SIEMENS

SOMATOM Definition Flash

Flash Speed. Lowest Dose.

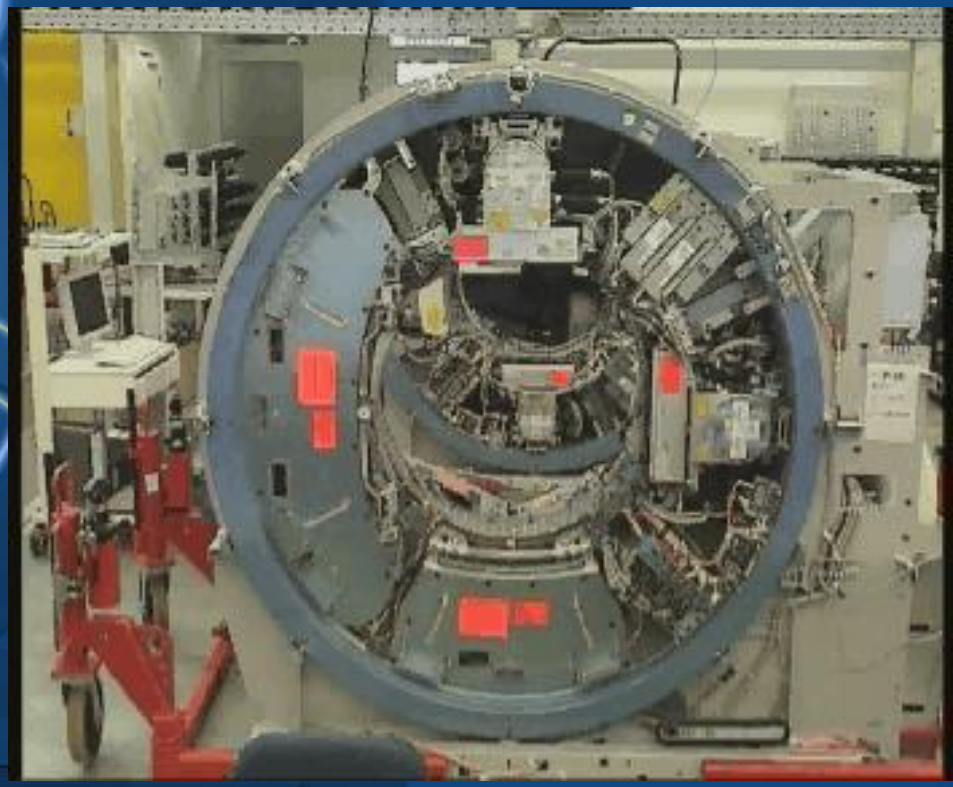
SOMATOM Definition Flash
Flash Speed. Lowest Dose.

SIEMENS

- Dual Source
- 0.28 s rotation
- 75 ms temporal resolution
- 200 cm scan range

Dual Source CT:
Two X-Ray Sources and Two Detectors at the Same Time

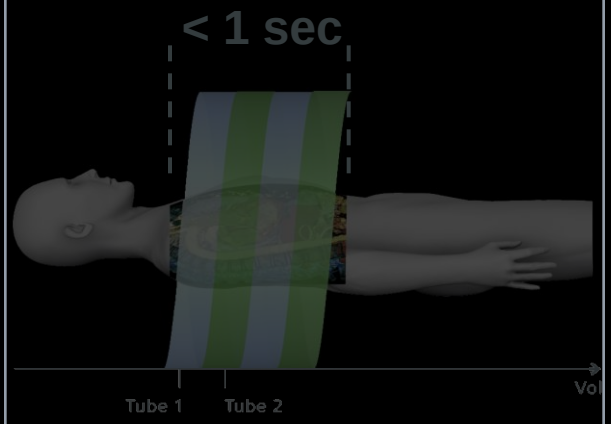
SIEMENS



SOMATOM Definition Flash
Flash Speed. Lowest Dose.

SIEMENS

Split-Second Scanning



Defining Low Dose CT

< 1 mSv

Dual Source DE for all Patients

Always 2nd Contrast

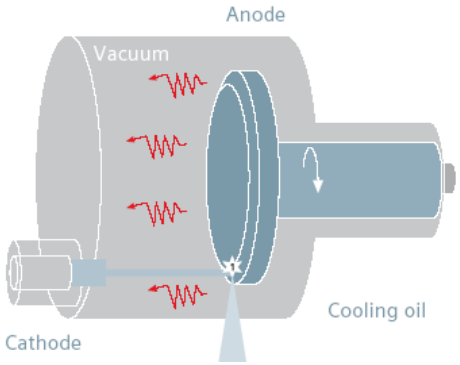
Flying Focal Spot with z-Sharp

Isotropic spatial resolution of 0.33 mm³

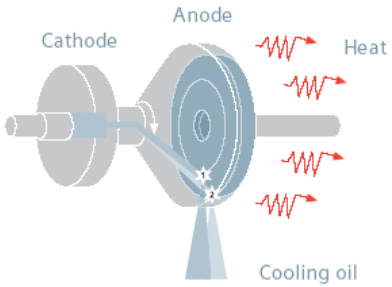
SIEMENS

Tube design

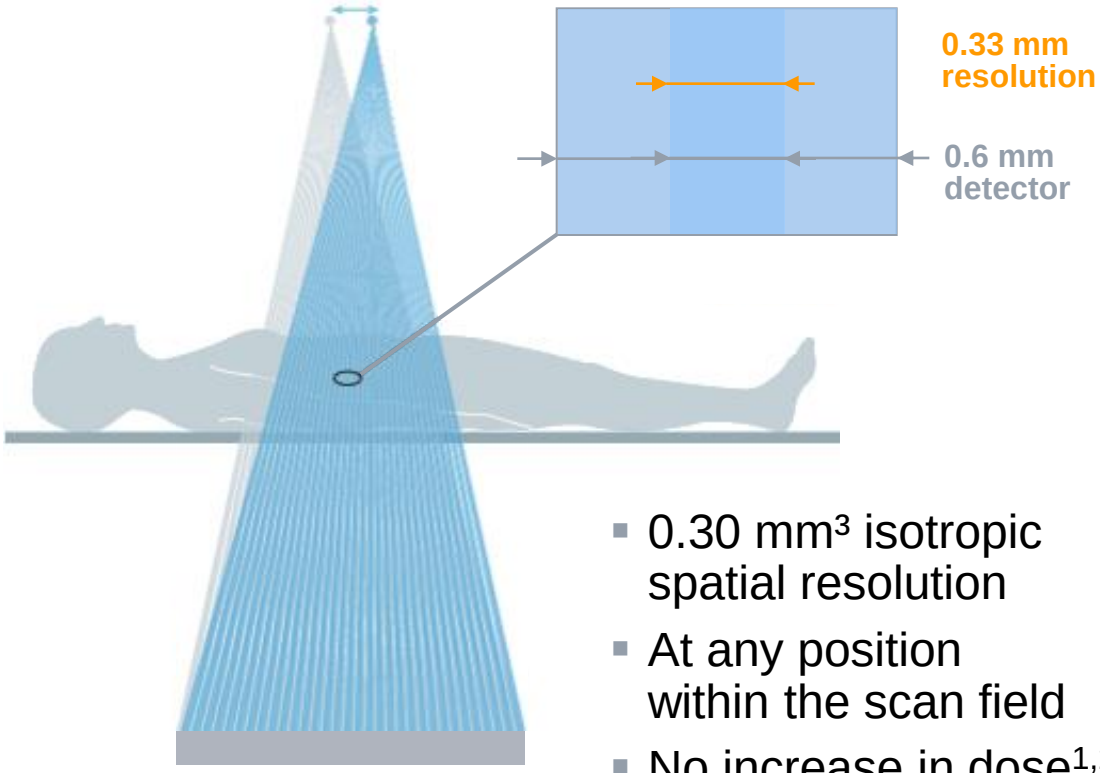
Conventional technology



STRATON with z-Sharp



Overlapping projections with distinct X-ray beam



- 0.30 mm³ isotropic spatial resolution
- At any position within the scan field
- No increase in dose[1,2]

1: Flohr T et al. Performance evaluation of a 64-slice CT system with z-flying focal spot. Rofo. 2004 Dec;176(12):1803-10.
2: Flohr TG et al. Image reconstruction and image quality evaluation for a 64-slice CT scanner with z-flying focal spot. Med Phys. 2005 Aug;32(8):2536-47.

SOMATOM Definition Flash
Split-second scanning advantages

SIEMENS

Single source CT

Result: Single source CT is limited to slow pitch and slow scan speed

SOMATOM Definition Flash

Split-second scanning with Flash Spiral mode

SIEMENS

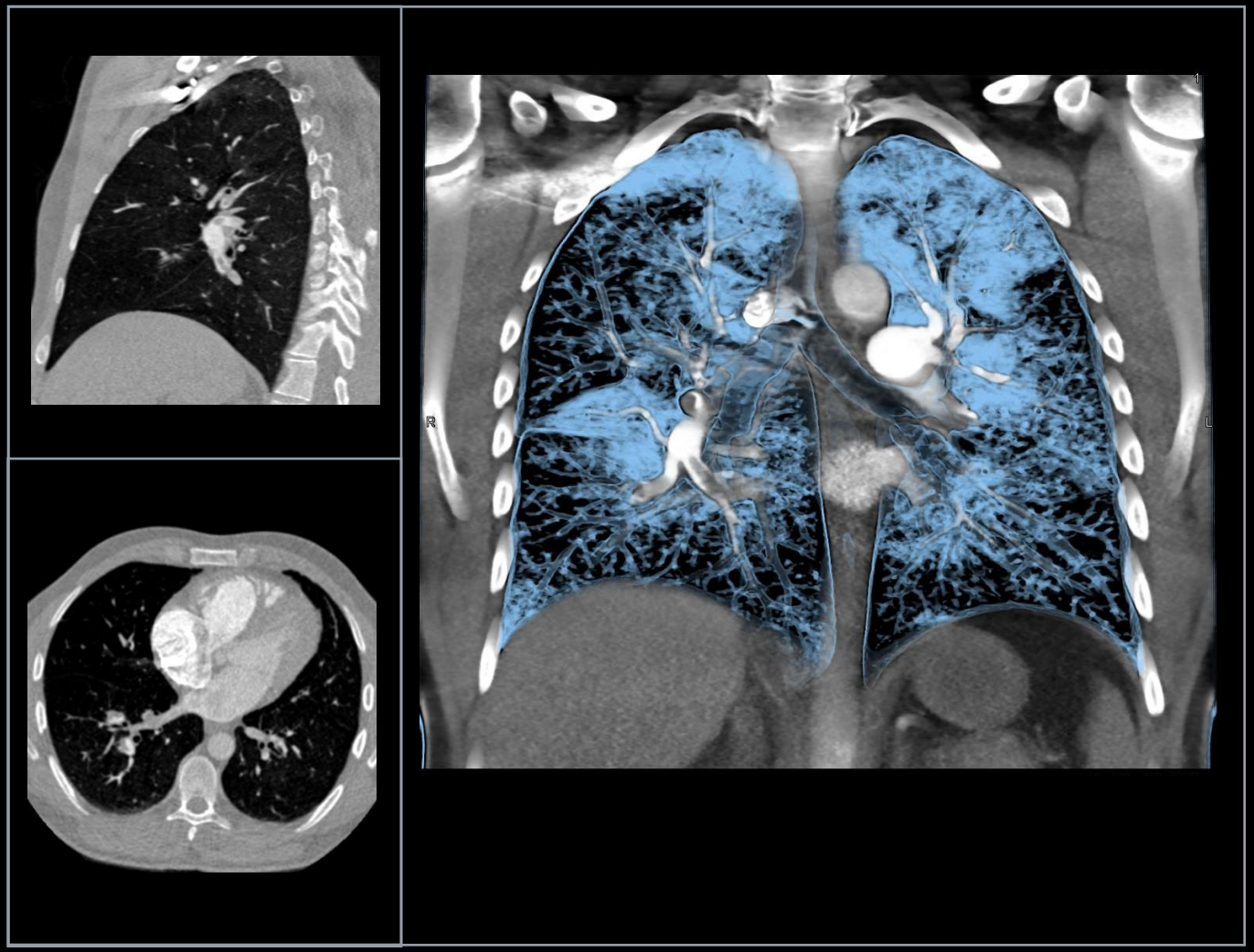
Conventional Technology

1: Sommer WH et al. Saving dose in triple-rule-out computed tomography examination using a high-pitch dual spiral technique. Invest Radiol. 2010 Feb;45(2):64-71.

SOMATOM Definition Flash

Triple rule-out reveals pulmonary embolism

SIEMENS



Courtesy of Vancouver General Hospital / Vancouver, Canada

SOMATOM Definition Flash

Flash Speed.
Lowest Dose.

collimation: 128 x 0.6 mm
spatial resolution: 0.33 mm
scan time: 0.67 s
scan length: 287 mm
rotation time: 0.28 s
100/100 kV, 269 mAs/rot
CTDIvol: 3.0 mGy

Flash Spiral

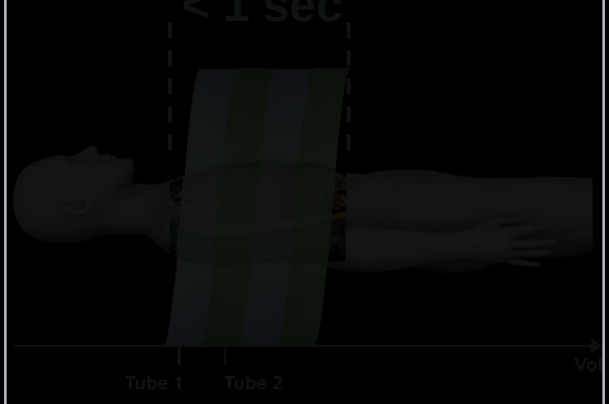
Scan time: 0.67 s
Eff. dose: 1.4 mSv

SOMATOM Definition Flash
Flash Speed. Lowest Dose.

SIEMENS

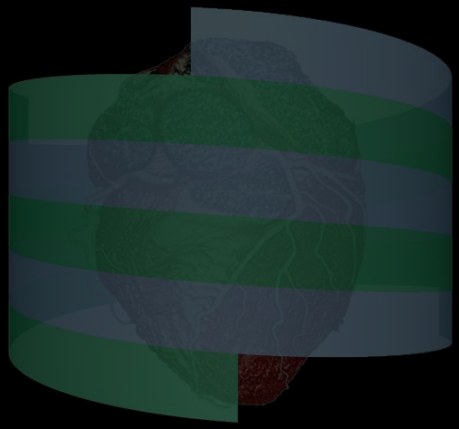
Split-Second Scanning

< 1 sec



Defining Low Dose CT

< 1 mSv

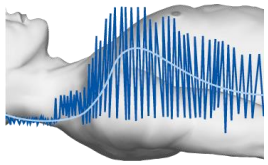


Dual Source DE for all Patients

Always 2nd Contrast

An Innovation Leader in Low Dose Computed Tomography

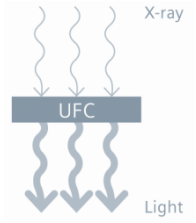
SIEMENS



Up to 68%

CARE
Dose4D

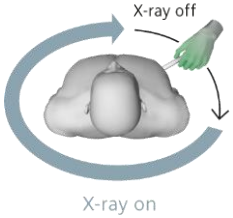
1994



Up to 30%

Ultra Fast Ceramic (UFC)

1997

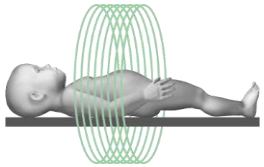


Up to 70%

Hand CARE

1999

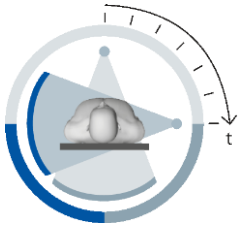
Siemens Exclusive



Up to 50%

Pediatric
80 kV Protocols

2002

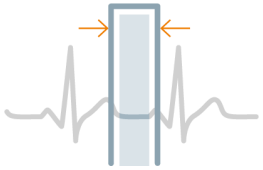


Up to 50%

DSCT

2005

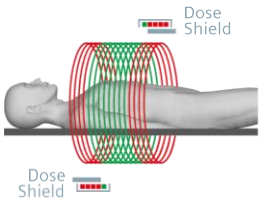
Siemens Exclusive



1-3 mSv

Adaptive ECG-Pulsing/Sequence

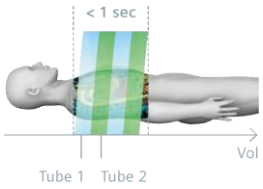
2007



Up to 25%

Adaptive Dose Shield

2007

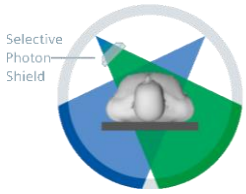


< 1 mSv

Flash Spiral

2008

Siemens Exclusive

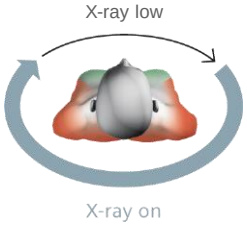


No penalty

Selective Photon Shield

2008

Siemens Exclusive

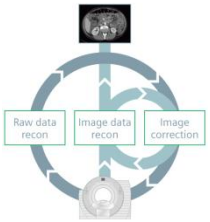


Up to 40%

X-CARE

2008

Siemens Exclusive

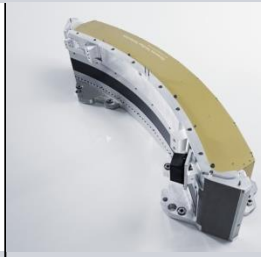


Up to 60%

SAFIRE

2010

Siemens Exclusive



To minimize electonic noise

2011

*In clinical practice, the use of IRIS and SAFIRE 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.

