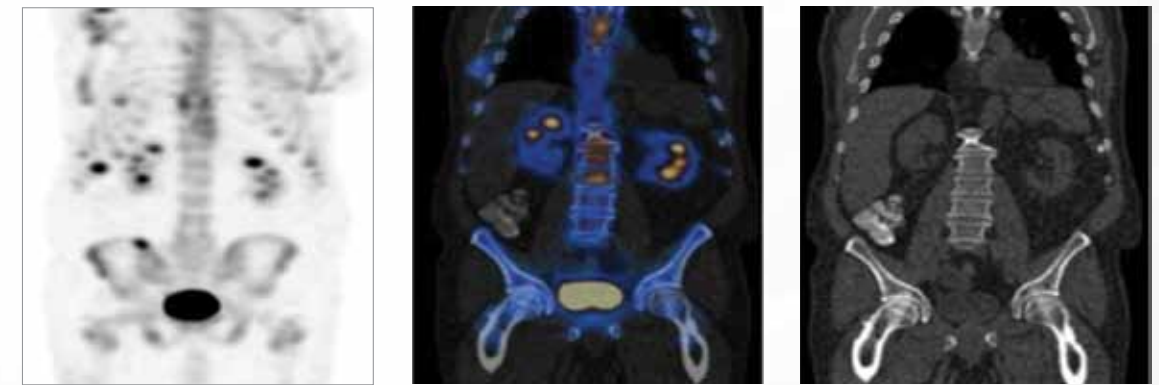
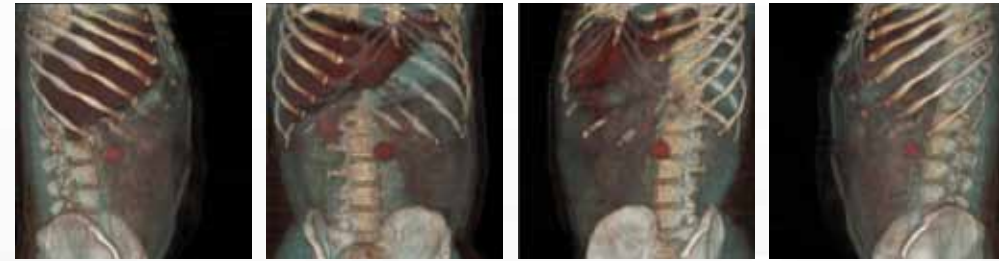
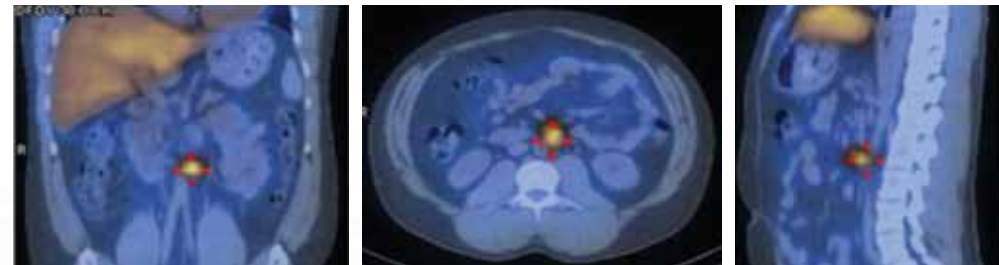
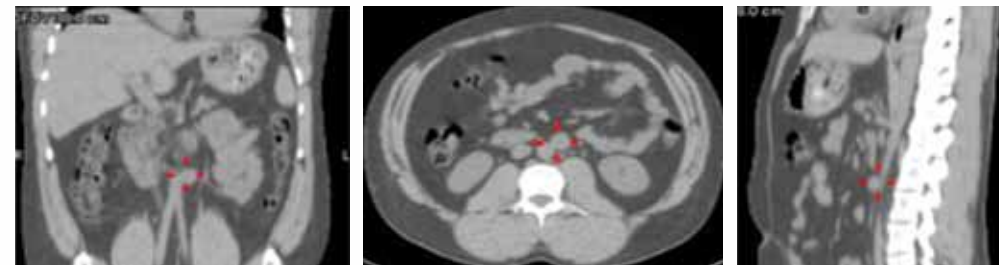
