

CT Clinical Image Gallery

***Aquilion<sup>TM</sup> Prime SP***

# Expand your clinical capability Enhance your productivity Capitalize on your investment

From fast patient throughput to robust cardiac scanning and new diagnostic capabilities, the new Aquilion Prime SP is a CT system of choice for all your imaging needs. Built with premium technology migrated straight from our high end CT, Aquilion Prime SP empowers your facility to handle even the most challenging cases. This system lets you image all patients from pediatric to bariatric, while giving you the necessary tools to improve workflow and throughput.



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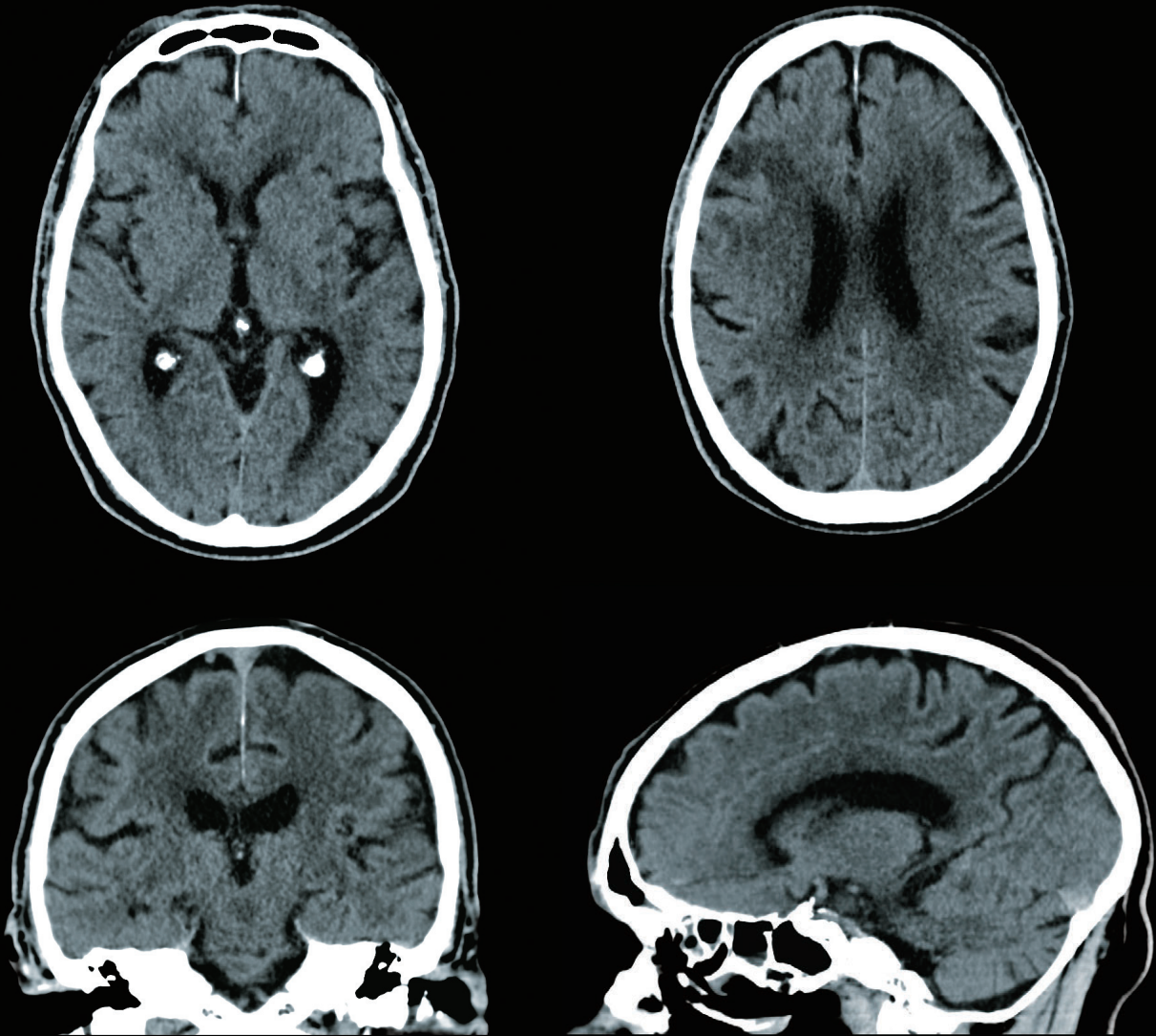
We gratefully acknowledge the following institution that contributed to this brochure: Bradford Teaching Hospitals, Bradford, United Kingdom

### Reference for Radiation Dose Calculation

Calculation of the effective doses in this brochure is based on the conversion coefficients for patients given in the following publication:

American Association of Physicists in Medicine (AAPM) Report 96. "The Measurement, Reporting, and Management of Radiation Dose in CT." Report of AAPM Task Group 23 of the Diagnostic Imaging Council CT Committee. January 2008.

## Brain with <sup>PURE</sup>VISION Optics



### Patient History

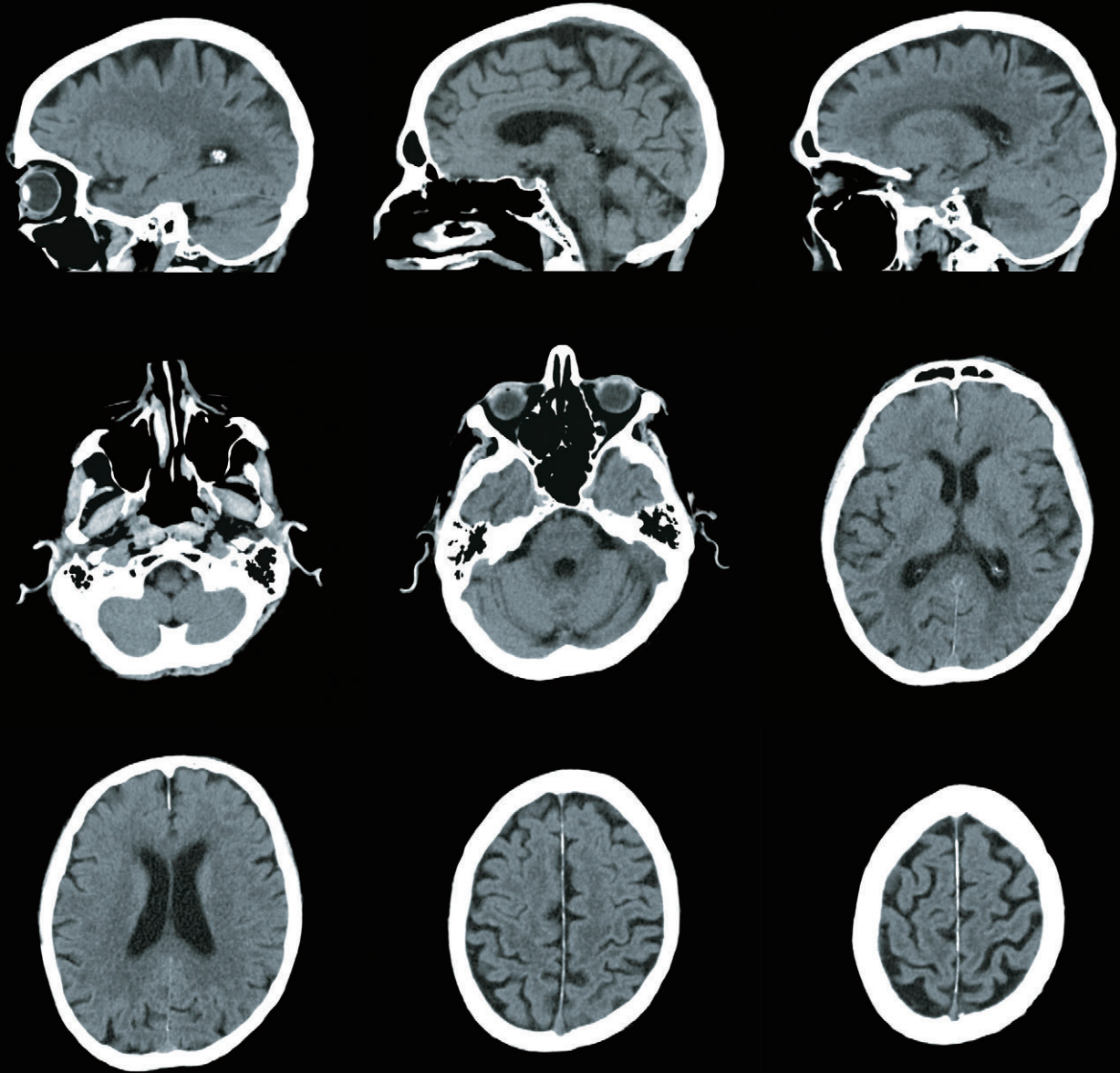
This brain scan of a 76-year-old man provides clear identification of the gyral pattern, basal cistern, and foramen magnum. An older ischemic infarct can also be seen.

