Canon

Aquilion Lightning

AI assisted CT

For the first time in this segment, harness the power of AI with Deep Learning Reconstruction technology for exceptional images without compromising on dose.

Welcome to the age of AI-assisted CT

Advanced intelligent Clear-IQ Engine (AiCE) – Deep Learning Reconstruction
AiCE is an innovative approach to CT reconstruction that uses Deep Learning technology to match the spatial resolution and low-noise properties of advanced model-based iterative reconstructions.

Trained using vast amounts of high-quality image data, reconstructed with an advanced model-based iterative reconstruction (MBIR) algorithm, AiCE distinguishes true signal from noise to deliver exceptional images without compromising on dose.

AiCE has potential to aid in fast and confident clinical results by providing:

- Low Noise
- Natural Image Texture*
- Sharp High Contrast Resolution
- Clear Low Contrast Detectability

AiCE Integrated Intelligence

Hybrid IR

AiCE Integrated Intelligence

*Compared to MBIR

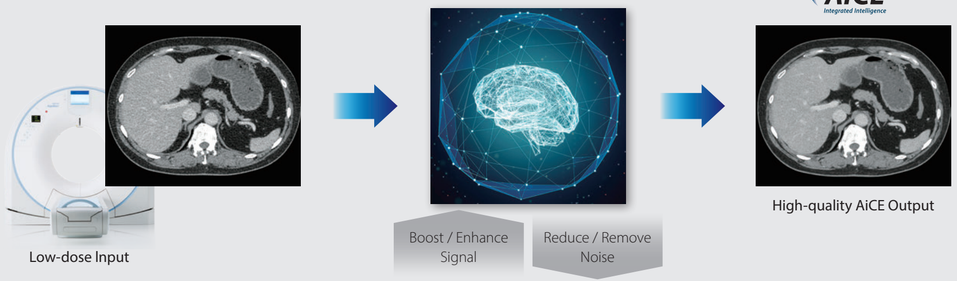
Training Phase in Factory

Using high-quality images AiCE learns to differentiate between signal and noise in low-quality images

Low-quality Input Data

High-quality Input Data

Operational Phase in Clinic



Low-dose Input

High-quality AiCE Output

Using the intelligence from the Training Phase, AiCE has the potential to aid in fast and confident clinical results by providing high-quality images

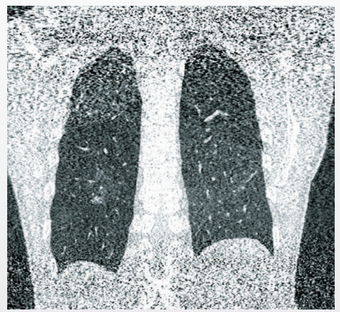
AIDR* 3D Integrated

	Iterative reconstruction	AIDR 3D integrated
Noise reduction	●	●
Protocol integration		●
Prospective mA reduction	–	●
Ease of use	–	●
Assured image quality	–	●
Optimized reconstruction speed	–	●
Application to every scan	–	●

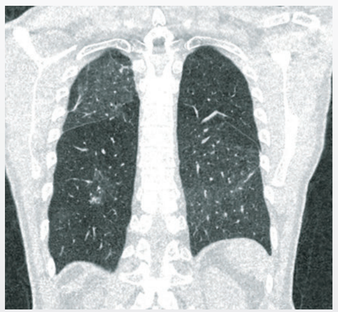
Our 4th generation iterative reconstruction AIDR 3D Enhanced is fully integrated into the automatic tube current modulation software SUREExposure 3D, taking the guesswork out of optimizing patient dose. The exposure dose is automatically reduced by up to 75%.

With SUREkV, the lowest kV will be selected based on patient size and Exposure settings for low-kVp imaging.

