Your diagnostic partner.
Every day.

Optima* CT540

At GE Healthcare, the goal was to design a CT system that would provide our clinical partners with the imaging capabilities needed every day, combined with the image quality and ease of use you have come to expect from GE CT scanner technology.

The result is Optima CT540.

With Optima CT540, this design concept combines your clinical expertise with a streamlined workflow continuum to help you provide the most reliable and consistent imaging results.

Optima CT540 is ready when you are.

At GE Healthcare, we are focused on high quality patient diagnostics and mindful of your desire for a simplified workflow. The new Optima CT540 optimizes the patient experience while continuing to provide exquisite image quality.

We understand your need for exceptional clinical results, a steadily increased volume of patient throughput, a focus on patient-centered tasks, and a reduction in unnecessary steps and tedious, time-consuming operations.

This is what the new Optima CT540 is all about—improving the patient experience to make the study more effective from start to finish.

Built on ASiR*, a breakthrough innovation in iterative reconstruction technology, the Optima CT540 is built to provide a reliable and cost-effective CT solution for high quality diagnostic imaging.

Its ergonomics are designed with end-users in mind, creating a "comfort zone" experience for both patients and practitioners alike.

In addition, a strong field service network backed by digital services and remote capabilities, along with a wide range of educational opportunities, can ensure a lifetime of user satisfaction and support.

The new modern design CT that promotes patient interaction

At every step, CT operations made easier, yet efficient

Advanced technologies for low dose exams with ASiR and more

Built around ASiR

Ready for a variety of settings, from emergency to interventional rooms and oncology to pediatric sites

Pitch booster with IQ enhance (IQE)

Optima
129.5   0.0°
Optima CT540
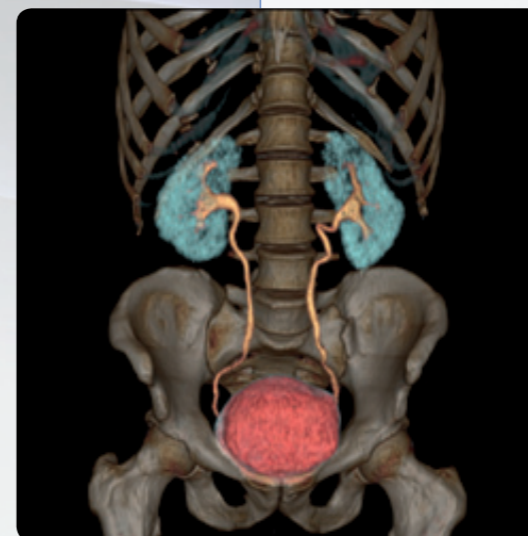000013
45 M Car-Doc
SP   IC   OM

Optima CT540 is designed for low dose with ASiR inside.

The ASiR reconstruction algorithm may allow for reduced mA in the acquisition of diagnostic images, thereby reducing the dose required. The use of ASiR may also allow for scanning at lower mA and less anode heat input, thereby reducing the likelihood of encountering tube cooling delays.***
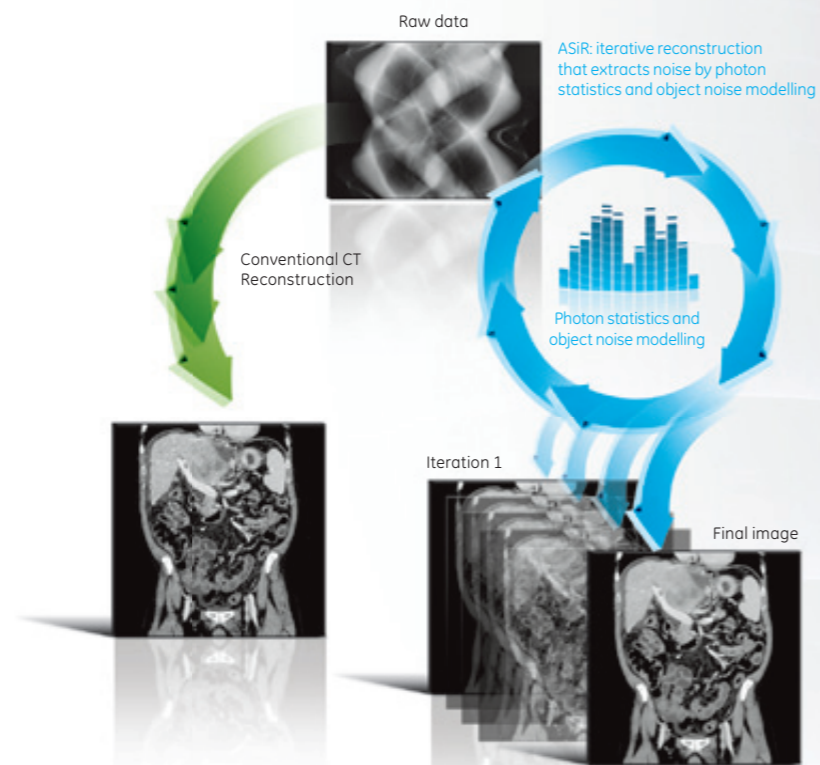
A new level of streamlined workflow.