### Acquisition

Isotropic 0.5 mm helical with <sup>PURE</sup>VISION Optics, CTDI 57.0 mGy, 2.1 mSv (k=0.0021)



## Brain with <sup>PURE</sup>ViSION Optics



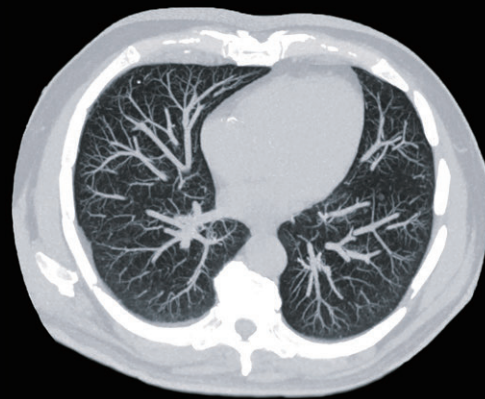
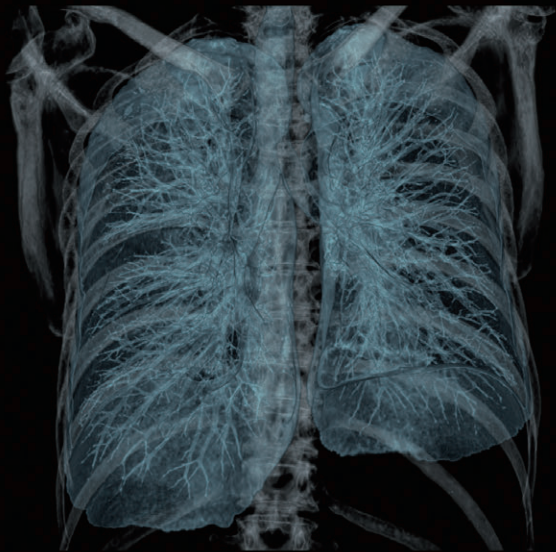
### Patient History

This 68-year-old man presented with recurrent headaches. A non-contrast CT scan was performed.

### Acquisition

Isotropic 0.5 mm helical with <sup>PURE</sup>ViSION Optics, CTDI 57 mGy, 2.1 mSv ( $k=0.0021$ )

# Low Dose Chest



## Patient History

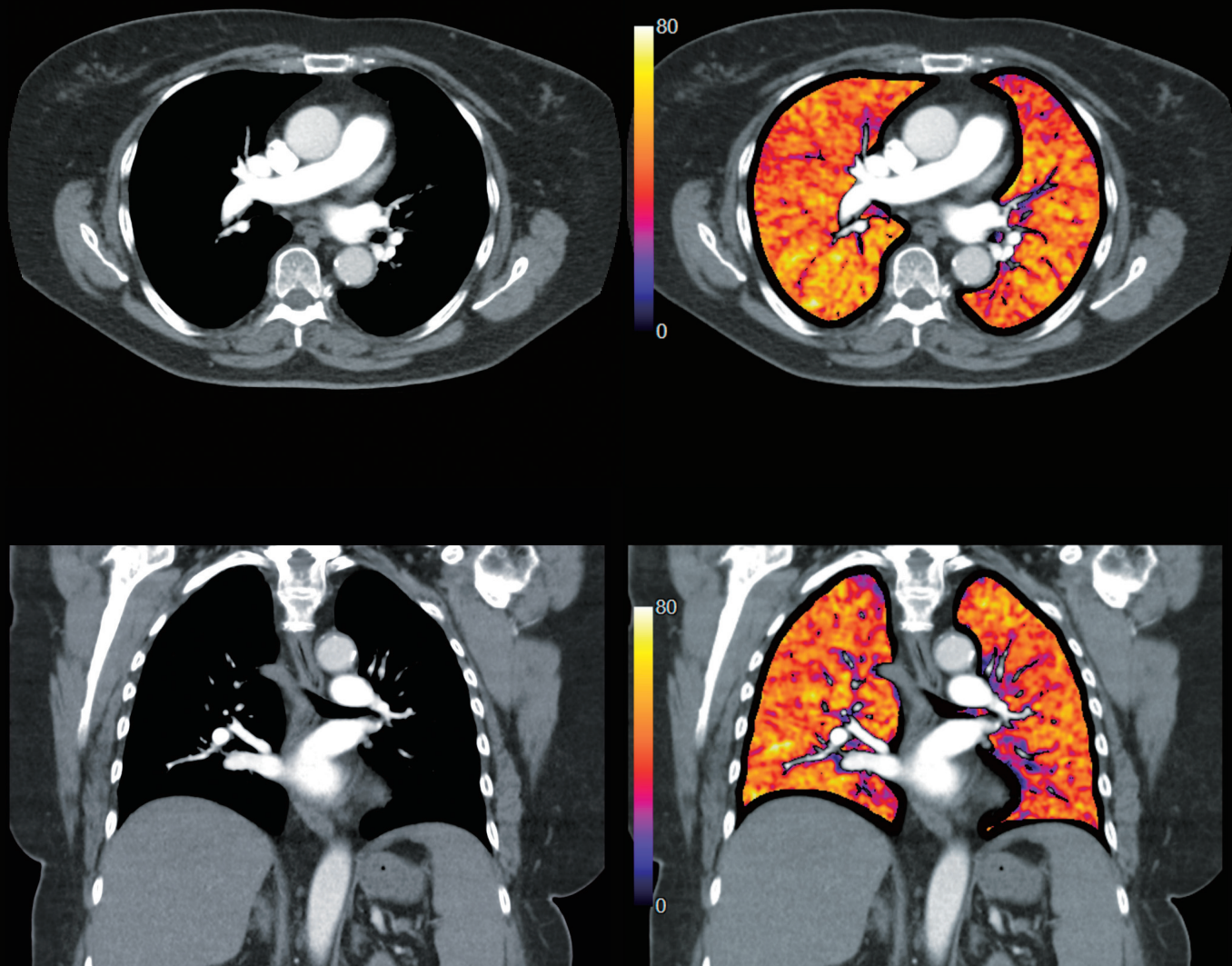
A 64-year-old man underwent a low dose CT of the chest for the investigation of lung nodules.

