

Lightning Aquilion

WARNING: Any reference to x-ray exposure, intravenous contrast dosage, and other medication is intended as a reference guideline only. The guidelines in this document do not substitute for the judgment of a healthcare provider. Each scan requires medical judgment by the healthcare provider about exposing the patient to ionizing radiation. Use the As Low As Reasonably Achievable (ALARA) radiation dose principle to balance factors such as the patient's condition, size and age; region to be imaged; and diagnostic task.

Disclaimer: In clinical practice, the use of the ADR feature 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.

Due to local regulatory processes, this product may not be available in each country. Please contact your local Toshiba sales representative for the most current information.

TOSHIBA MEDICAL SYSTEMS CORPORATION

<http://www.toshibamedicalsystems.com>

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Design and specifications subject to change without notice.
Model number: TSX-035A MCACT0275EA 2015-10 TMSC/D

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Printed in Japan

TOSHIBA
Leading Innovation >>>

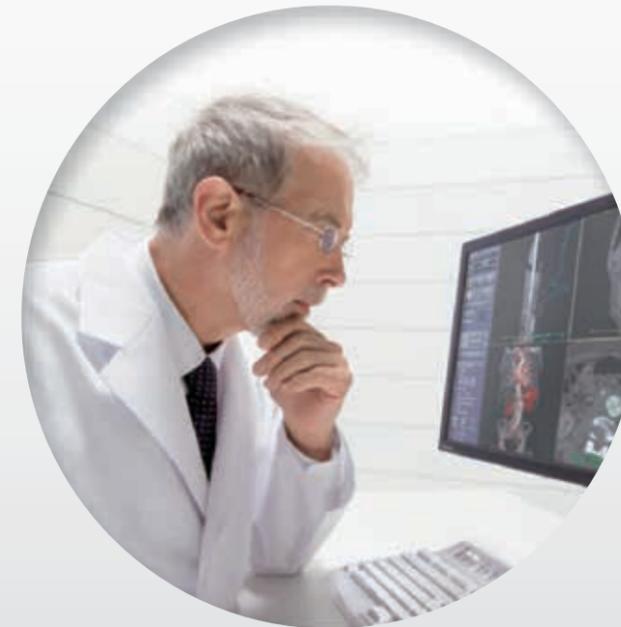
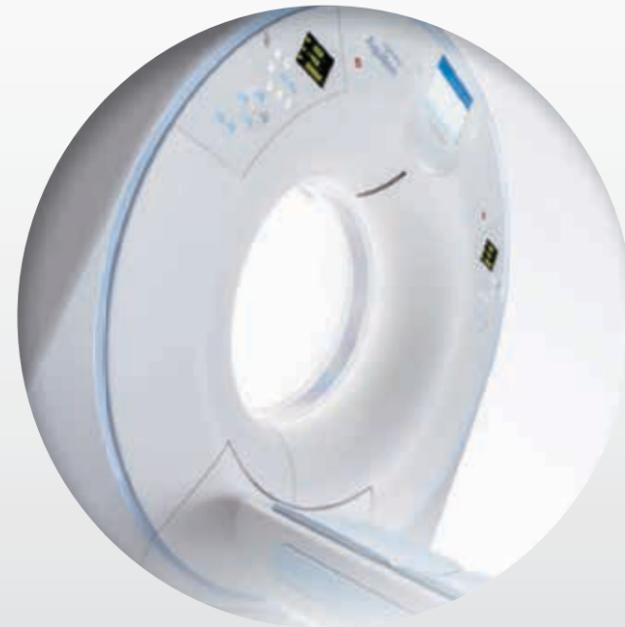
Lightning Aquilion



Adaptive Diagnostics
Clinical Solutions

PREMIUM COMPACT CT SYSTEM FOR YOUR CLINICAL NEEDS – TODAY AND IN THE FUTURE

Aquilion Lightning™ employs the latest CT technologies developed for our flagship Aquilion ONE™ to optimize patient care and accelerate clinical decision-making.



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Integrated Dose Reduction

Toshiba's dose-saving technologies are fully integrated into the scan sequence, taking the guesswork out of optimizing patient dose.

AIDR* 3D Integrated

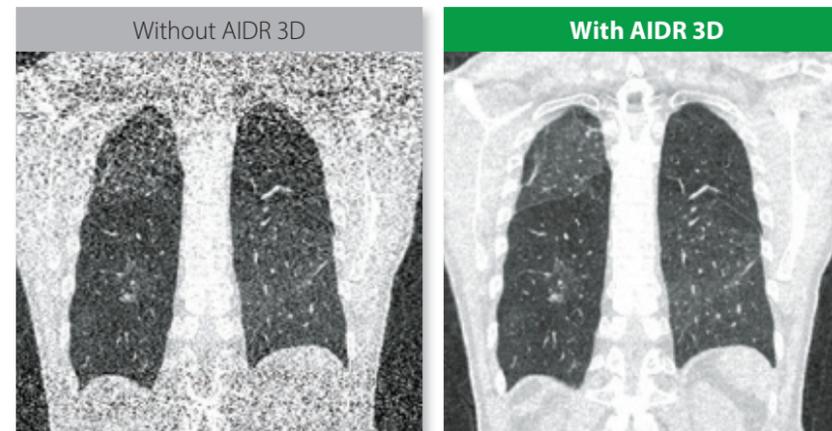


Iterative reconstruction

Noise reduction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Protocol integration	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Prospective mA reduction	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ease of use	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Assured image quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Optimized reconstruction speed	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Application to every scan	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Toshiba's 4th generation iterative reconstruction AIDR 3D Enhanced is fully integrated into the automatic tube current modulation software ^{SURE}Exposure™ 3D, taking the guesswork out of optimizing patient dose. The exposure dose is automatically reduced by up to 75%.