Without AIDR 3D



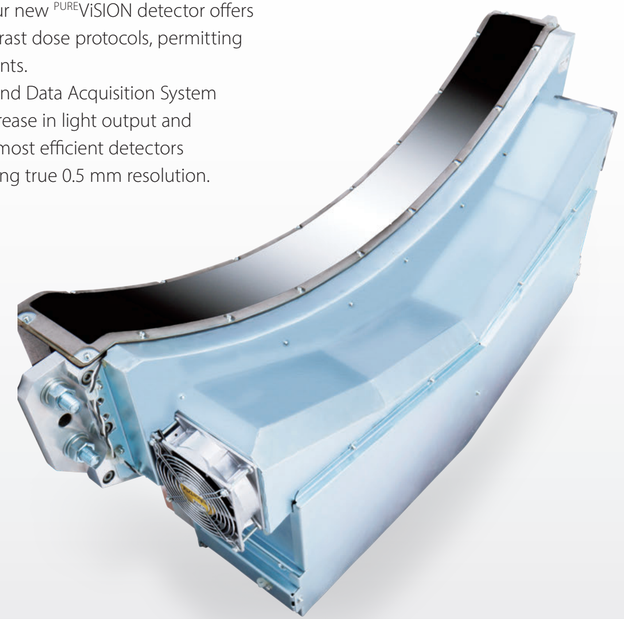
AIDR 3D integrated



* Adaptive Iterative Dose Reduction

PUREViSION Detector
Safer Imaging — Clearer Outcomes

Through lower radiation doses and low-kVp imaging, our new PUREViSION detector offers peace of mind in the optimization of radiation and contrast dose protocols, permitting physicians to perform safer CT examinations for all patients.
Breakthrough innovations in manufacturing processes and Data Acquisition System (DAS) design have resulted in a detector with a 40% increase in light output and minimal electronic noise, making PUREViSION one of the most efficient detectors commercially available and still the only detector featuring true 0.5 mm resolution.



Streamlined Workflow

Streamlined workflow, from patient positioning to diagnosis.
Automated and instantaneous.

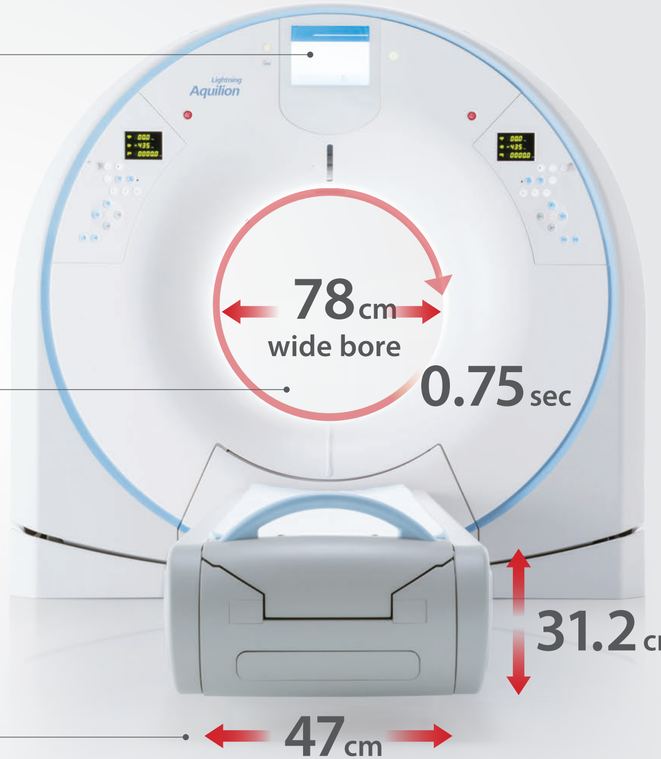
New Gantry Design

The Aquilion Lightning gantry features design innovations to improve the scanning experience for patients while providing excellent operability and ensuring safety. The ⓘStation display provides child-friendly exam instructions and gives operators feedback for breath holding, ECG waveforms, scan parameter confirmation, and patient ID. The spacious 780 mm wide bore and 470 mm wide couch ensure comfortable scanning for even the largest patients. The couch-top can be lowered to a minimum height of 312 mm for facilitating transfer of the patient from a wheelchair.

