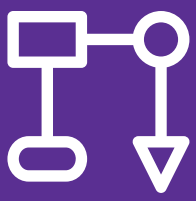
Revolution Maxima

GE HealthCare

Revolution Maxima with TrueFidelity DL is not CE marked, cannot be placed on the market or put into service in Europe.

High-performance care every step of the way

We understand your challenge to keep up with increasing CT procedure demands while maintaining patient comfort and balancing staff resources. We evaluated and streamlined every aspect of the CT workflow to turn your processes into a single click. Multiple setup steps into automated ones with AI. And clear CT images into ultra-clear ones that can be acquired with less dose. All packaged it into a high-performance, reliable scanner we call Revolution™ Maxima. With Revolution Maxima, you'll be ready for what's next.



AI for workflow

AI workflows help provide maximum CT scanning efficiency, accuracy, clarity and consistency.

AI for imaging

Deep learning image reconstruction boosts image quality and contrast detectability while keeping the same dose.

Smart Subscription

Smart Subscription keeps your CT platform updated, ensures consistent exams and offers flexible imaging packages.

Always in position

Revolution Maxima's AI-based Auto Positioning automates patient positioning to help ensure each scan is as comfortable as possible for your patient and optimized to provide you with the exact dose and imaging consistency you need.

Here's how it works. Our Xtream camera uses real-time depth-sensing technology to generate a 3D model of your patient's body. Then, using our deep learning algorithm, Revolution Maxima pinpoints the center of the scan range and automatically aligns it with the isocenter of the bore.

With one click, Auto Positioning uses all of this information to automatically center your patient for a completely hands-free positioning experience.

Up to
100%
of CT patients are prone to mispositioning

Resulting in a
38%
increase in dose[1]

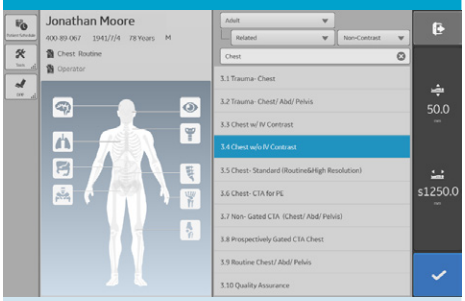
Up to
22%
increase in image noise[2]

Revolution Maxima simplifies the entire patient setup process. Innovative auto centering technology is at the core of our improved scan experience, but it starts with related protocol recommendations.

By comparing the exam description against a database of scan protocols, the system displays a short list of protocols to choose from.

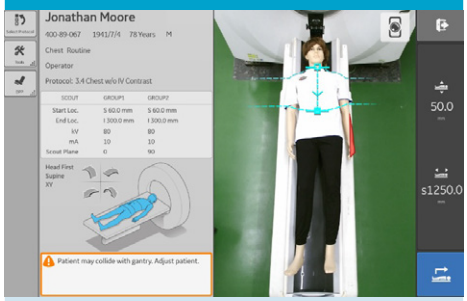
What used to take valuable time searching for the right protocol and then manually positioning the patient in the bore, can now be done with a quick selection and the simple click of a button.

Smart select



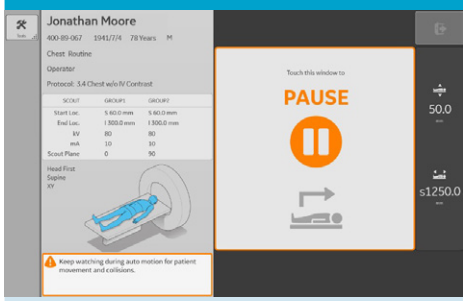
Quickly get to the appropriate protocol by choosing from a simple list of related protocols.

Auto center



By calculating the 3D center of the scan range, the system knows exactly how to align the table in the bore.