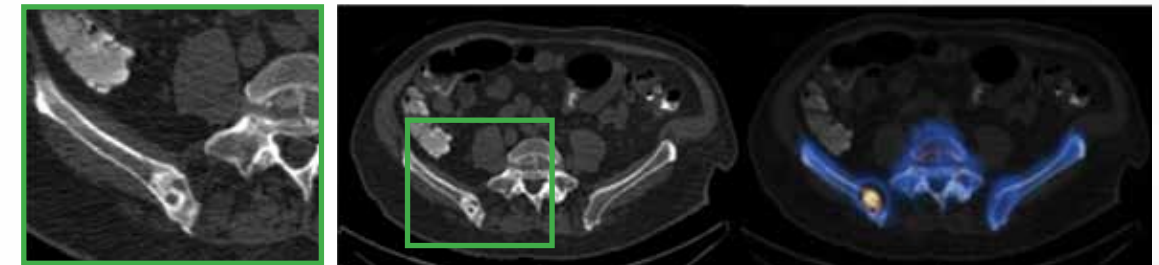
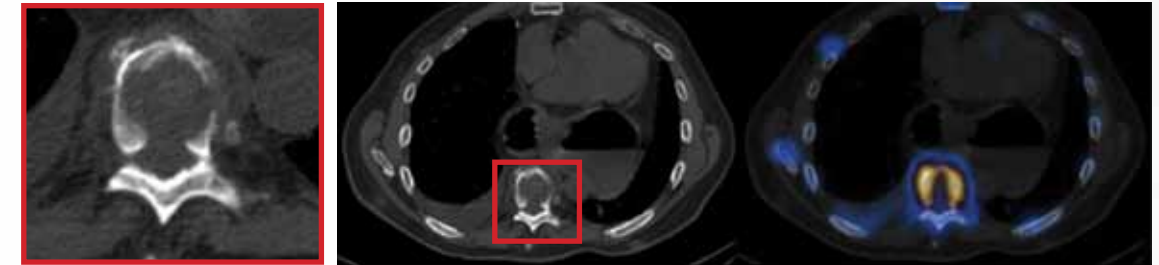
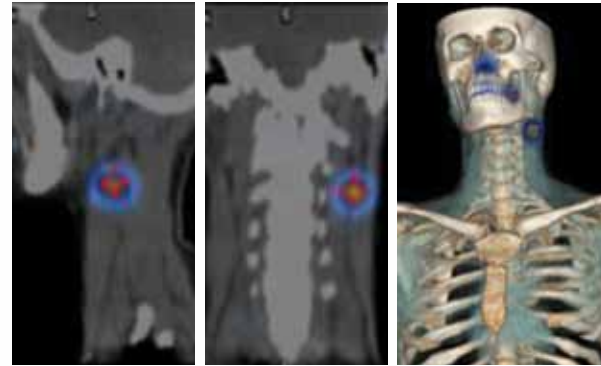
Attenuation Correction with ACQC



