Canon

Aquilion ONE

GENESIS Edition

Transforming CT

GENESIS Edition – Transforming CT

Aquilion ONE / GENESIS Edition goes beyond the evolution of dynamic volume CT. Intensive, clinically focused research and innovative technological developments have culminated in a CT system with industry-leading spatial resolution and reduced radiation dose requirements.

Now available on GENESIS Edition, AiCE (Advanced Intelligent Clear-IQ Engine) is the next generation of CT reconstruction technology, the Deep Learning Reconstruction method built on an Artificial Intelligent Neural Network. AiCE quickly produces exceptional CT images of extraordinary detail and with the low-noise properties that you might expect of a future advanced model-based iterative reconstruction (MBIR) algorithm.

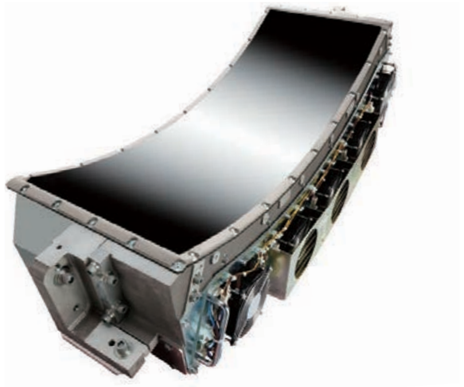
GENESIS Edition with AiCE – Integrated intelligence for increased patient safety and patient care.

Transforming clinical confidence

A better balance between image quality and dose – from the youngest to the largest

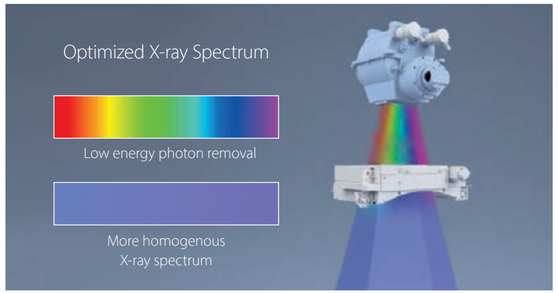
PUREViSION Optics provides significantly improved imaging efficiency from photon generation to detection. An optimized beam spectrum combined with a more efficient detector result in a better balance between image quality and dose.

PUREViSION Optics transforms routine CT imaging to new levels of image detail and low contrast detectability with up to 31% less dose.*



GENESIS Edition' 320 row PUREViSION detector with industry-leading 0.5 mm element size delivers sharp isotropic images with a boost of 40% more light output.

Up to
31%
Less Dose*
For Body Imaging
at equivalent low contrast detectability

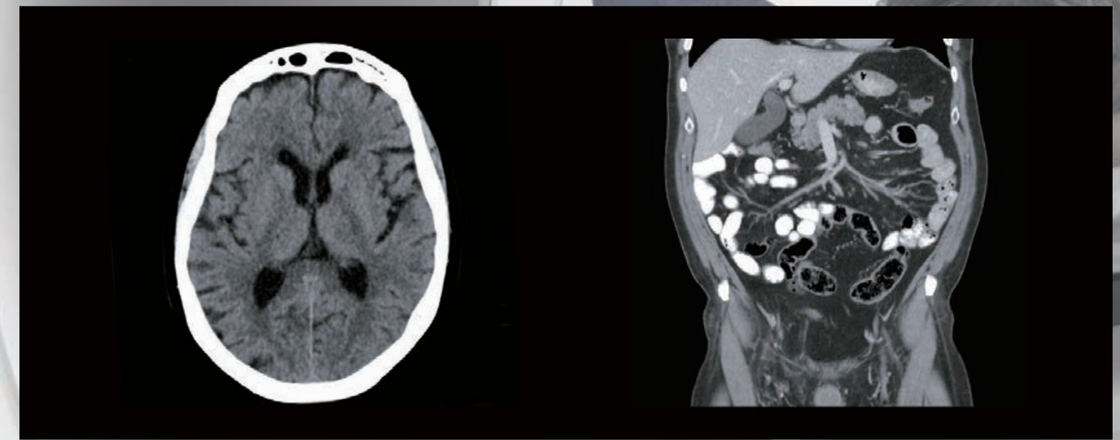


Patient-specific beam shaping filters provide an optimized X-ray spectrum and more homogenous distribution, improving low contrast detectability by up to 18% for body imaging and up to 22% for brain imaging as shown by a model observer study.*

*A non-prewhitening model observer study was conducted comparing Aquilion ONE / GENESIS Edition to Aquilion ONE. Maximum dose reduction values were established by comparing low contrast detectability under baseline conditions for abdominal and brain examination based on the detectability index performance metric, a measure of signal to noise that takes into account the magnitude and texture of both the signal and the noise for a given LCD task.