Click to position



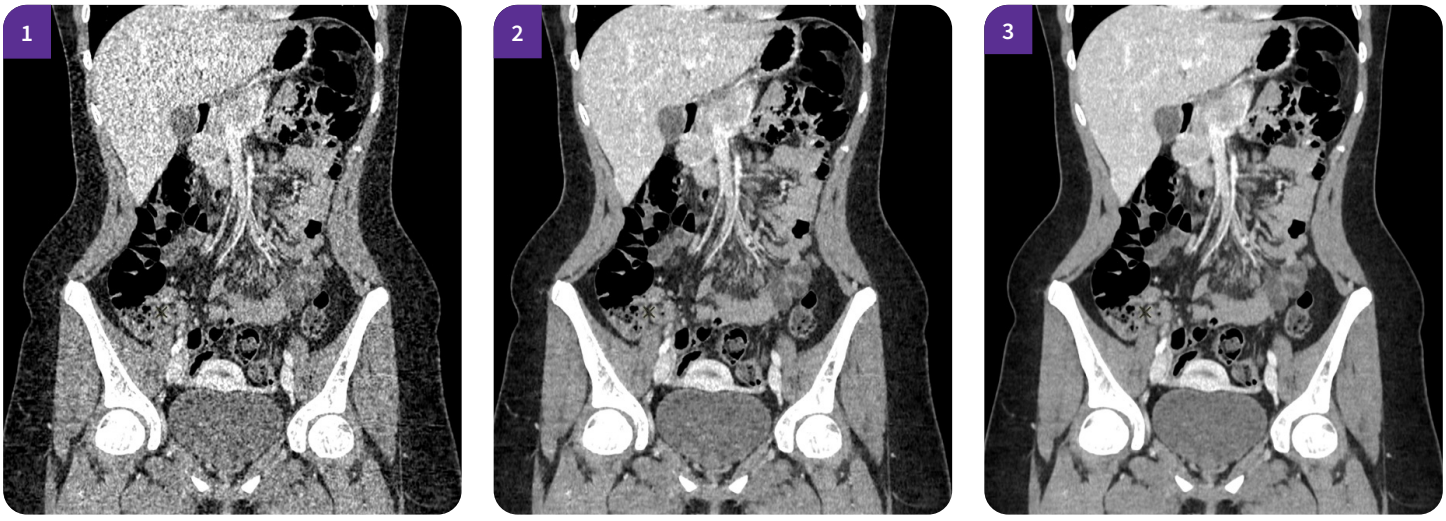
With the click of a button, automatically position your patient at the start location of the scan.

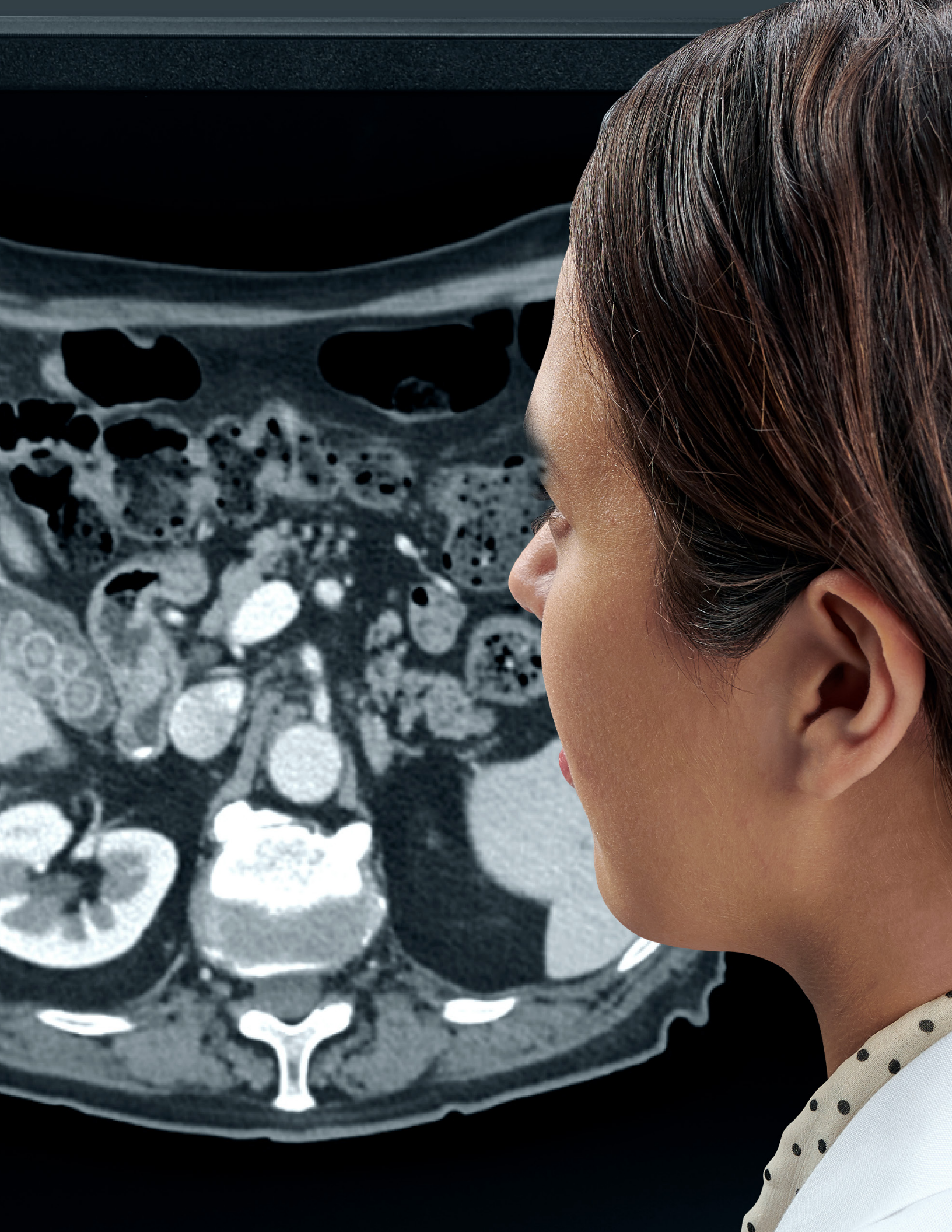
Deep learning for a deeper understanding