Whether before, during, or after the scan, the Optima CT540 is designed to provide you with features that create a comfortable streamlined environment while maintaining clinical effectiveness and precision.

From the Default Patient Positioning to emergency CTs in a handful of clicks, from a real-time scout to smart-triggered contrast exams, the results are the same: consistent and reliable ease-of-use imaging solutions.

A partner you can rely on. By design.

The images you need. The quality you expect.

How can you get fast acquisition speed coupled with stellar IQ—all balanced with a one-touch dose management solution?

Look no further than the Optima CT540 :

Speed with IQE

Speed with IQE—70 cm chest-abdomen-pelvis in 10 seconds. Boost your pitch and cover more anatomy at the same image quality.

In addition, the GE Varispeed feature will help adapt your acquisition speed to the right level depending on the clinical need. An almost immediate 48 ips visualization will follow with direct MPR.

High IQ with Volara Digital DAS

An increased sampling rate of up to 20% results in outstanding image quality in signal starved areas (shoulder, hip, large patient, metal, etc.).

Raw data

ASiR: iterative reconstruction that extracts noise by photon statistics and object noise modelling

Conventional CT Reconstruction

Photon statistics and object noise modelling

Iteration 1

Final image

Conventional CT image recontruction techniques are simple and fast, but have limitations, as they are sensitive to noise and artifacts.

ASiR extracts noise by modelling its root causes for each patient and application type.

OptiDose

Dose reduction with ASiR is combined with GE Healthcare's proven OptiDose* technologies that deliver dose reduction at the source.
It includes 3D modulation, which automatically adjusts the mA as you scan along the x-y-z axes, and pre-patient collimation to block X-rays not needed for the image and optimize the beam width to improve geometric dose efficiency. Color-coded pediatric protocols provide intuitive management of pediatric exams, categorizing children into one of eight colored categories based on their weight and size so clinicians can select the right-sized scan technique. The easy-to-archive, DICOM-structured dose report is generated after every scan, providing dose parameters and a clear summary of how the procedure was performed.

VISR

Volumetric Image Space Reconstruction (VISR) are 3D filters that reduce image noise (standard deviation) without compromising spatial resolution to provide clear visualization in neuro and cardiac imaging, to deliver diagnostic image quality with potentially lower mA.++
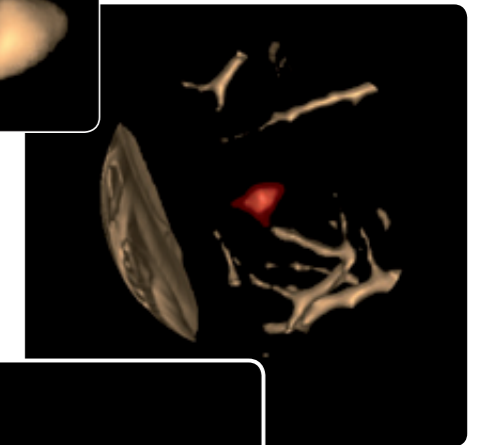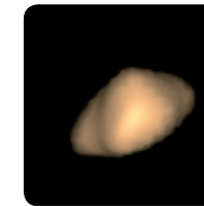
Dose check

Prior to starting the scan, Dose check provides tools to notify and alert the operator setting the scan parameters whether the estimated dose index is above user-defined notification values. The Dose check feature is designed to comply with the NEMA XR-25-2010 standard.

Helping you to achieve your lower dose needs

ASiR inside.
A leap ahead in dose management

ASiR may help clinicians achieve dose reductions while delivering the diagnostic image quality needed for confident diagnosis. It may also improve low contrast detectability***.
ASiR changes the dose paradigm across many anatomies and patients. Based on customers' experiences using ASiR technology, excellent diagnostic image quality at low dose has been demonstrated across exam types and body regions.

DoseWatch.
Know where you stand.