ⓘStation

Wide bore

Wide couch

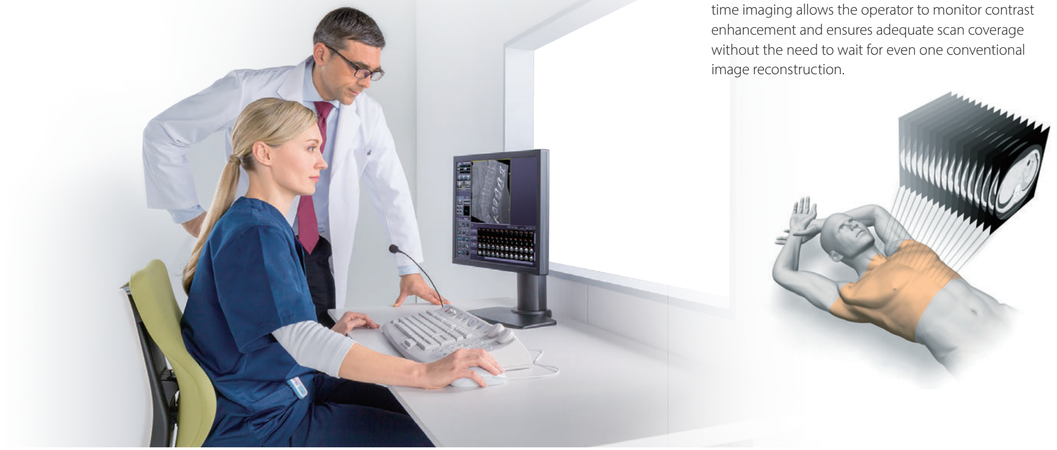


Low minimum height

Streamlined Workflow, from Setup to Diagnosis

Aquilion Lightning is designed with the latest hardware, software, and reconstruction technologies to keep pace with your busy workload.

- Real-time dual scanogram
- Scan plan
- Scan start
- Fast image reconstruction up to 15 images per second



Exam Plan

Protocol Selection
After patient registration, the system automatically loads the correct selection of adult or child protocols based on the patient's age. In addition, protocols are anatomically grouped with an intuitive graphical interface to ensure easy, correct protocol selection.

Dose Check
The Dose Check software helps ensure that the user-defined radiation dose limits cannot be exceeded by incorrect operation of the system.

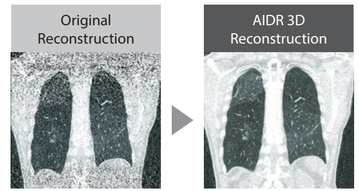
Scan

SURE Exposure 3D
SURE Exposure 3D is a user-friendly solution for applying automatic exposure controls that can be programmed into every exam plan preset.
Based on the user-specified level of image quality and the automatic attenuation measurements obtained from the patient scanogram, the tube current (mA) is automatically adjusted in the X, Y, and Z planes to maintain image quality at a constant level.

Real-time Imaging
Real-time visualization is a valuable tool that provides an instantaneous view of a helical scan in real-time. Real-time imaging allows the operator to monitor contrast enhancement and ensures adequate scan coverage without the need to wait for even one conventional image reconstruction.

Reconstruction

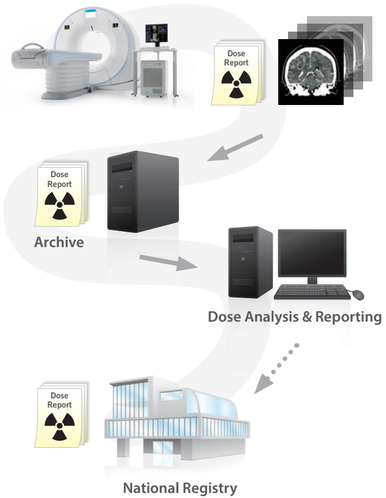
AIDR 3D
AIDR 3D can be applied to all acquisition modes for routine clinical use and is able to remove up to 50% of image noise, resulting in dose reduction of up to 75%.