## Acquisition

0.5 mm x 80 Ultra Helical, CTDI 1.3 mGy, 0.6 mSv ( $k=0.014$ )



## SURE<sup>Subtraction</sup> Lung



### Patient History

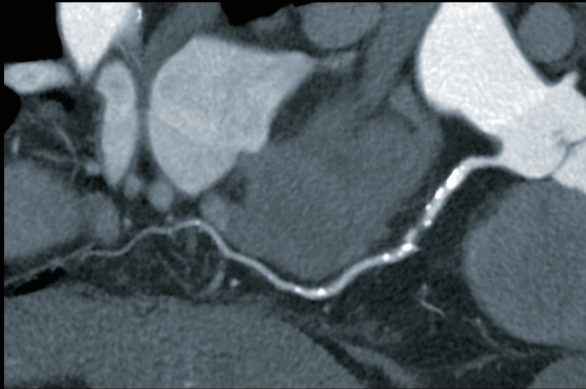
A CT was performed on this 73-year-old woman to rule out pulmonary emboli. Automatically generated color iodine maps show normal perfusion in both lungs. The pulmonary arteries are normal, free from obstruction.

### Acquisition

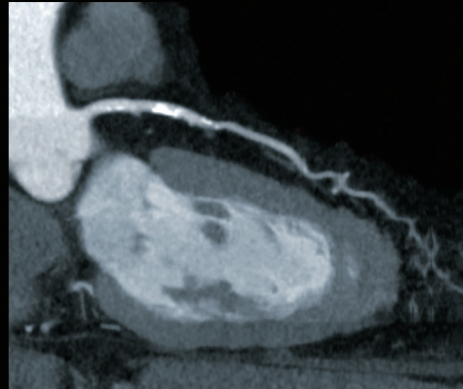
Integrated SURE<sup>Subtraction</sup> Scan mode, CTDI 5.5+6.2 mGy, 5.3 mSv (k=0.014)

# SURE Cardio Prospective

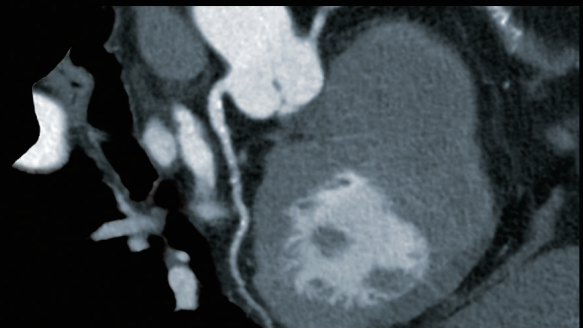
RCA



LAD



LCx



## Patient History

This 76-year-old woman, with a BMI of 28, presented with atypical chest pain. The scan was performed with AIDR\* 3D Enhanced reconstruction ensuring automatic dose reduction for the prescribed level of image quality.

## Acquisition

SURE Cardio Prospective, 0.35 s rotation, CTDI 16.9 mGy, 4.2 mSv ( $k=0.014$ )

\*Adaptive Iterative Dose Reduction

# Cardiac - LAD Stenosis



## Patient History

A CT was performed on this 60-year-old woman with atypical angina, known hypertension and a positive family history of coronary artery disease to rule out CAD. A stenosis was seen in the LAD.

## Acquisition

Prospectively Gated Ultra Helical, CTDI 9.8 mGy, 2.01 mSv ( $k=0.014$ )

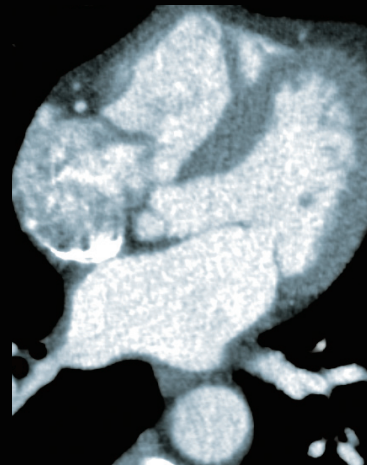
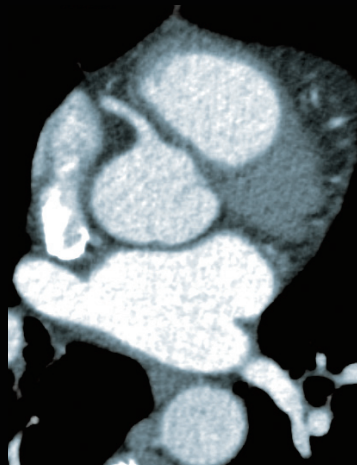
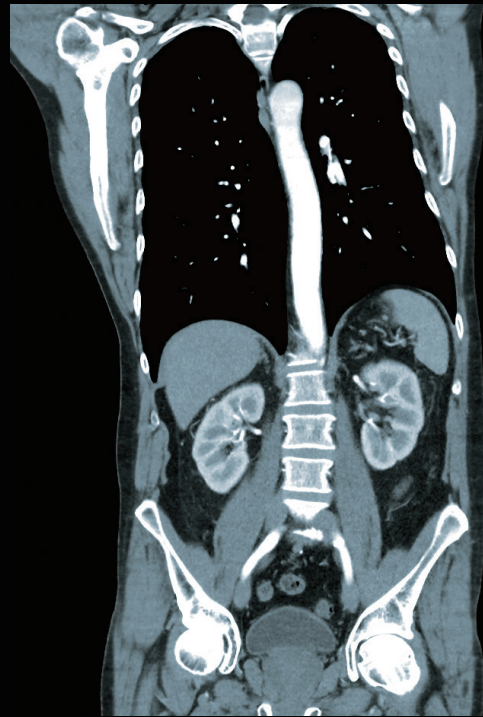