TrueFidelity™ DL

TrueFidelity DL is our state-of-the-art AI-based image reconstruction technology that uses a Deep Neural Network (DNN) to generate high-definition, low-noise CT images. It produces images with exceptional sharpness, low-contrast image quality performance and your preferred noise texture, at the same dose.[3]

1. Filtered Back Projection (FBP)
2. ASiR-V 40%
3. TrueFidelity DL-M





It all comes together with clarity

Revolution Maxima is designed to provide you high-speed, full coverage imaging. It's built on our Clarity imaging chain featuring a 40 mm detector and provides 0.28 mm[4] spatial resolution. This means you can quickly conduct routine scans and have the capability to amazing image quality across a diverse range of clinical needs.

When paired ASiR-V you can expect to see an 82% reduction in dose[5] compared to filtered back projection reconstruction. Together, these core technologies provide you with everything you need to get to the right diagnosis, the first time, at the lowest dose possible.

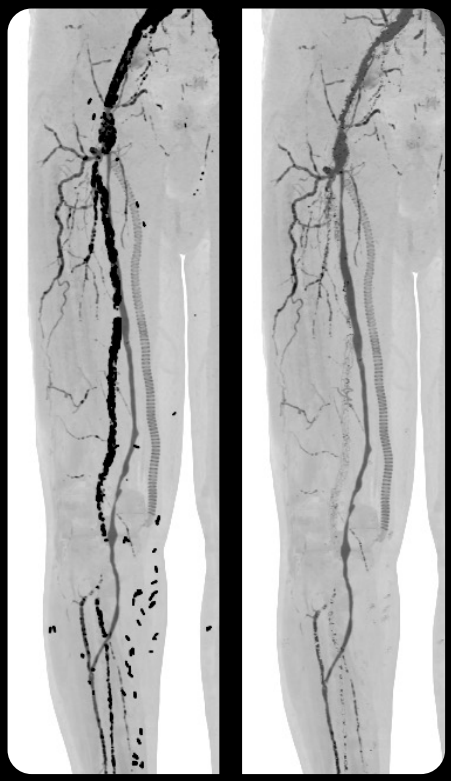
40 mm
imaging detector

0.28 mm[4]
spatial resolution

Up to
82%[5]
lower dose with ASiR-V

High resolution cardiac imaging of left coronary artery using 1024x1024 reconstruction matrix