Fast Reconstruction
A newly developed reconstruction system supports reconstruction speeds of up to 15 images per second, ensuring rapid diagnosis and high patient throughput.

Report

Dose Report
In accordance with IHE recommendations, the Radiation Exposure Monitoring Profile function is provided in the software. This function automatically records all scanning data, enabling accurate tracking of the dose for a particular study.

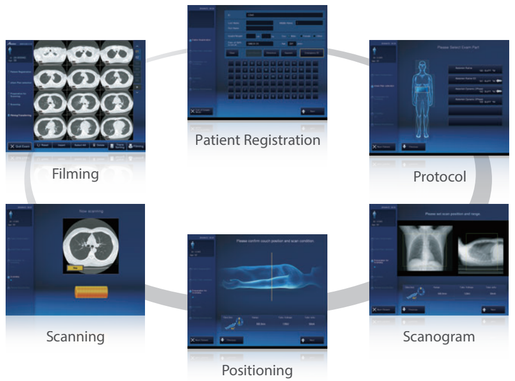


Simple Yet Sophisticated

Aquilion Lightning optimizes the clinical workflow.
Examinations can be performed with confidence in any location at any time of the day or night.

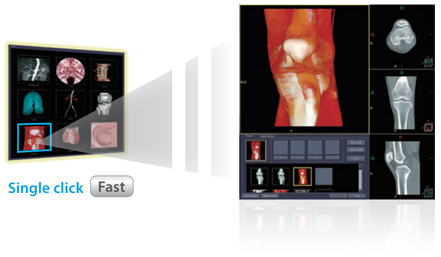
Navigation Mode — Easy and Fast —

Aquilion Lightning features unique Navigation Mode operation that guides the operator through every step of the examination with state-of-the-art computer graphics and animation. A newly developed intelligent filming function automatically compiles images in a predefined layout for fast and efficient workflow.



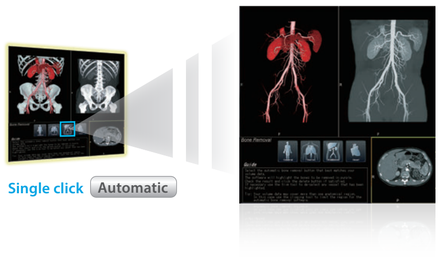
Easy 3D

With Aquilion Lightning's user-friendly 3D imaging software, high quality 3D images can be generated with outstanding ease. Just select the desired protocol from the gallery screen and you're done.



Automated Bone Removal

Aquilion Lightning incorporates automated bone segmentation algorithms to quickly and accurately segment bone in CT angiography examinations. In just a few seconds, high-quality angiographic images are available for diagnosis.

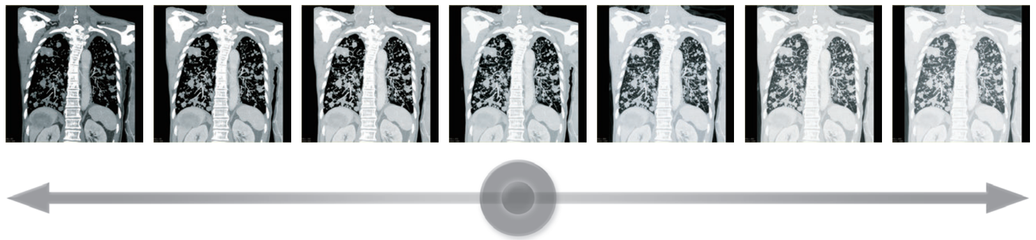


Multiview

Multiview allows all reconstruction parameters to be preprogrammed into every examination protocol. Axial, coronal, and sagittal reconstructions are performed automatically without a single mouse click. Even rendering options such as thick-slab MIP images can be automatically generated, expediting diagnosis. Simply plan the scan and go!