# Acute Aortic Syndrome with vHP 3 phase

Upper Chest  
Non-Gated

Heart  
ECG-Gated

Abdomen  
Non-Gated



## Patient History

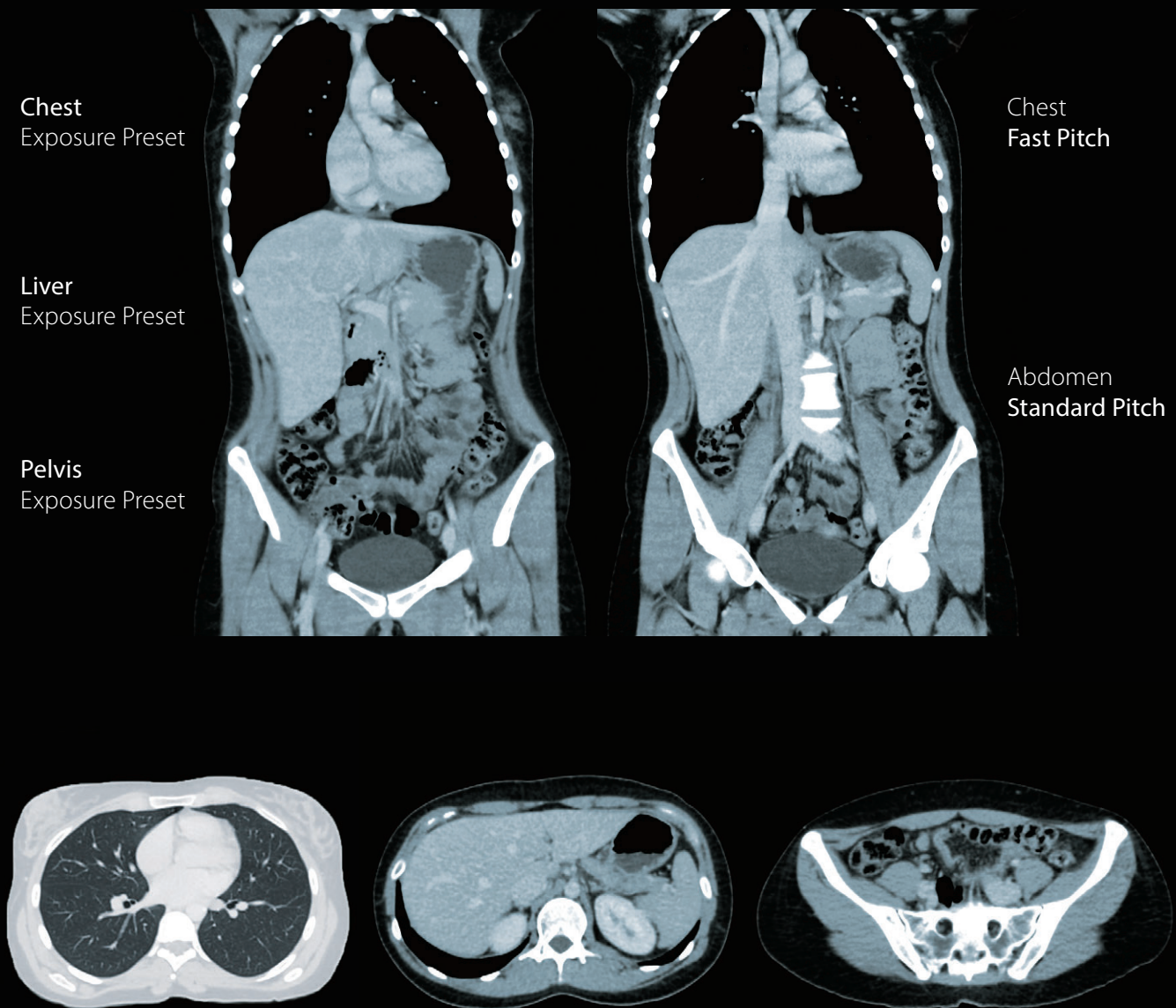
A 50-year-old man presented to the emergency department with hypertension, chest and back pain. Acute aortic syndrome, specifically aortic dissection, was suspected. A seamless, motion-free acquisition of the entire aorta from aortic arch to femoral arteries was obtained to rapidly exclude aortic dissection.

## Acquisition

vHP3\* scan mode for optimal gating, CTDI 10 mGy, 10.62 mSv ( $k=0.0145$ )

\*three phase variable Helical Parameters

# vHP 3 phase for Optimal Exposure and Speed



## Patient History

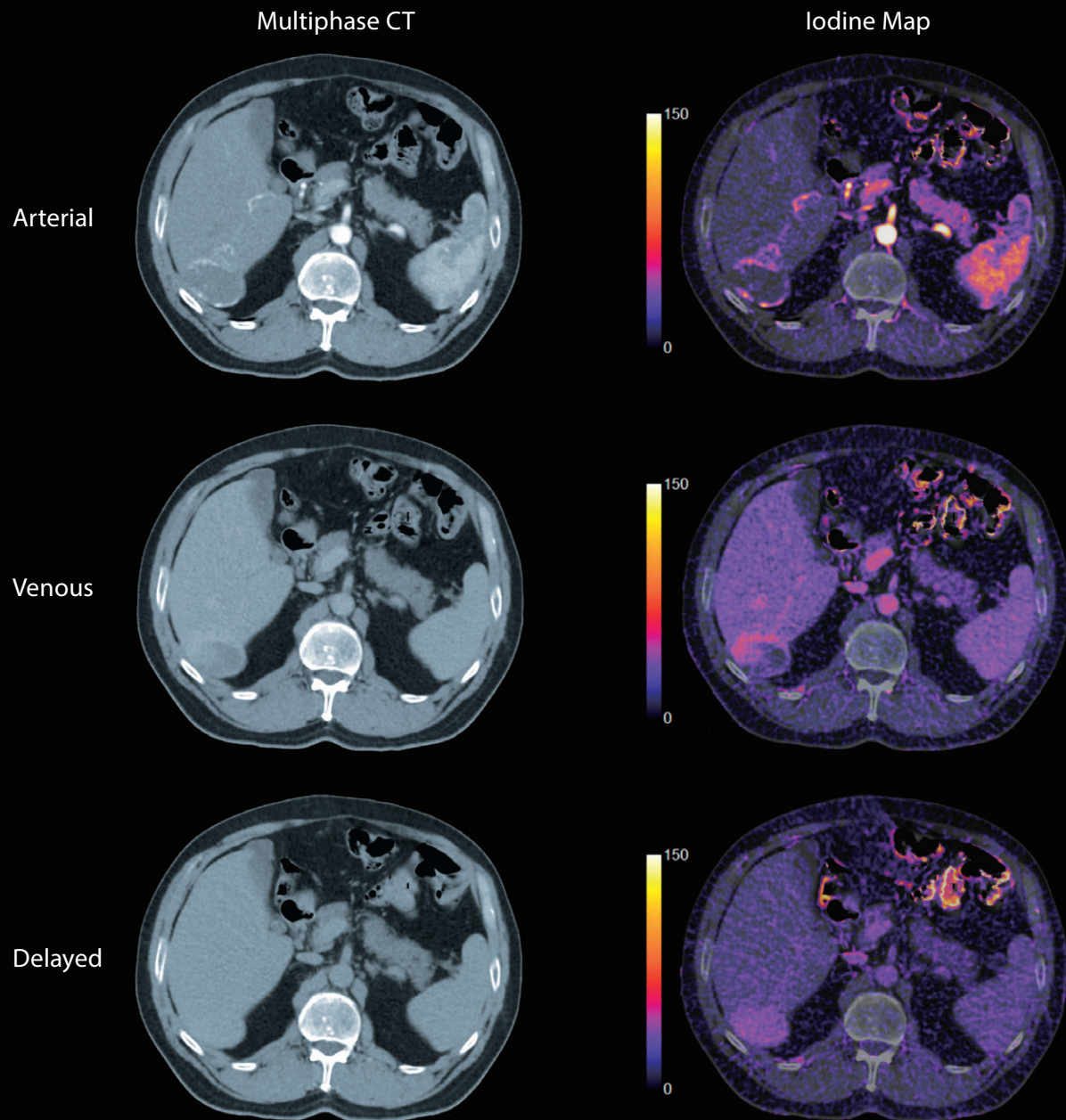
A 21-year-old woman was referred for a chest-abdomen-pelvis CT scan after multiple palpable lymph nodes were found during physical examination. To optimize speed and Exposure, the vHP3 scan mode was used.

## Acquisition

vHP3 scan mode for optimal speed and IQ, CTDI 4.6 mGy, 3.1 mSv ( $k=0.0145$ )



# Multiphase Liver with <sup>SURE</sup>Subtraction Iodine Mapping



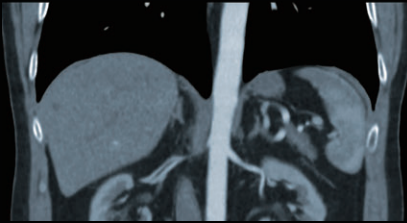
## Patient History

A 59-year-old man was scanned to follow up a liver hemangioma. <sup>SURE</sup>Subtraction Iodine Mapping highlights contrast enhancement in all contrast phases. Virtual Contrast Boost is used to enhance the contrast.