Clear visualization of right carotid stenosis with calcified plaque

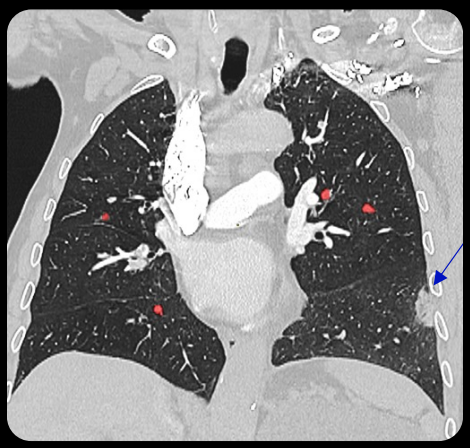


High resolution runoff angiography of left femoral occlusion with clear visualization of small arteries and auto-delete calcifications (right)

Sagittal view reconstruction with 1024 matrix and BonePlus kernel

Beauty lies within

Complete detailed view of right arm vascularization

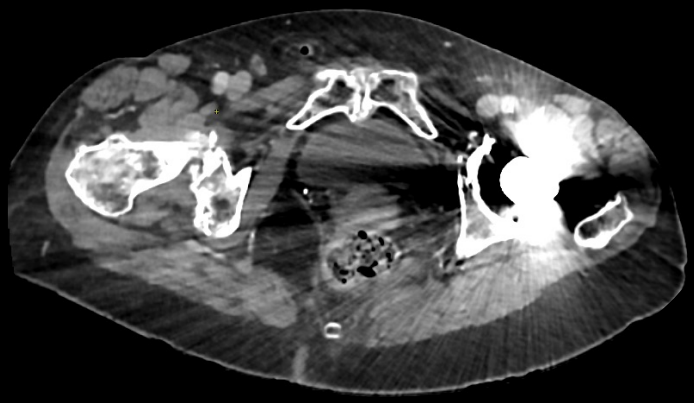


Pulmonary angiography with TrueFidelity DL imaging

BonePlus (left) and TrueFidelity DL (right) imaging of tibial fracture

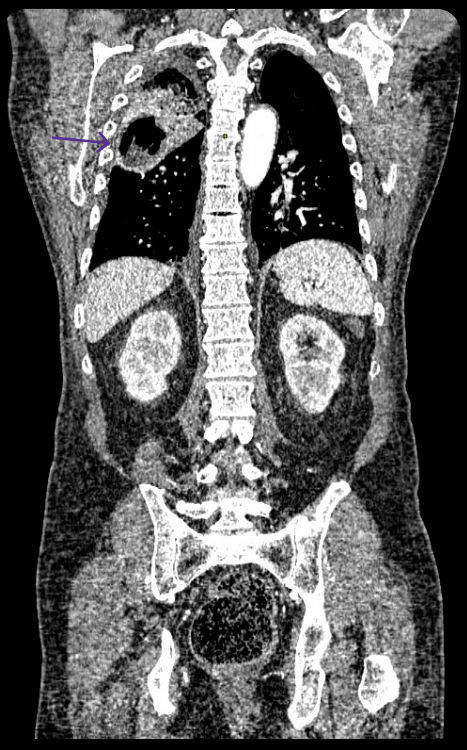
Abdominal aorta 3D reconstruction on 37 BMI patient