Brain Imaging
With up to
22%
Better*
Low Contrast Detectability
at equivalent dose

Body Imaging
With up to
18%
Better*
Low Contrast Detectability
at equivalent dose



A new era of AI-assisted medicine has begun

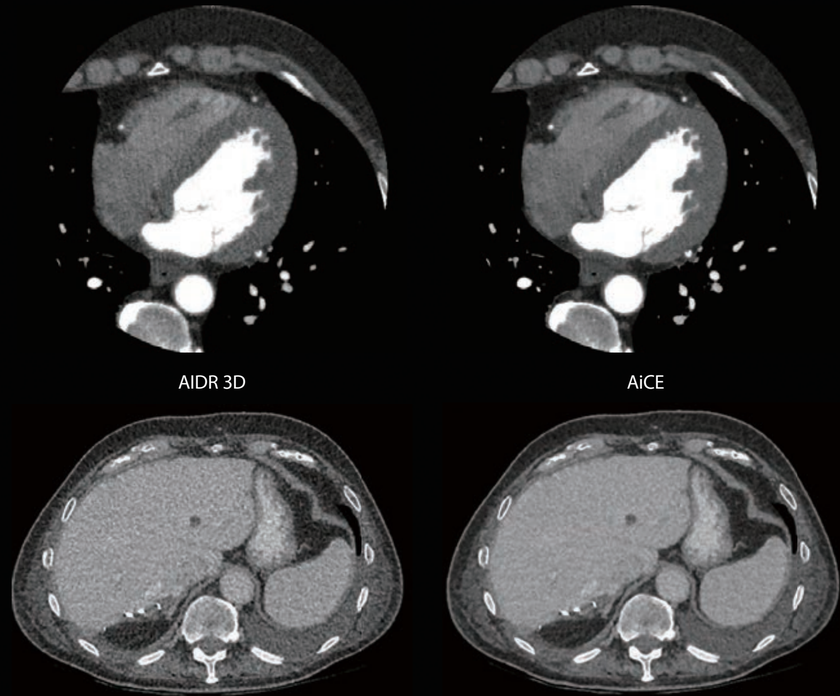
AiCE – Deep Learning Reconstruction

Canon Medical introduces a revolutionary approach to CT reconstruction that leverages Deep Learning Neural Networks specifically trained to perform one task – reconstruct images that are sharp, clear, and distinct.

AiCE is trained to reconstruct images to match the spatial resolution and low-noise properties of an advanced Model-based Iterative Reconstruction (MBIR) method and stores this knowledge within layers of a neural network. Applying this knowledge during image reconstruction makes AiCE extraordinarily efficient to routinely provide high spatial resolution and low-noise CT examinations that help to improve your diagnostic confidence for every patient.

- ☑ Fast zero-impact reconstruction
- ☑ Exceptional low-noise properties
- ☑ Enhanced anatomical resolution
- ☑ Superb image homogeneity

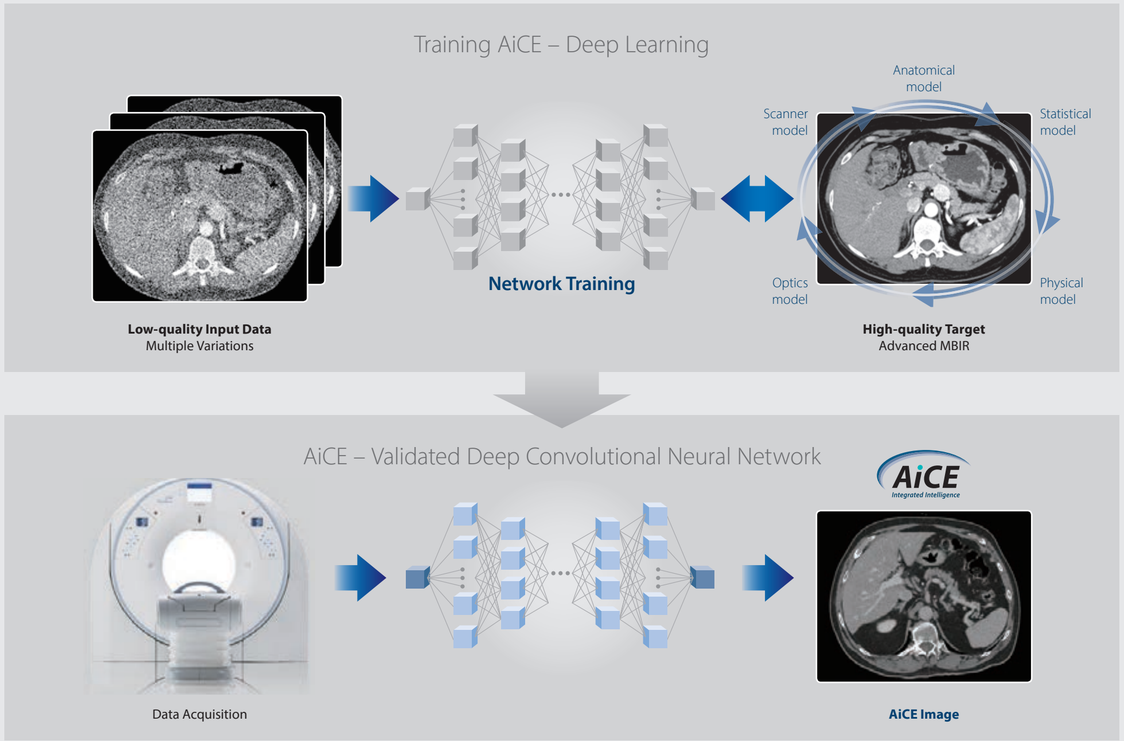
A transformative reconstruction technique for an AI-assisted future



Deep Learning Reconstruction

Artificial intelligence technologies have taken huge steps forward in recent years, in large part due to the development of Deep Convolutional Neural Networks (DCNN)s. DCNNs process enormous amounts of data through a network of decision-making nodes, called neurons. AiCE applies the tremendous power of DCNNs to the task of image reconstruction.