## Acquisition

Integrated <sup>SURE</sup>Subtraction helical scan mode, CTDI 7.5 mGy for each phase, 10.4 mSv (k=0.015)

Original Arterial



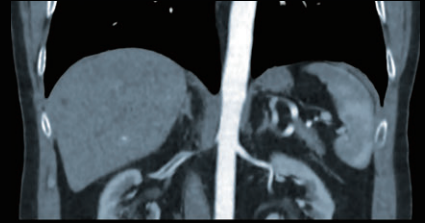
+

Subtracted Iodine Signal

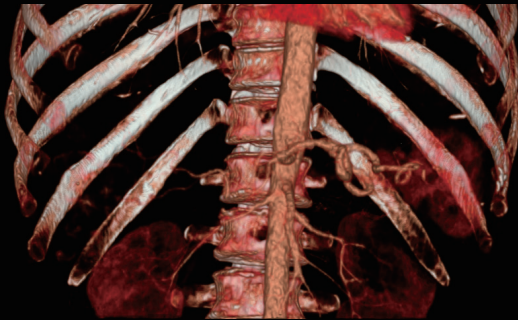


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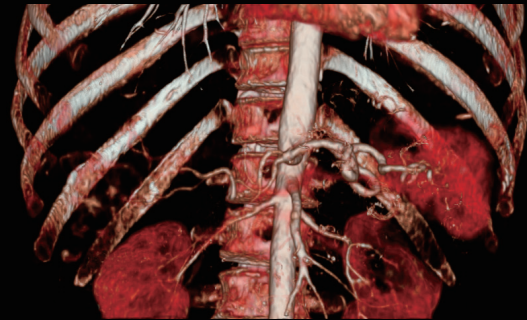
Virtual Contrast Boost



Original Arterial



Virtual Contrast Boost



# CTA Aorta with <sup>SURE</sup>Subtraction



## Patient History

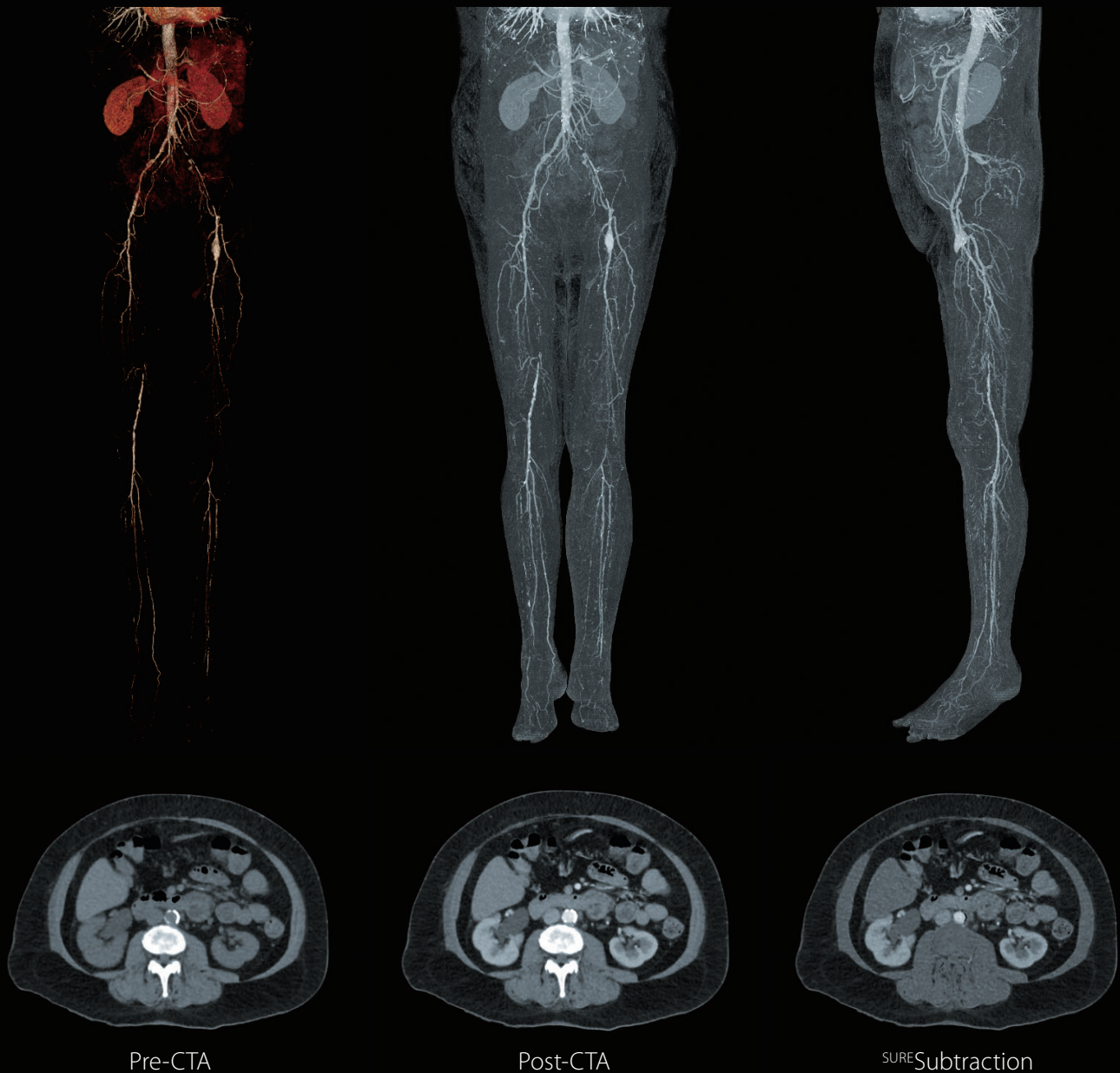
A CT scan was performed on this 71-year-old man to follow up a slightly enlarged abdominal aorta. Bone and calcium were automatically removed using <sup>SURE</sup>Subtraction Angio.

## Acquisition

Integrated <sup>SURE</sup>Subtraction scan mode, CTDI 3.6 mGy for each scan, 5 mSv (k=0.015)