Without MAR

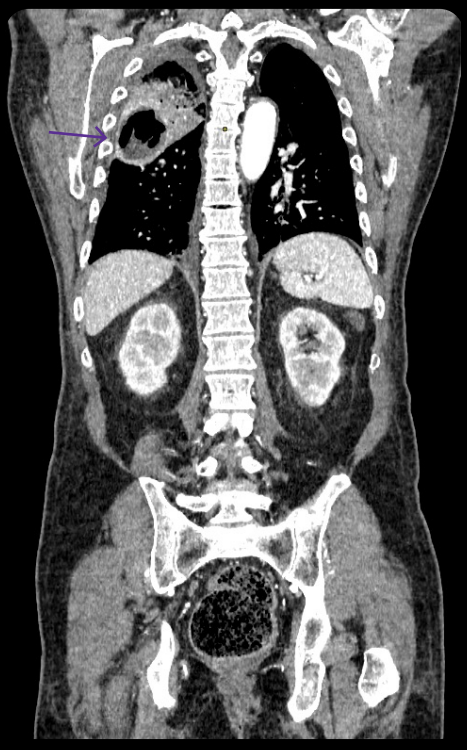


With MAR

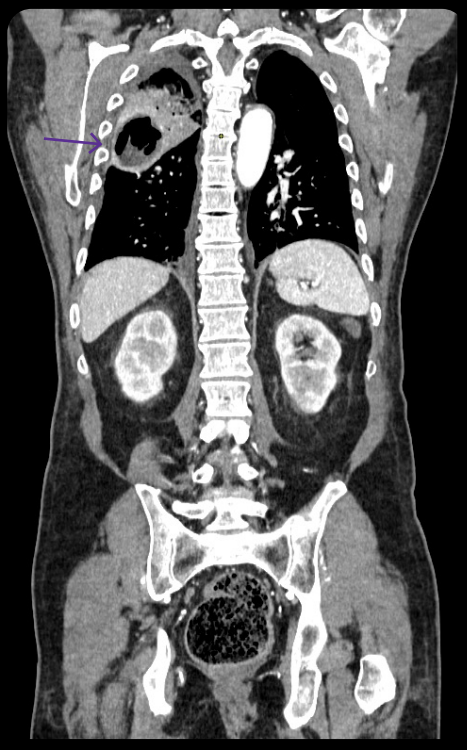
Coronal reconstruction of thorax-abdo-pelvis with cavitating pneumonia



FBP



ASiR-V 40%



TrueFidelity DL

Imaging that goes beyond

To provide enhanced clinical flexibility, Revolution Maxima also features a suite of intelligent applications to help you assess challenging clinical cases such as cardiac, stroke, oncology, and even patients with metal artifacts.

Smart MAR

Single acquisition metal artifact reduction.

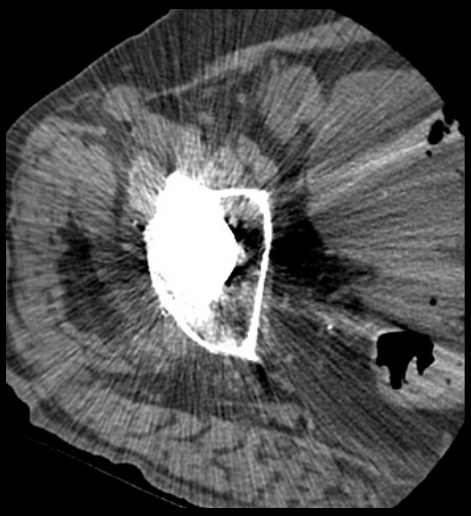
Smart Cardiac

Set up complex cardiac procedures quickly, reliably and repeatedly.

Smart Stroke

Perform stroke assessment scans with perfusion shuttle technology and assess patient status quickly and accurately.

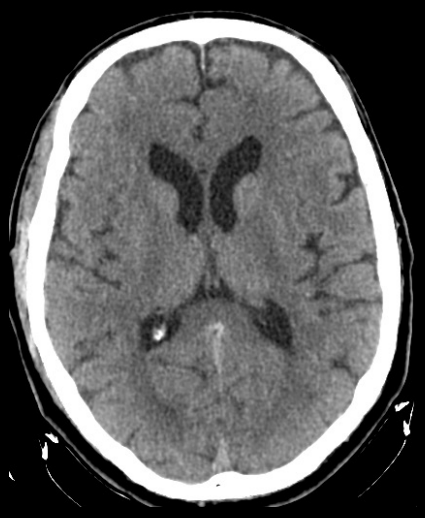
Hip protesis evaluation improvement with Smart MAR