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

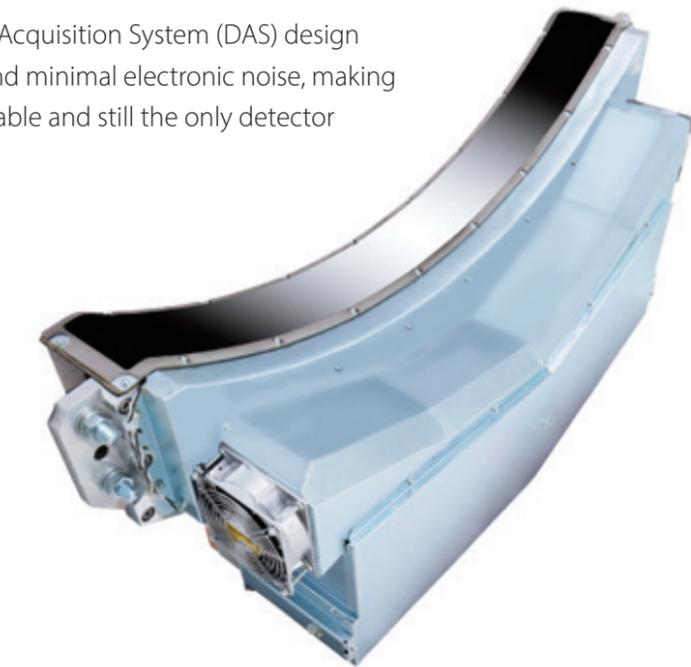


* Adaptive Iterative Dose Reduction

PURE^{Vi}SION Detector Safer Imaging — Clearer Outcomes

Through lower radiation doses and low-kVp imaging, TOSHIBA's new PURE^{Vi}SION 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 PURE^{Vi}SION 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

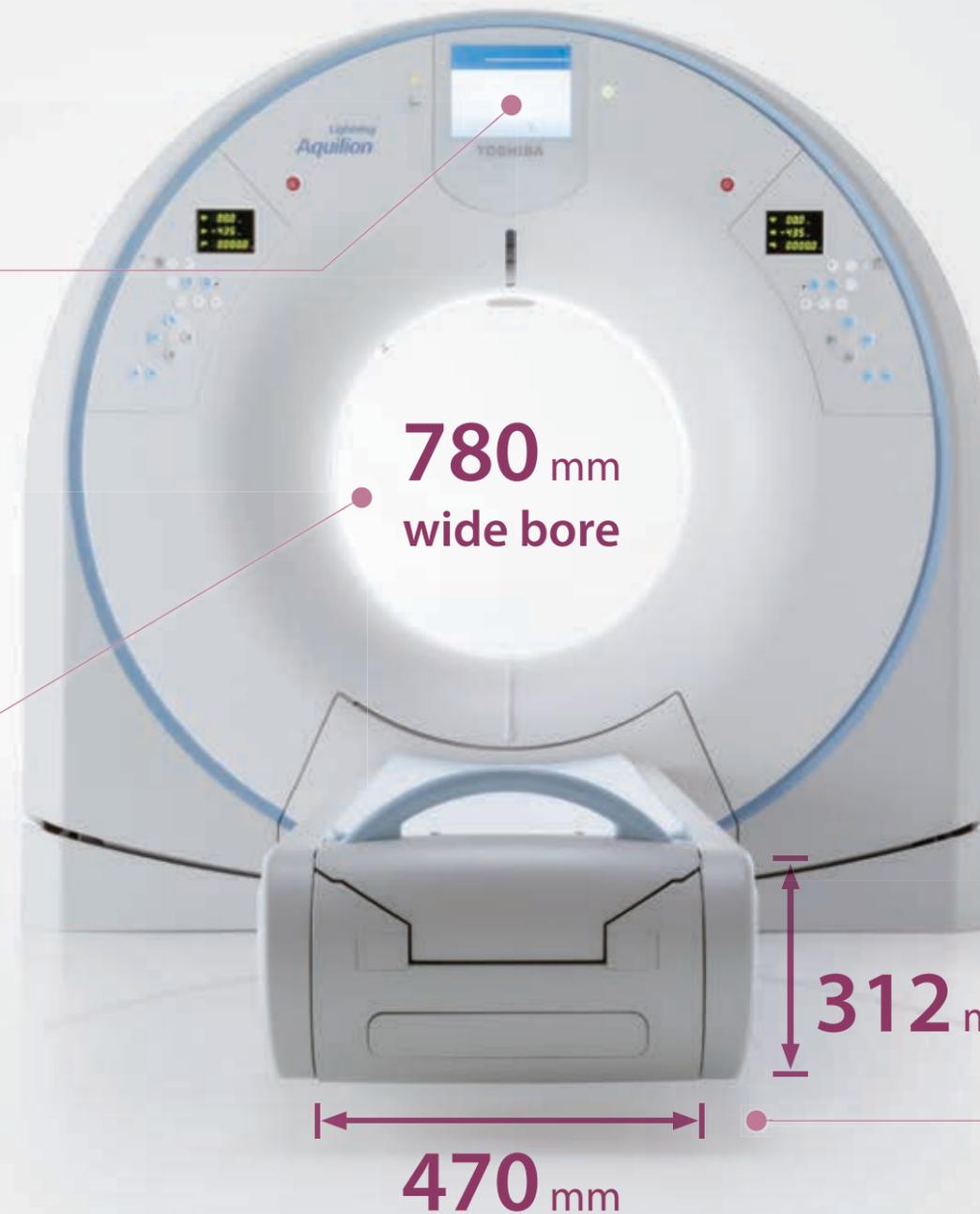
The Aquilion Lightning gantry features design innovations to improve the scanning experience for patients while providing excellent operability and ensuring safety. The **i-Station** display provides child-friendly exam instructions and gives operators feedback for breath holding, ECG waveforms, scan 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.