GE Healthcare's DoseWatch dose management solution can be the cornerstone of a comprehensive, proactive radiation management program. Capturing dose data from multiple imaging modalities and manufacturers' systems, DoseWatch gives you insightful, actionable information with configurable alerts.

Every day...
Every scan...

CT Angiography.
Speed and consistent quality

With consistent 0.625 mm data acquisition, there is no trade-off between speed and high resolution. The Optima CT540's speed and coverage is able to capture the arterial phase for assessment of most vascular segments. The Xtream Injector allows you to synchronize injection and acquisition parameters. With Autolaunch and Preprocessing, the system automatically prepares up to eight cases for reading—saving substantial time. In addition, zero-click bone removal automatically subtracts bones in angiography studies featuring automatic vessel tracking and thrombus segmentation.

CT Oncology.
Detect, evaluate, and follow up

The Optima CT540 enables you to see anatomy and lesions clearly and more thoroughly in order to understand the diagnostic landscape. High-quality images, streamlined workflow, fast acquisition speed, and dose optimization all help you detect and evaluate small lesions, follow them over time and provide a detailed evaluation of tumor extension.

Lung VCAR and Colon VCAR applications provide highly sensitive computer-aided reading to outline, contour, and characterize lesions and to follow changes over time. Liver lesion along with lymph node analysis and follow-up are facilitated by auto-segmentation tools and registration algorithms that let you match datasets from CT, MR, and PET/CT.

The OncoQuant platform provides robust tools for routine oncology diagnosis, treatment follow-up, and clinical trial management. It includes a kit of tools to facilitate routine quantification (RECIST 1.0, 1.1, and WHO) and a review of data from CT, MR, PET/CT, and 3D X-ray imaging over multiple time points.
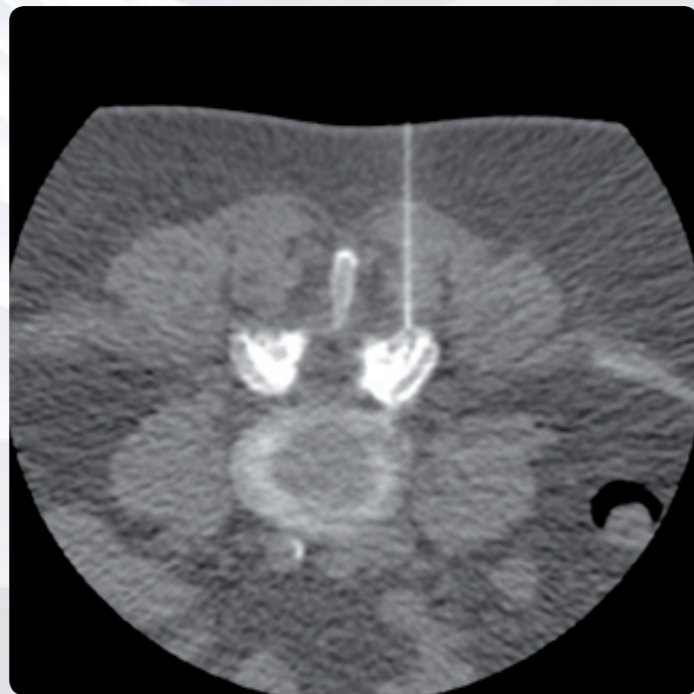
CT interventional procedures in a split second.

With the Optima CT540, you'll gain a new perspective on interventional procedures.

SmartView Fluoro combines advanced visualization techniques with real-time reconstruction and display capabilities. A nominal image lag of only 0.20 second gives you the confidence you need for CT-guided interventions, such as: core, lung, and retroperitoneal lymph node biopsies; drainage procedures; pain management procedures; and ablations. You'll know just where your needle is every step of the way—and you can even adjust needle positioning for respiratory motion. Get to your target precisely using the fast image display as your guide.