Myocardial Perfusion, Function, and Calcium Scoring 4DM Reports

Oncology

Designed for minimum scatter penetration and high resolution, SPECT-optimized collimators with Evolution for Bone or Evolution Toolkit resolution recovery help deliver outstanding in-depth lesion detectability. Combining BrightSpeed Elite's superb resolution, Pitch Booster's extended axial coverage and Volumetrix 3D image registration/fusion engine, Discovery NM/CT 670 supports accurate detection, fast imaging cycle and extremely clear reports for both referrals and colleagues.



Neurology

Innovative high-resolution Elite NXT detectors with 9.5% energy resolution and outstanding 9.9 mm SPECT resolution enhanced by brain SPECT-optimized ultra-flared fan-beam collimators deliver high-quality Neuro-scintigraphy.

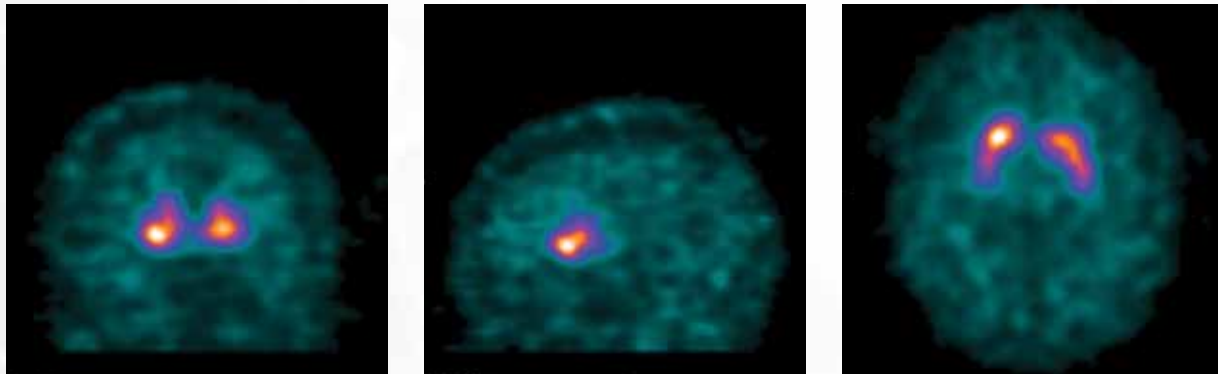
With BrightSpeed Elite's 0.625 mm slicing and the Neuro 3D Filter, which delivers image-quality improvement in noise reduction (measured by pixel standard deviation) at the same dose level, the Discovery NM/CT 670 is an excellent tool for neurology studies.



Conventional



ASiR
Less noise. Better contrast. Easier to trace borders between gray and white matter.



ASiR

GE Healthcare offers an industry-proven adaptive statistical iterative reconstruction that may deliver noise performance (pixel standard deviation) equivalent to an acquisition with higher generator power and may allow for scanning at lower mA and less anode heat, thereby reducing tube cooling limitations.[†]

With our exclusive ASiR technology, Discovery NM/CT 670 may enable reduction in pixel noise standard deviation and may allow for reduced mA in the acquisition of images, thereby reducing the dose required.[†]

ASiR technology may enable improvement in low contrast detectability.[†]

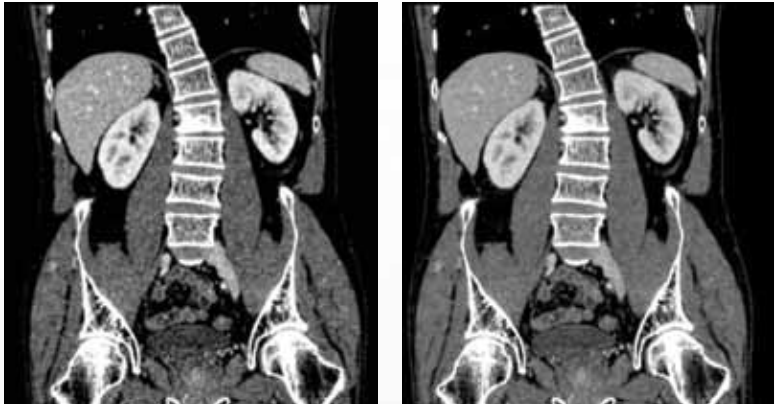
[†]In clinical practice, the use of ASiR may reduce CT patient dose depending on the clinical task, patient size, anatomical location and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task.



Conventional



ASiR



Conventional

ASiR

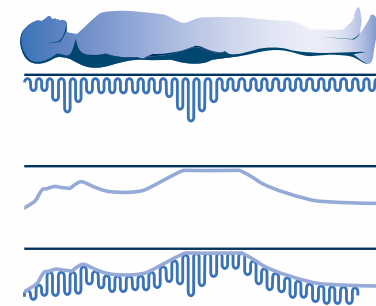
The ability to enhance image resolution while reducing your patient's dose.

Thanks to advanced SPECT and CT dose management, sacrificing image quality for lower dose is no longer a compromise you have to make. With the Discovery NM/CT 670 you can increase coverage, reduce dosage or enhance image quality in a large majority of scans.

In addition to following the ALARA principles and potentially improving the imaging experience for your patients, faster scans may help improve image quality thanks to reduced patient movement. And that helps enable greater diagnostic confidence with fewer SPECT rescans.