# SURE Subtraction Angio Run-off



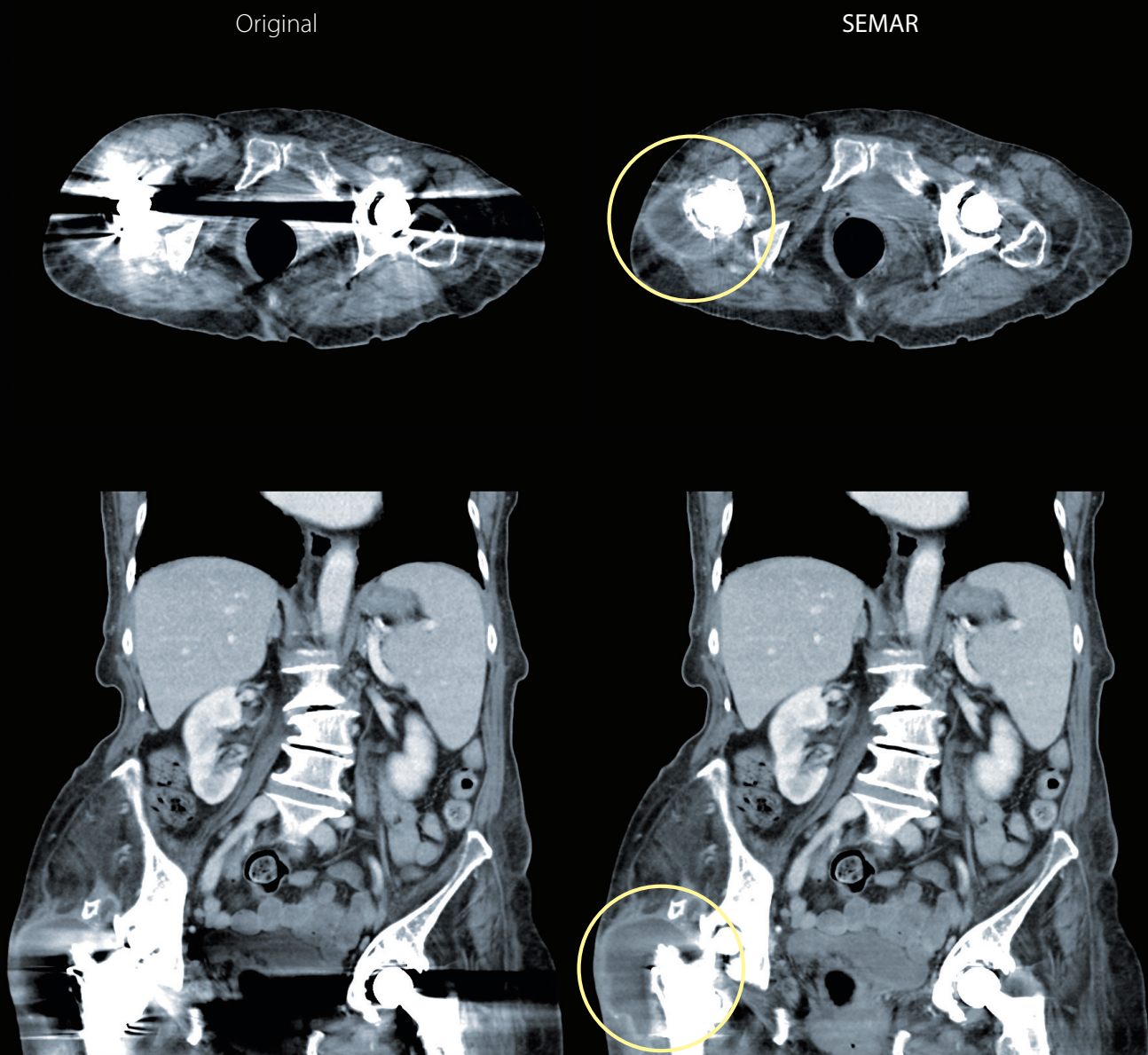
## Patient History

A 67-year-old woman underwent CT for investigation of peripheral vascular disease. SURE Subtraction was used to automatically remove bones, calcium and stents.

## Acquisition

Ultra Helical with SURE Subtraction scan mode, CTDI 2.6 & 3.2 mGy, DLP 810.2 mGy-cm

# Routine Abdomen with SEMAR



## Patient History

This 80-year-old woman with bilateral hip replacements presented with sudden fever and signs of hip inflammation. A CT scan of the abdomen with Single Energy Metal Artifact Reduction (SEMAR) was requested. On the images reconstructed with SEMAR an abscess can be clearly seen and is obscured on the original reconstruction due to the metallic artifacts.

## Acquisition

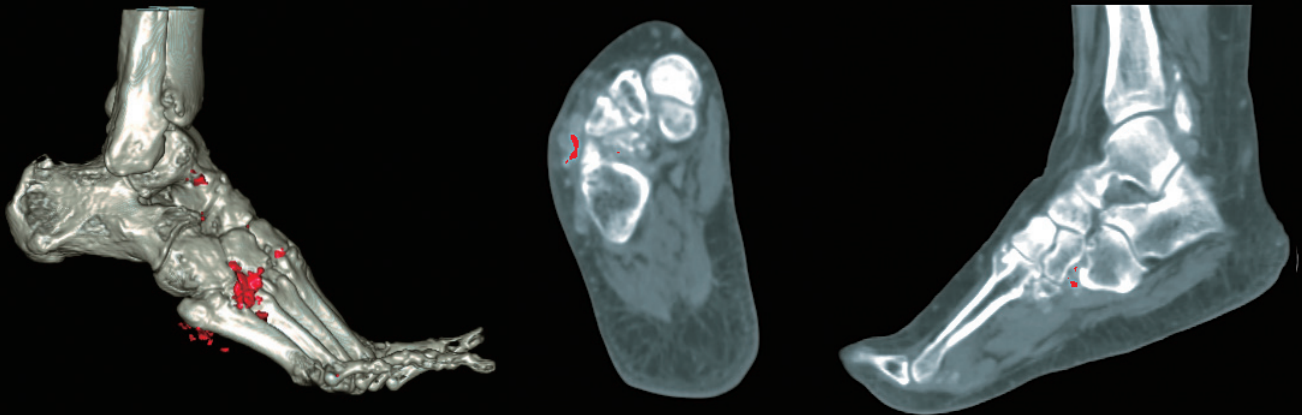
Ultra Helical 0.5 mm x 80 with automated SEMAR reconstruction, CTDI 6.5 mGy, 4.3 mSv ( $k=0.015$ )

# Dual Energy Composition Analysis

1.11 cm<sup>3</sup> uric acid



0.79 cm<sup>3</sup> uric acid



## Patient History

The hands and feet of a 68-year-old man were scanned with Dual Energy for the evaluation of gout. Composition Analysis confirms the presence of peri-articular mono-sodium urate.