Guiding interventions for less complex cases? GE Healthcare's SmartStep tap mode lets you complete simple procedures efficiently and accurately.
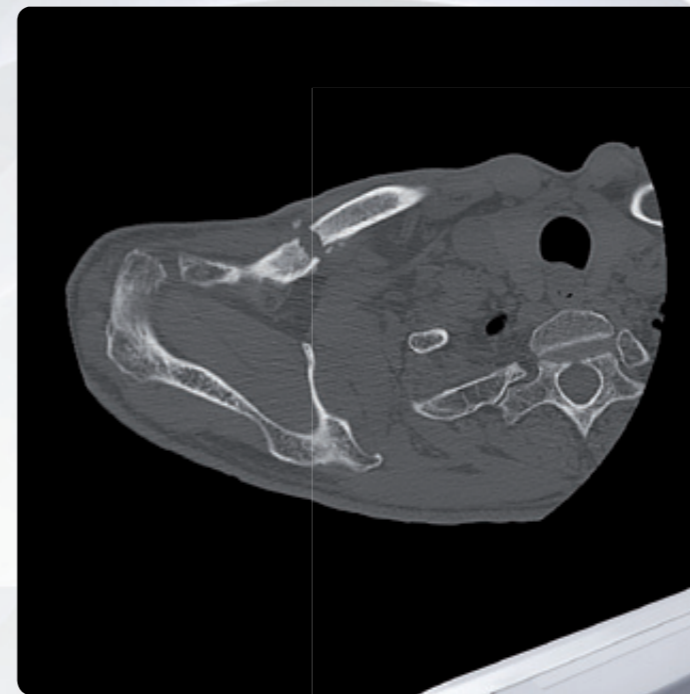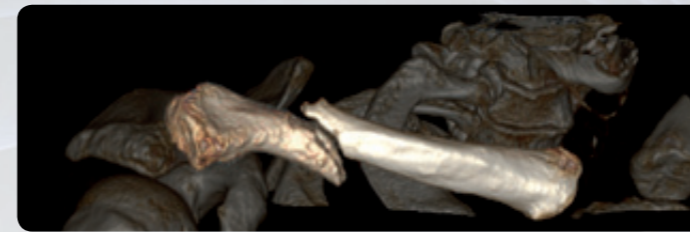
Enhanced CT workflow in your emergency room.

From patient set-up to powerful post-processing, the Optima CT540 gives you the imaging needed for fast diagnostic output in an environment where seconds count.

• Default Patient Positioning to emergency CT mode in a handful of clicks.
• Emergency Patient Mode—a dedicated User Interface for emergency cases to start examinations quickly.
• Pitch Booster for fast scanning and longer anatomical runs.