Reduced Dosage

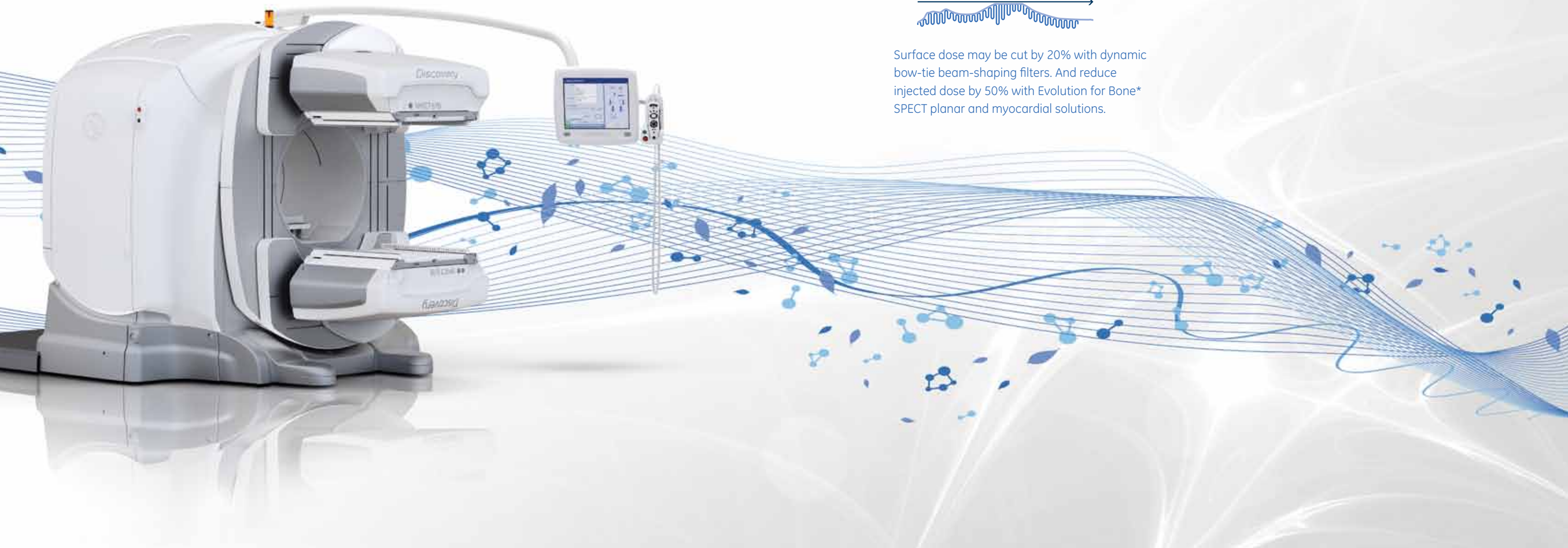
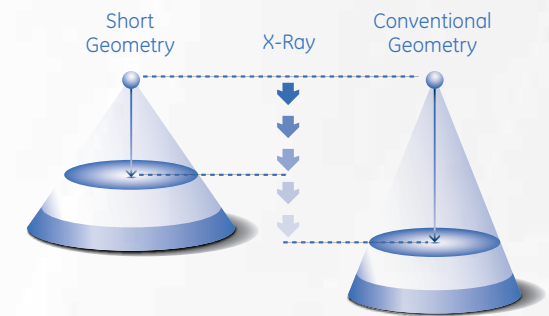
Cover more anatomy with the same image quality with Pitch Booster* IQ Enhance. This technology may improve image quality by reducing helical artifact in thin-slice helical scans, allowing faster pitch scanning covering more anatomy at the same image quality. This coverage speed is equivalent to that of wider detectors at the same table speed. In addition, 2D and 3D Dose Modulation adjusts the mA according to the anatomy being imaged, allowing for significant dose reduction.