** Dose reduction potential was determined by lowering dose by 60% and reconstructing with IRIS. Noise, CT numbers, homogenity, low-contrast resolution and high contrast resolution were assessed in a Gammex 438 phantom. Low dose data reconstructed with IRIS showed the same image quality compared to full dose data based on this test. Data on file.

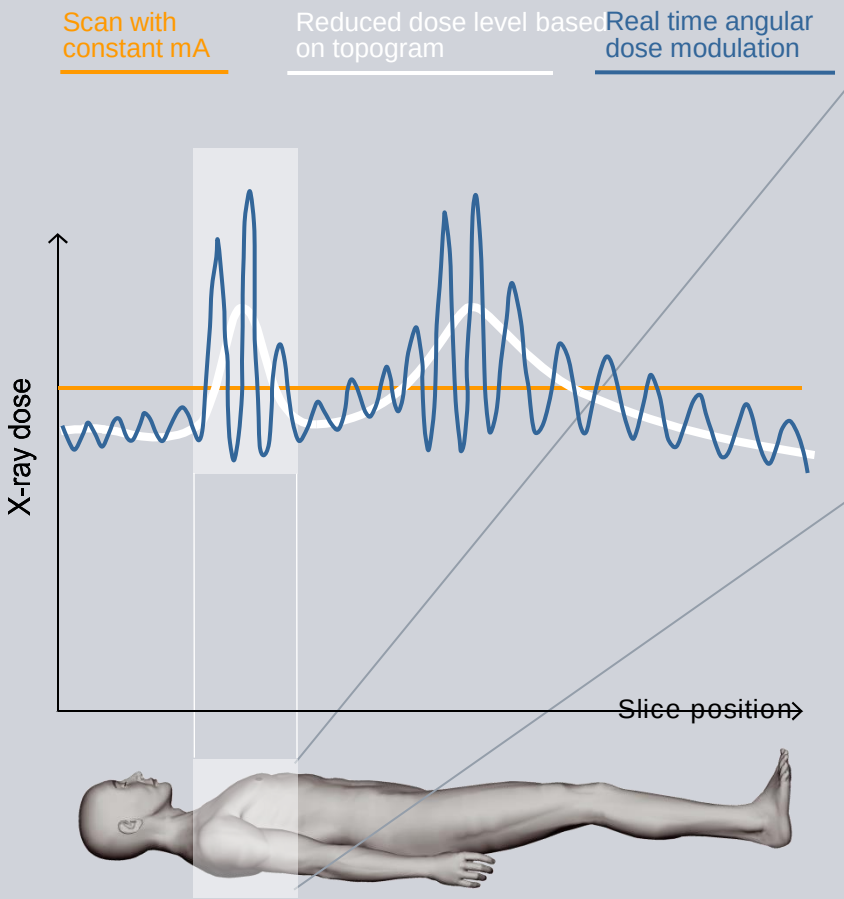
*** The information about this product is being provided for planning purposes.The product is pending 510(k) review, and is not yet commercially available in the U.S.Dose reduction potential was determined by lowering dose by 60% and reconstructing with SAFIRE. Noise, CT numbers, homogenity, low-contrast resolution and high-contrast resolution were assessed in a Gammex 438 phantom. Low dose data reconstructed with SAFIRE showed the same image quality compared to full dose data based on this test. Data on file.

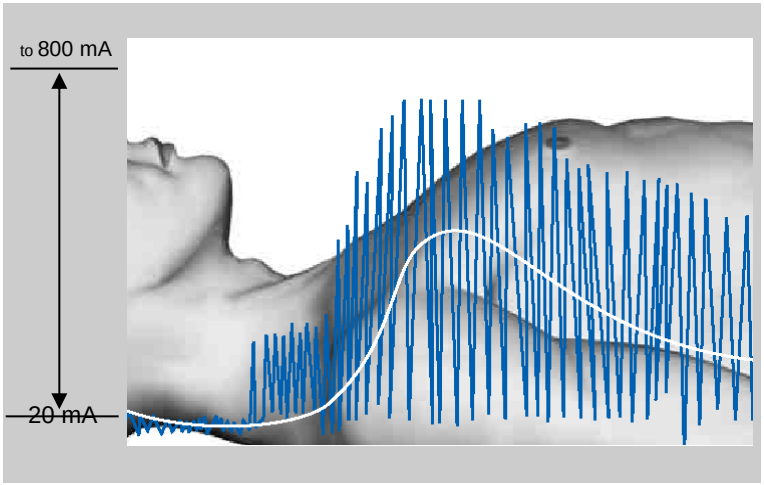
SIEMENS

Care Dose 4D

CARE Dose4D

Minimal dose, maximum quality, and fully automated





- Fino al 68% di riduzione di dose senza compromettere la qualità di immagine.
- Modulazione di dose in real time.

SIEMENS

X Care

SOMATOM Definition Flash
Dose reduction with X-CARE

SIEMENS

Conventional Technology

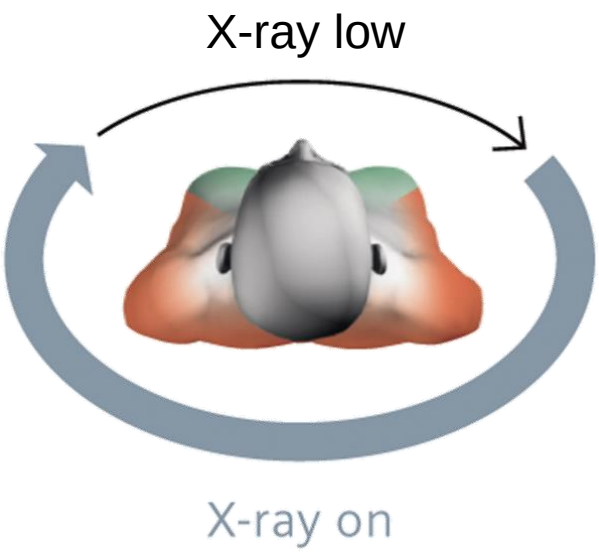
- **Full radiation of breast**
- Breast is always included in any diagnostic thoracic scan, but never organ of interest

X- CARE
Organ sensitive protection

SIEMENS

Up to

40%



X-CARE protects the most radiation sensitive organs

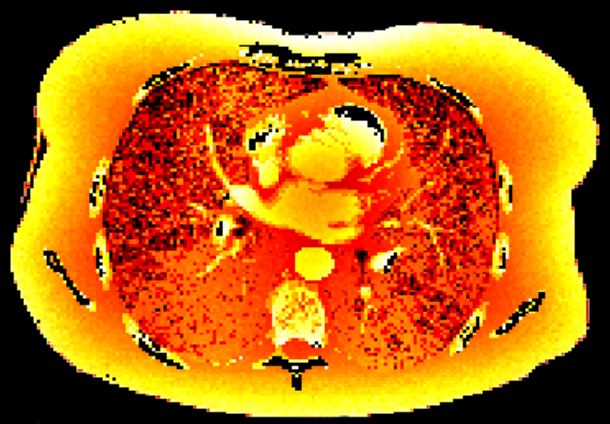
- Spesso organi come iride, tiroide e mammella sono esposti inutilmente a dose
- Riduzione di dose fino al 40% senza compromettere la qualità di immagine
- Modulazione della corrente del tubo in alcuni organi target.

1: Vollmar SV, Kalender WA. Reduction of dose to the female breast in thoracic CT: a comparison of standard-protocol, bismuth-shielded, partial and tube-current-modulated CT examinations. Eur Radiol. 2008 Aug;18(8):1674-82.

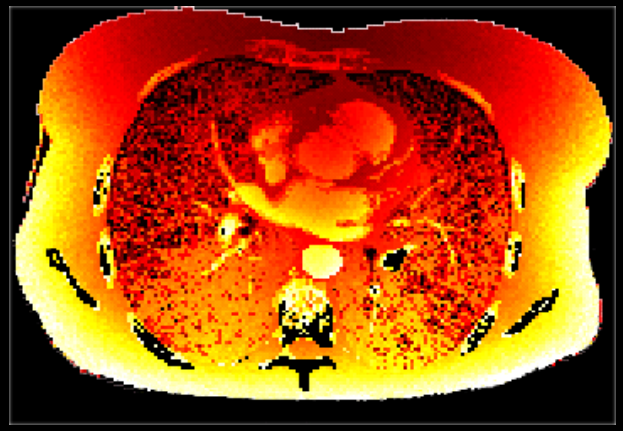
SOMATOM Definition Flash

Up to 40% dose reduction with X-CARE

SIEMENS



without X-CARE



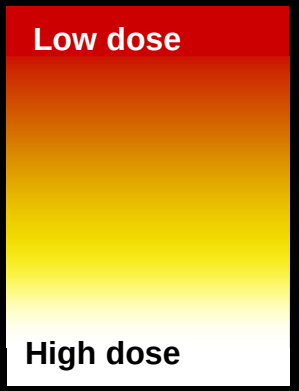
with X-CARE

Up to 40% dose reduction

SOMATOM Definition Flash

Flash speed.
Lowest dose.

X-CARE
Spatial res. 0.33 mm



Vollmar, Kalender - Reduction of dose to the female breast: a comparison of standard-protocol, bismuth-shielded partial and tube-current-modulated CT examinations, Eur Radiol 2008

SOMATOM Definition Flash

Defining low dose neuro CT with X-CARE

SIEMENS

30% less dose than
ACR reference[1]

SOMATOM Definition Flash

Flash Speed.
Lowest Dose.

scan time: 8 s
scan length: 128 mm
rotation time: 1 s
100 kV, 580 eff. mAs / rot

Tube voltage: 100 kV
Dose: 52 mGy

Courtesy of J. Hausleiter, MD, Cardiologist, German Heart Center, Munich, Germany
1, ACR Practice Guideline for Diagnostic Reference Levels in Medical X-Ray Imaging (ACR Reference Level: 75 mGy)

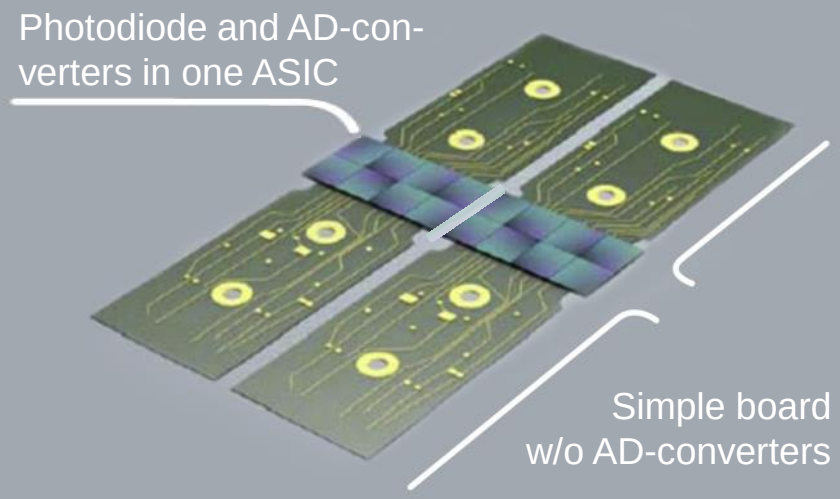
SIEMENS

Stellar Detector

Stellar Detector
Minimized cross-talk and electronic noise

SIEMENS

Fully Integrated Stellar Detector



TrueSignal Technology

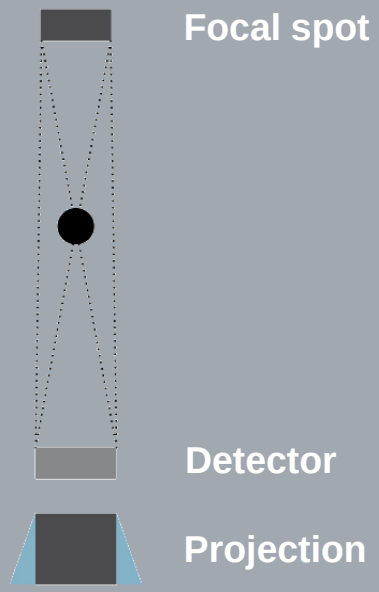
- Riduzione del rumore fino al 20%, più alto rapporto segnale/rumore, incremento quindi della qualità di immagine su scansioni a bassa dose, pazienti obesi e Dual Energy
- Incremento della risoluzione spaziale fino a 0,3 mm e ricostruzione delle immagini a strato ancora più sottile, fino a 0,5 mm.

AD: Analog-to-Digital-Converter // ASIC: Application Specific Integrated Circuit

Stellar Detector
High resolution scanning

SIEMENS

New Stellar Detector



Edge Technology

- Reduced cross-talk for minimized slice blurring enables Edge Technology
- 0.5 mm slices with increased cross-plane resolution of 0.30 mm

Stellar Detector in Coronary CTA

Increased vessel delineation and minimized blooming

SIEMENS

Courtesy of J. Hausleiter, MD, Cardiologist, German Heart Center, Munich, Germany

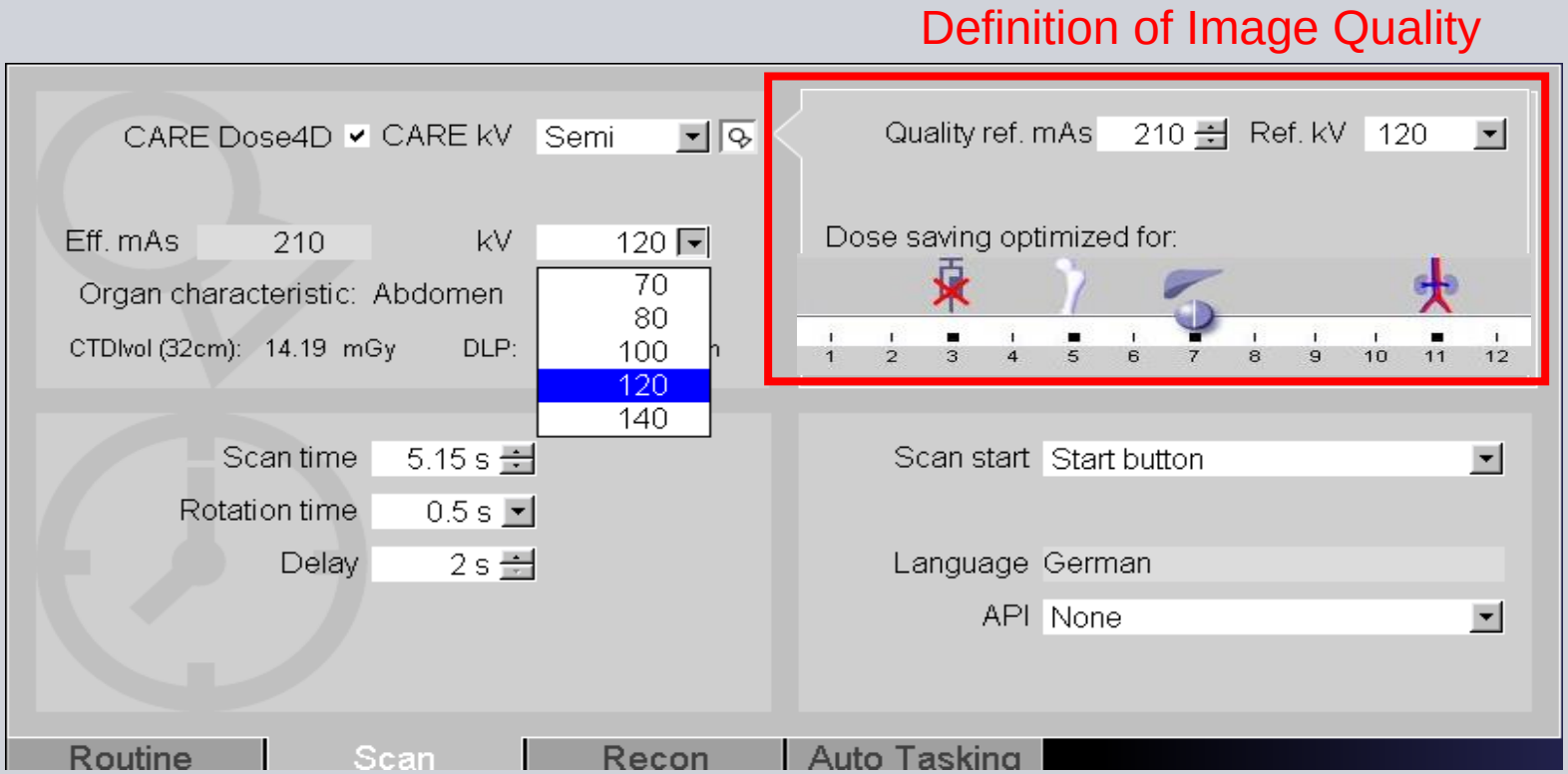
SIEMENS

Care kV

Riduzione della dose

- CARE kV

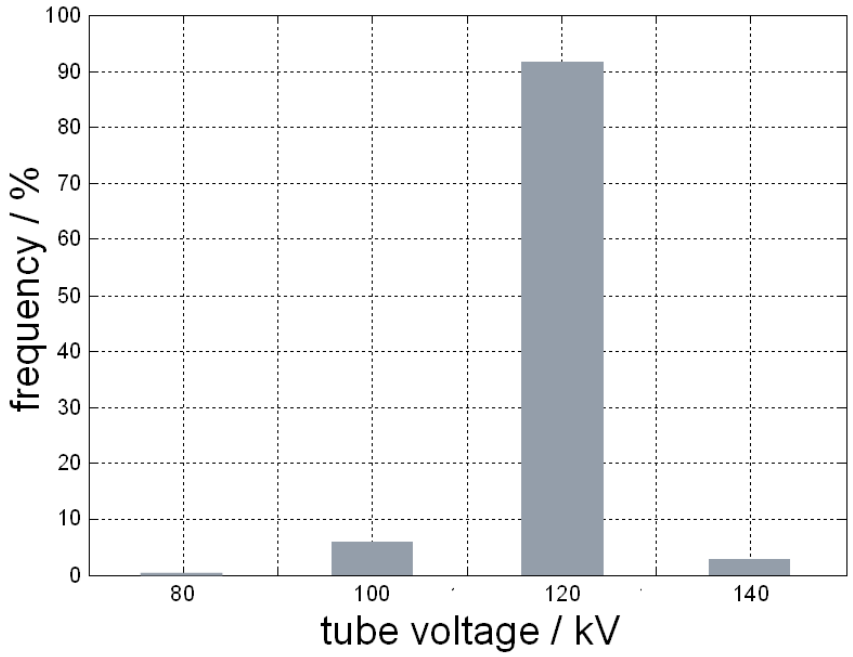
Adatta automaticamente i kV in funzione del topogramma, dell'organo analizzato e del tipo di esame per migliorare la qualità di immagine e il rapporto segnale-rumore riducendo la dose erogata al paziente.