The new Emergency Patient Mode provides simultaneous image acquisition, reconstruction, and analysis to accelerate your workflow.
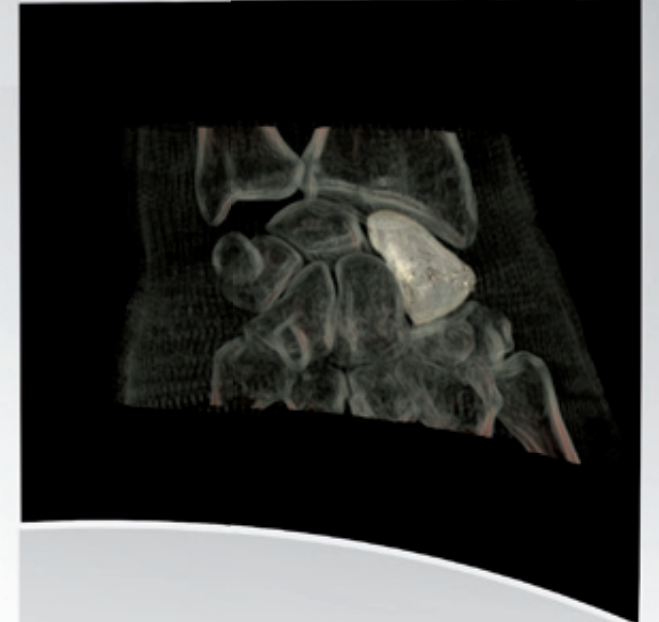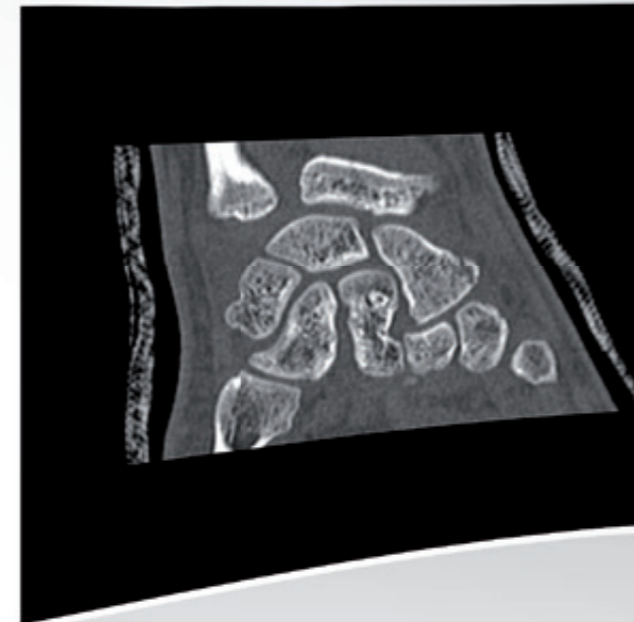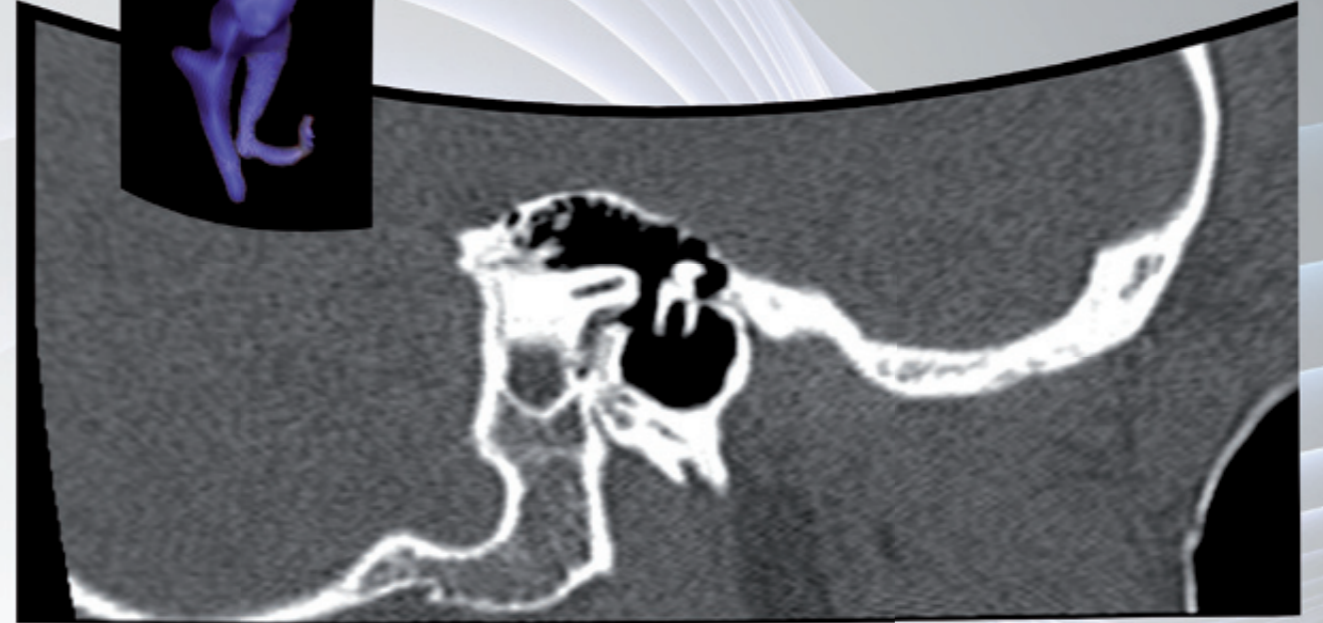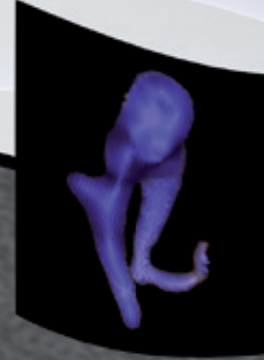