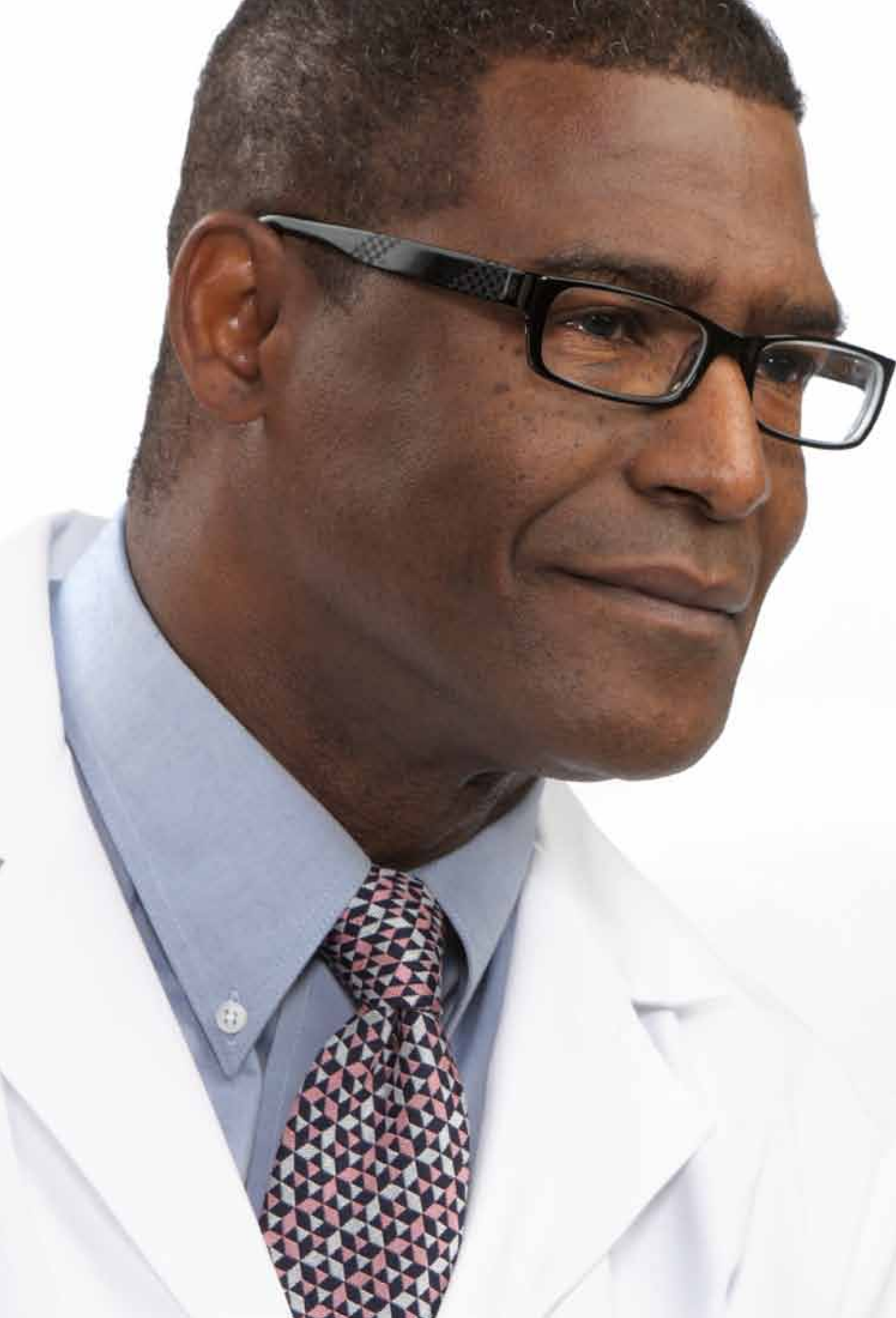


Surface dose may be cut by 20% with dynamic bow-tie beam-shaping filters. And reduce injected dose by 50% with Evolution for Bone* SPECT planar and myocardial solutions.

Enhanced Imaging

Neuro 3D Filter provides the ability to improve the image quality of head acquisition data by noise reduction at the same dose level, or to obtain the same image quality by reducing the mA, thereby optimizing the dose required.





Your ideas drove our innovation. Now we're returning the favor.

Innovative hybrid technology seamlessly integrates the functional images of advanced SPECT with the precise anatomical detail of multi-slice high-resolution CT. This coupling of technologies delivers a new dimension of image quality, application possibilities and versatility—so you can go discover more than you ever thought possible.

Powerful SPECT algorithms allow you to cut dose or acquisition time in half while maintaining the same image quality as standard protocols. The Evolution family of advanced reconstruction products, which model the collimator-detector response, is based on OSEM resolution recovery reconstruction algorithms developed at Johns Hopkins University and UNC Chapel Hill.