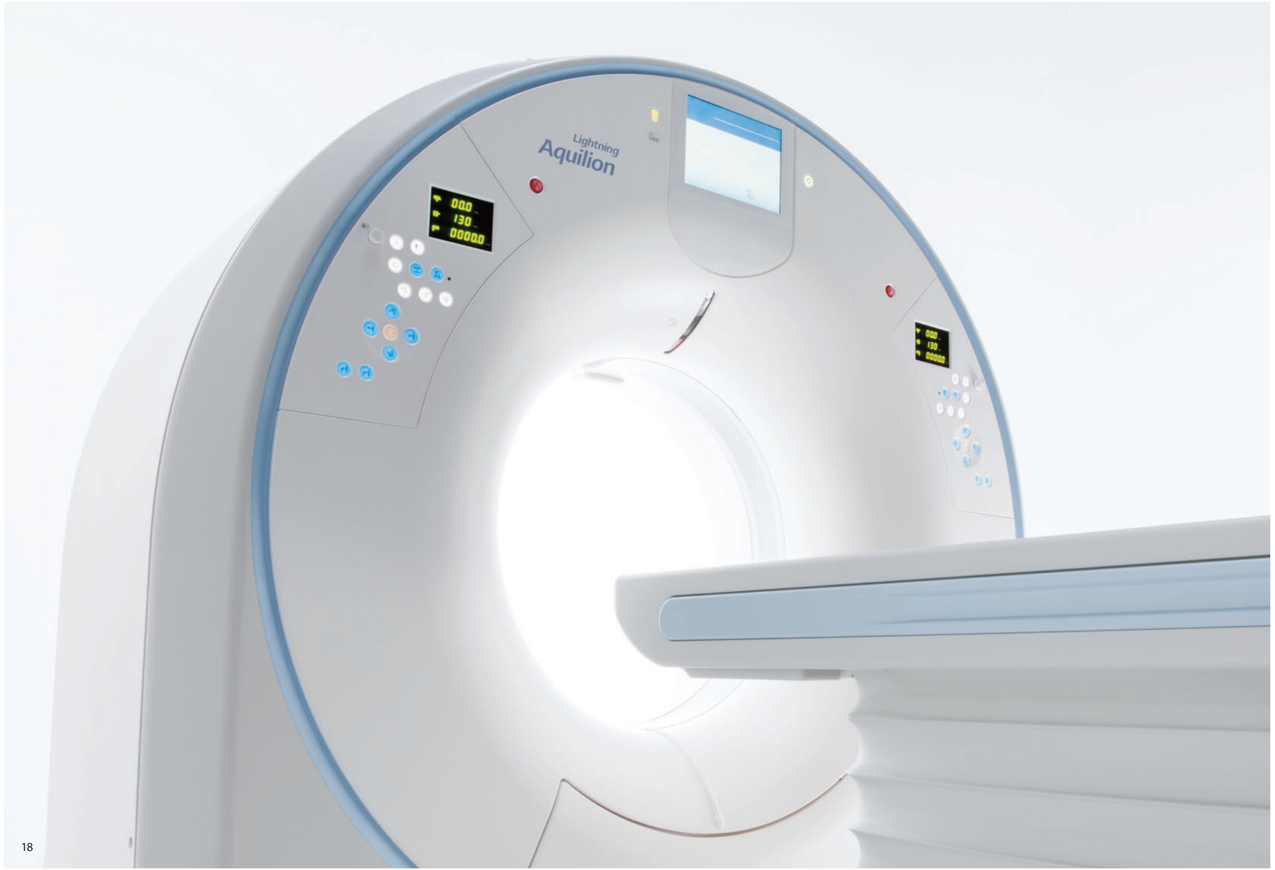
HybridView

Our hybrid reconstruction kernels save time and reduce storage requirements. These newly introduced iterative reconstruction algorithms ensure fine lung detail and excellent soft tissue resolution in the same image. Reading times are shortened because you only need to concentrate on a single series to make a definitive diagnosis.