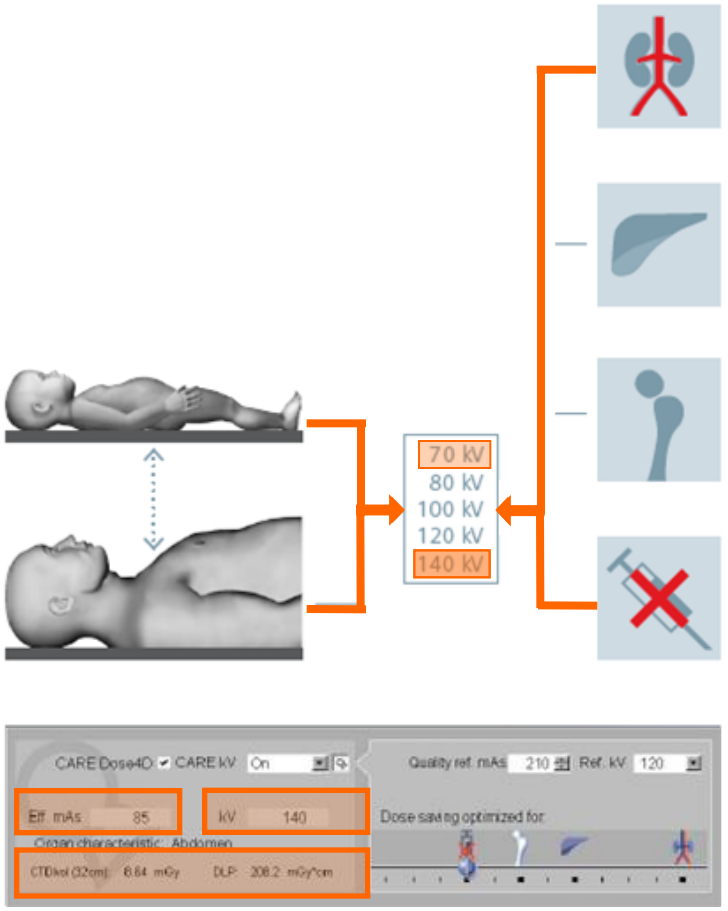
CARE kV
Automated, exam-specific kV setting

SIEMENS

Untapped potential: right kV setting



Habitus and exam based kV setting



Source: Internal data evaluation based on anonymous assessment on SRS connected scanners.

SIEMENS

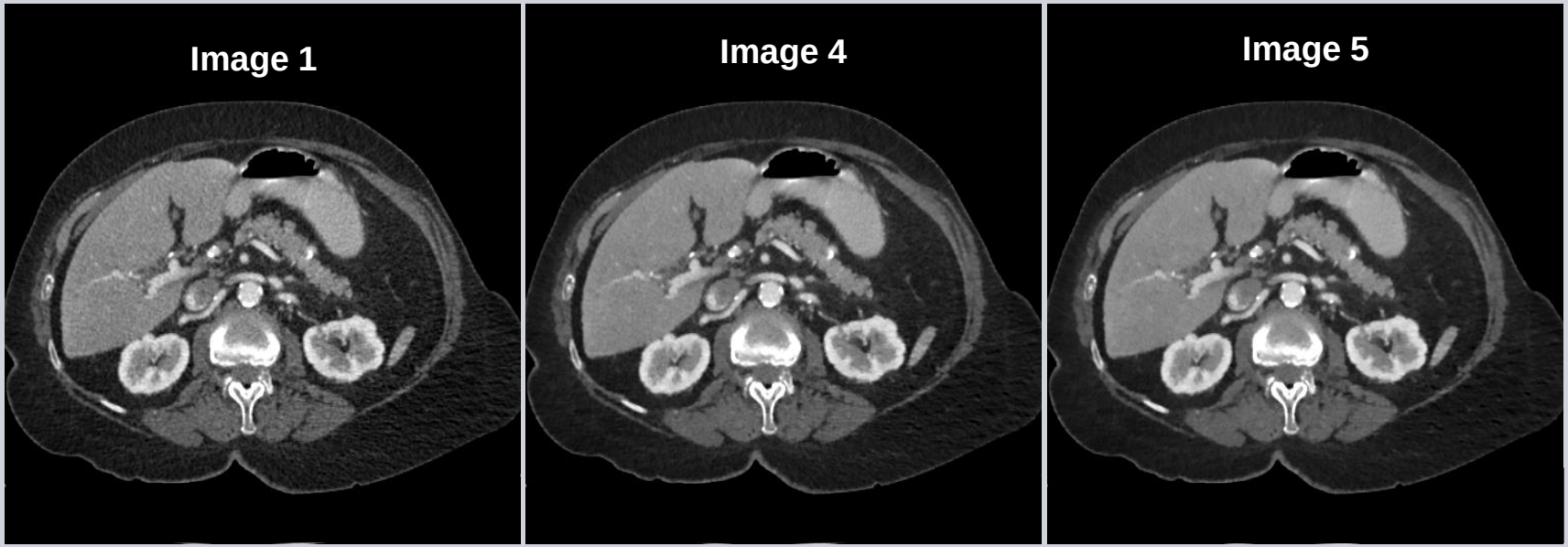
Safire

SAFIRE*
Ready for clinical routine

SIEMENS

SAFIRE is customizable

- **5 image noise levels** selectable from a preview set of images



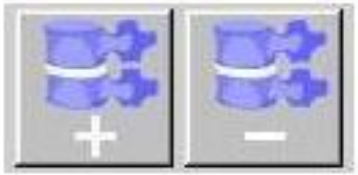
- There’s an incremental **reduction of noise** in each of the images

* The information about this product is being provided for planning purposes.
The product is pending 510(k) review, and is not yet commercially available in the U.S.

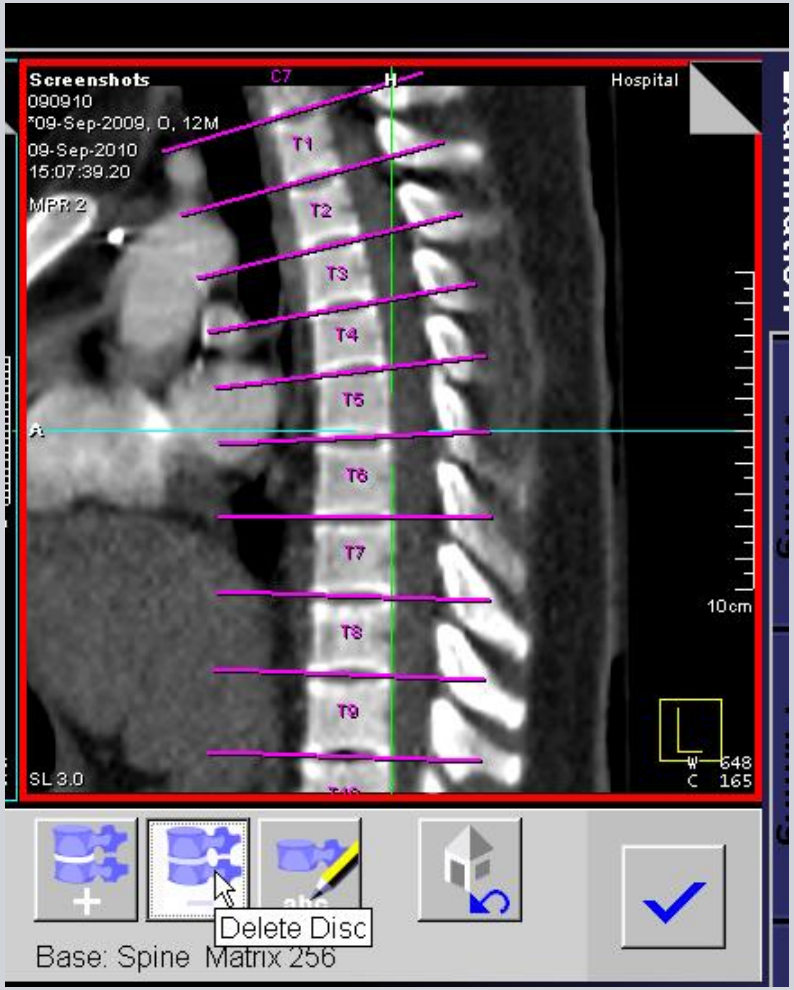
SIEMENS

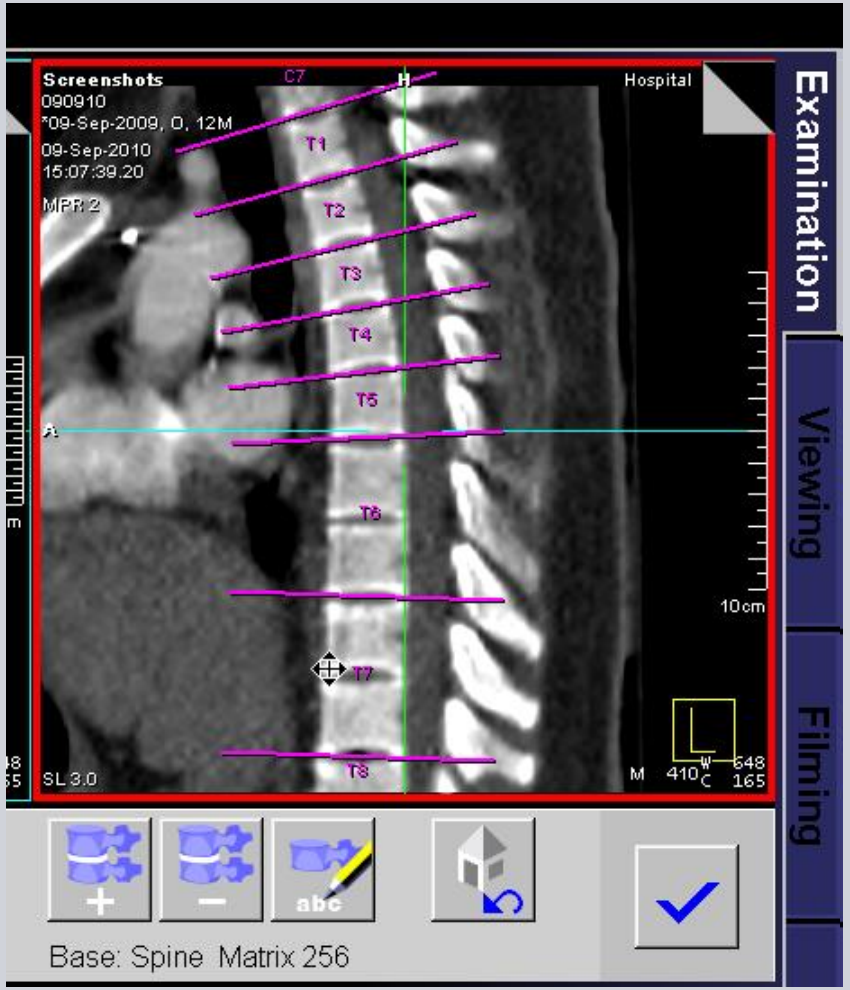
FAST Spine

Add/Remove Disc

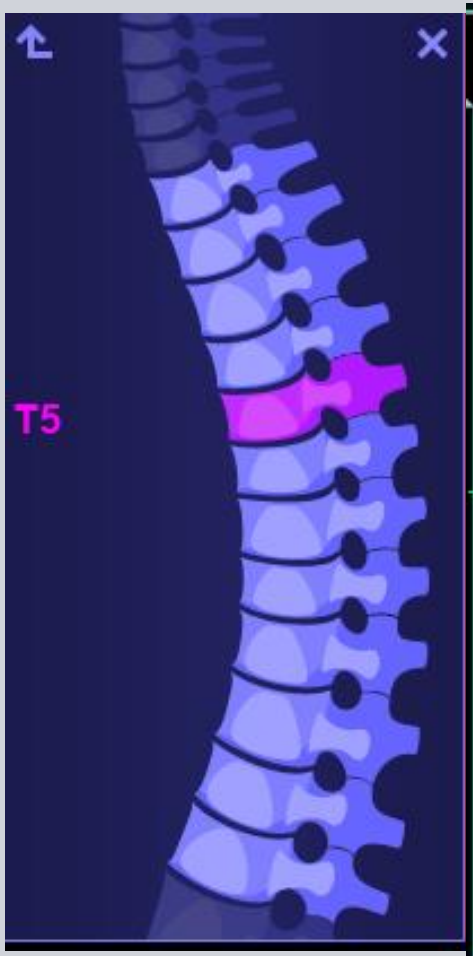


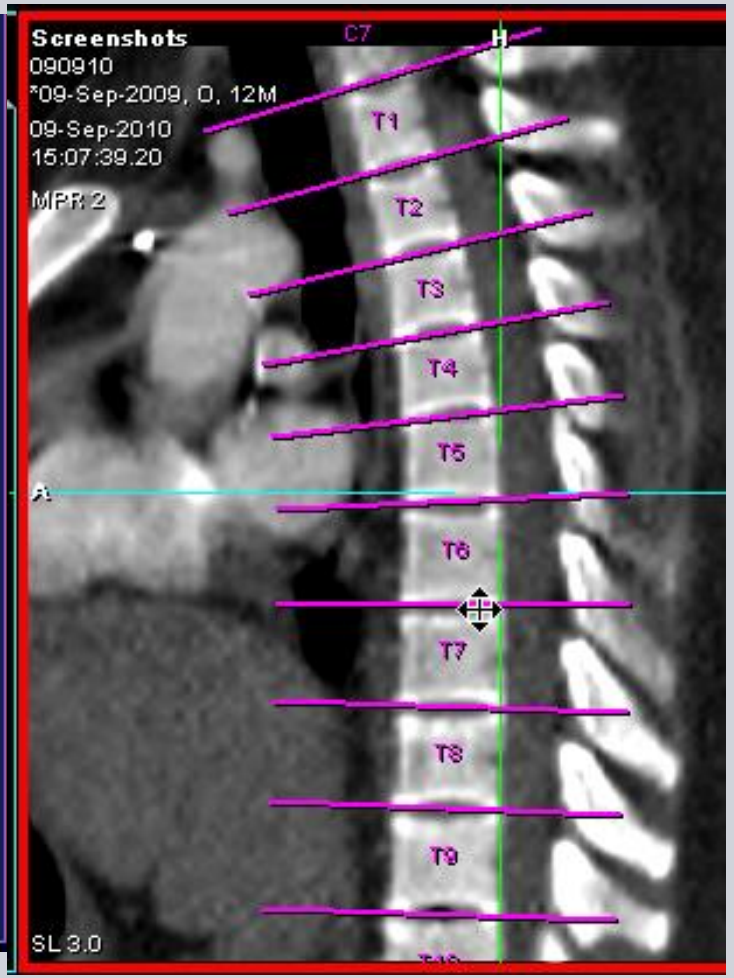
SIEMENS





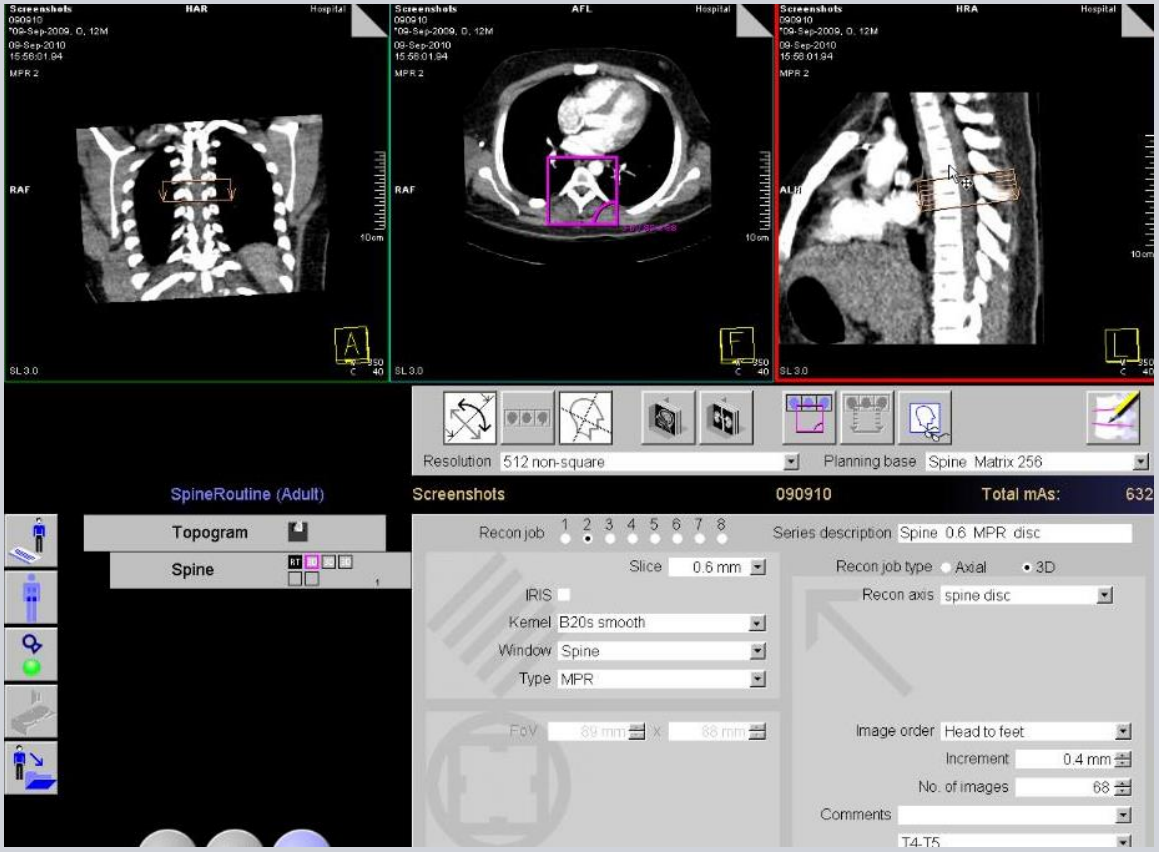
Apply Vertebra Labels





Spine Disc

The **Spine disc mode** provides a reconstruction range, placed and oriented on a specific disc. By clicking onto another disc, the range follows.