AiCE was trained on vast amounts of high-quality images reconstructed with an advanced MBIR algorithm that is too computationally intensive for clinical use. This training taught AiCE to distinguish true signal from noise. The results were validated by a team of radiologists, medical physicists, AI scientists, and clinical researchers, producing a fast, fully-trained reconstruction algorithm ready for clinical use.



Adaptive Diagnostics

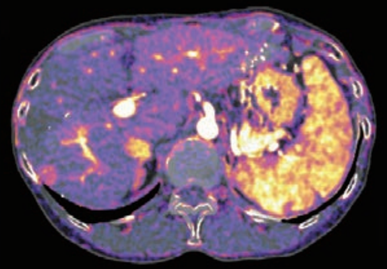
- ☑ Patient-centric imaging solutions
- ☑ Simplifying complex protocols
- ☑ Providing consistent quality results

The right application for a confident diagnosis
Automated, reliable and robust

SURE Subtraction Angio*

Improved visualization in CTA with true subtraction of bone and calcium.

SURE Subtraction Iodine Mapping*



Enhance your diagnostic capabilities with color iodine maps provided automatically for any multiphase abdominal protocol.

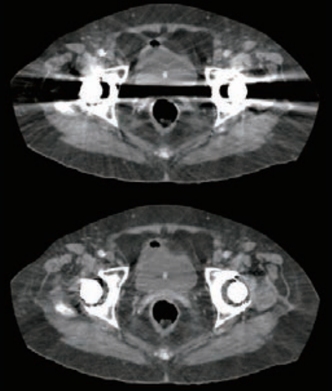
SURE Cardio Prospective*

SURE Cardio Prospective reacts instantly to a change in the patient's heart rate ensuring diagnostic image quality even in patients with arrhythmia.

vHP* 3 Phase
(Three-phase variable Helical Pitch)

Perform three exams in one with vHP3.

SEMAR
(Single Energy Metal Artifact Reduction)



Improve visualization of bone and soft tissue with SEMAR.

Dual Energy*

Tissue visualization with easy-to-use Dual Energy scanning.

* Option

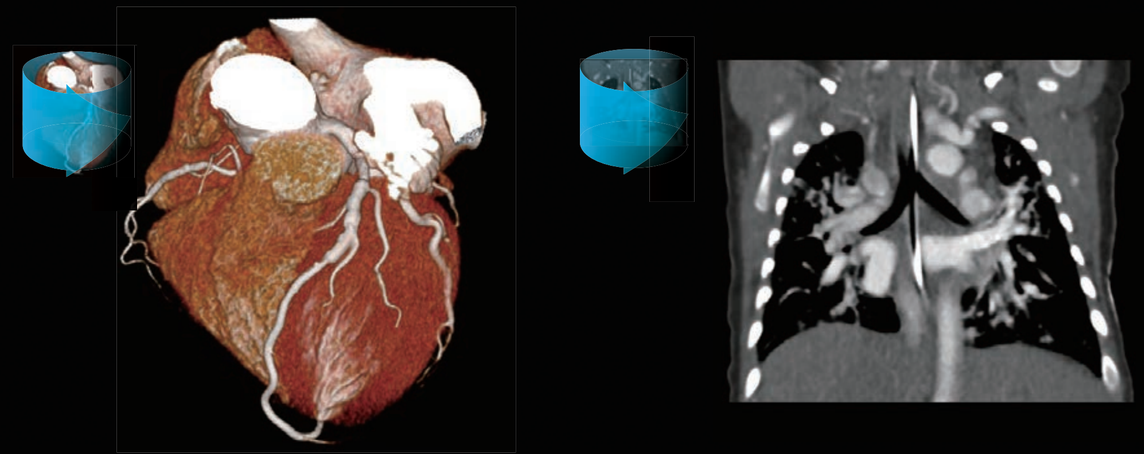
ONE rotation is all it takes

GENESIS Edition's 16 cm wide area detector significantly improves your ability to obtain high-quality images for routine and advanced studies. One rotation is all it takes to acquire a whole heart, a neonatal chest, a foot or an ankle exam – in a fraction of a second with less dose and great z-axis uniformity.