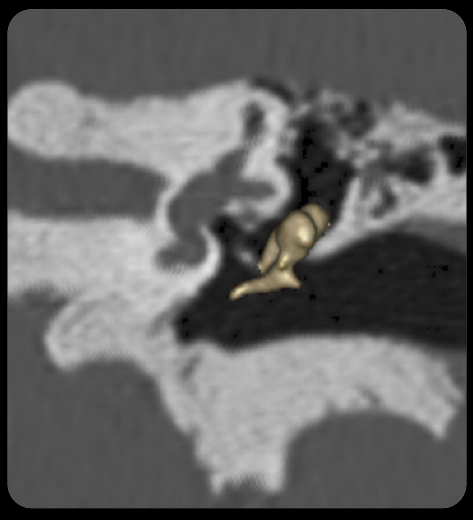
Without Smart MAR

With Smart MAR

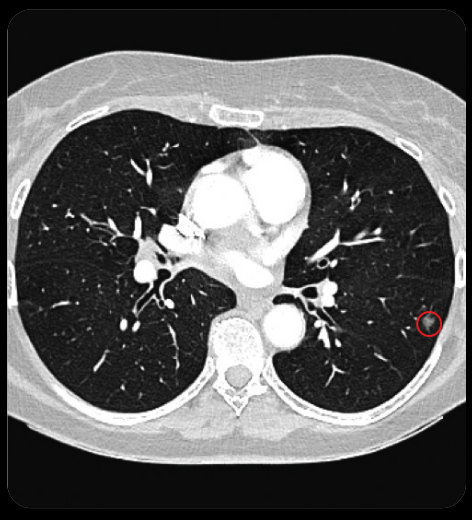
Volume Rendering of coronary tree with 1024 matrix



Improved contrast resolution with TrueFidelity DL for better differentiation of gray/white matter



Visualization of small structures in petrus bone examination with high resolution kernel and 1024x1024 matrix



Lung nodule well depicted using high resolution reconstruction matrix

A CT that keeps getting better

Smart Subscription, a subscription service that provides access to the latest capabilities for your CT.[6]

Keep pace
Smart Subscription is the industry's first subscription-based service for CT that helps you keep your computing platform and software up to date and keep pace with clinical and workflow innovations.

Consistency
It enables you to provide consistent exams by having the same capabilities across all your systems at all your sites.

Flexibility
Smart Subscription includes a broad range of application packages across many different imaging services, giving you the flexibility to pick the right plan for you.

Base package

Recon & IQ

Continuity Premium

TrueFidelity DL

ASiR-V

Smart MAR

+

Additional packages

General Imaging

Spine Auto Views

Head Auto Views

Bone VCAR

VesselIQ Xpress with AutoBone Xpress

Cardiology

SnapShot Freeze 2

CardIQ Xpress 2.0 Reveal

SmartScore 4.0

Neurology

FastStroke with StrokeSENS[7]

Send by email

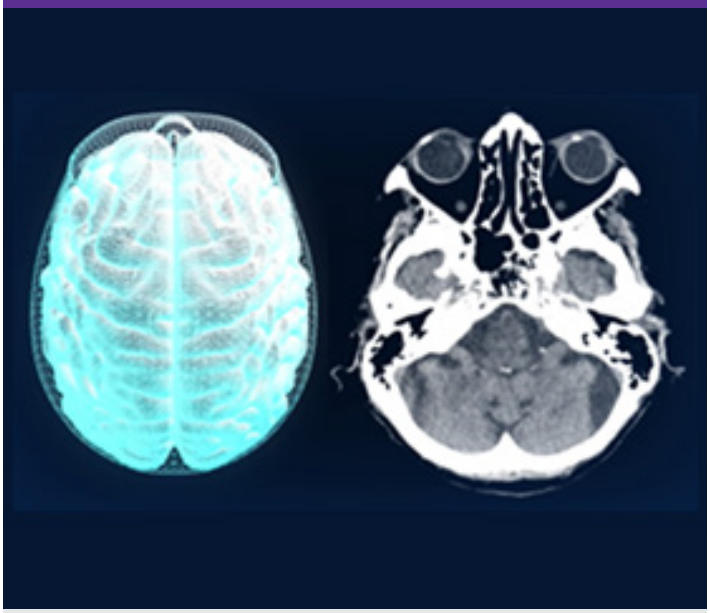
CT Perfusion 4D Neuro

Dynamic Shuttle

Smart Subscription Unlimited

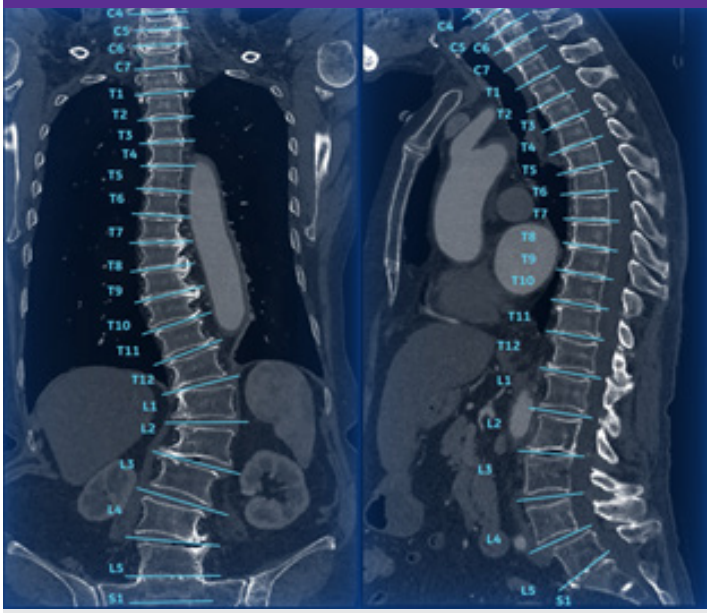
Designed to automate your image post-processing and facilitate results sharing with fully automated workflow.