Our advanced operator console gives you anatomy-specific protocols and helps you facilitate fast, efficient reviews. Multiple post-processing tools are also accessible from the console, which provides easy access to your server from the emergency room, keeping you in close contact with your patients.
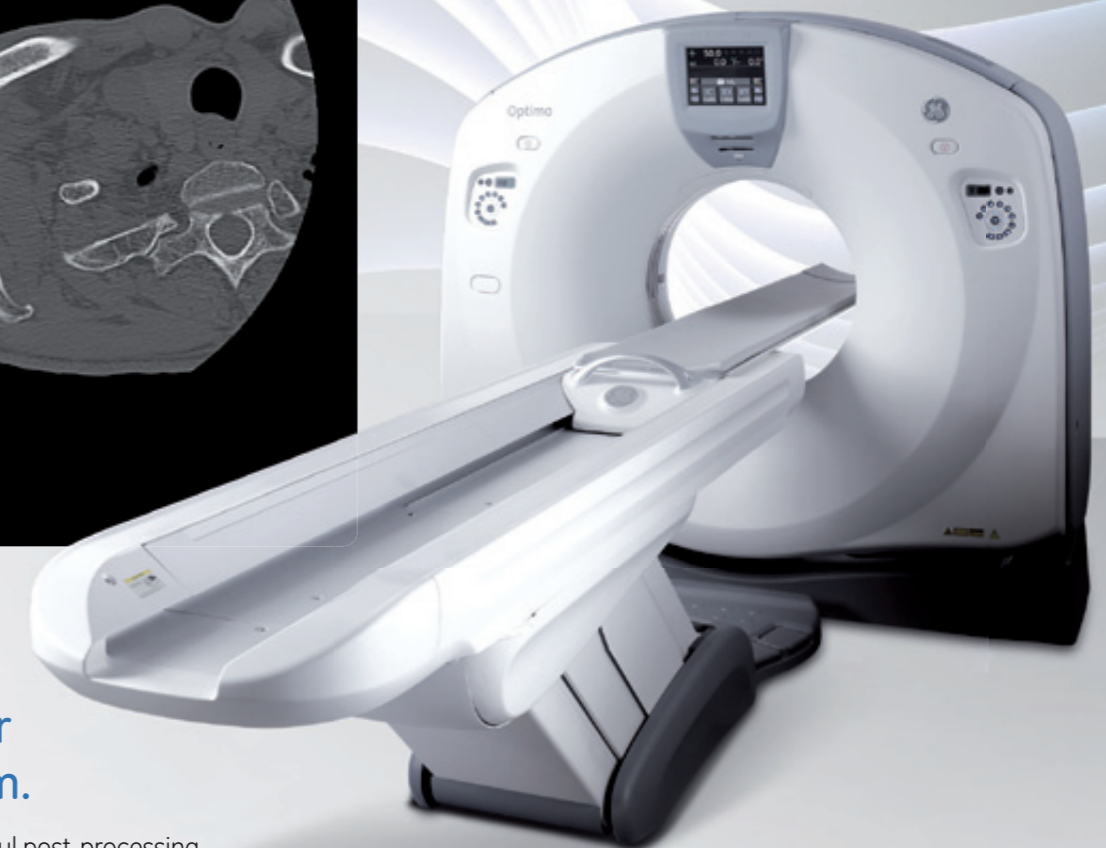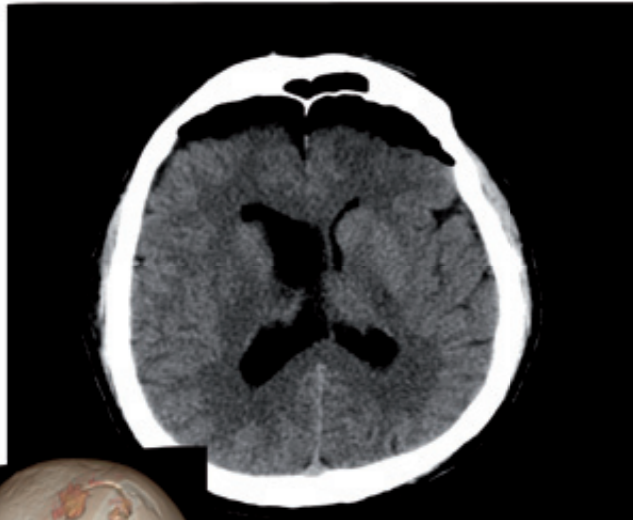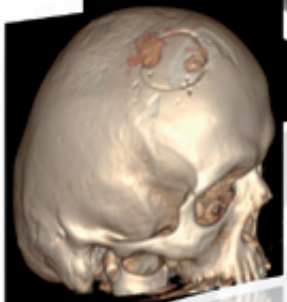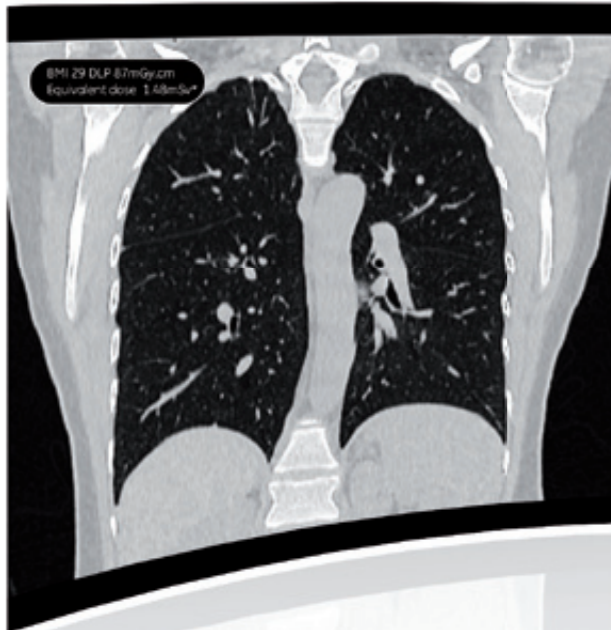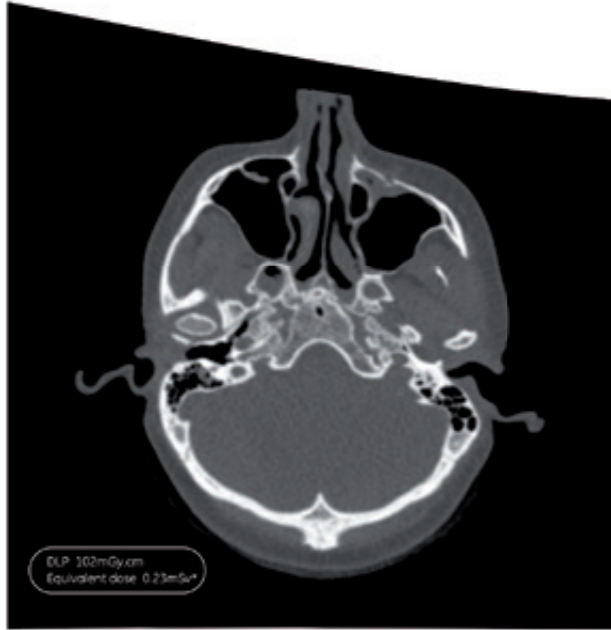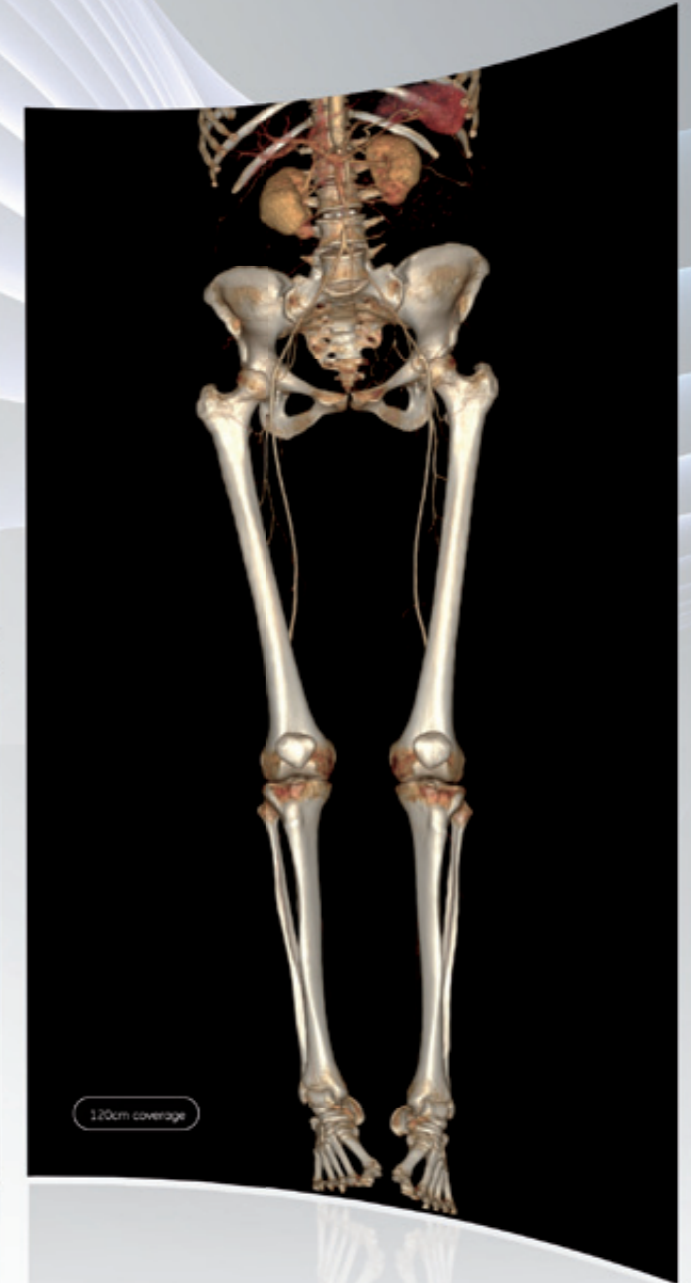
Contrast Resolution