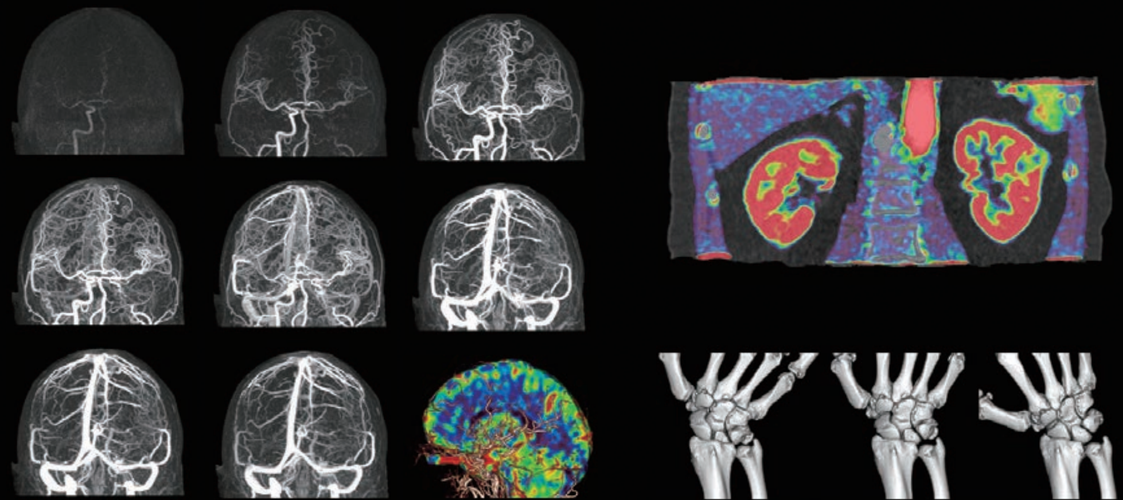
Changing clinical pathways

Adding dynamic functional imaging to morphology can provide valuable further insights, helping you to optimize disease management and treatment plans. Advanced perfusion maps can assist in diagnosis and therapy response verification of stroke or tumors, while dynamic joint studies help identify causes of pain or immobility.

ONE Rotation Scanning



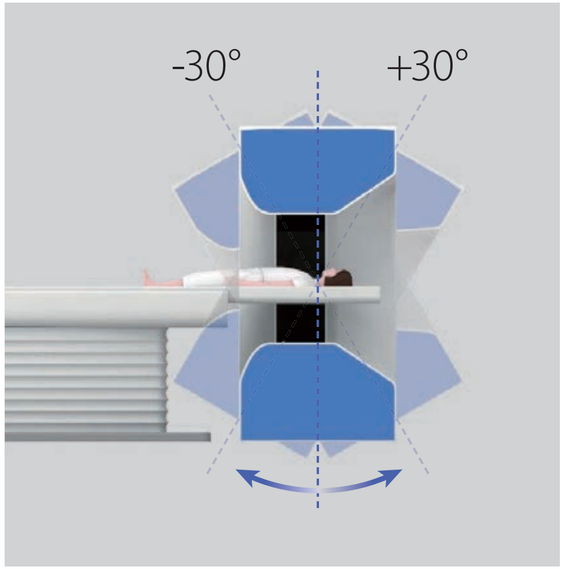
Dynamic Functional Imaging



Transforming patient experience

Patient-centric design

Advanced gantry design



Flared Gantry

GENESIS Edition's unique flared gantry provides a calming, wide-open space for a better patient experience. The short bore is safer, with improved access to the patient from the front and rear of the gantry. During trauma and interventional procedures, patients can easily be cared for from the front and rear of the gantry.

Gantry Tilt

Gantry tilt allows angled scanning at your desired reading plane and avoiding direct exposure to radiosensitive organs.

Expert engineering equips GENESIS Edition with bi-directional gantry tilt. Highly-advanced reconstruction technology overcomes the mathematical complexity of angled-scanning for helical and volumetric acquisition, at no compromise to image quality.

Advanced couch design*

Once on the table, perfect positioning – No push, no pull.

Tech Assist Lateral Slide* improves safety and comfort for positioning patients at the push of a button.

SURE Position remotely adjusts the patient to the exact iso-center ensuring best practice in CT accuracy – without the need for repeating the scano image.

- ☑ Faster patient setup
- ☑ Safer for technologists
- ☑ Comfortable for patients
- ☑ Accurate iso-center scanning

* Option

A CT exam with the ease of plain film X-ray

Perform CT examinations with the speed and ease of taking a plain film X-ray.
The GENESIS Edition Area Finder* with laser collimation permits the scan range and field of view to be set directly at the gantry, bypassing the traditional scan planning steps.

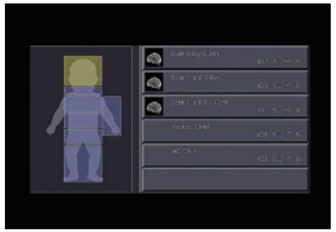
Patients may be positioned more comfortably for a faster CT exam.