Potentially achieve higher productivity imaging and diagnosis of your patients with Volumetrix MI powerful multimodality image registration tools, which allow you to precisely align SPECT, PET, MR and CT scans to enable high diagnostic confidence. Volumetrix MI utilizes advanced motion detection and correction algorithms to give you the flexibility to register and display in 3D single or multiple SPECT and hybrid SPECT/CT scans. Plus, Volumetrix 3D gives you an easier way to review hybrid data sets due to volume rendering, segmentation and fusion of SPECT studies with MR or CT scans.

Dosimetry toolkit, quantitative tracer uptake and clearance measurements can help in radiation therapy planning.

Cardiac Morphing allows for enhanced image quality of myocardial perfusion scans while a broad selection of advanced BrightSpeed Elite imaging protocols are available to meet your most demanding CT scanning needs.

All of which can help you see more, learn more and discover more.



Helping to improve patient care and show that you care about your patients.

The Discovery NM/CT 670 is designed to enhance your patient's peace of mind, as well as your patient's experience. From low-dose, fast-acquisition technology to simple, but significant, patient-comfort features, scans are now easier and more gentle than scans taken on previous generation products.

An open gantry and large 70 cm (28") bore combined with a built-in entertainment center can help improve patient's ease and comfort. And fast and flexible detector positioning for a wide variety of procedures, along with enhanced real-time automated body contouring technology, means your patients spend less time being scanned and more time feeling cared for.



The Xeleris Workstation.

Your portal into what is now possible.

Xeleris is a high-performance processing and review station that delivers innovative productivity tools, built-in connectivity, exceptional processing speed and outstanding versatility. Over 7,500 Xeleris workstations are currently being used around the world to provide healthcare professionals with the accurate information they need to manage patient data quickly and efficiently in one unified location.



A single workstation for the radiologist and nuclear medicine physician to use for patient review, analysis, reporting and archiving, backed by an extensive clinical library.

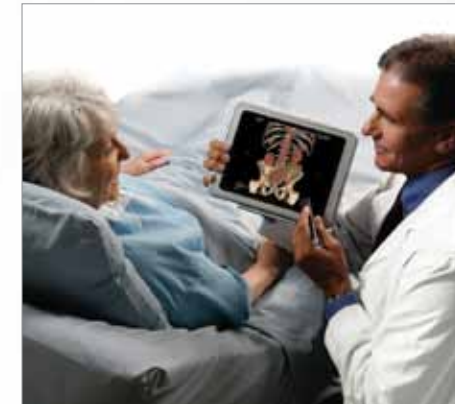
The Xeleris workstation is PACS compatible with IHE profile support including:

- Multi-frame secondary capture (MFSC)
- DICOM viewer for NM, SPECT/CT, PET/CT on CD or DVD
- The Xeleris Suite for RA 1000 brings full NM applications to PACS

DirectConnect offers seamless integration with all GE scanners and many non-GE systems, with scalability to add future devices as well.

Dual wide-screen monitors allow simultaneous viewing of multiple hybrid NM/CT data sets with comparative follow-up of NM/NM scans.