Adaptive Diagnostics

SURESubtraction is our unique Adaptive Diagnostic scan modes that simplify complex protocols and provide consistent quality results. SEMAR (Single Energy Metal Artifact Reduction) is the latest addition to the Adaptive Diagnostics suite of technologies. Aquilion Lightning delivers total clinical flexibility.



Adaptive Diagnostics

"With SEMAR, the structures hidden before by metallic artifacts are now visible. We never want a CT without this feature again. AIDR 3D is always ON. 50-80% dose reduction with no additional workload. It just works."

Christoph Behr, MD
RIO – Radiology Institute Oberhausen
Germany

"The real power of SEMAR is in the ability to clearly visualize the adjacent soft tissue structures free from artifact. This level of artifact reduction is not only useful for the evaluation of musculoskeletal disorders, but is invaluable for routine evaluation of body scans in patients with metallic prostheses."

Dr. Pedro Teixeira and
Prof. Alain Blum
Centre University Hospital Nancy, France

"Subtraction imaging adds diagnostic power to the routine evaluation of patients undergoing pulmonary CTA examinations. Ongoing studies also suggest new opportunities for the evaluation of interstitial lung disease and COPD, where knowledge about blood flow information may aid in diagnosis and treatment planning."

Prof. Mathias Prokop
Radboud University Medical Center,
Nijmegen, the Netherlands

Adaptive Diagnostics — Solving Your Clinical Challenges

Adaptive Diagnostics is our patient-centric suite of unique imaging solutions that simplify complex protocols and provide consistent quality results. Our solutions thereby improve workflow and decrease scanning complexity for the technical team. Resultant improvements in diagnostic accuracy reduce the time to diagnosis for patients on a routine basis. Originally developed for our most advanced scanners, Adaptive Diagnostics are also available on the Aquilion Lightning because everyone should benefit from this technology.

SURESubtraction (Brain / Neck / Ortho)

Remove skeletal structures & calcified plaque for accurate CTA.
Robust registration algorithms can adapt to a wide range of anatomy and potential motion.

SURESubtraction Lung

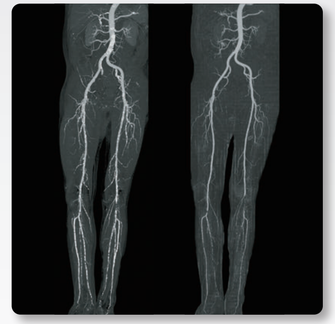
Generate iodine maps which can easily identify underperfused areas in the lung.
Advanced deformable registration tuned for lung parenchyma.

SEMAR

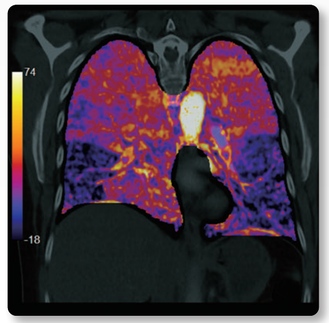
A sophisticated algorithm is utilized to virtually eliminate metal artifacts, improving visualization of implants and supporting bone and adjacent soft tissue for a clearer and more confident diagnosis.