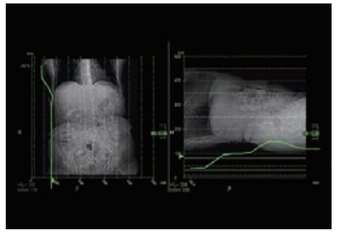
* Option

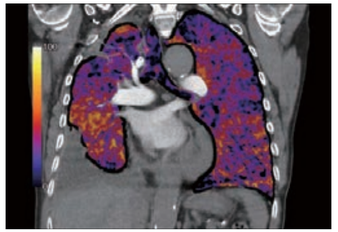
Transforming your workspace

Making your workflow

GENESIS Edition helps to make complex exams easier, reducing dose and improving diagnostic accuracy and reproducibility. All steps from exam planning to reconstruction and postprocessing can be combined in the same protocol. So simply selecting from the wide range of pre- or user-defined protocols is all that's needed to achieve rapid and robust results.







Powerful Protocols | Patient Adaptive Exposure | Advanced Applications

AUTOMATED ▶ ▶ ▶

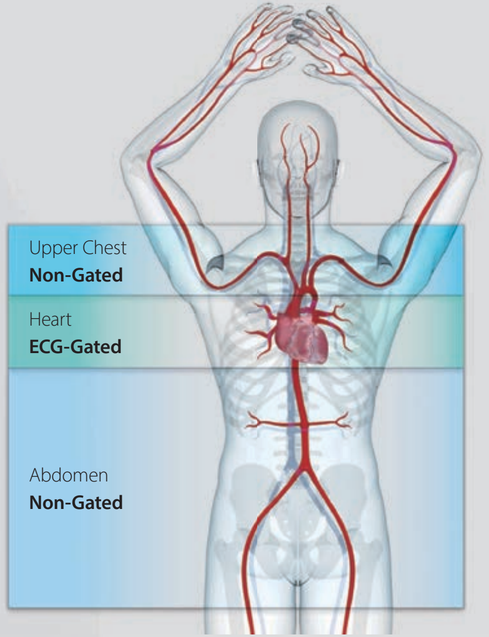
Faster, safer and optimal patient imaging

The all new vHP3*, allows three examinations to be performed in a single acquisition, seamlessly transitioning between scan parameter settings that have been optimized for each body region.

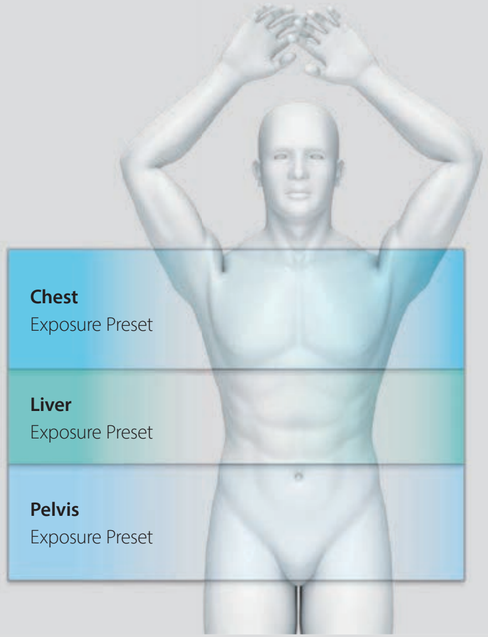
Providing the flexibility to vary between ECG gating, scan pitch and exposure control in a single uninterrupted scan, enables patient exams to be performed faster, with the potential for less contrast media and lower radiation dose.

vHP3's adaptive reconstruction engine provides high fidelity images through the entire scan range, overcoming the challenges of image reconstruction through the transition zones. With three scans in one, the single series reconstruction enables several studies to be interpreted simultaneously for faster reading.

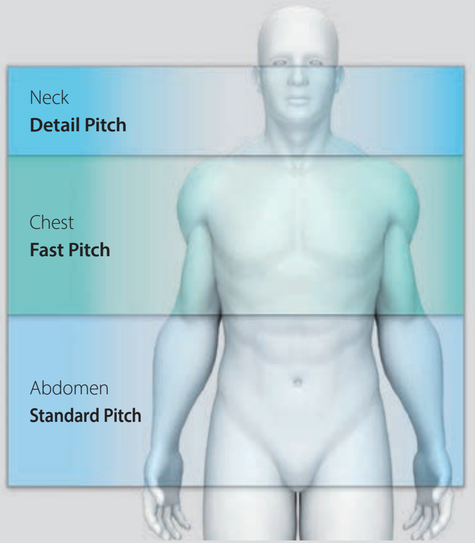
vHP 3 Phase – Optimal Gating
Cardiovascular scan