i-Station



780 mm wide bore



312 mm low minimum height



470 mm wide couch

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
- Simultaneous image reconstruction at 15 images per second with AIDR 3D

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.

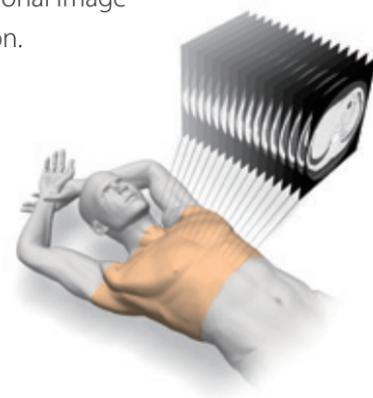
Scan

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

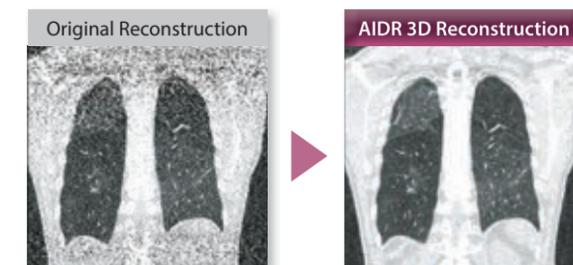
Real-time visualization is a valuable tool that provides an instantaneous view of a helical scan in real-time. A Toshiba first, real-time imaging allows the operator to monitor contrast enhancement and ensures adequate scan coverage without the need to wait for even one conventional image reconstruction.



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%.



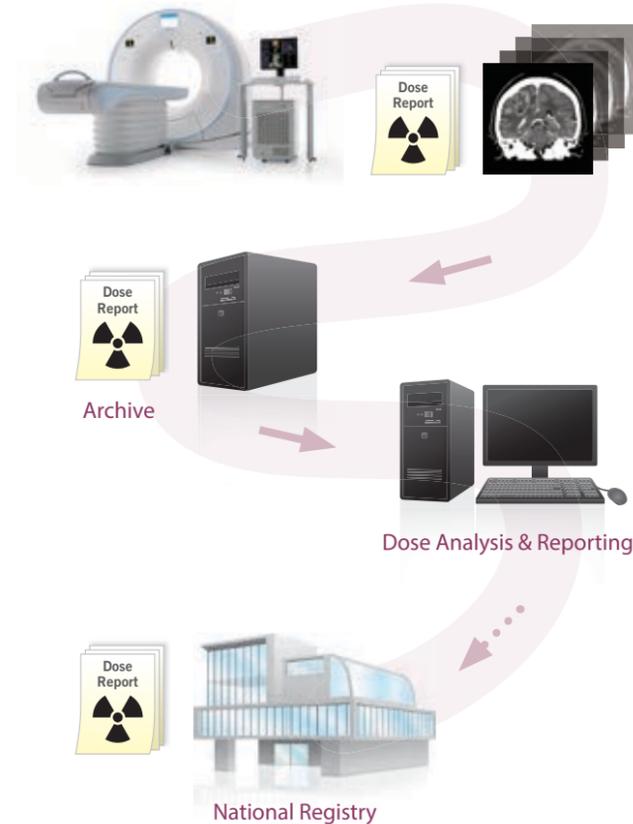
Fast Reconstruction

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.