SURESubtraction Brain

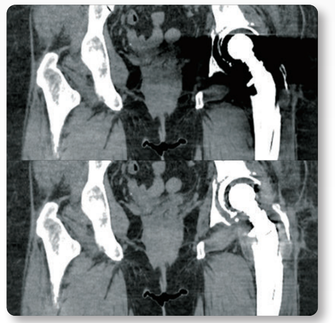
SURESubtraction Neck



SURESubtraction Ortho



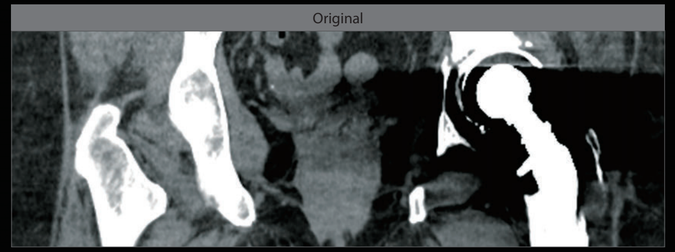
SURESubtraction Lung

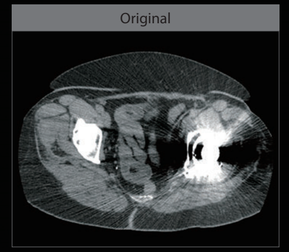


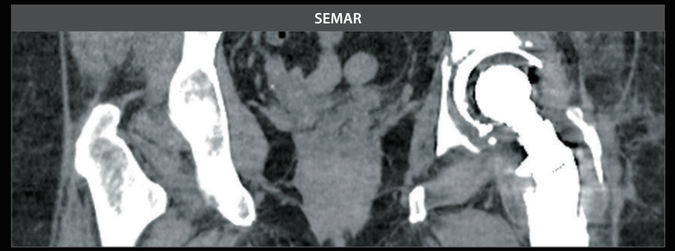
SEMAR

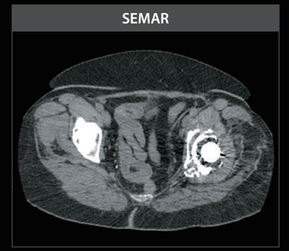
SEMAR

Our SEMAR utilizes a sophisticated reconstruction technique to remove artifacts caused by metal and improves visualization of the implant, supporting bone, and adjacent soft tissues for clearer and more confident diagnosis.



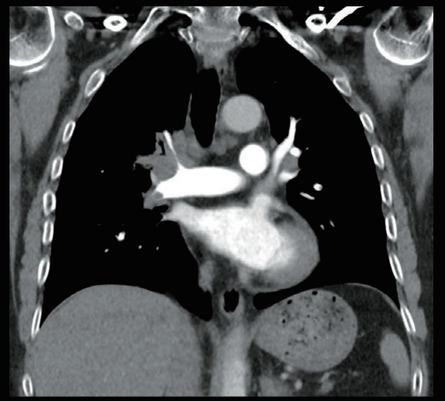


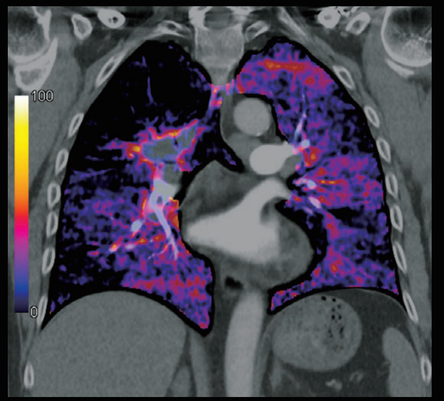




SURE Subtraction Lung

SURE Subtraction Lung is a perfect addition to our suite of Adaptive Diagnostics Clinical Solutions, which are designed to solve your clinical challenges with simplified workflow and to provide results of consistently high quality.
Thromboembolic disease is associated with significant risks, and patient outcomes are greatly improved by correct diagnosis and treatment. Routine diagnosis with blood flow maps enhances diagnostic capabilities to improve patient outcomes.





Minimum Energy, Minimum Space

The Aquilion Lightning has been thoughtfully engineered to meet today's demanding economic challenges.