Head Auto Views



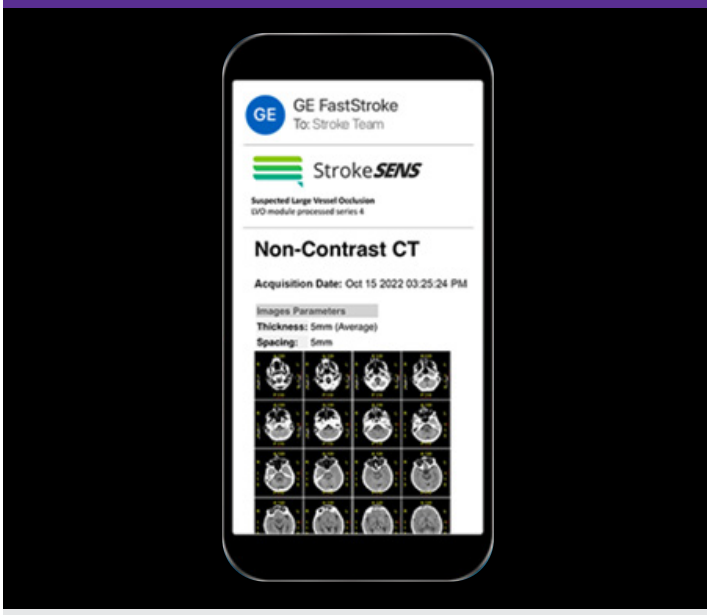
Automatically generate anatomically aligned head reformatted views

Spine Auto Views



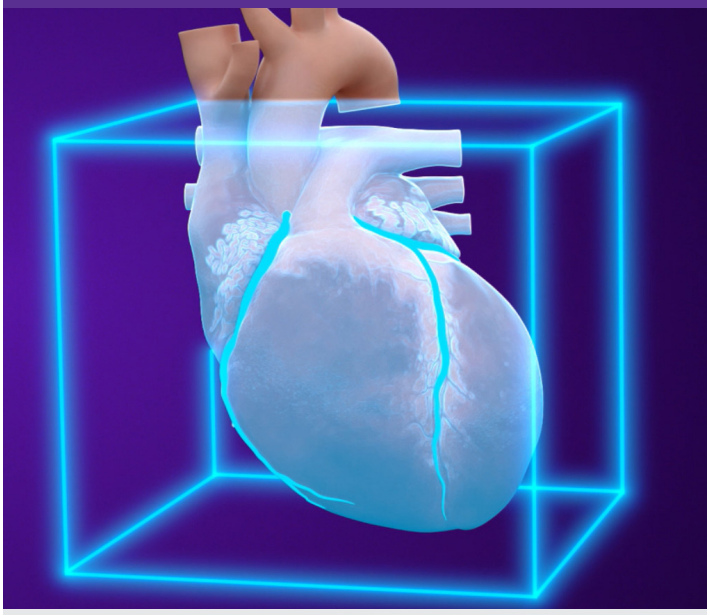
Automatically generate anatomically aligned and labeled spine reformatted views

FastStroke with StrokeSENS[7]



Automatic processing of ischemic stroke cases and emailing results

SnapShot freeze 2



Automated whole heart motion correction

Your CT works for you

When it comes to the operational and financial success of your imaging department, there is a lot your CT can do for you. With remote diagnostics, predictive analytics, cloud based solutions and subscription-based services, you can take comfort in knowing your CT is operating at peak efficiency. For example, Tube Watch uses a combination of artificial intelligence, machine learning and software analytics called Digital Twin technology to create a customized, digital model of your tube, system and usage profile. Using that digital model, Tube Watch can predict when your tube is going to need to be replaced. This is just one of many ways we ensure Revolution Maxima is always working for you.