→Changing the FoV or the range exists FAST Spine
→Labels are deleted
→Changing back to s FAST Spine reactivates FAST Spne

SIEMENS

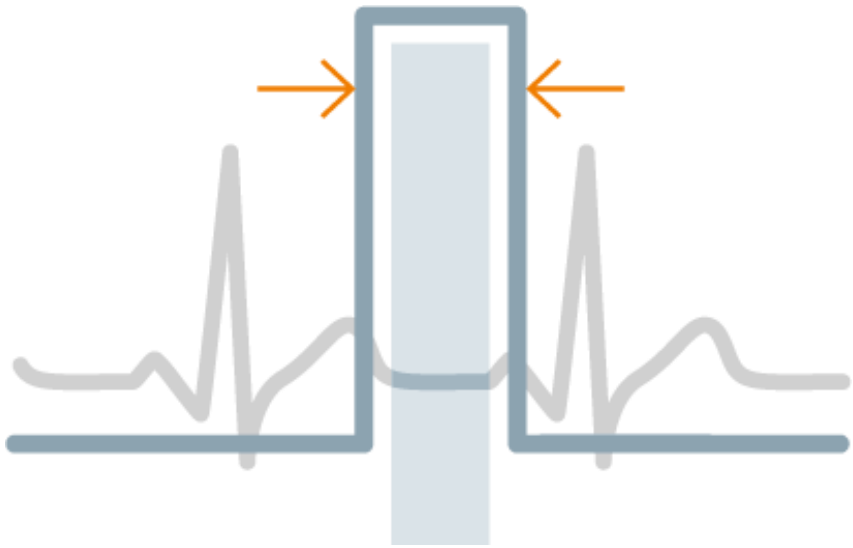
Cardio CT

Adaptive ECG pulsing
First cardiac CT ECG modulation method

SIEMENS

Up to

50%



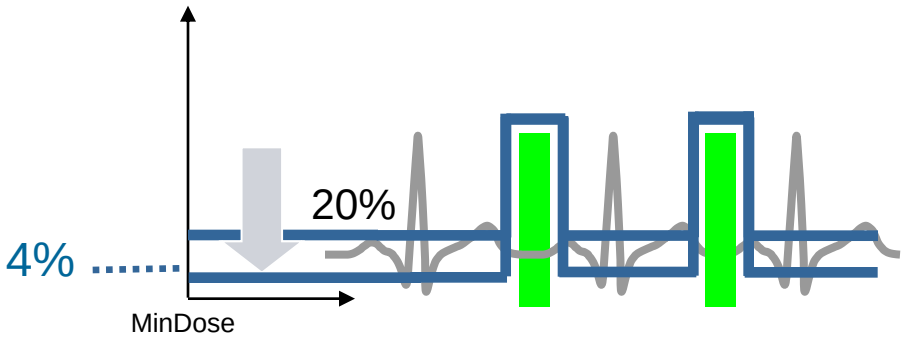
Dose reduction in cardiac protocols

- Per la prima volta l'uso di modulazione ECG negli esami cardio CT.
- Riduzione di dose fino al 50%

Adapts for complete dose protection

Lowest Dose with Highest Reliability in Spiral Mode

Adaptive ECG pulsing



High dose saving with fast acquisition speed

SOMATOM Definition AS +	
temp. res.	150 ms
Ø dose	@ 2-3 mSv

Arrhythmia compensation:

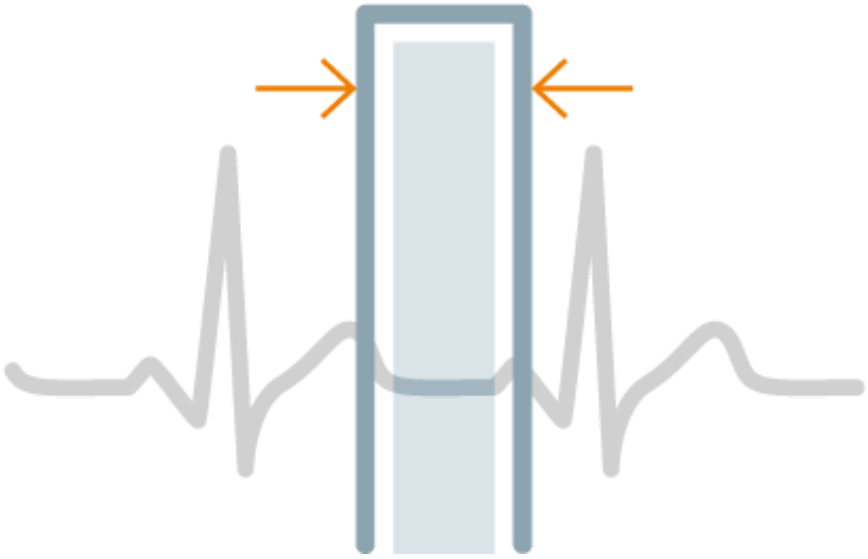
- ECG pulsing (20%) e MinDose (4%)

Adaptive Cardio Sequence

Enabling routine cardiac scanning below 3 mSv

SIEMENS

2-3 mSv [1]

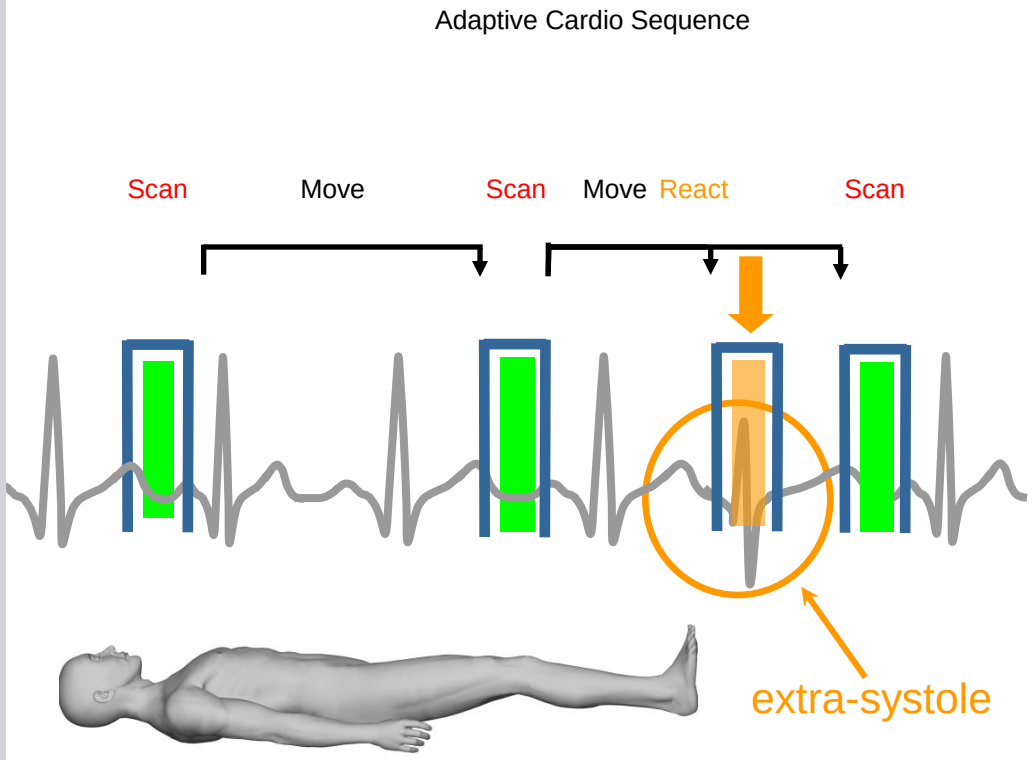


Intelligent cardiac sequence

- Non c’è acquisizione quando siamo in presenza di un battito ectopico.
- Dose tra **2-3 mSv.**

1: Scheffel, et al SOMATOM Sessions, May 2008

Maximum Dose Saving for Low Heart Rates
Adaptive Cardio Sequence



SOMATOM Definition AS +	
temp. res.	150 ms
Ø dose	@ 1,5 mSv

Arrhythmia compensation:

- Detezione on-line di extrasistole

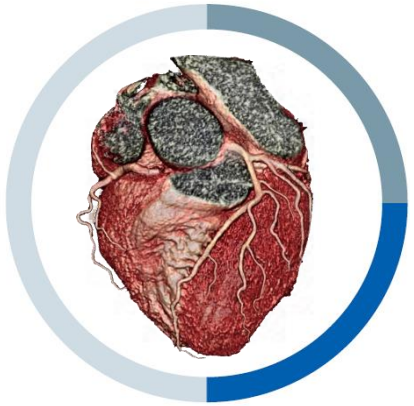
Scanning Technology Comparison

SOMATOM Definition Flash

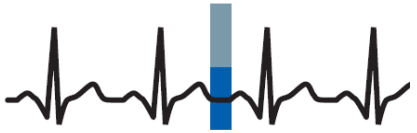
All heart rates – no exclusions[1,2]

Heart rate independent
temporal resolution of **75 ms**

Two simultaneous tubes freeze any cardiac motion



100 bpm Dual Source CT

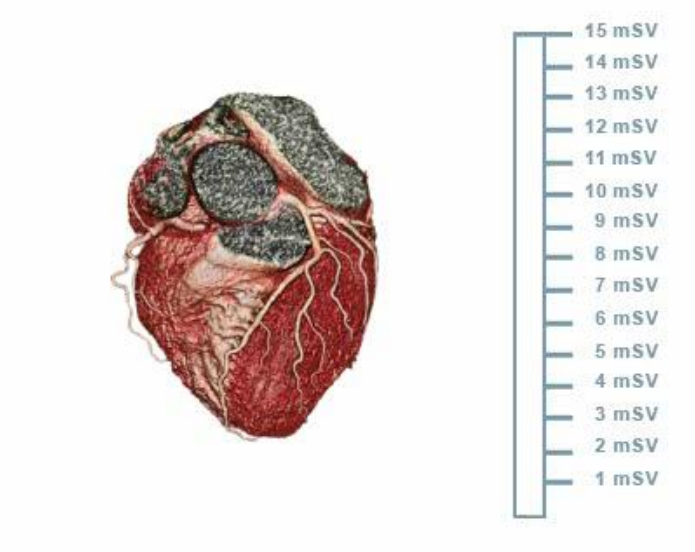


1: http://www.radnet.ucla.edu/radweb/modality/ct/news/SOMATOM_Definition.jsp
2: Zhi-gang Chu et al. International Journal of Cardiology; doi:10.1016/j.ijcard.2010.02.076

SOMATOM Definition Flash
Sub-mSv heart

SIEMENS

Conventional CTA



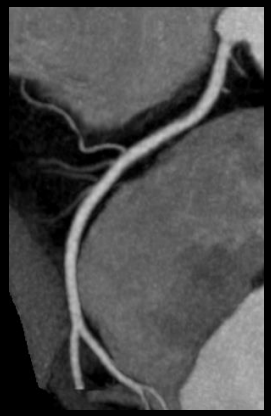
- 135-175 ms temporal resolution
- 2-10 s scan time
- **5.7 – 36.5 mSv dose[1]**

1: Hausleiter et al, JAMA 2009 Feb 4;301(5):500-7
2: Alkadhi et al, Eur Radiol Sept 2009

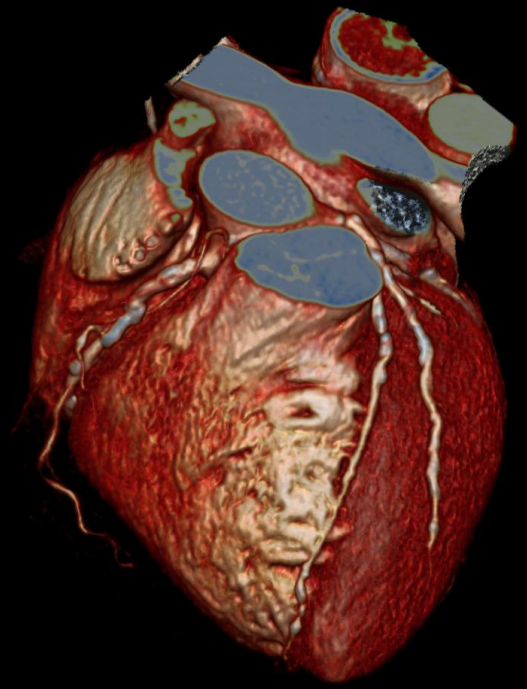
Adapts for complete dose protection

Lowest Dose with Highest Reliability in Spiral and Sequence

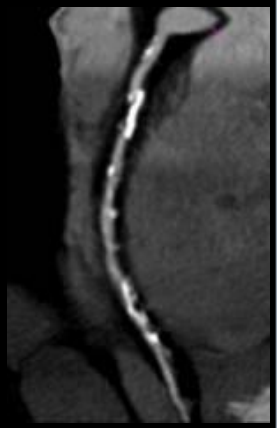
SIEMENS

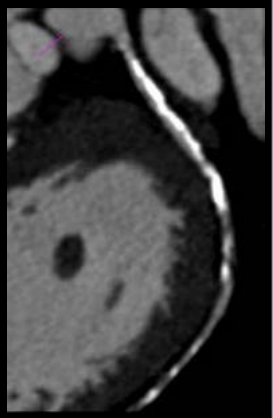


only 2 - 3 mSv



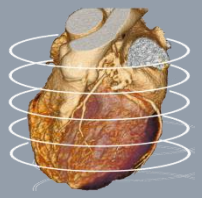
only 1 - 2 mSv





Adaptive ECG pulsing

- Reliable @ All Heartrates
- High Dose Saving



Adaptive Cardio Sequence

- Best @ Low Heartrates
- Maximum Dose Saving

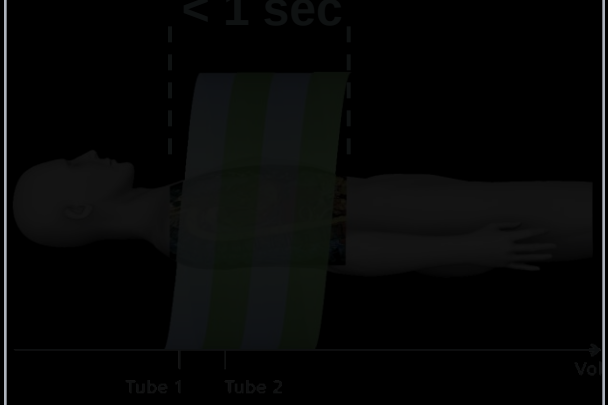
Courtesy of University Erlangen / Erlangen, Germany

SOMATOM Definition Flash
Flash Speed. Lowest Dose.