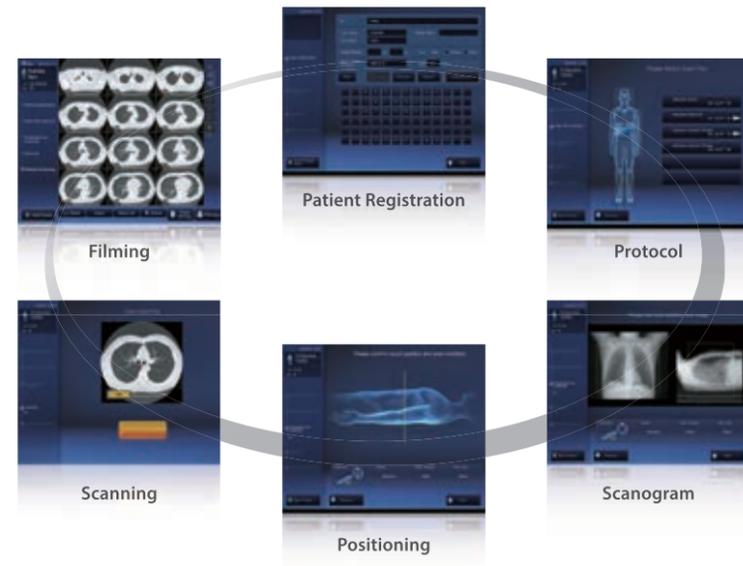


Simple Yet Sophisticated

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

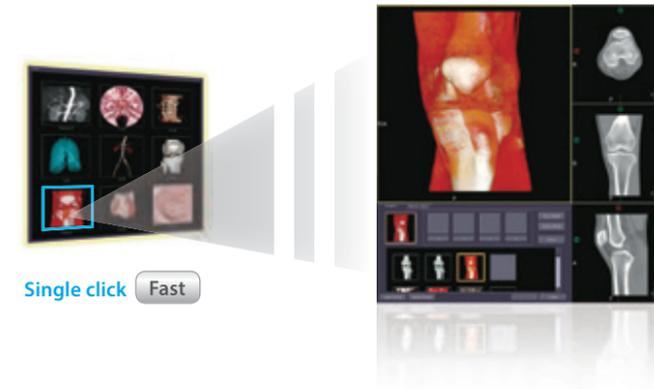
Navigation Mode — Easy and Fast —

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.



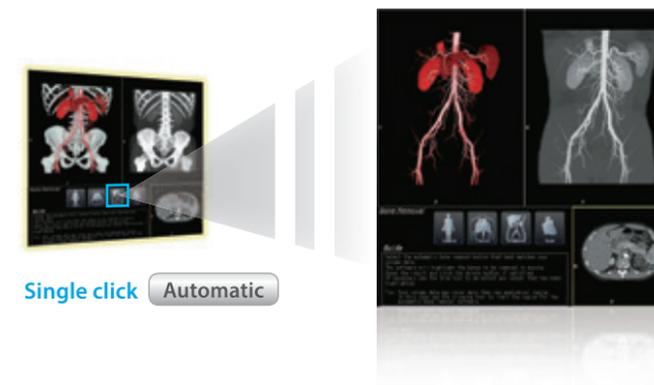
Easy 3D

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.



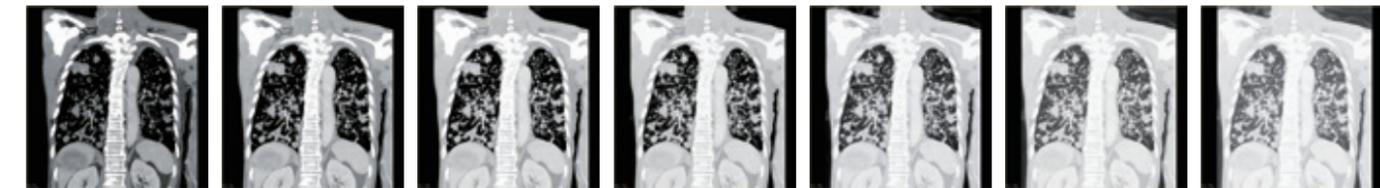
Multiview

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

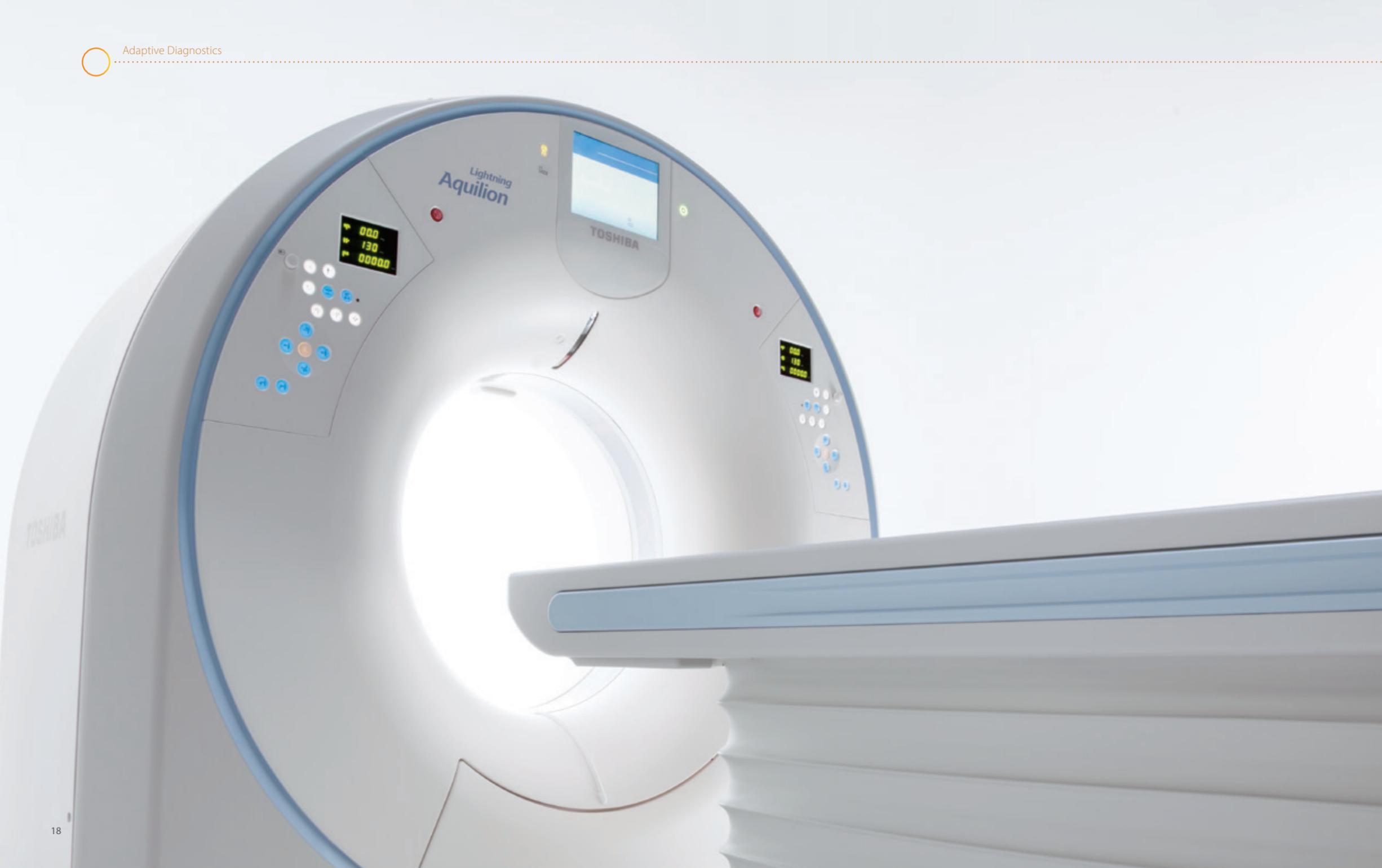
Toshiba's hybrid reconstruction kernels save time and reduce storage requirements. These newly introduced iterative reconstruction algorithms ensure fine lung detail and excellent soft tissue resolution in the same image. Reading times are shortened because you only need to concentrate on a single series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