Efficient Design for Lower Costs and an Improved Work Environment

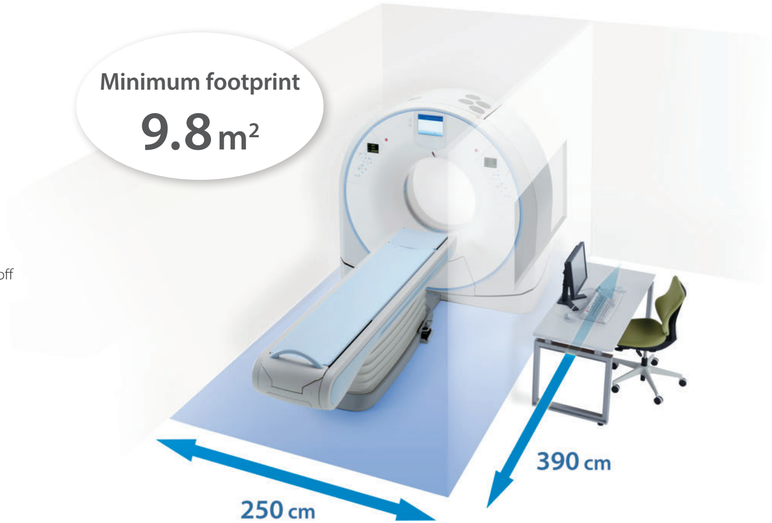
With a gantry design focusing on smaller installation space and power consumption, Aquilion Lightning has a minimum footprint of 9.8 m^2*, compact enough to meet even the most restrictive siting requirements. Innovative Adaptive Power Management technologies decrease energy requirements, reducing running costs and easing the environmental impact.

Minimum footprint of 9.8 m^2

— Reduced renovation cost.
— Installation can be completed in as little as 3 days.

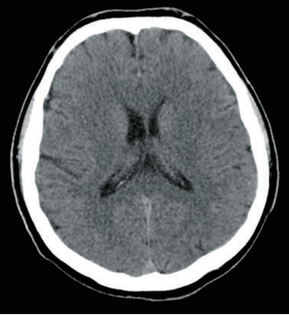
Adaptive Power Management

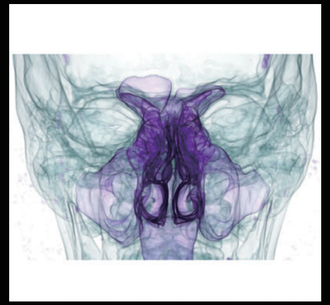
— Reduction of power consumption by approximately 10%. Couch motors, cooling fans, and generator main power turned off in Power Save Mode.

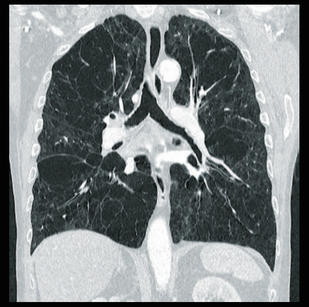


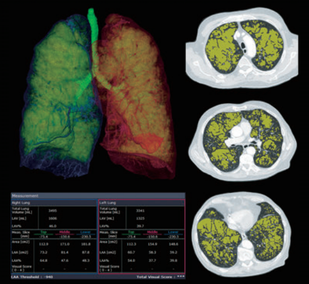
*Option

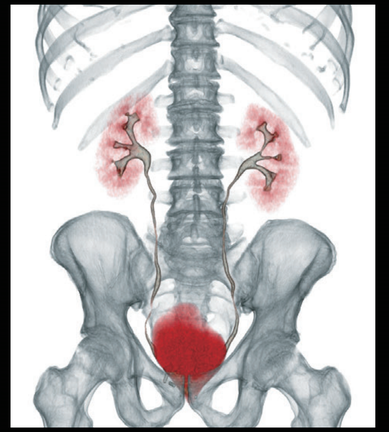
Clinical images











Clinical Flexibility, Industry-Leading Patient Care, Comfort, and Workflow

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.

The views and opinions expressed in this brochure are those of the clinicians and do not necessarily reflect the views of Canon Medical Systems Corporation.

Altivity

Altivity is Canon Medical's new approach to AI innovation. It is a multimodality, overarching brand, which pulls together all the AI technology that Canon Medical provides under one name.

Aquilion Lightning

Canon

CANON MEDICAL SYSTEMS CORPORATION

https://global.medical.canon

Design and specifications are subject to change without notice.
Model number: TSX-035A MCACT0323EAA 2024-04 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