SIEMENS

Split-Second Scanning

< 1 sec

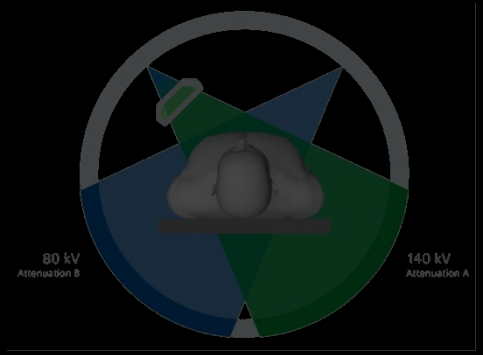


Defining Low Dose CT

< 1 mSv

Dual Source DE for all Patients

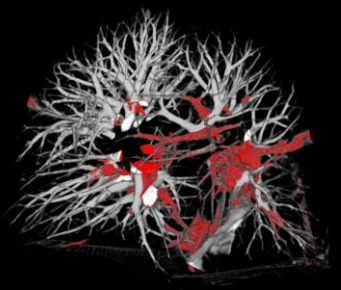
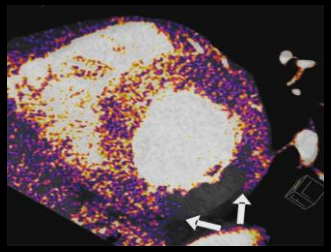
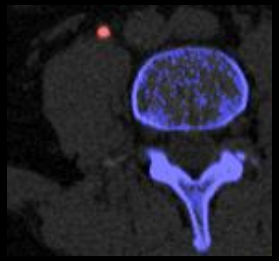
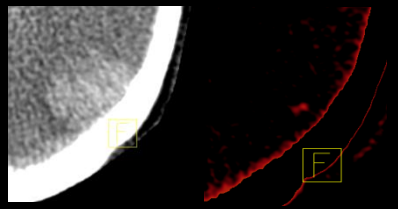
Always 2nd Contrast



Turning Dual Energy into Daily Clinical Routine

Always 2nd contrast

SIEMENS

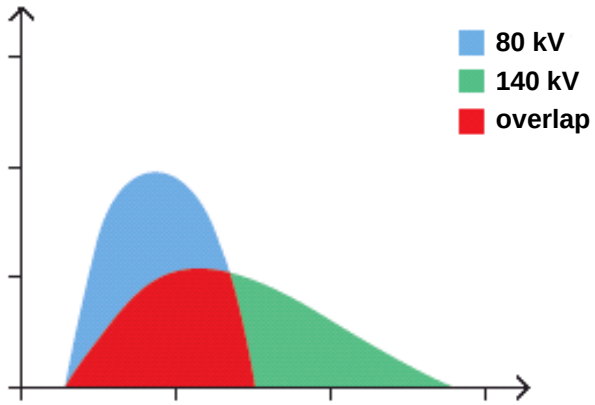
 Direct Angio	 Lung PBV	 Virtual Unenhanced	 Lung Vessels
 Hardplaque Display	 Heart PBV	 Calculi Characterization	 Brain Hemorrhage
 Musculoskeletal	 Gout	 Lung Nodules*	 Xenon*

*Pending 510(k) review and is not yet commercially available in the US

Selective Photon Shield
Spectra separation and dose saving

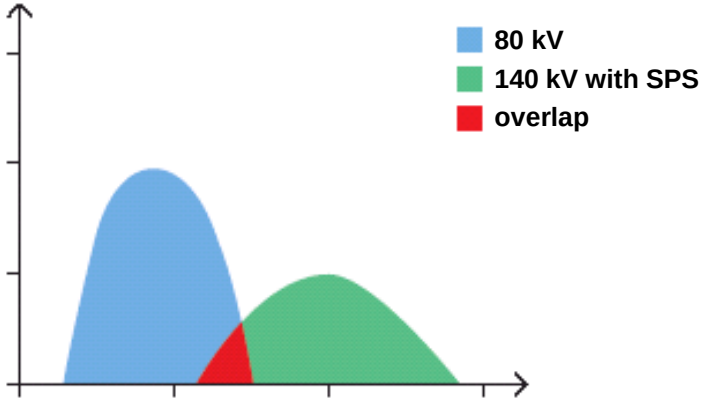
SIEMENS

Conventional DE



- Significant spectral overlap
- Limits energy separation
- **Limits dose efficiency**

DE with Selective Photon Shield



- Minimized spectral overlap
- Up to 80% better energy separation
- **Complete dose neutrality[1,2]**
- **Dual Source only**

1: Schenzle JC et al. Dual energy CT of the chest: how about the dose? Invest Radiol. 2010 Jun;45(6):347-53.
2: Thomas C et al. Differentiation of urinary calculi with dual energy CT: effect of spectral shaping by high energy tin filtration. Invest Radiol. 2010 Jul;45(7):393-8.

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Post-Processing of Dual Energy Data

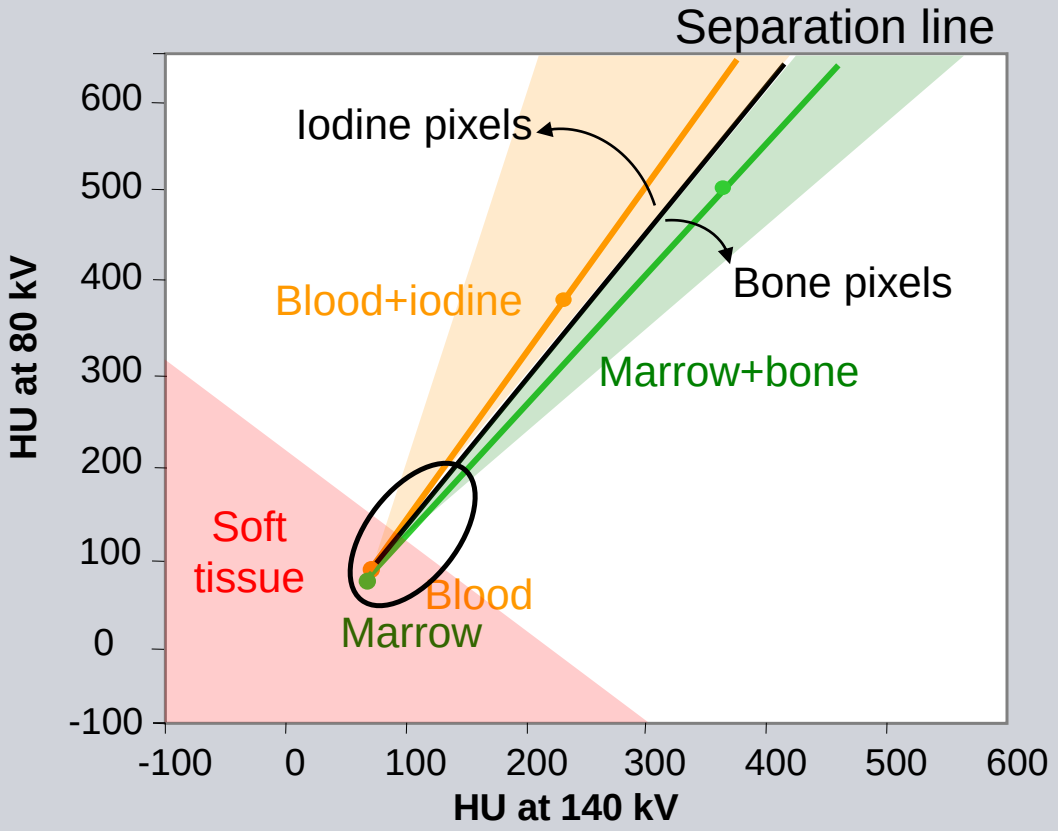
syngo Dual Energy - Direct subtraction of bone

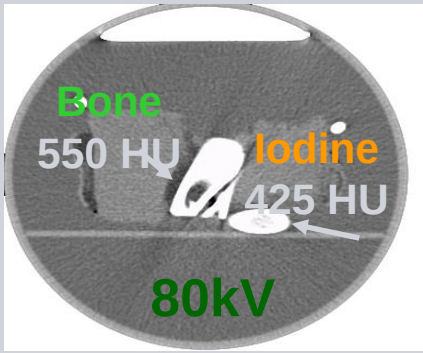
- **Modified 2- material decomposition: Separation of bone and Iodine**
- **Automatic bone removal without user interaction**
  - → Clinical benefits in complicated anatomical situations:
    - → Base of the skull
    - → Carotid arteries
    - → Vertebral arteries
    - → Peripheral runoffs

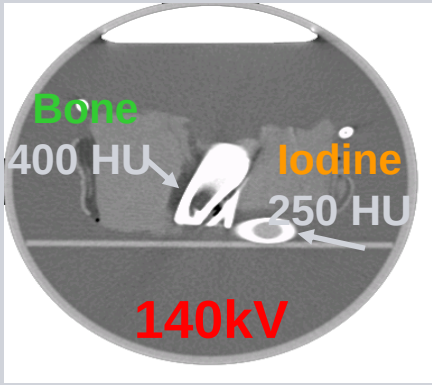
syngo Dual Energy
Direct subtraction of bone

SIEMENS

- **Modified 2-material decomposition: Separation of two materials**
  → Assume mixture of **blood + iodine (unknown density)**
  and **bone marrow + bone (unknown density)**



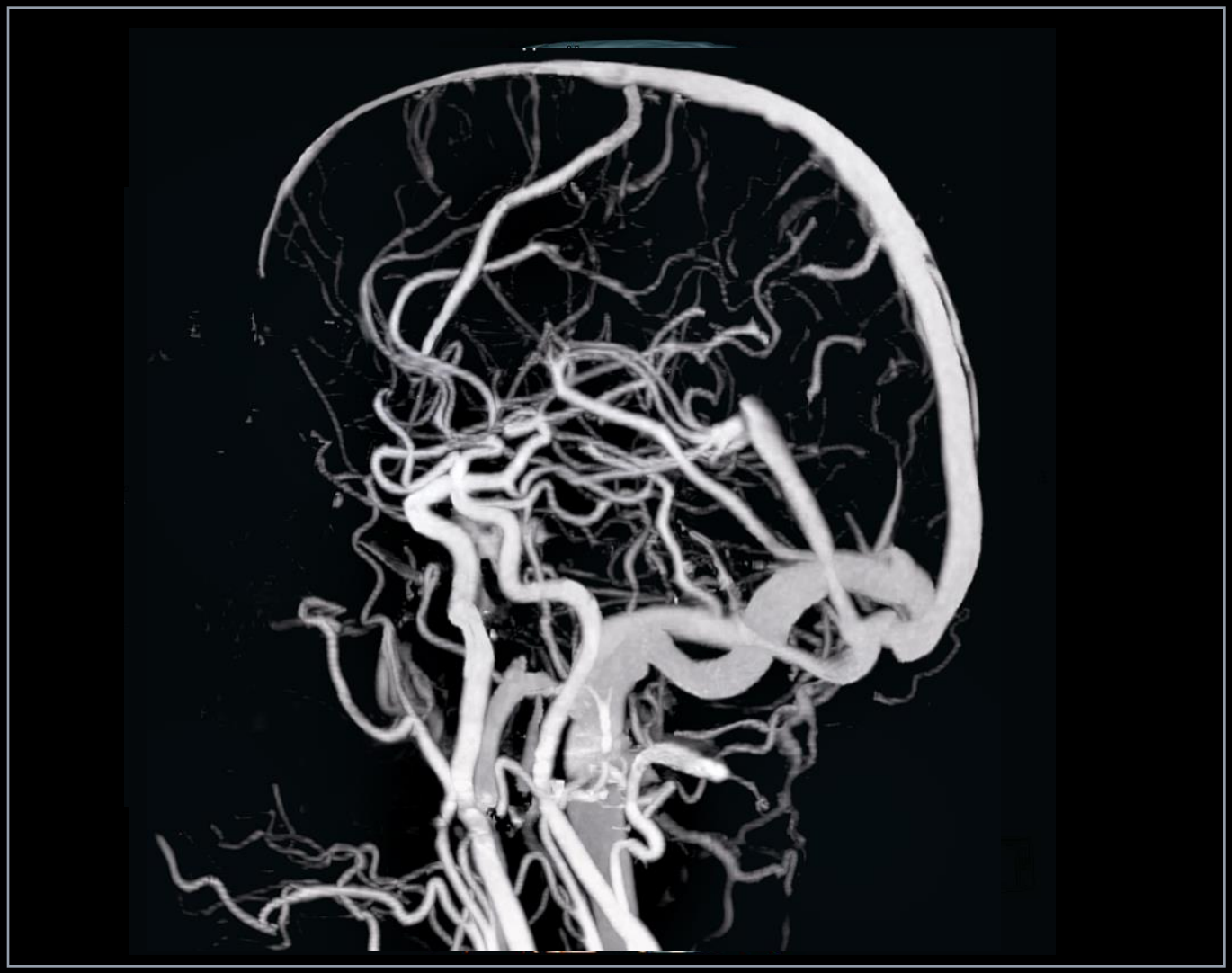




- Additional postprocessing to improve classification at low HU numbers

Direct Dual Energy subtraction of bone
even in complicated anatomical regions

SIEMENS



Courtesy of University Hospital of Munich - Grosshadern / Munich, Germany

SOMATOM Definition Flash

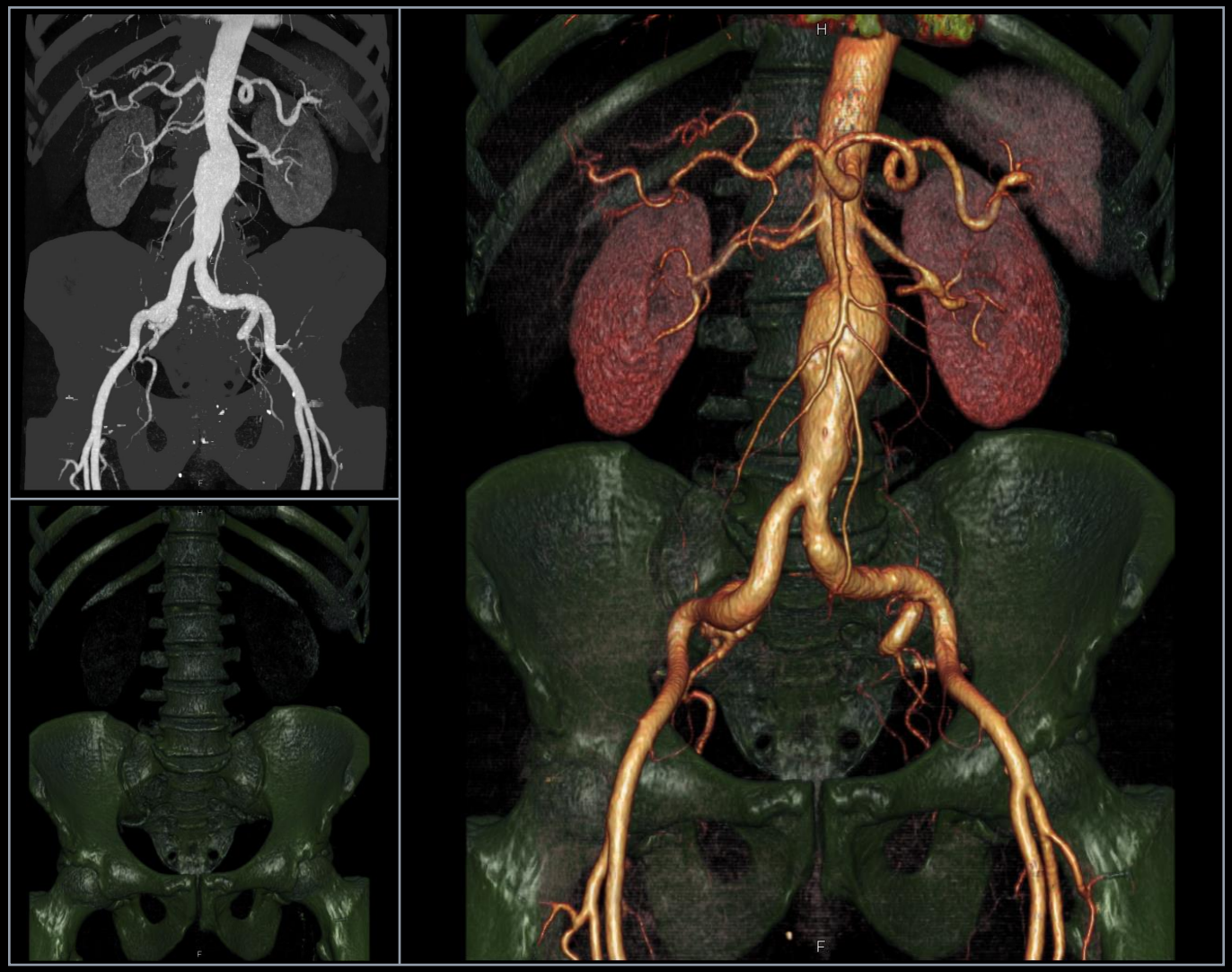
Flash speed.
Lowest dose.

Coll. 128 x 0.6 mm
Spatial res. 0.33 mm
Rotation 0.28 s
100/Sn140 kV
106/110 effective mAs

CM Ultravist® by
Bayer Schering
Pharma AG

Direct Dual Energy subtraction of bone speeds up your workflow

SIEMENS



Courtesy of NYU Medical Center / New York, USA

SOMATOM Definition Flash

Flash speed.
Lowest dose.