Adaptive Diagnostics

^{SURE}Subtraction™ is Toshiba's 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

Adaptive Diagnostics
Clinical Solutions

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

Christoph Behr, MD

RIO – Radiology Institute Oberhausen
Germany



Adaptive Diagnostics — Solving Your Clinical Challenges

Adaptive Diagnostics is Toshiba's patient-centric suite of unique imaging solutions that simplify complex protocols and provide consistent quality results. Toshiba's 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.

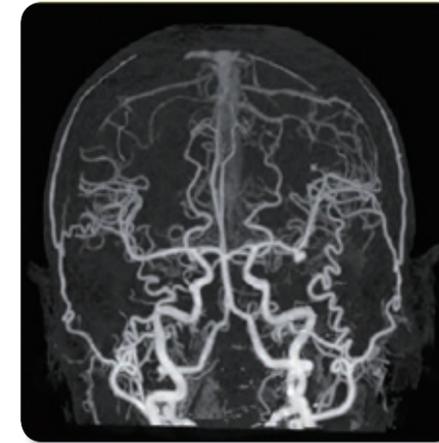
SURESubtraction Lung

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.



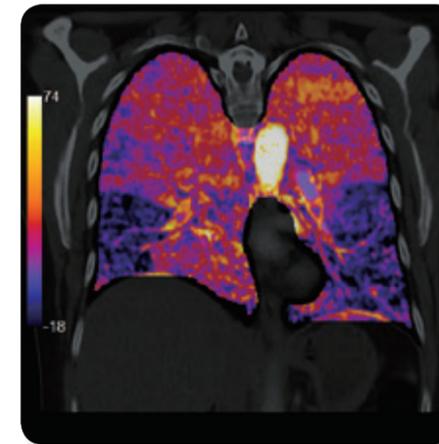
SURESubtraction Brain



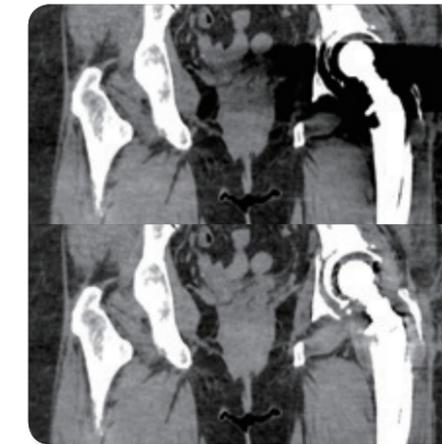
SURESubtraction Neck



SURESubtraction Ortho



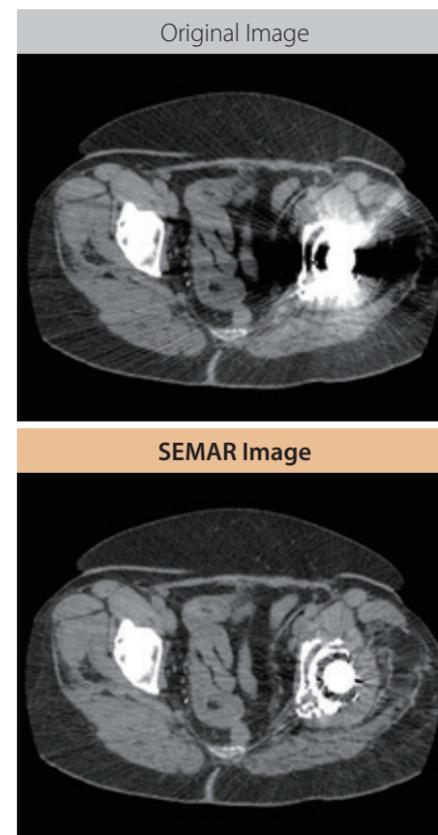
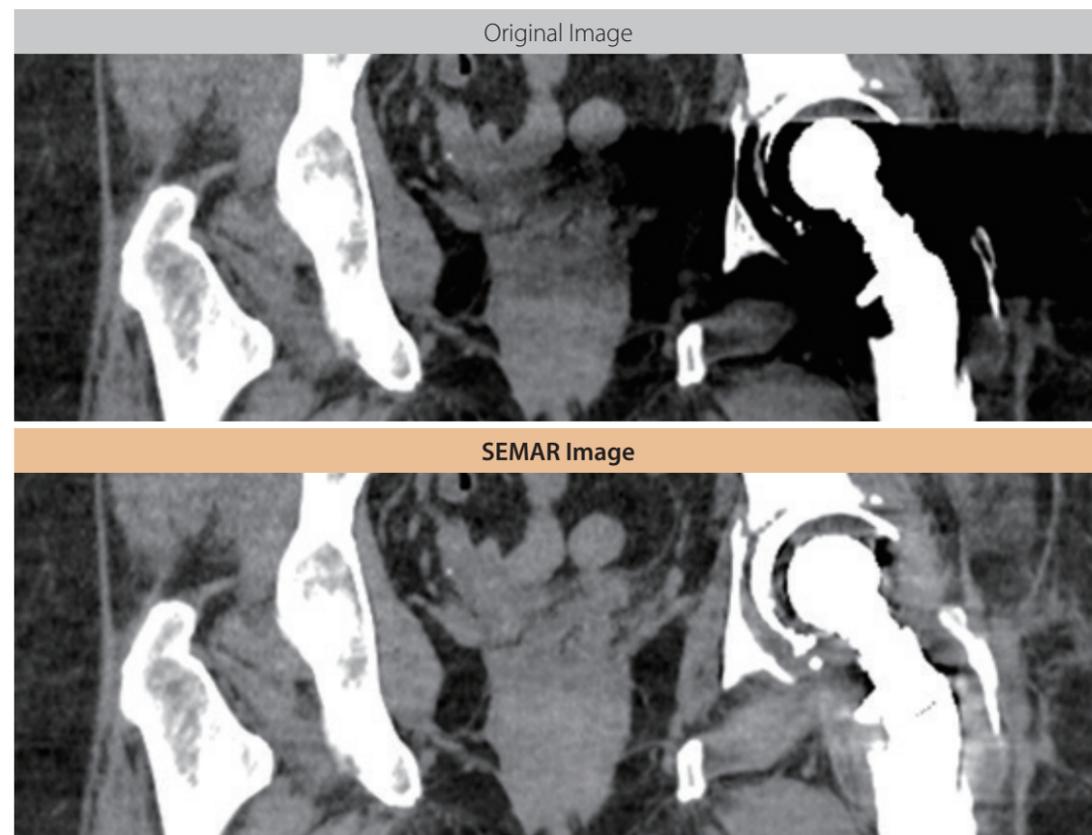
SURESubtraction Lung



SEMAR

SEMAR

Toshiba's 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.



“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.”

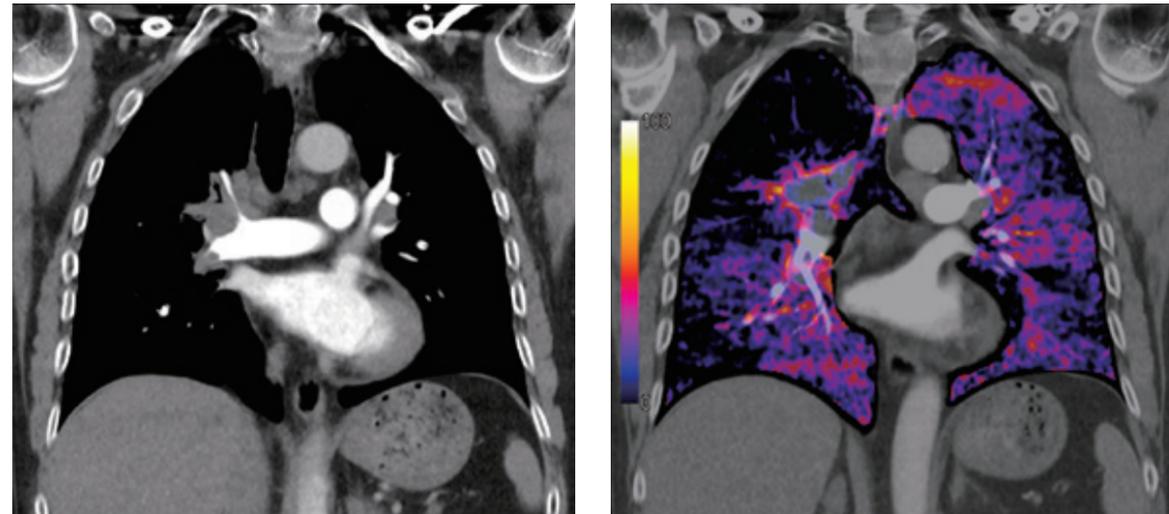
Dr. Pedro Teixeira and Prof. Alain Blum
Centre University Hospital Nancy, France



SURE^{RE} Subtraction Lung

SURE^{RE} Subtraction Lung is a perfect addition to Toshiba's 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.