vHP 3 Phase – Optimal Exposure
Chest, Abdomen, Pelvis



vHP 3 Phase – Optimal Speed
Trauma scan



* Option

Economize on space, not on performance

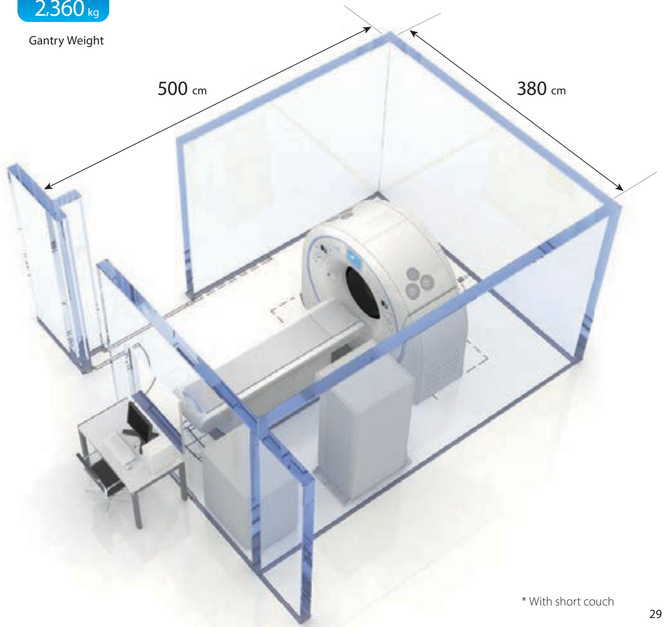
GENESIS Edition is smaller, lighter, and requires less power than any other premium CT system. The compact design also provides more in-room space for trauma or interventional procedures.

Designed for an installation space of just 19 m²* GENESIS Edition can be installed in most existing CT rooms, avoiding costly renovations.

Installation Space

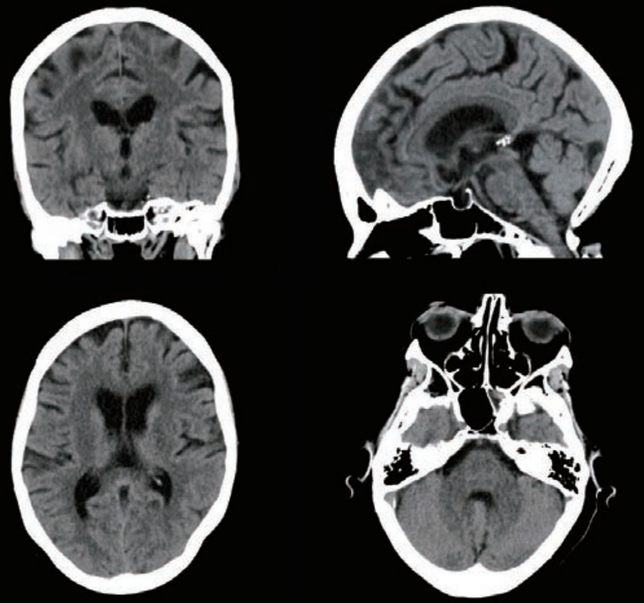
Power Capacity

Gantry Weight

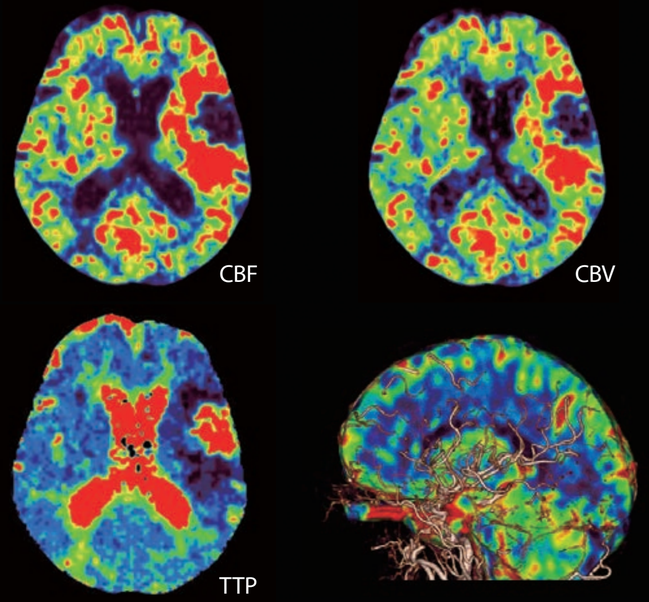


* With short couch

Brain Imaging



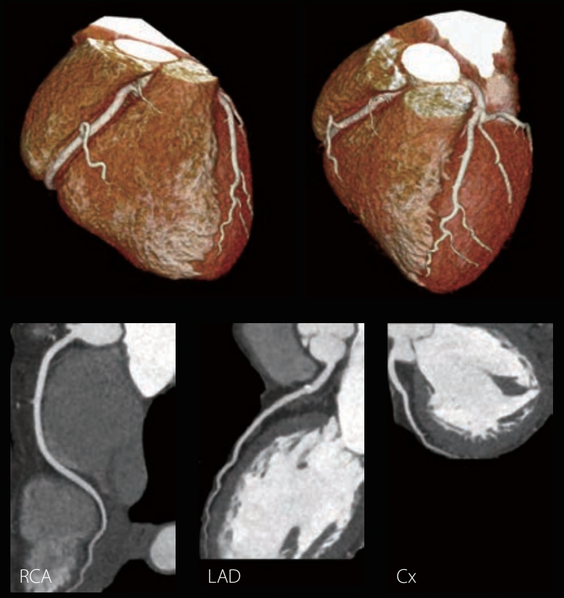
Superb brain image quality with clear grey-white matter differentiation and significantly reduced artifacts thanks to PUREViSION Optics