Coll. 128 x 0.6 mm
Spatial res. 0.33 mm
Rotation 0.5 s
100/Sn140 kV
180/140 effective mAs

CM Ultravist® by Bayer Schering Pharma AG

DE Hardplaques – Clinical Application

The **DE Hardplaques Application Class** can be applied to any DE CTA dataset to facilitate plaque analysis

DE Hardplaques *enables differentiation of iodine-filled vessel lumen from calcified plaques in contrast-enhanced scans*

An additional non-contrast scan, which is frequently performed prior to the CTA scan, can be avoided, thus reducing patient dose for the CTA exam

The algorithm automatically defines the calcified plaques and provides color-coded visualization, which in turn:

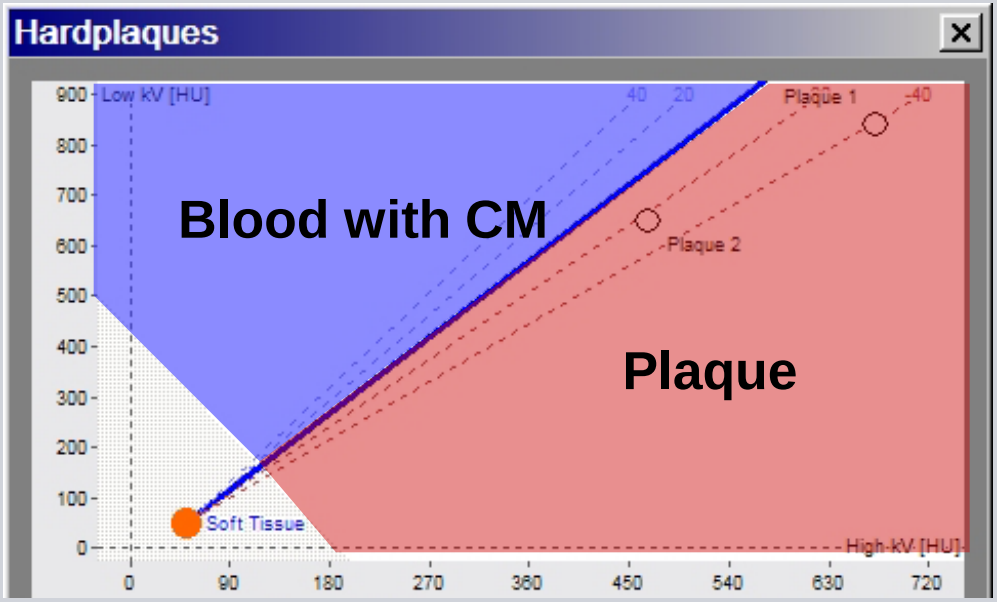
- May reduce observer-dependent variability in stenosis grading (independent of window settings)
- Simplifies presentation of the findings to the referring clinicians

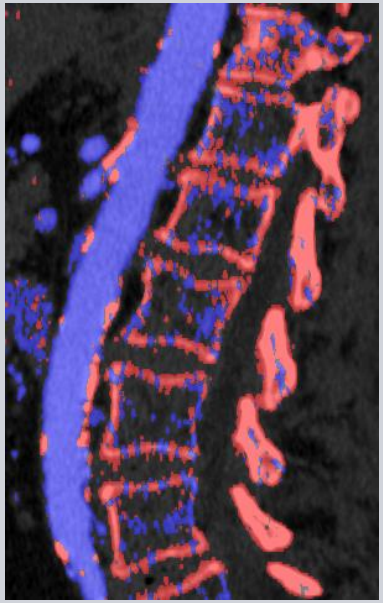
Rationale behind DE Hardplaques

Motivation – Highlight calcified plaques in DE CTA data even if they have HU values that are comparable to the neighboring contrast agent

- 2 base materials are considered – Blood and Bone (plaque)
- Attenuation behaviors of iodine and bone differ greatly at 80 kV and at 140 kV and this difference is used to differentiate between iodinated blood and bone voxels
- The blue line represents the border between iodinated blood and calcified plaque

Color LUT is applied to highlight iodinated blood in blue and calcified plaque in red





syngo DualEnergy
Differentiation between hard plaques and contrast agent

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Courtesy of CCM Monaco, Monaco

syngo **Dual Energy – Kidney Stones**
Clinical Background and Motivation

SIEMENS

- Kidney (and ureteral) stones are one of the most common and frequently painful disorders of the urinary tract

- *Dual Energy imaging can depicts the chemical differences of the stones, permits differentiation of uric acid (UA) and non uric acid stones*

- Identification of uric acid stones is important because non-invasive treatment (urinary alkalinization) can be prescribed early without lengthy metabolic workup e.g. 24-hour urine collection, and blood serum collection

- DECT can provide simple and reliable differentiation if UA versus non-UA stones, thereby potentially saving patients from undergoing invasive treatment procedures

Kidney stone types

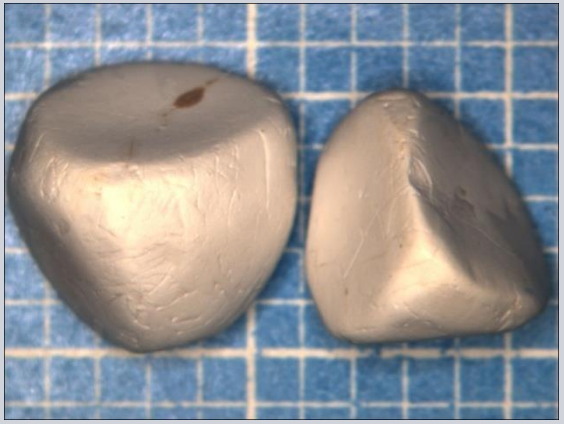
There are four common stone types in the human body

Calcium Stones

- Mainly consists of calcium oxalate or calcium phosphate and less frequently of hydroxyapatite
- 75% prevalence

Struvite Stones

- Mainly consists of magnesium ammonium phosphate
- They develop when there is too much ammonia in the urine and maybe form after an infection in the urinary system
- 15 % prevalence



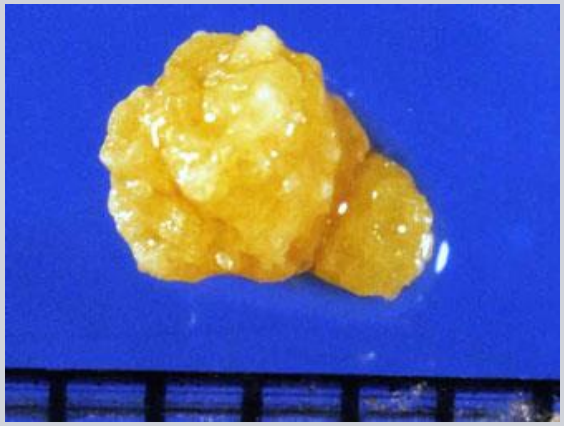
Kidney stone types

Uric acid Stones

- Excess amounts of uric acid can be caused by high purine intake with diets consist mainly of meats, fish, legumes and meat extracts
- 6 – 10 % prevalence

Cystine Stones

- Cystine stones are yellow and crystalline
- They are rare and develop when a metabolic defect keeps the kidneys from reabsorbing several compounds
- 2 % prevalence



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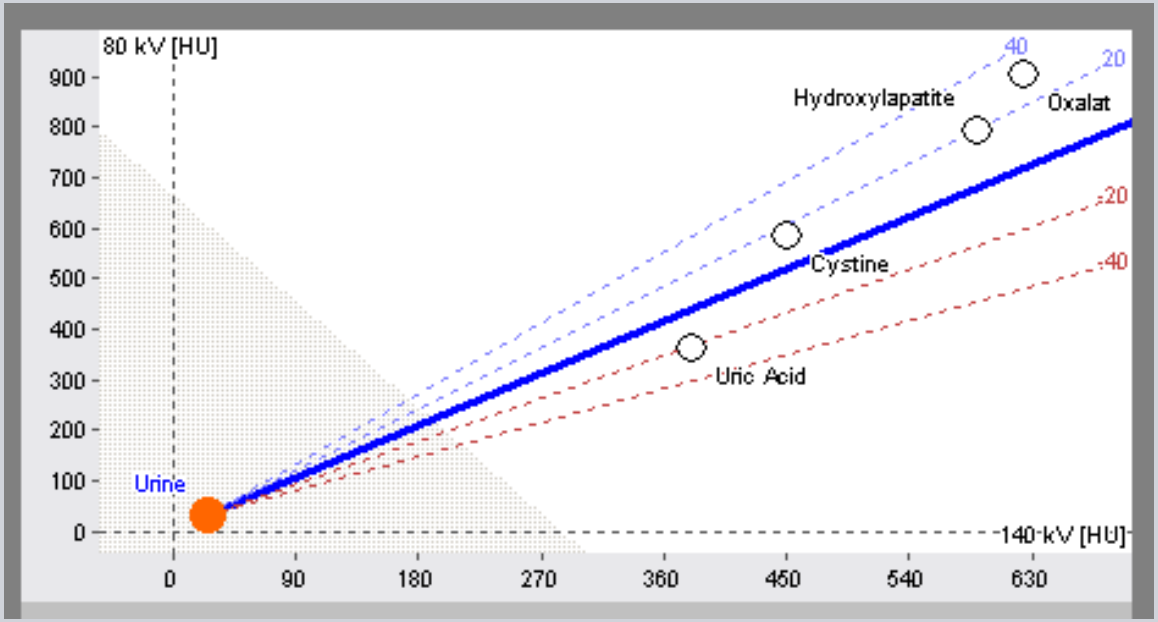
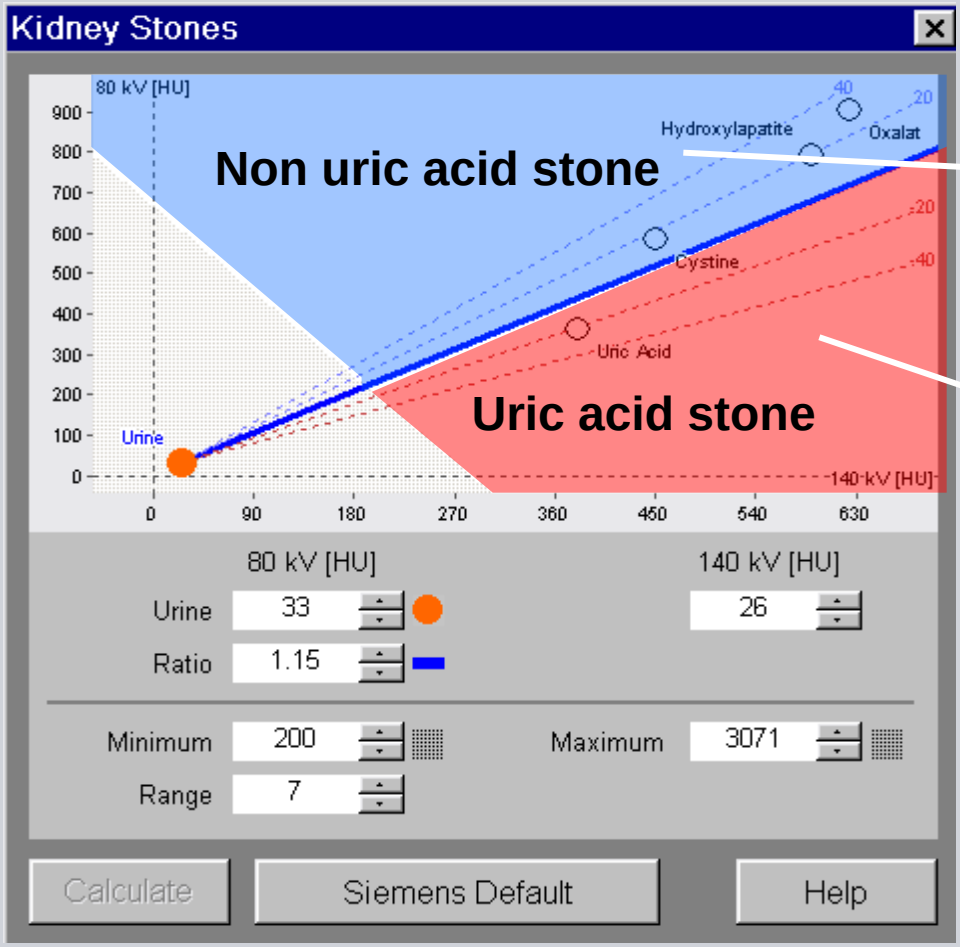
Rationale behind DE Kidney Stones Algorithm

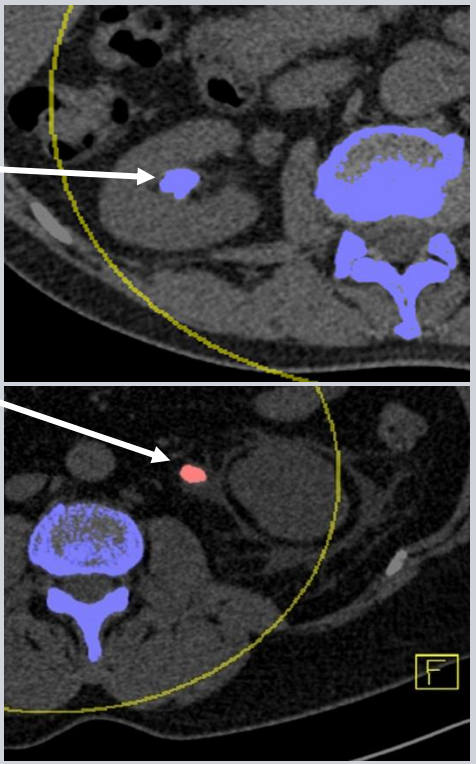
Goal – Characterization of Kidney Stone Composition

- Uric acid stones are composed of light chemical elements (H, C, N, O); other stone types (calcium, oxalate, hydroxyapatite, cystine) are composed of heavy elements (P, Ca, S)
- Uric acid stones have higher CT numbers at higher kV than at lower kV; other stone types have higher CT number at lower kV than at high kV (as indicated in the graph)
- The algorithm distinguishes between uric acid stones from other stone types by exploiting the difference in the stones attenuation properties at high and low kV



Principle of Material Decomposition





- Material decomposition into uric acid, soft tissue (gray area) and oxalate
- Blue line represents separation border between uric acid and non uric acid stones; its ratio determines the color (i.e. types) of the stone in the result image
- Color overlay is applied to differentiate the two stone types: uric acid stones in red and non uric acid stones in blue

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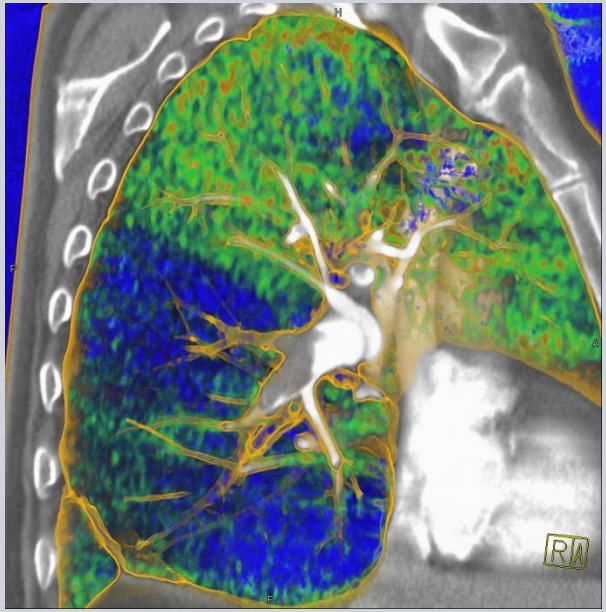
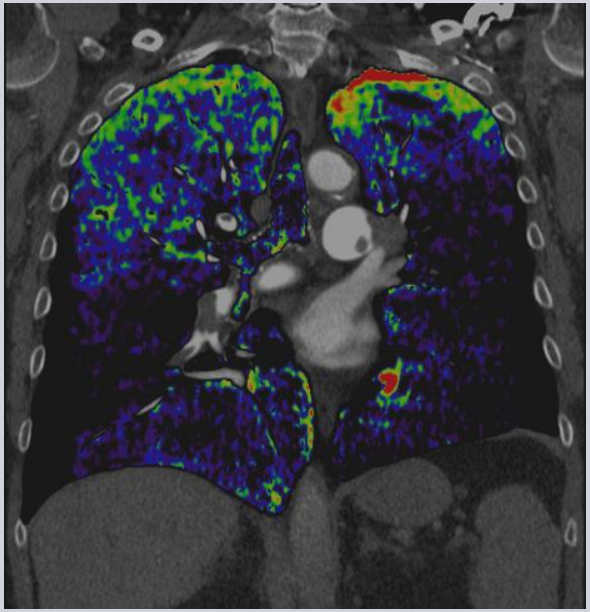
DE CTA Lung Perfusion – Clinical Background

- CT angiography has proven to be the initial test of choice for the detection of pulmonary embolism (> 95% sensitivity and specificity)
- Discrepancy between the clinical relevance and size or location of pulmonary embolism
- Small occlusive emboli may be more relevant for blood oxygenation than large central, non-occlusive emboli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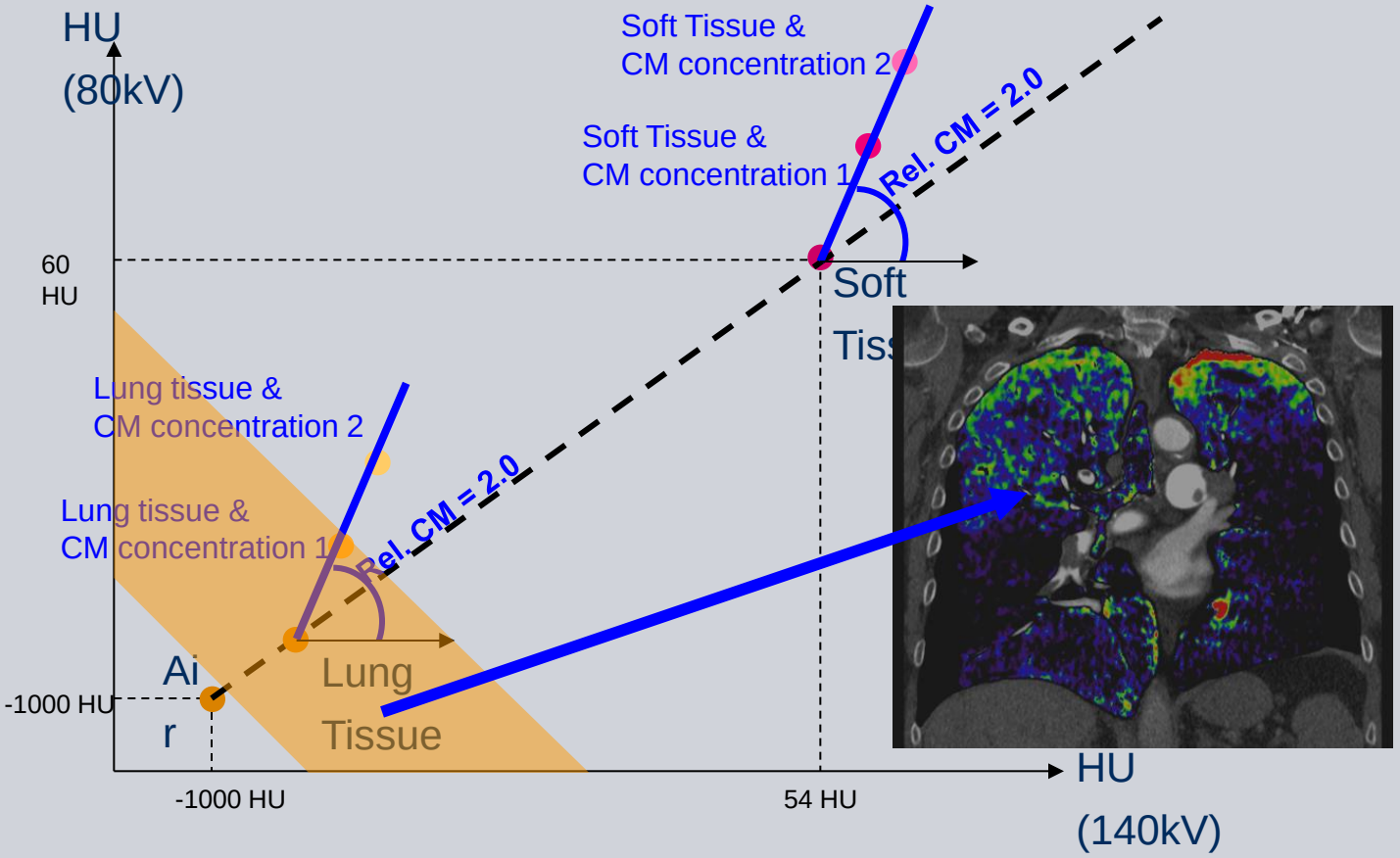
DE Lung PBV - Principle of Material Decomposition