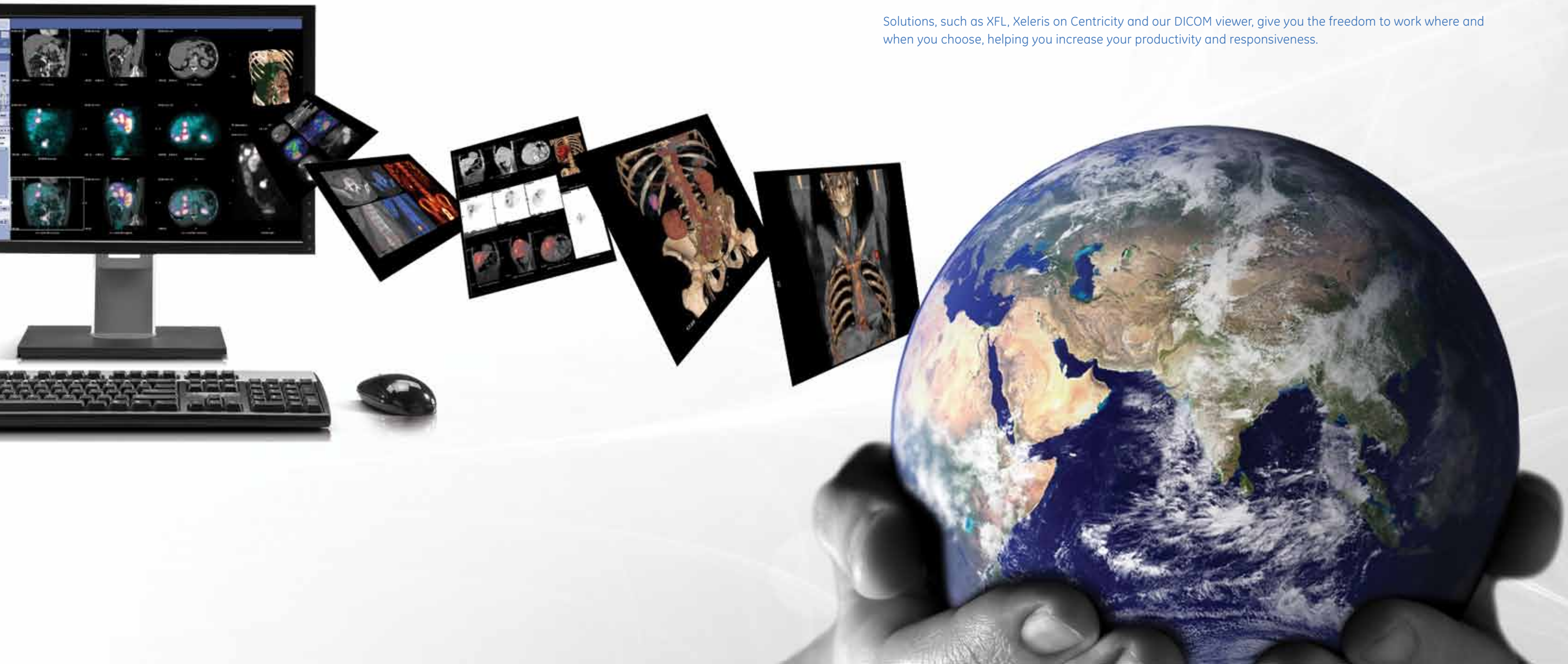
Aladdin* customization tools and programmability make it easy to modify your favorite Xeleris applications, or use components to create your own.



Anywhere access. Available at any time.

A key productivity enhancement is found in XFL – Xeleris Floating License, an outstanding portable solution for nuclear medicine. XFL provides a quantum leap forward in breaking out of the traditional workstation box. With remote access to Xeleris applications, you can now experience Xeleris anywhere—whether it be on-site through LAN or off-site through WAN and VPN.

Solutions, such as XFL, Xeleris on Centricity and our DICOM viewer, give you the freedom to work where and when you choose, helping you increase your productivity and responsiveness.



The GE Continuum at work for you.

In addition to outstanding products and technology, GE delivers world-class support and services including:

- Scalable GE enterprise-wide networking solutions to support and integrate new and existing purchases
- Site planning and installation
- Customized financing and service solutions
- Masters Series seminars and TIP education offerings to keep physicians and technologists up to date
- A direct upgrade path to help you keep your systems current

Real-time support. Virtually.

Our innovative support systems are designed to help you keep your operations running smoothly and to ensure that you always have access to any help you may need.

InSite* - GE's remote diagnostic and solutions network saves time and maximizes productivity by linking your system directly to our centralized, online engineering and applications support team.

iLinq* - Provides instant operator console access to an interactive remote online engineer or applications specialist.

iCenter* - Offers access to the latest updates on equipment uptime, contract information, parts delivery and equipment alerts.

The GE hybrid family.

The Discovery NM/CT 670 is the perfect addition to the GE hybrid family of imaging systems designed to help physicians practice with exceptional vision and flexibility. For those exploring new frontiers, the Discovery NM/CT 670 has become a beacon of technological progress. The Infinia Hawkeye* 4 contains more than a decade's worth of refinements and innovative ways to impact patient management. And the Discovery NM/CT 570 provides cardiac specialists with advancements that help diagnose common diseases effectively and with high confidence.



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About GE Healthcare:

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement, and performance solutions services helps our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

Our “healthymagination” vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access, and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are committed to serving healthcare professionals and their patients in more than 100 countries. For more information about GE Healthcare, visit our website at www.gehealthcare.com

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imagination at work