Spatial resolution

Dose

Acquisition speed

You have a complex & fast-paced workplace.

Ready

- **Patient table** lowers to each individual patients' needs
- **Autopositioning** for desired table settings
- **Xtream display** play relaxing videos for your patients
- **Emergency mode** with dedicated user interface to start exam quickly

And More...

Scan

- **10 sets of** Prospective multiple reconstructions for rapid reconstruction algorithm set up
- **Real-time scout:** stop acquisition once necessary anatomy is covered
- **Integrated injector:** synchronize with the exam workflow
- **SmartPrep with Auto Trigger:** the scan can be automatically initiated when contrast enhancement reaches the preferred point

And More..

Done

- **Direct MPR:** real-time direct reconstruction and fully corrected multi-planar images
- **AWE connection:** from your console, access applications hosted on the server

And More...

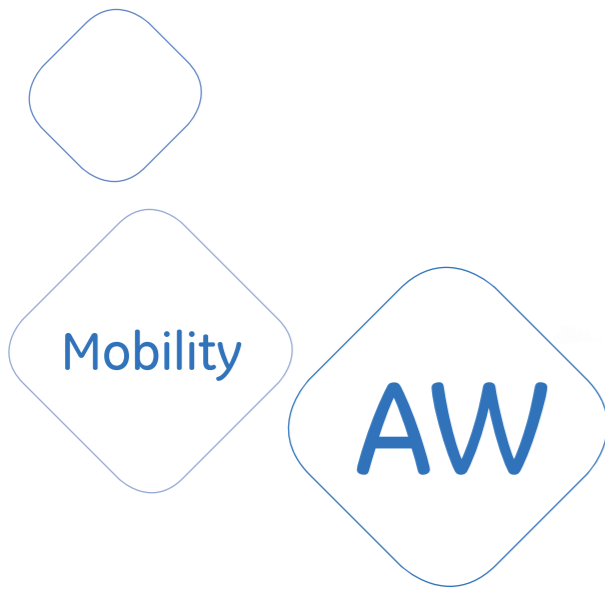A successful practice depends on reliable image acquisition & streamlined workflow

Reduce the exam time for shorter breath holds & less patient stress

We give you a simple & efficient workflow.

Get more time with your patients, explaining the procedures & preparing for the exam

Mobility

AW

Dexus

Beyond post-processing image efficiency, a comprehensive solution—DEXUS—is available to optimize your Optima* CT540 experience

Clinical relevance is the main driver of GE Healthcare's post-processing software.

Since 1990, improvements in the company's offering have led to a robust and constantly-enriched foundation—coming directly from the modality's latest innovations. Today it provides a unique and consistent multimodality 2D, 3D, and 4D environment, placing patient pathology in the center. On top of this foundation is GE Healthcare's large portfolio of vascular, cardiac, oncology, and neurology advanced applications, that enhance scanner capacities to provide accurate assessments.

Clinical relevance without system interoperability means nothing

With significant dose reduction, CT scanners can increase body exploration capacities. Additionally, the volume of data is growing fast and managing it becomes time-consuming and complex. That is why DEXUS ensures deep integration with medical equipment—CT, MRI, PET-CT, Vascular—and your RIS and PACS systems. Because communication alone is not enough, DEXUS provides Workflow Booster, an automatic case preparation and preprocessing tool..

Unleash the power and access it from anywhere

Complex pathologies may require team work and expertise sharing—inside or outside of your facility. GE Healthcare's client server model, AW Server, complements the traditional AW workstations, offering a centrally-managed, post-processing engine accessible from any PC[*1] or Mac[*1] staff meeting, radiologist office, or outside if allowed.

*1 Following systems are supported: Windows® XP, Vista & Windows 7, AW Workstations, Mac® (using Windows Parallel)

*2 IT team need to configure appropriate access to server from outside the facility.

* Trademarks of General Electric Company.
*** 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.
++ In clinical practice, the use of VISR may enable reduction in 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. When
ASiR is installed, VISR will be disabled.

Some configurations and options of Optima CT 540 may not
be available to market or for sale in some countries.

UK	Spain
Tel : 0800 0329201	Tel : 0900 993620
Germany	France
Tel : 0800 1890461	Tel : 0800 908719
Austria	Switzerland
Tel : 0800 291888	German
	Tel : 0800 837279
Italy	French
Tel : 0800 786947	Tel : 0800 837279

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 help 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.

GE Healthcare
Chalfont St.Giles,
Buckinghamshire,
UK

GE imagination at work