- 3 base materials are considered – Iodine, Air & Soft Tissues
  - HU Threshold set to include the lung parenchyma (orange area) for the calculation
  - Perfused lung tissue contains both air, soft tissue and iodine
  - Iodine distribution can be mapped in color to visualize perfusion deficits in the lungs

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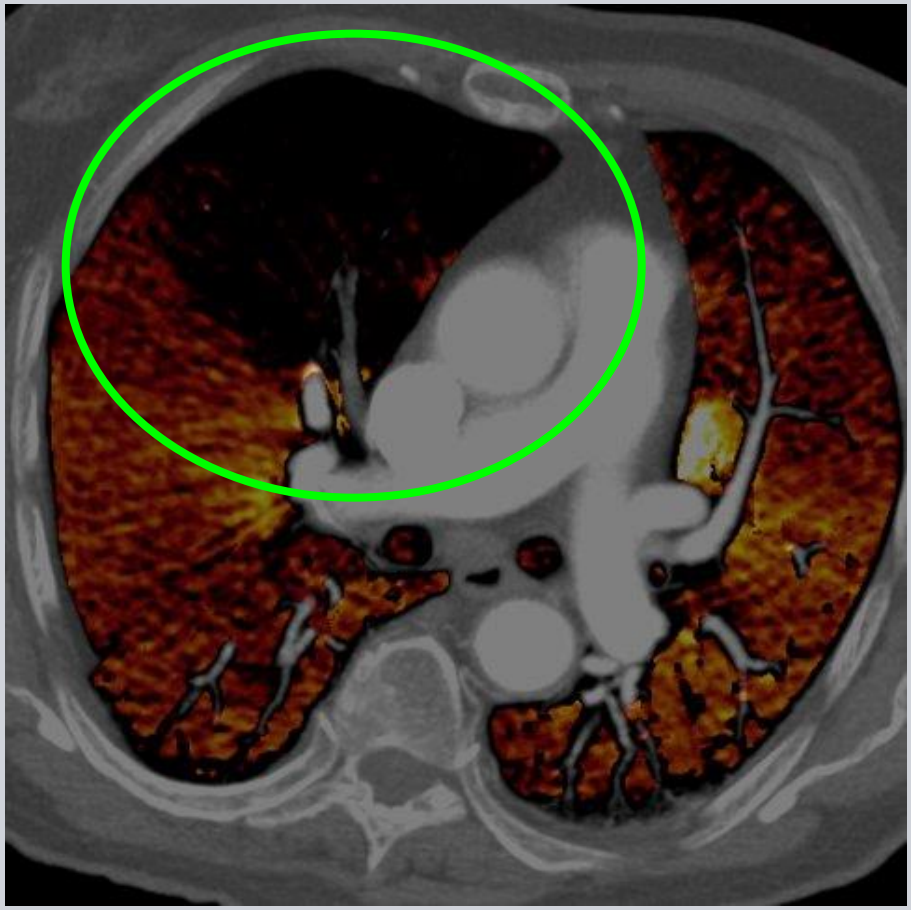
Lung PBV (Perfused blood volume)

The degree of enhancement (iodine distribution) in the lung parenchyma is represented by a Color Overlay in the result images



- determine amount of contrast agent in lung parenchyma

- find affected region with perfusion defect

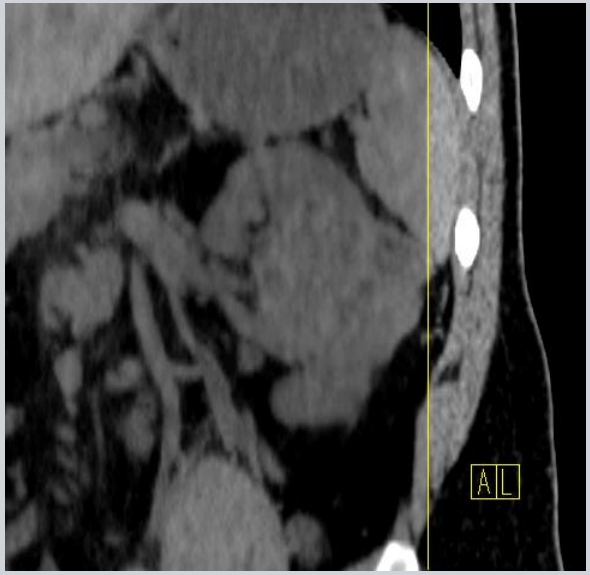
DE Virtual Non-Contrast (VNC)
Clinical Applications

SIEMENS

FACTS:

Over 90% of CT examinations requires intravenous contrast enhancement

- In some examinations, non-contrast scans are performed to:
  - Establish a baseline for lesion or tissue enhancement
  - Detect the presence of calcifications
  - Rule out stones
  - Rule out hemorrhage or active bleed



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Motivation for Liver VNC application

Dual Energy Liver VNC Application generates Virtual Noncontrast (VNC) images from a DE contrast enhanced study

The VNC images can be used for:

- Baseline density measurement of lesions in the kidneys and liver ***without the need for an additional noncontrast scan***
- Rule out or detection of calcifications, stones or active bleed in contrast exams ***without the need for an additional noncontrast scan***

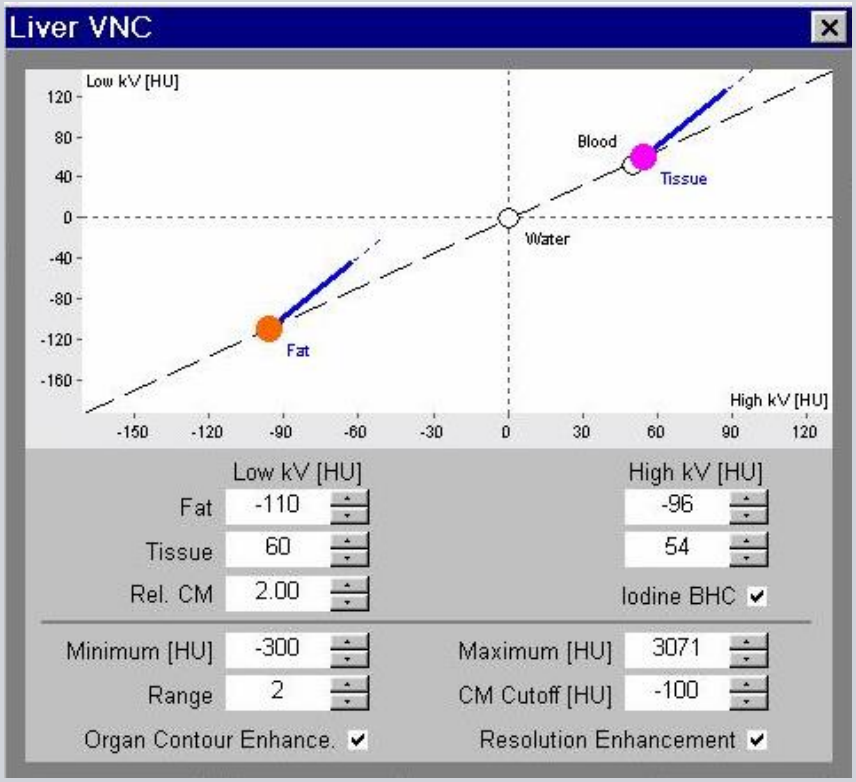
→ **Bottom line: Reduce radiation dose to patient by eliminating non-contrast scan**

Rationale behind Liver VNC Algorithm

Motivation – Visualization of contrast uptake in soft tissue organs

3 base materials are considered – Fat, Soft Tissues and Iodine

- Iodine distribution is mapped by a color **Overlay** which is blended over the VNC or Enhanced CT image
- Iodine voxels are extracted from the DE datasets to generate the **VNC** image.



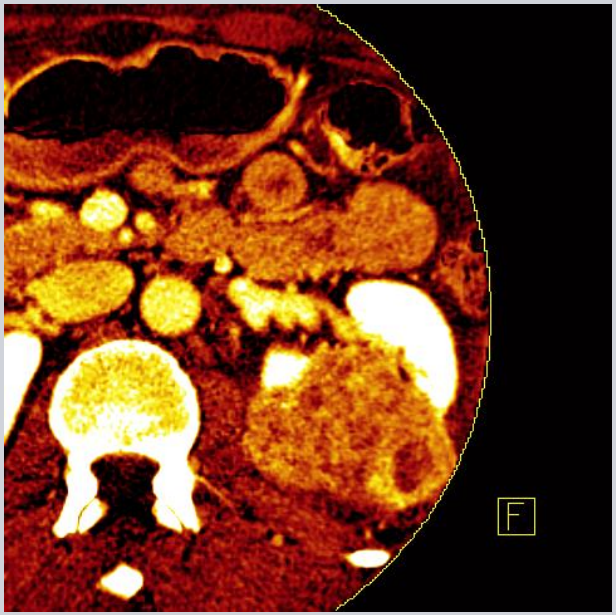
46 year old Male, Left Kidney Mass

Body diameter = 33 cm

DE scan acquired in the nephrographic, no non-contrast scan

- VNC image accurately depicts the mass, no intrarenal calcification
- Post-contrast CT image shows that the mass is enhanced
- Overlay image provides an iodine distribution map for the kidney and mass

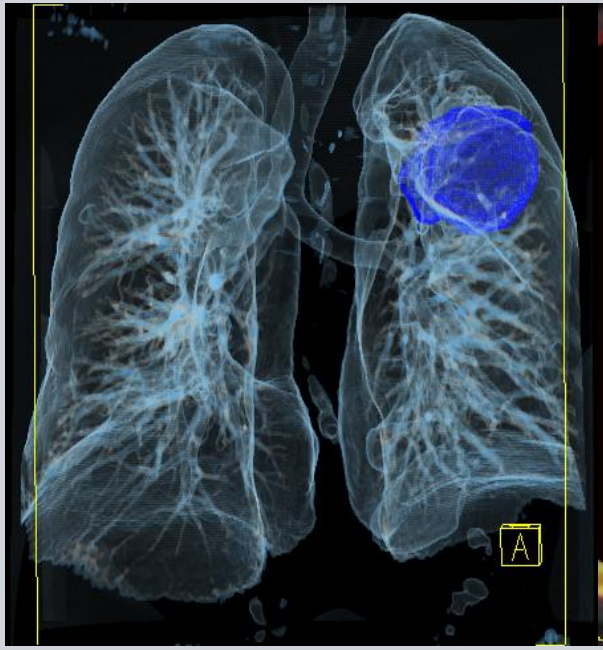


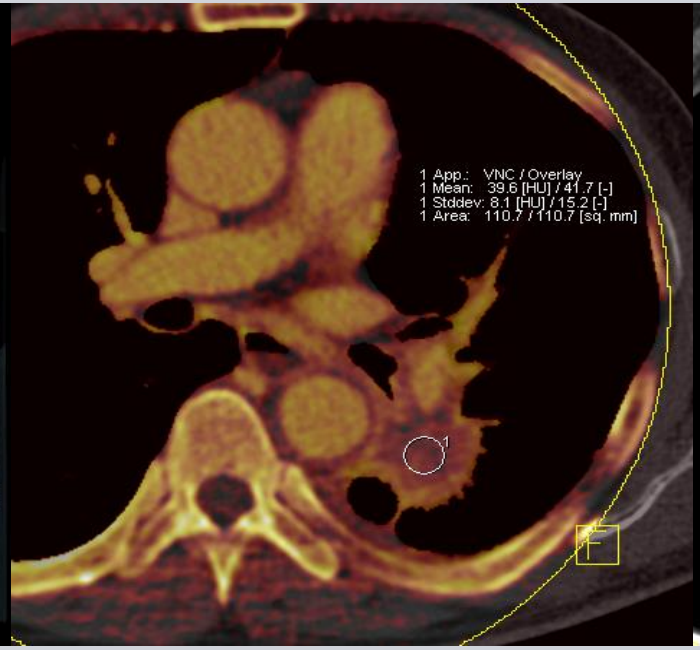


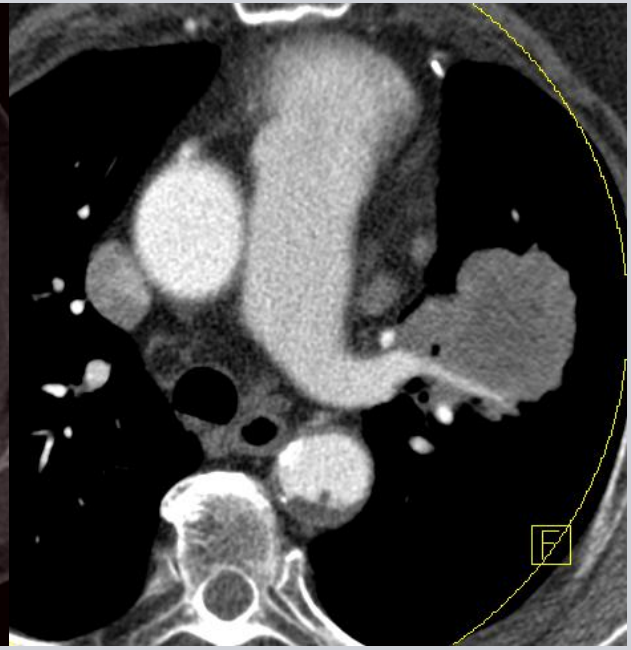
syngo DE Lung Nodule
Clinical Background - SPN

SIEMENS

- **Solitary Pulmonary Nodules** (SPNs) - a **single**, discrete pulmonary opacity with < **3cm in diameter**, surrounded by normal tissue
- Usually **asymptomatic**
- SPNs are one of the most common thoracic radiographic findings







SOMATOM Definition Flash

Small pulmonary emboli causing perfusion deficit

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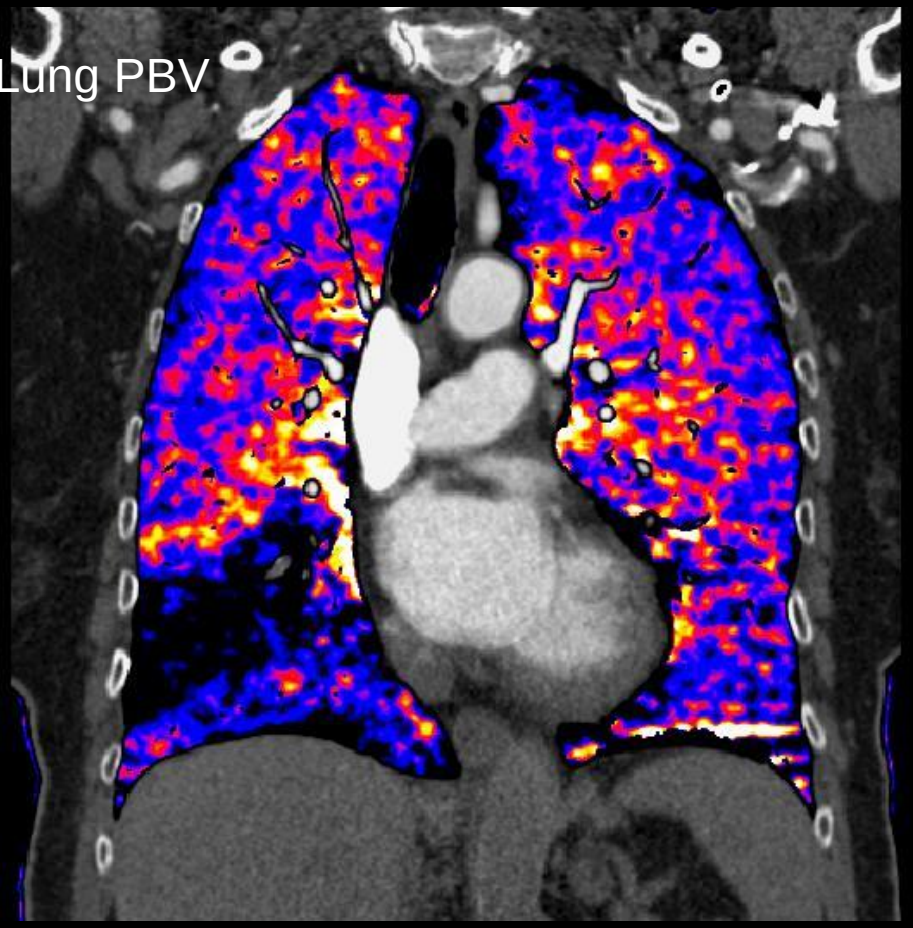
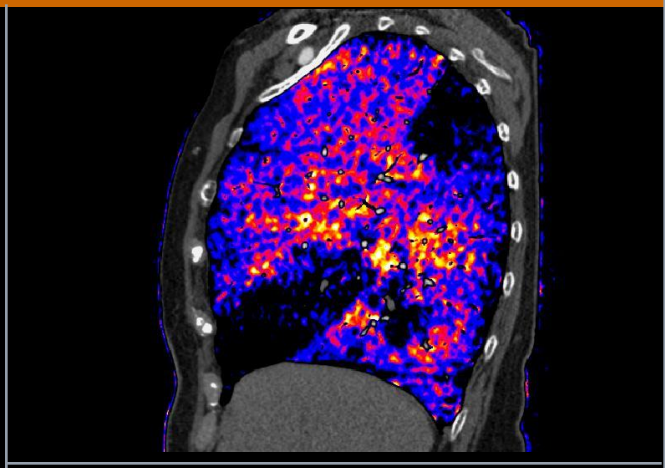
Characterize | Highlight | **Quantify**

syngo DE Lung PBV





Courtesy of Hospital Povisa / Vigo, Spain

SOMATOM Definition Flash: 0.33 mm spatial resolution, 12 s for 287 mm, 0.28 s rotation, 100/Sn140 kV, 40/100 effective mAs