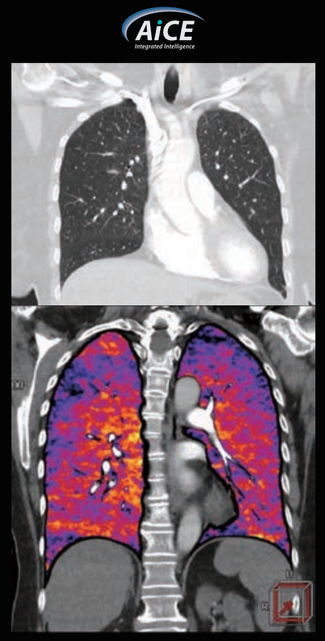
Whole-brain perfusion with Bayesian processing*

* Option

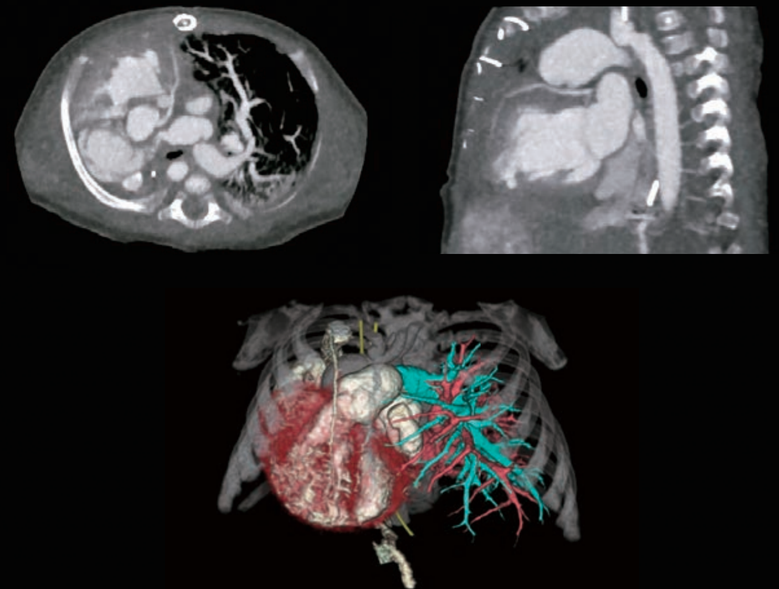
Chest Imaging



ONE beat cardiac CT at only 0.36 mSv



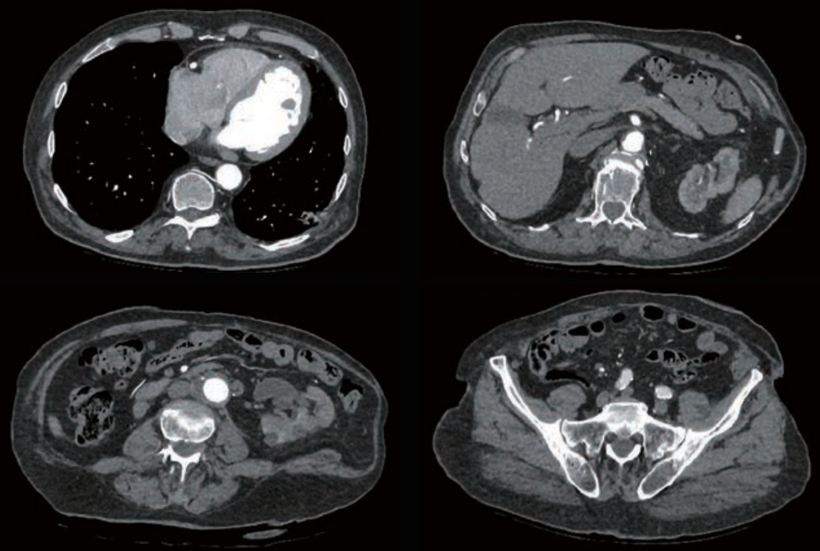
Enhanced clinical confidence with SURESubtraction Lung*



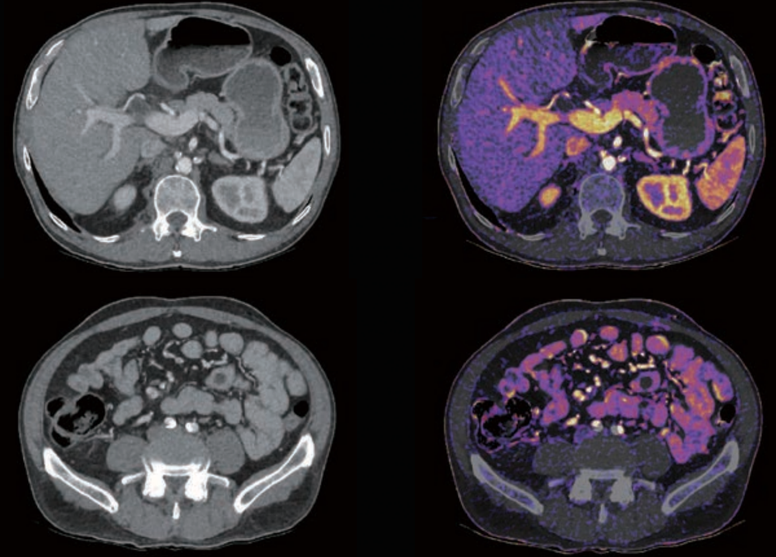
A ONE rotation ECG gated volume scan provides excellent anatomical visualization.