“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





**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 m²*, 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.



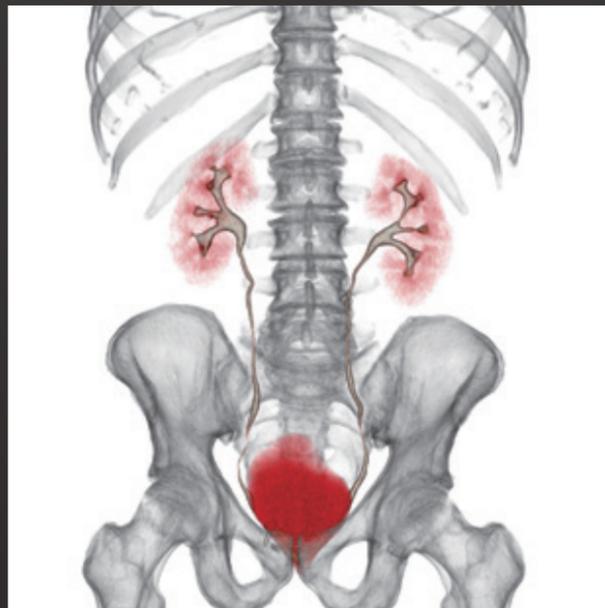
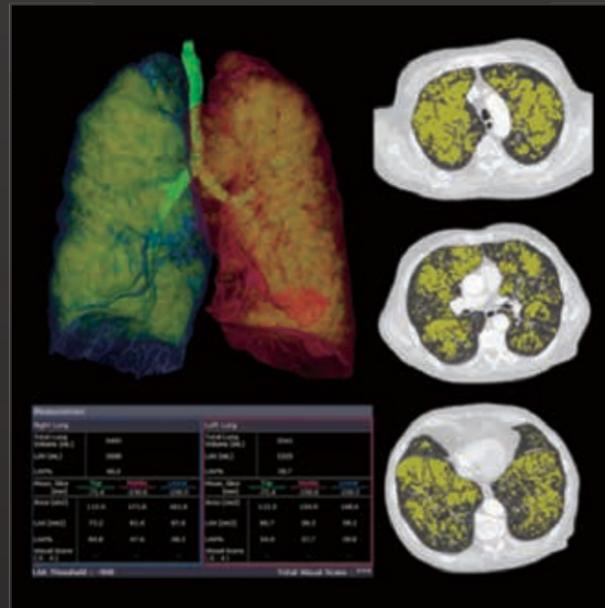
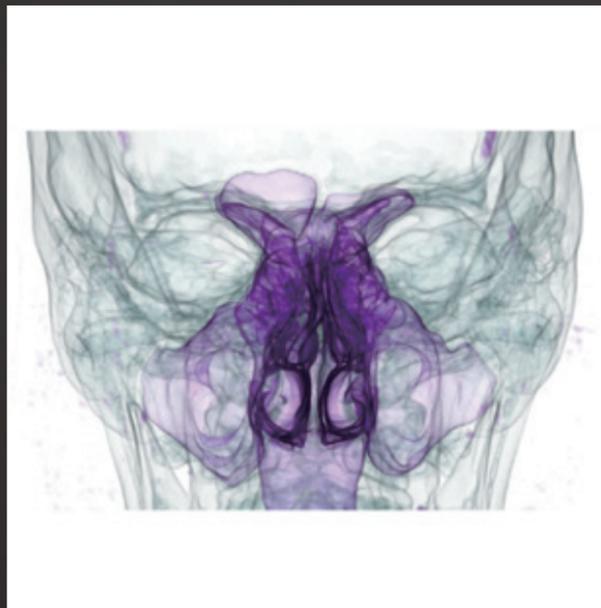
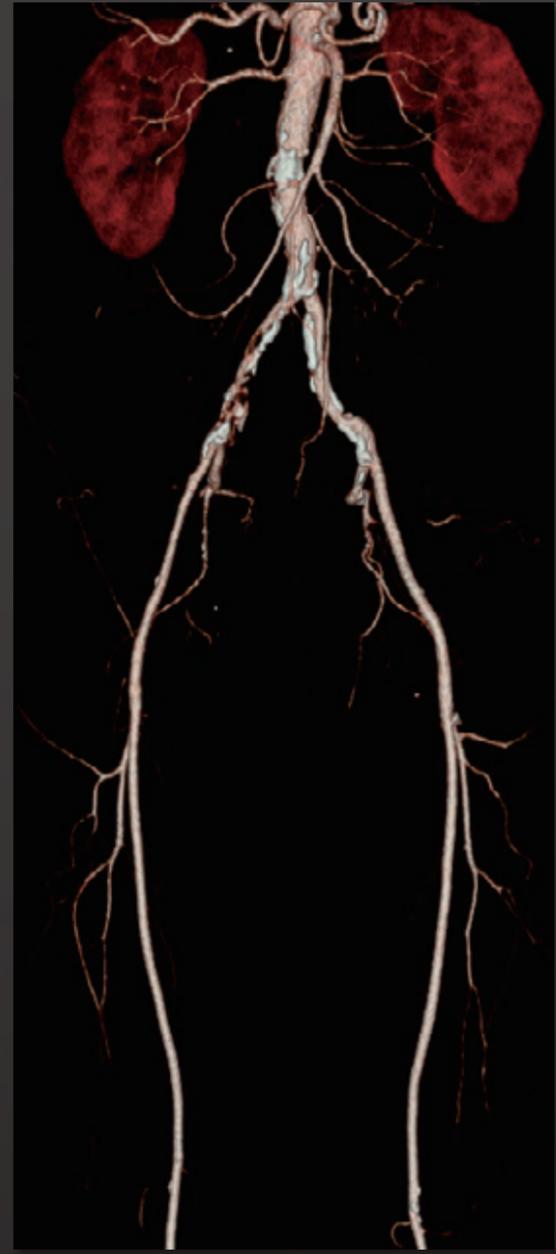
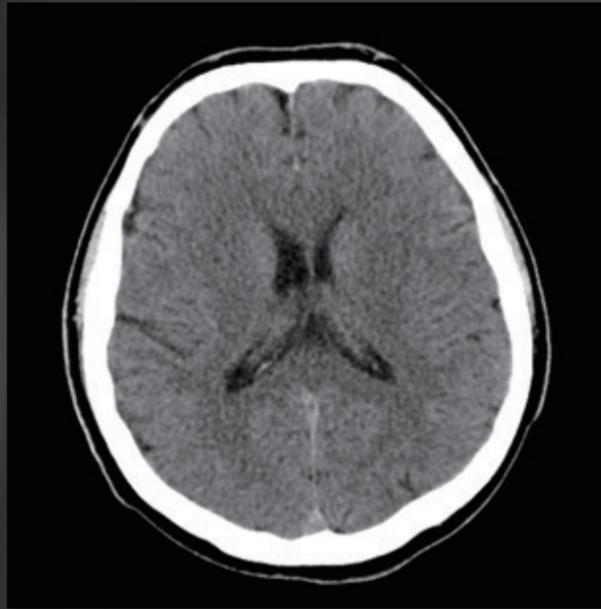
Minimum footprint of 9.8 m²