## Acquisition

Dual Energy Helical scan, CTDI 12.8+12.9 mGy



# Ankle Fracture



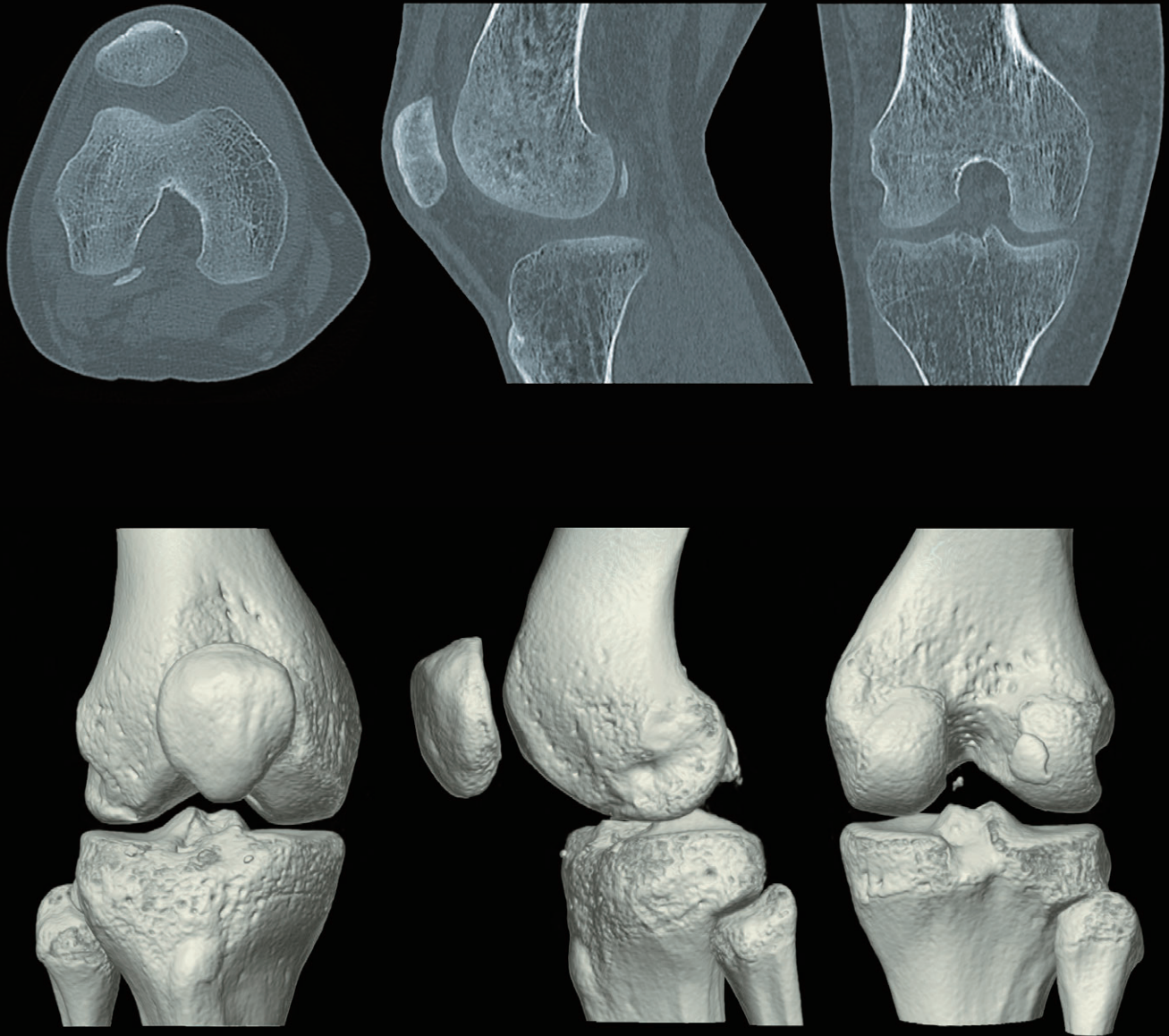
## Patient History

This 66-year-old woman presented to the emergency department following a fall with torsion of her left ankle. She was referred for a CT scan to rule out a fracture.

## Acquisition

Isotropic 0.5 mm scan with AIDR 3D Enhanced, CTDI 6.2 mGy

# Pediatric Knee Fracture



## Patient History

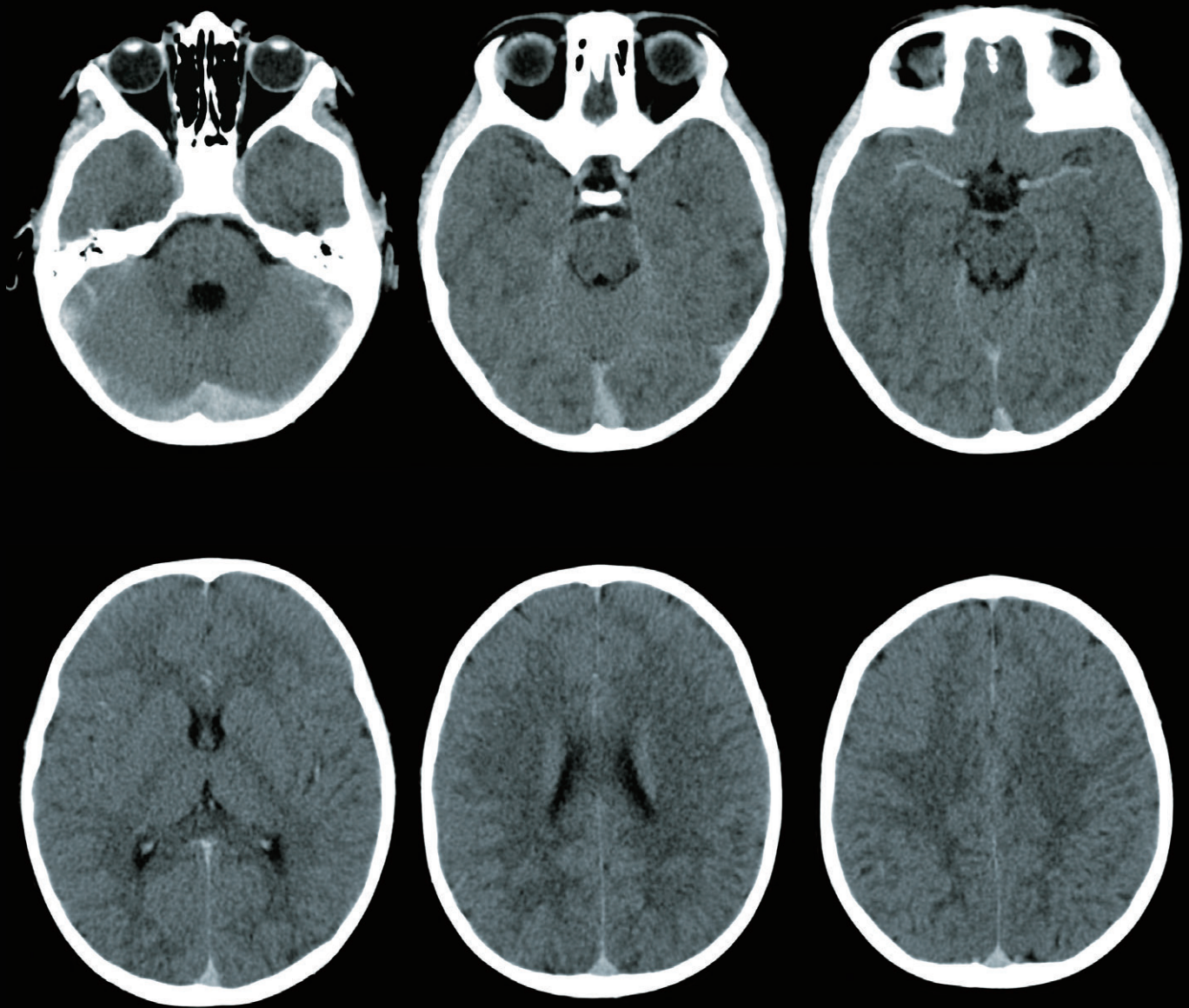
A scan of the knee of a 14-year-old boy was performed following an injury during soccer practice.