* Option

Body Imaging



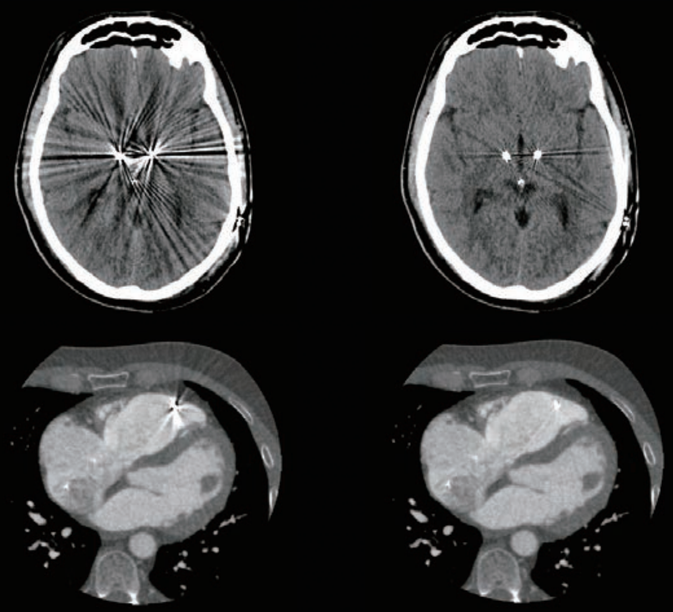
Excellent image detail and low contrast resolution in the abdomen

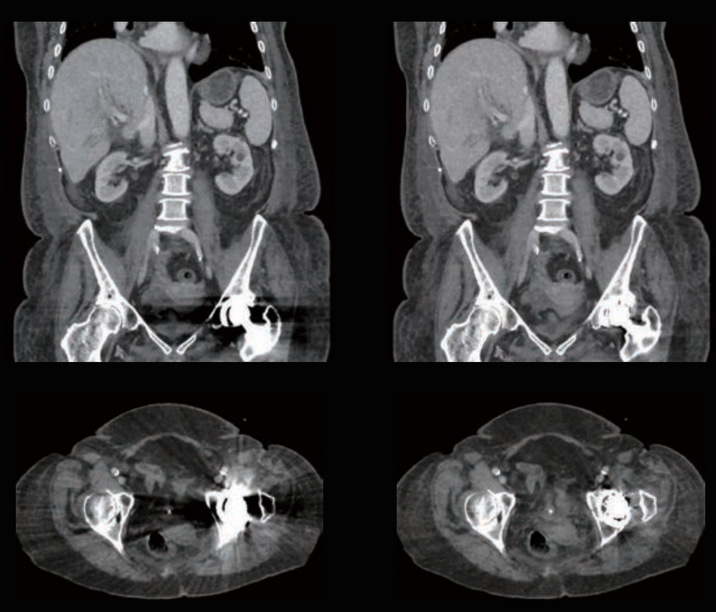


Additional clinical information with SURESubtraction Iodine Mapping*

* Option

SEMAR Single Energy Metal Artifact Reduction





GENESIS Edition
Transforming CT

Main specifications		
Detector		PURE ViSION detector
		320 rows, 0.5 mm
Gantry	Rotation time	Min. 0.275 s*1, 0.35 s
	Bore size	78 cm
	Bore depth	38.7 cm
	Tilt	± 30°
Patient couch	Load	220 / 315 kg, 694 lbs*2
	Max. scan range	150–200 cm*2
Reconstruction speed	Volume	5 s
	Helical	Max. 80 fps
Reconstruction	Iterative reconstruction	AIDR*3 3D Enhanced
	Deep Learning Reconstruction	AiCE*1
Installation	Power capacity	125 kVA*1, 100 kVA
	Space	Min. 19 m^2 (short couch), 204 ft^2

*1 Option
*2 Depending on system configuration
*3 Adaptive Iterative Dose Reduction

Clinical results may vary due to clinical settings, patient preparation and other factors.

Due to local regulatory processes, some of the products included in the brochure may not be available in each country. Please contact your sales representative for the most current information.

Aquilion ONE

GENESIS Edition

Canon

CANON MEDICAL SYSTEMS CORPORATION

https://global.medical.canon

Design and specifications are subject to change without notice.
Model number: TSX-305A MCACT0290EAC 2019-02 CMSC/D/Printed in Japan

Canon Medical Systems Corporation meets internationally recognized standards for Quality Management System ISO 9001, ISO 13485.
Canon Medical Systems Corporation meets the Environmental Management System standard ISO 14001.

Made For life