- 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.





TOSHIBA AND THE ENVIRONMENT

Good for our planet, right for our customers

Caring for the earth and its people is at the heart of everything Toshiba does – and one of the many ways we innovate. Toshiba's passion for safeguarding the earth is enshrined in our Environmental Vision 2050, whereby we seek to improve our eco-efficiency by a factor of ten over the next four decades through strict monitoring of energy usage, continuous improvement of manufacturing processes and eco-conscious product development.

Far from being a distant goal, the Environmental Vision 2050 sets tangible milestones year by year. These include the reduction in emission of CO₂ and other greenhouse gases, and the complete phasing out of certain hazardous substances from our products.



Minimum footprint 9.8 m²

Aquilion Lightning requires less installation space than any other premium level CT with a footprint of only 9.8 m².^{(*)1} This CT system has been made compact enough to meet even the most restrictive siting requirements.

*1: Short couch version

*2: Compared with Toshiba products in which AIDR 3D is not installed.

Low-dose scanning technology AIDR 3D that reduces power consumption

AIDR 3D technology allows high-quality images to be acquired with lower X-ray exposure than in conventional systems. The patient exposure dose can be reduced by up to 75%,^{(*)2} with a corresponding reduction in power consumption for X-ray generation.

Adaptive power managements

Innovative Adaptive Power Management technologies dramatically decrease energy requirements, reducing running costs and easing the environmental impact.



GLOBAL INNOVATION BY DESIGN

For over 140 years Toshiba's research and development has improved the health and welfare of people around the world. Today, Toshiba Medical Systems offers a full range of diagnostic imaging products and is a reliable service partner in more than 135 countries. In accordance with our Made for Life commitment, we will continue to develop innovations that improve patient care and provide lasting quality for a lifetime of value.

WHY TOSHIBA?

Innovation

Toshiba is a world leader and innovator in high technology, spanning information & communications systems, digital consumer products, electronic devices, and medical imaging systems. Year on year we file thousands of patents, leading the way within each industry sector making innovation a key part of the Toshiba fabric.

Quality

At Toshiba quality and reliability is at the heart of everything we do. With technologies and products being developed in more than 30 R&D laboratories and over 600 subsidiary companies across the globe Toshiba engineers are dedicated to develop the best-performing, most reliable and environmentally friendly product solutions for you.

Design

Our product design is driven by customer feedback and the close consultation with industry visionaries and opinion leaders. Our award-winning Corporate Design Center has over 60 years of experience in developing appealing products and industry-leading solutions.

Partnership

Making sure your systems deliver from day one is an important part of our relationship. Whether you need onsite or offsite training, we can provide options that work best for you. Experienced clinical application specialists will help you maximize the potential of your new equipment.

Environment

With Environmental Vision 2050, Toshiba announced its commitment and determination to contribute to a better environment by emphasizing the stable supply of reliable energy and mitigation of climate change as well as by creating new value in harmony with the Earth.



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