Dual Source DE for all Patients
General image optimization

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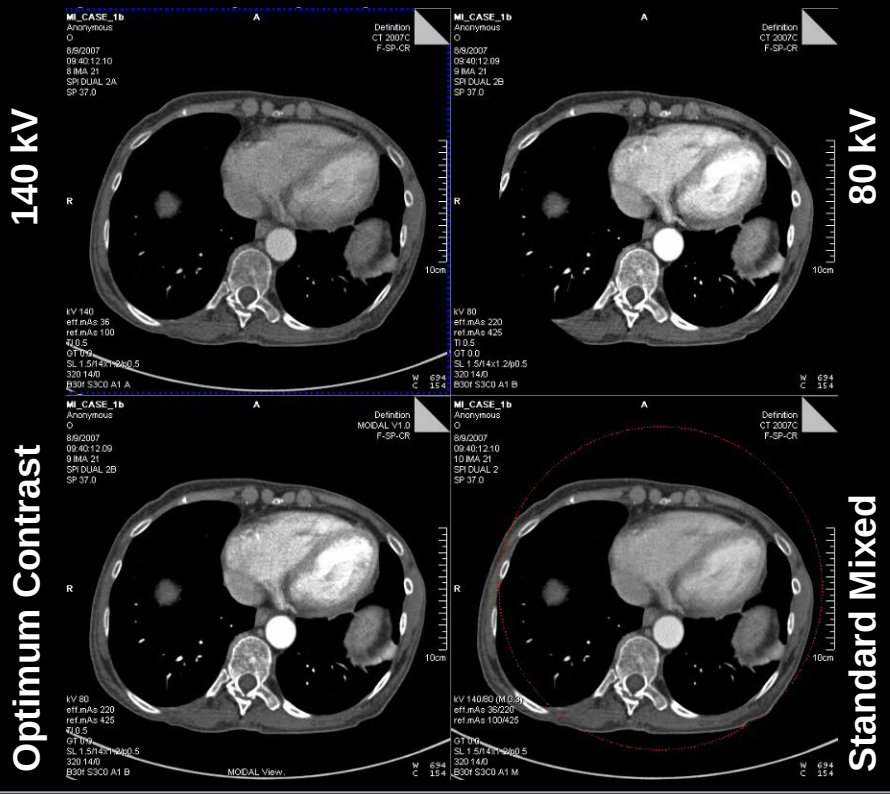
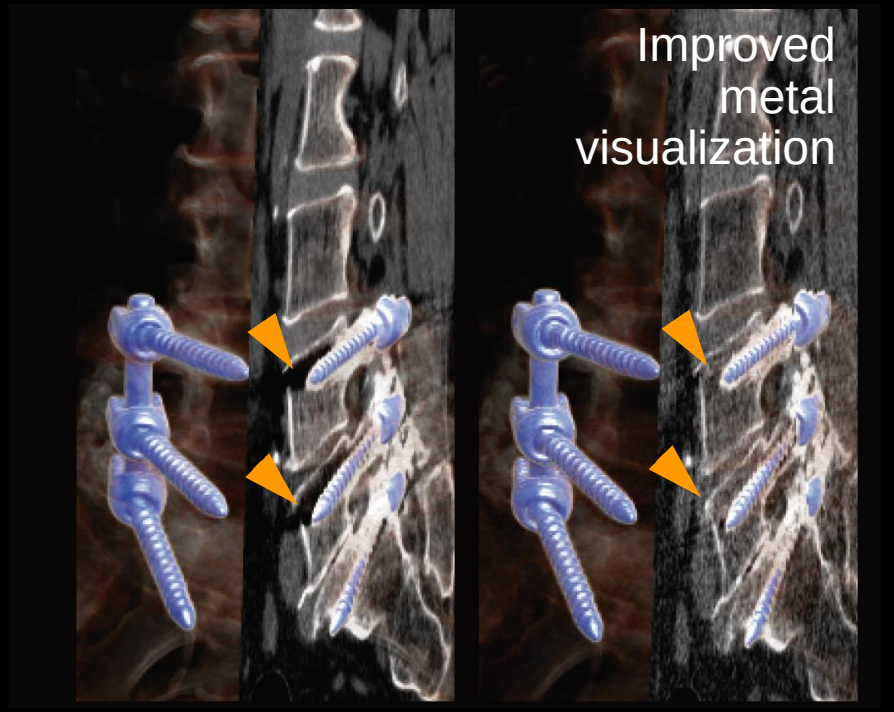
Optimum Contrast

- Combines high iodine contrast of 80 kV with low noise of 140 kV



Monoenergetic images

- Images of 151 energies can be calculated out of Dual Energy datasets (40 – 190 keV)



Dual Source DE for all Patients
General image optimization

SIEMENS

Optimum Contrast

- Combines high iodine contrast of 80 kV with low noise of 140 kV into a single dataset

Monoenergetic images

- Images of 151 energies calculated out of DE datasets (40 – 190 keV)
- Example: metal artifact reduction

Metal blurring with conventional CT

Improved metal display with Dual Energy

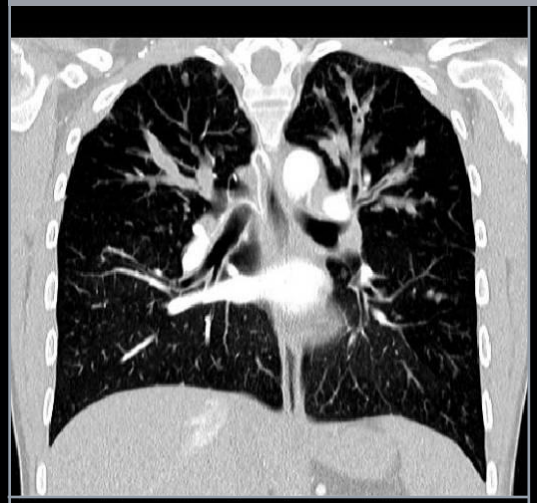
Courtesy of Massachusetts General Hospital / Boston, USA

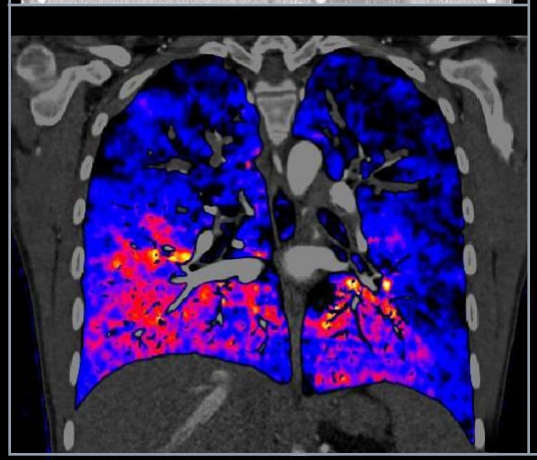
SOMATOM Definition Flash

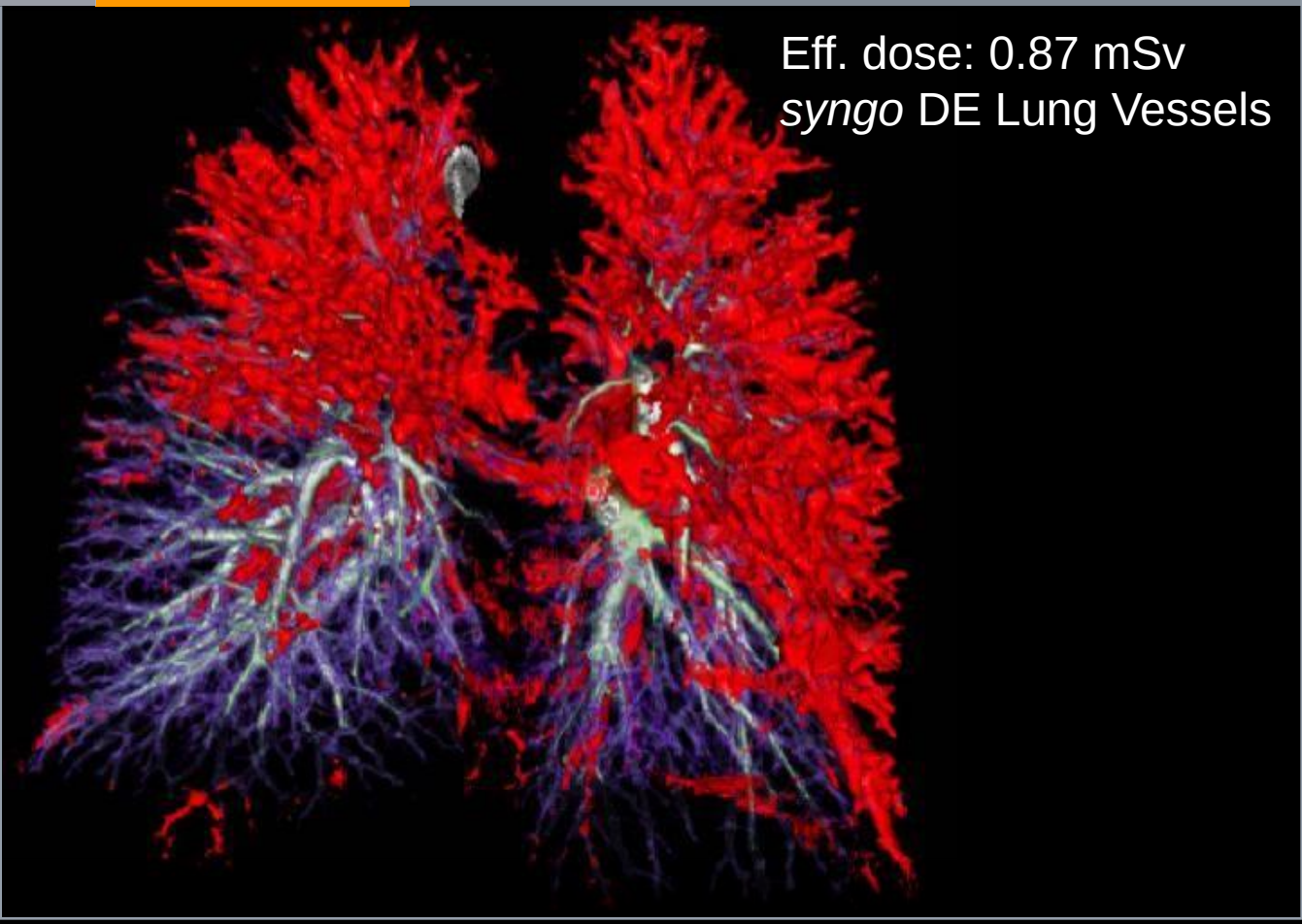
Low dose imaging of cystic fibrosis

SIEMENS

Characterize | **Highlight** | Quantify







Eff. dose: 0.87 mSv

syngo DE Lung Vessels

Courtesy of Erasmus MC - University Medical Center Rotterdam / Rotterdam, the Netherlands

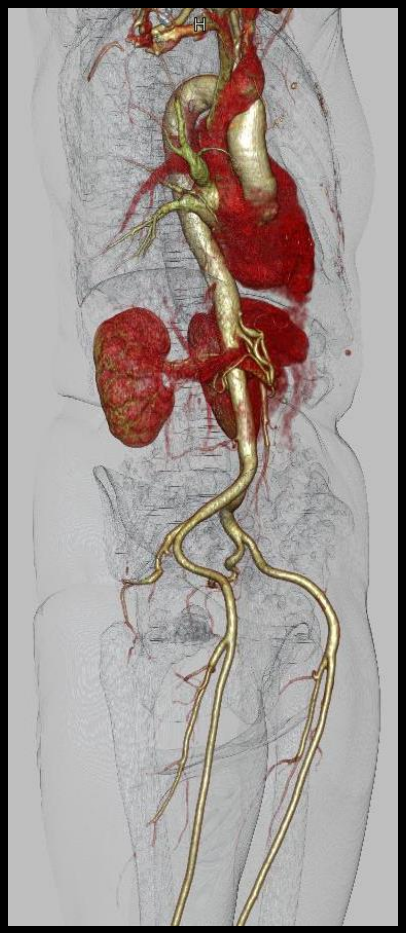
SOMATOM Definition Flash: 0.33 mm spatial resolution, 7 s for 241 mm, 0.28 s rotation, 80/Sn140 kV, 30/50 effective mAs

Dual Source DE for all Patients

Quick bone removal pre-processed with *syngo*.via

SIEMENS

Characterize | **Highlight** | Quantify



Courtesy of Radiology LMU Grosshadern / Munich, Germany

SOMATOM Definition Flash: 0.33 mm spatial resolution, Scan time: 18.0 s,
Scan length: 1427 mm, Rotation time: 0.28 s,100 kV / 140 kV, 100/90 effective mAs

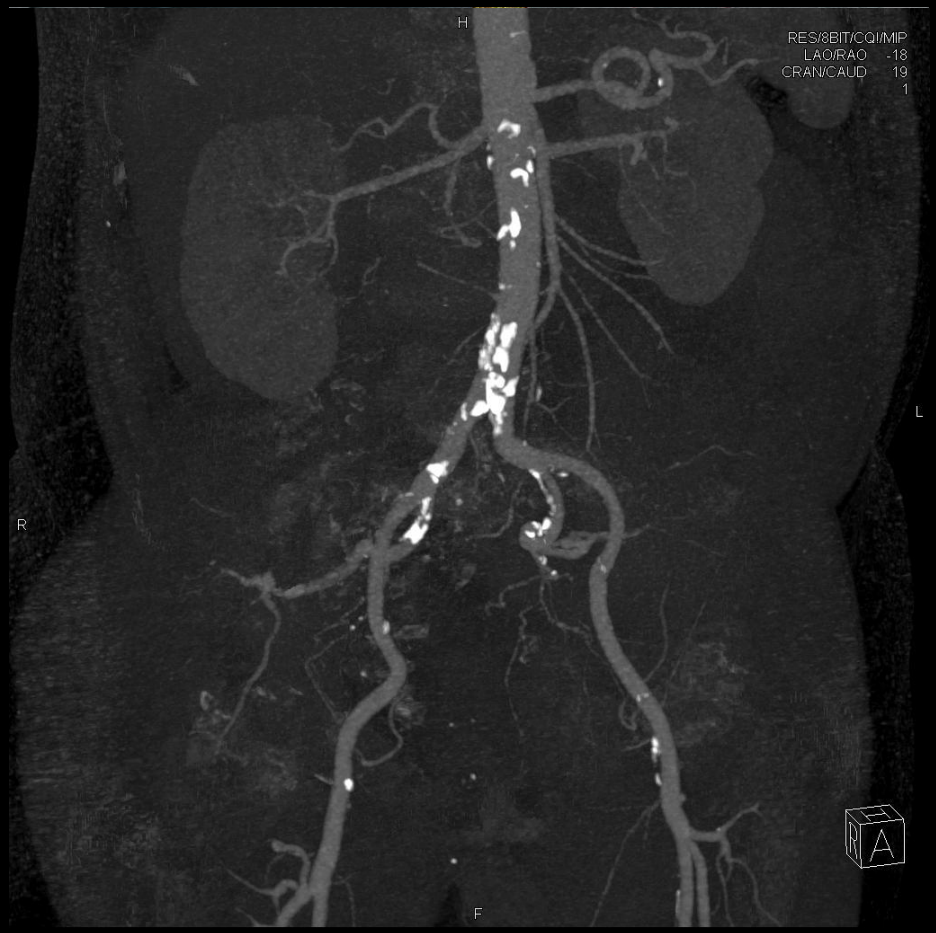
Dual Source DE for all Patients

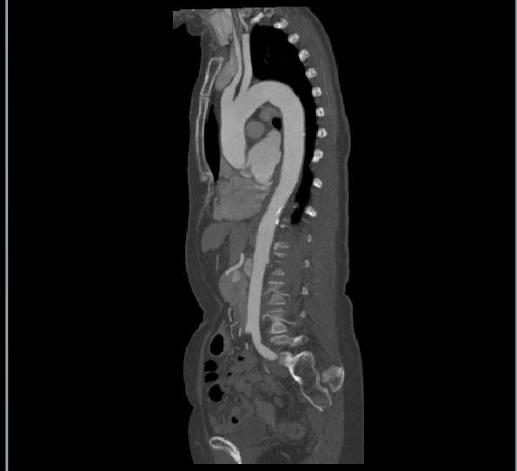
Pre-processed bone & hard plaque removal with *syngo*.via

SIEMENS

Characterize | **Highlight** | Quantify

Plaque on





Courtesy of Radiology LMU Grosshadern / Munich, Germany

SOMATOM Definition Flash: 0.33 mm spatial resolution, Scan time: 18.0 s,
Scan length: 1427 mm, Rotation time: 0.28 s,100 kV / 140 kV, 100/90 effective mAs

SIEMENS

Computed Tomography.
Answers for life.