## Acquisition

Ultra Helical 0.5 mm x 80 with AIDR 3D Enhanced reconstruction, CTDI 6.1 mGy



# Pediatric Brain with Contrast



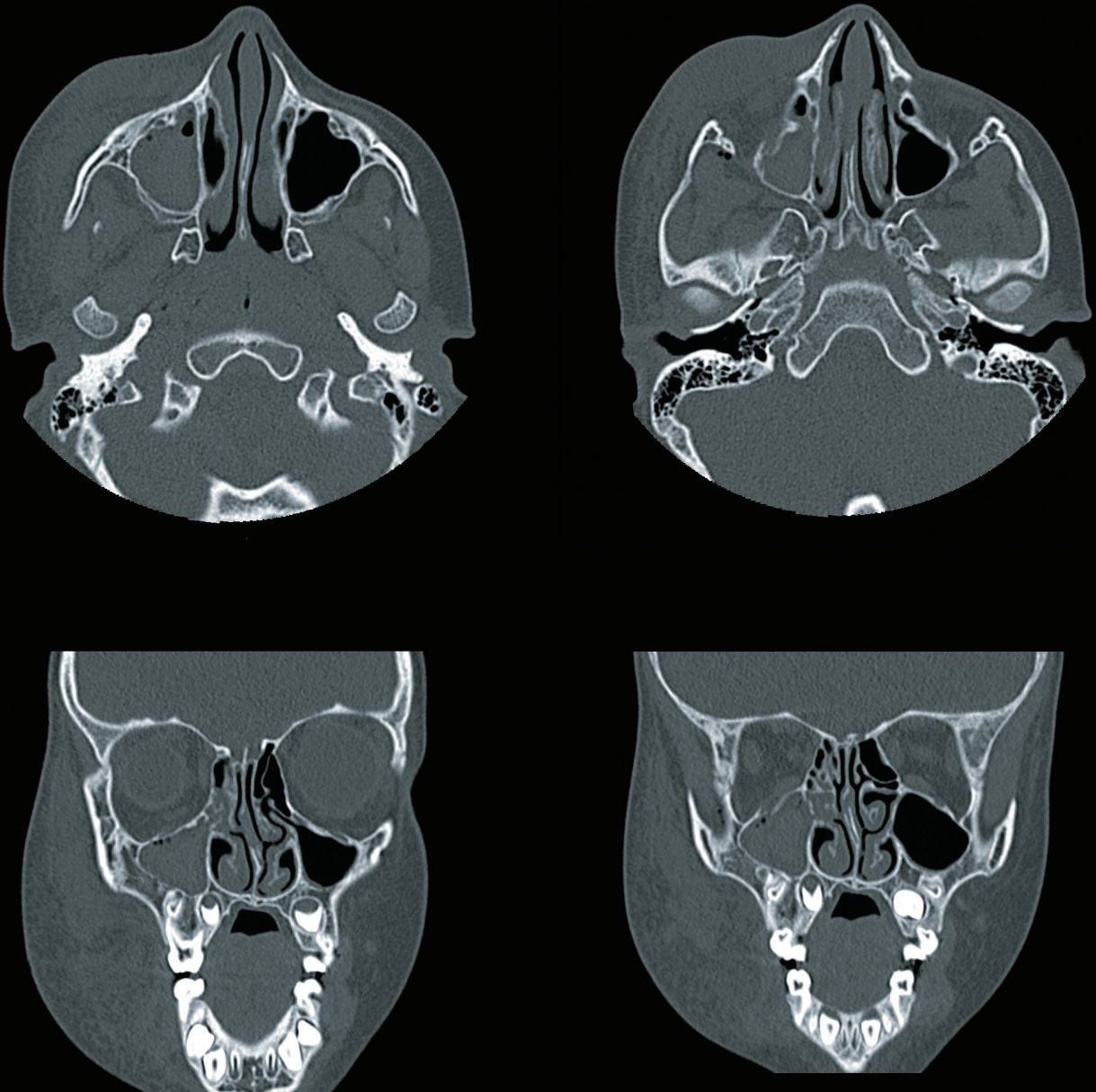
## Patient History

A five-year-old boy underwent a CT scan of the brain with intravenous contrast.

## Acquisition

Isotropic 0.5 mm with <sup>PURE</sup>VISION Optics, CTDI 28.8 mGy, 1.97 mSv (k=0.004)

# Pediatric Facial Bones Fracture



## Patient History

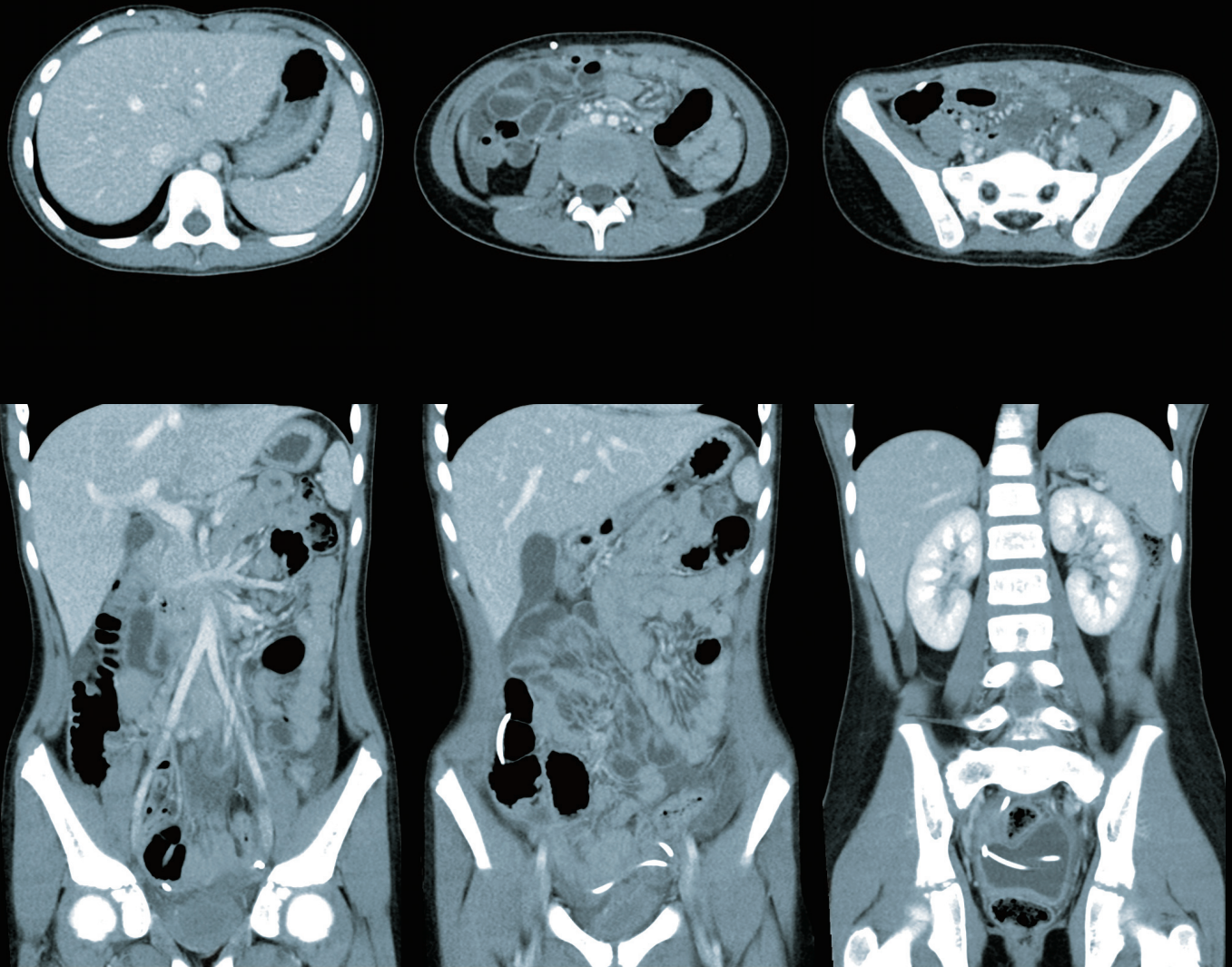
This six-year-old girl presented with severe soft tissue swelling of the right side of her face following a bike accident. A CT scan was requested to rule out fractures.

## Acquisition

Ultra Helical 0.5 mm x 80, CTDI 9.8 mGy, 0.6 mSv ( $k=0.004$ )



# Pediatric Abdomen



## Patient History

This 11-year-old boy underwent a CT scan following one week of lower abdominal pain, a previous ventriculoperitoneal shunt is in situ.

## Acquisition

Ultra Helical 0.5 mm x 80, 0.35 s Rotation Time, CTDI 2 mGy, 1.2 mSv ( $k=0.015$ )



**Disclaimer:** Any reference to X-ray exposure 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.

In clinical practice, the use of the AIDR 3D features 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.

Options listed in this brochure may not be available in all regulated markets. Please contact your regional sales company to verify availability.

Clinical results may vary due to clinical setting, patient presentation and other factors.

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