Advanced Visualization

Elevate your CT imaging with our collection of advanced visualization applications that assist reading, automate post-processing and streamline imaging review.

Tube Watch

Predict when your tube will fail three days in advance, so you can schedule a service call before it disrupts your schedule.

Imaging Protocol Manager

Standardize your protocols across all of your CT systems with this cloud-based protocol management solution that allows you to access and update your protocols through a single application.

Imaging Insights

Collect and analyze system data to pinpoint operational inefficiencies, which we can use to help you target opportunities to streamline your operations.

OnWatch

Proactively screen key system metrics for anomalies and preemptively alert a remote engineer to either make a repair online or schedule a service call before it turns into a bigger problem.


PAUSE
PAUSE

Greater CT care with everything you need

Revolution Maxima provides you with our latest innovative CT solutions to ensure the most efficient patient care possible. By optimizing the scan experience from referral to report with our latest AI technologies and scalable subscription software services, you'll have everything you need for greater CT care.

AI-based
Auto Positioning

Up to
40 mm
coverage

up to
82%[5]
reduction
in required dose

Up to
.35 sec
rotation speed

Revolution Maxima

High-performance care every step of the way

Smart
Subscription

.28 mm
spatial resolution[4]

70 cm
gantry

About GE HealthCare

GE HealthCare is a leading global medical technology, pharmaceutical diagnostics, and digital solutions innovator, dedicated to providing integrated solutions, services, and data analytics to make hospitals more efficient, clinicians more effective, therapies more precise, and patients healthier and happier. Serving patients and providers for more than 100 years, GE HealthCare is advancing personalized, connected, and compassionate care, while simplifying the patient's journey across the care pathway. Together our Imaging, Ultrasound, Patient Care Solutions, and Pharmaceutical Diagnostics businesses help improve patient care from diagnosis, to therapy, to monitoring. We are a $19.6 billion business with 51,000 colleagues working to create a world where healthcare has no limits.

Follow us on LinkedIn, X (formerly Twitter), and Insights for the latest news, or visit our website www.gehealthcare.com for more information.

References:

[1] Kaasalainen, T., Palmu, K., Reijonen, V., & Kortesniemi, M. (2014). Effect of patient centering on patient dose and image noise in chest CT. American journal of roentgenology, 203(1), 123-130.

[2] Toth T, Ge Z, Daly MP. The influence of patient centering on CT dose and image noise. Med Phys 2007; 34:3093–3101.

[3] Image quality comparisons were evaluated by phantom tests of MTF, SSP, axial NPS, standard deviation of image noise, CT Number accuracy, CNR, and artifact analysis. Additionally, LCD was demonstrated in phantom testing using a model observer with the head and body MITA CT IQ Phantoms (CT191, CT189 The Phantom Laboratory). DLIR-H and ASiR-V reconstructions were performed using the same raw data. DLIR's image sharpness rated as same as or improved over ASiR-V*.
* As demonstrated in clinical evaluations on Revolution CT consisting of 40 cases and 6 physicians, where each case was reconstructed with both DLIR and ASiR-V
and evaluated by 3 physicians. In 100% of the reads, DLIR's image sharpness was rated the same as or better than ASiR-V's. This rating was based on each individual reader's preference. DLIR's noise texture rated as improved over ASiR-V*.
* As demonstrated in clinical evaluations on Revolution CT, consisting of 40 cases and 6 physicians, where each case was reconstructed with both DLIR and ASiR-V and evaluated by 3 physicians. In 92% of the reads, DLIR's noise texture was rated better than ASiR-V's. This rating was based on each individual reader's preference.

[4] Calculated based on MTF 4% value in X/Y. 4% MTF is measured under 120kv, 200mA, 1.0 sec gantry rotation and Edge Plus kernel.

[5] Image quality as defined by low contrast detectability. In clinical practice, the use of ASiR-V 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 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.

[6] Software available to customer is dependent on the software package purchased by customer. StrokeSENS™ is legally manufactured by Circle.

[7] Neurovascular Imaging, Inc. StrokeSENS is not available for sale in all countries.

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